VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT	**ENGINEERING DIVISION** **Policies and Procedures**
Issued: February 12, 1992	**Subject:** Air Toxics Review of Permit Applications
Revised: July 10, 2002	

Policy Statement

Each application for an Authority to Construct, or an application for a Permit to Operate when no Authority to Construct was issued, will be reviewed by the Air Toxics Section to determine if a health risk assessment needs to be prepared for the application.

If a health risk assessment is needed, the health risk assessment shall be prepared for the air toxic emissions from the emissions units that are the subject of the application. The health risk assessment shall be prepared in accordance with the current guidelines used for the Air Toxics Hot Spots program.

If the health risk assessment indicates that the additional carcinogenic risk associated with the emissions units that are the subject of the application is less than 1 in a million, and that the acute and chronic hazard indices are less than 0.5, no further action will be required.

If the health risk assessment indicates that the additional carcinogenic risk is greater than 1 in a million, or that the acute or chronic hazard indices are greater than 0.5, District staff will work with the applicant to reduce the risk to an acceptable level.

If, after working with the applicant to reduce the risk, the health risk assessment still indicates that the additional carcinogenic risk is greater than 10 in a million, or that the acute or chronic hazard indices are greater than 1, permit conditions will be placed on the permit requiring the applicant to develop and implement a health risk reduction plan. The plan will be required to be submitted within 6 months. The plan will be required to show an acceptable reduction in the health risk within 5 years from permit issuance. An acceptable reduction in the health risk will be one that reduces the additional carcinogenic risk to 10 in a million or less and the acute or chronic hazard indices to 1 or less.

If, after working with the applicant to reduce the risk, the health risk assessment still indicates that the additional carcinogenic risk is greater than 100 in a million, or that the acute or chronic hazard indices are greater than 10, the application will be denied based on failure to demonstrate compliance with the Rule 51 – Nuisance.

If the application is subject to the notice requirements of Health and Safety Code Section 42301.6 because the facility is located near a school, appropriate public notice of the application must be provided prior to permit issuance independent of the results of the health risk assessment.

If the application is subject to Rule 36 – New Source Review – Hazardous Air Pollutants because the facility is a major source of hazardous air pollutants, the provisions of Rule 36 apply independent of the results of the health risk assessment.

Background

Rule 15 – Standards for Permit Issuance requires District staff to deny a permit application unless the applicant shows that the emissions units that are the subject of the application will comply with all applicable requirements including Rule 51 – Nuisance.

Health and Safety Code Section 42301.6 requires District staff to provide public notice of any permit application for a source that emits hazardous air pollutants if the application will result in an emissions increase and the facility is located within 1,000 feet from the outer boundary of a school site.

Rule 36 – New Source Review – Hazardous Air Pollutants requires District staff to conduct a case-by-case maximum achievable control technology determination for any facility that is a major source of federal hazardous air pollutants (HAP). For Rule 36, a major source is defined as one that emits 10 tons per year or more of a single HAP or 25 tons per year or more of a combination of HAP.

Discussion

The District does not have a general new source review rule for toxic air pollutants. District staff does, however, consider that an excessive additional health risk due to the emissions of toxic air pollutants for a new or modified facility is a violation of Rule 51 – Nuisance. The primary object of this policy is, therefore, to define how the Engineering Division will determine if a new, modified, replacement or relocated emissions unit that emits toxic air pollutants can operate in compliance with Rule 51.

Signed:

Karl E. Krause, Manager
Engineering Division

VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT
Memorandum

TO: Ali Ghasemi, Manager
Ventura County APCD Planning Division

DATE: April 8, 2019

FROM: Kerby E. Zozula, Manager
Ventura County APCD Engineering Division

SUBJECT: Health Risk Assessment
Proposed Ri-Nu Environmental Services (Ri-Nu) Facility
Former Ventura County APCD Permit to Operate No. 00171
Former Santa Clara Waste Water Company (SCWW) Facility

CONCLUSION

Ventura County APCD (VCAPCD) staff conducted a health risk assessment for the air toxic emissions associated with former Permit to Operate No. 00171 (expired December 31, 2017) issued to the Santa Clara Waste Water Company for its facility at 815 Mission Rock Road in Santa Paula. This VCAPCD Permit to Operate included a number of tanks used to store, process and separate oilfield waste liquids such as produced water and drilling muds that contain hydrocarbons and reactive organic compounds (ROC). The oilfield waste liquids are separated into water, oil, and solids.

The permitted emissions from the proposed Ri-Nu facility are expected to be the same or similar to those of the former Santa Clara Waste Water Company (SCWW) facility. The proposed Ri-Nu facility will also use tanks to store, process and separate oilfield waste liquids that contain hydrocarbons and reactive organic compounds. The oilfield waste liquids will be separated into water, oil, and solids. All tanks will be equipped with vapor recovery and vapor control systems to minimize ROC emissions. All emissions from the prosed Ri-Nu facility will be fugitive in nature.

The health risk assessment assumes that the Ri-Nu facility will have emissions the same or similar to the former Santa Clara Waste Water Company facility. They both process the same oilfield waste liquids with the same process equipment and emission control systems (closed-top tanks, and vapor recovery and control systems). This health risk assessment was conducted using the California Air Toxic Hot Spots Program Facility Prioritization Guidelines developed by the California Air Pollution Control Officers Association (CAPCOA Prioritization Guidelines).

The health risk assessment includes the fugitive emissions from the oilfield waste liquids storage and processing tanks, and oil loading facility. There is no natural gas-fired combustion equipment proposed at the Ri-Nu facility that is subject to VCAPCD permitting requirements.

The flowing priority scores were calculated for cancer risk, non-carcinogenic short-term (acute) health risk, and non-carcinogenic long-term (chronic) health risk:

Priority Score	Cancer Risk	Chronic Risk	Acute Risk
Fugitive Emissions	1.09	0.0285	0.0312
Total:	1.09	0.0285	0.0312

The numbers above indicate that all priority scores are less than or equal to one (1) and therefore this facility is considered to be a low priority facility that does not result in a significant health risk. According to the CAPCOA Prioritization Guidelines, a prioritization score of 10 or greater is considered to be a high score that requires a more detailed health risk assessment. Prioritization scores of 1 or below indicate that the facility is not considered to have a significant health risk.

DISCUSSION AND ASSUMPTIONS

The former Santa Clara Waste Water Company (proposed Ri-Nu facility) is located at 815 Mission Rock Road in an unincorporated, industrial area of Ventura County, just south of the Highway 126 and north of the Santa Clara River.

The health risk assessment was conducted with the following assumptions:

The "Emissions and Potency Procedure" of the CAPCOA Prioritization Guidelines was used to calculate the facility priority score. This procedure primarily relies on four parameters to prioritize facilities: emissions, potency or toxicity, dispersion, and receptor proximity. A Receptor Proximity Adjustment Factor (RP) of 1 was used as a worst-case scenario. The RP factor decreases as receptors are located at a greater distance from the facility. For example, at a receptor distance of 100 to 500 meters (328 to 820 feet) the RP would be equal to 0.25 and the health risk would be significantly less.

Air toxics emissions were calculated using the permitted emissions of former VCAPCD Permit to Operate No. 00171 that was last issued to Santa Clara Waste Water Company for the period January 1, 2017 to December 31, 2017. The proposed Ri-Nu facility will operate in the same or similar manner to the former SCWW facility. The Ri-NU facility will accept oilfield liquid wastes such as produced waters and drilling muds and will use storage tanks equipped with vapor recovery and vapor control systems.

The air toxics emission factors for the fugitive emissions were based on the San Joaquin Valley APCD AB-2588 Hot Spots Air Toxics Profiles as detailed below.

For the fugitive emissions, Toxic Profile ID 204 below was used for benzene, toluene, and xylenes. Hydrogen sulfide emissions, if any, are expected to be negligible from the oilfield liquid wastes and were not included in the priority score.

San Joaquin Valley APCD AB-2588 Hot Spots Air Toxics Profiles

Oilfield Equipment Fugitive - District

District Toxic Profile ID	204
Description	Oilfield Equipment Fugitive - District
Source	District Approved Toxic EF for Fugitive emissions. District Policy based on Actual ST in the valley.

Pollutant Name	Emission Factor	Emission Factor Units	CAS#
Benzene	3.50E-03	lbs/lb VOC	71432
Hydrogen sulfide	1.43E-02	lbs/lb VOC	7783064
Toluene	3.40E-03	lbs/lb VOC	108883
Xylenes (mixed)	7.00E-03	lbs/lb VOC	1330207

M:\PRIORITY SCORES - CAPCOA PROCEDURE\Memo HRA-Priority Bentley PO No 01164 Oil.doc

"Citrus Capital of the World" City of Santa Paula

970 Ventura Street ● Santa Paula, California ● Mailing Address: P.O. Box 569 ● 93061 ● (805) 933-4214●www.ci.santa-paula.ca.us

March 15, 2021

Rob Dal Farra, P.E.
Sespe Consulting, Inc.
374 Poli St. Ste. 200
Ventura, CA 93001
(805) 275-1515 Ext. 101
rdalfarra@sespeconsulting.com

Subject: Conditional Will Serve for 815 Mission Rock Road, APN: 099-0-050-565

The City's Public Works Director has reviewed your request to provide confirmation that the City has sufficient water available to serve the SCWW wastewater treatment facility, located at 815 Mission Rock Road. We understand that the applicant in the process of renewing the Conditional Use Permit (CUP) with the County of Ventura and that the County has requested confirmation in writing from the City that water is available for the project should the County approve the CUP. We also understand that the County will require a final confirmation of water service from the City prior to allowing operations to begin at the project site. Because of the proposed changes to the site and operations, water consumption quantity from existing operational facilities may be kept. Water consumption associated with new operational facilities and office floor space will be treated as additional.

This letter is to inform you that subject to the conditions listed below; the City has sufficient resources to supply potable water to the proposed project. If additional development is proposed at any time in the future, this Will Serve letter will be subject to review and may require an amendment. The City's water resources may change in response to any environmental, legal, or usage conditions. As a result, there is no guarantee that the same amount or any water will be available at the time your development is complete.

The City implements and enforces a series of water conservation regulations that are effective throughout the City's water service area. Regulations may include the mandatory use of recycled water for parks, open spaces, medians, and common areas. Furthermore, water conservation regulations may affect the amount of potable water

that can be provided for your development. Please note that nothing in this letter commits the City to supply potable water to your property.

Conditions for the issuance of this Will Serve Letter are subject to the Santa Paula Municipal Code (SPMC), including the following:

1. Water service would be provided to existing and proposed low consuming commercial and industrial habitable structures that are located on an existing lot recorded in the Ventura County Recorder's office before the date that the City receives a request for water service;

2. The existing 1.5-inch water service shall be reconfigured to serve the wastewater treatment operations primarily, and a new 3/4-inch sub-meter shall be installed on the customer side of the existing 1.5 inch meter to allow for potable water for the Office Building and irrigation purposes;

3. Any consumption of water for purposes other than the Authorized Use mentioned in this letter is not allowed and can result in termination of your water service;

4. Prior to acquiring building permit(s) or occupancy certificate from the County of Ventura, the permittee shall;

    a) Provide a water-use study showing existing and proposed water demands based on the final facility fixture layout. Water consumption associated with new facilities is considered new consumption. Demonstrate that there are enough pressure and flow to meet domestic use and fire suppression if required by County Fire.

    b) Enter into an Extraterritorial Agreement with the City of Santa Paula, and pay impact and in-lieu fees as required by the Municipal Code due to the additional office floor space and operational processing facilities.

    c) Acquire all necessary utility easements from adjacent property owners, and demonstrate to the City with legal recorded documents and permits prior to constructing the private water service line from the existing City-owned water mains to the property.

    d) Reimburse the City for all costs and expenses associated with providing extraterritorial water service, including all costs associated with proceedings before the Ventura Local Agency Formation Commissions in the event that the property is annexed into the City.

5. Failure to comply with any of the conditions above will render this Will Serve Letter null and void and may result in termination of water service.

"Citrus Capital of the World" City of Santa Paula

970 Ventura Street ● Santa Paula, California ● Mailing Address: P.O. Box 569 ● 93061 ● (805) 933-4214●www.ci.santa-paula.ca.us

If you have any questions or concerns, please contact the Public Works Department at (805) 933-4212.

Sincerely,

Clete J. Saunier
Public Works Director

SESPE CONSULTING, INC.

374 Poli Street, Suite 200 • Ventura, California 93001

DRAFT SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN FOR PROPOSED CWT FACILITY

RI-NU Services, LLC
815 Mission Rock Road
Santa Paula, CA 93060

September 2018
Updated November 2020

DRAFT

Prepared for: RI-NU Services, LLC
15218 Summit Avenue, Suite 300 #601
Fontana, CA 92336

Prepared by: Sespe Consulting, Inc.
374 Poli Street, Suite 200
Ventura, California 93001
(805) 275-1515

County of Ventura
Initial Study
PL15-0106
Attachment 25 - Proposed SPCC Plan

SPILL PREVENTION, CONTROL, & COUNTERMEASURE (SPCC) PLAN

CERTIFICATION STATEMENT

1. Name of Facility: RI-NU Services, LLC
2. Type of Facility: Non-Hazardous Centralized Waste Treatment Facility
3. Location of Facility: 815 Mission Rock Road
   Santa Paula, California 93060
4. Name and address of owner or operator:
   Name: Timothy J. Koziol
   Address: 15218 Summit Avenue, Suite 300 #601
   Fontana, California 92336
   Telephone: (951) 323-7200
5. Designated person accountable for oil spill prevention at Facility: Timothy J. Koziol, CEO/Owner
6. Reports of previous spills (if any) are presented in the SWPPP.

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described.

Signature: No signature required for proposed draft. Date: _____

Name: Timothy J. Koziol Title: CEO/Owner

CERTIFICATION (112.3(d))

I hereby certify that:

- I am familiar with the requirements of 40CFR112.
- I have visited and examined the Facility.
- This SPCC Plan has been prepared in accordance with good engineering practice, including the consideration of applicable industry standards, and the requirements of 40CFR112.
- Procedures for required inspections and testing have been established.
- This SPCC Plan is adequate for this Facility.

Printed Name of Registered Professional Engineer

No signature required for proposed draft.

Signature of Registered Professional Engineer Date

Registration No Expiration State

DRAFT

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA CHECKLIST

Facility Name: RI-NU Services, LLC
Facility Address: 815 Mission Rock Road, Santa Paula, California 93060

1. Does the Facility transfer oil over water to or from vessels and does the Facility have a total oil storage capacity greater than or equal to 42,000 gallons?

   Yes __ No X

2. Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and does the Facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

   Yes __ No X

3. Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and is the Facility located at a distance (as calculated using the formula in Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula[1]) such that a discharge from the Facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Environments" (See Section 10, Appendix E, 40 CFR 112 for availability) and the applicable Area Contingency Plan.

   Yes __ No X

4. Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and is the Facility located at a distance (as calculated using the appropriate formula in Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula[1]) such that a discharge from the Facility would shut down a public drinking water intake?

   Yes __ No X

5. Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and has the Facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

   Yes __ No X

1. If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

Certification (ref. 40 CFR 112 Appendix C, Attachment C-II)
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature: No signature required for proposed draft. Date: _____

Name: Timothy J. Koziol Title: CEO/Owner

DRAFT

SPILL PREVENTION, CONTROL, & COUNTERMEASURE (SPCC) PLAN

RI-NU Services, LLC
Santa Paula, CA

November 2020

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 PURPOSE 2

3.0 PLAN AVAILABILITY – 112.3(e) 2

4.0 WRITTEN SPILL REPORTS – 112.4 2

5.0 PLAN AMENDMENTS – 112.5 4

6.0 GENERAL SPCC REQUIREMENTS – 112.7 5

6.1 Management Commitment – 112.7 5
6.2 Facility Description – 112.7(a)(3) 5
6.2.1 Materials Stored at this Facility – 112.7(a)(3)(i) 7
6.2.2 Discharge Prevention Measures – 112.7(a)(3)(ii) 7
6.2.3 Drainage Control – 112.7(a)(3)(iii) 8
6.2.4 Spill Response Procedures – 112.7(a)(3)(iv) 9
6.2.5 Methods of Waste Disposal – 112.7(a)(3)(v) 10
6.3 Verbal Notification Procedures 11
6.3.1 Verbal Notification – 112.7(a)(3)(vi) 11
6.3.2 Information to be Included in Verbal Notification – 112.7(a)(4) 12
6.4 Potential Spill Sources, Volumes, Rates, and Directions – 112.7(b) 13
6.5 Containment – 112.7(c) 14
6.5.1 Specific Secondary Containment – 112.7(c) 14
6.5.2 General Secondary Containment – 112.8(c)(2) 15
6.6 Inspections, Tests, and Records – 112.7(e) 15
6.7 Personnel Training – 112.7(f)(1) 16
6.8 Organizational Responsibilities – 112.7(f)(2) 17
6.9 Annual Discharge Prevention Briefings – 112.7(f)(3) 17
6.10 Security / Lighting – 112.7(g) 17
6.11 Facility Tank Car and Tank Truck Loading/Unloading Rack – 112.7(h) 17
6.12 Field Constructed AST Repairs and Modifications – 112.7(i) 17
6.13 Regulatory Requirements – 112.7(j) 18

7.0 REQUIREMENTS FOR PETROLEUM OILS – 112.8 18

7.1 Facility Drainage – 112.8(b) 18
7.2 Bulk Storage Containers – 112.8(c) 18
7.2.1 Material of Construction – 112.8(c)(1) 18
7.2.2 General Secondary Containment – 112.8(c)(2) 18
7.2.3 Drainage of Rainwater – 112.8(c)(3) 18

DRAFT

7.2.4 Completely Buried Metallic Storage Tanks – 112.8(c)(4) 18
7.2.5 Partially Buried Metallic Storage Tanks – 112.8(c)(5) 18
7.2.6 Aboveground Tank Testing – 112.8(c)(6) 18
7.2.7 Heating Coils – 112.8(c)(7) 19
7.2.8 Devices – 112.8(c)(8) 19
7.2.9 Effluent Treatment Facilities – 112.8(c)(9) 19
7.2.10 Visible Discharges – 112.8(c)(10) 19
7.2.11 Portable Oil Storage Containers – 112.8(c)(11) 19
7.3 Facility Transfer Operations – 112.8(d) 19
7.3.1 Buried Piping – 112.8(d)(1) 19
7.3.2 Terminal Connections – 112.8(d)(2) 19
7.3.3 Pipe Supports – 112.8(d)(3) 19
7.3.4 Inspection – 112.8(d)(4) 19
7.3.5 Warning – 112.8(d)(5) 19

APPENDICES

A. Figures and Drawings
B. Revision and Amendment Record
C. Training Plan and Verification Form
D. Inspection and Log Sheets
E. AST Regulations
F. Incident Reports
G. Rainwater Discharge Log
H. Secondary Containment Calculations
I. National Oceanic and Atmospheric Administration's Point Precipitation Frequency Estimates for Santa Paula, California

DRAFT

SESPE CONSULTING, INC.

374 Poli Street, Suite 200 • Ventura, California 93001

SPILL PREVENTION, CONTROL, & COUNTERMEASURE (SPCC) PLAN

RI-NU Services, LLC
Santa Paula, CA

November 2020

1.0 INTRODUCTION

This Draft Spill Prevention, Control, and Countermeasure (SPCC) Plan has been prepared for permitting purposes for RI-NU Services, LLC (RI-NU) for their proposed non-hazardous centralized waste treatment Facility (Facility). The Facility is located at 815 Mission Rock Road in Santa Paula, California. The SPCC Plan has been prepared to address the requirements of 40 CFR, Part 112 and California H&S Code, Chapter 6.67, §25270. If the Facility is approved, a final SPCC will be created once the Facility has been built.

The numbers in the section headers (e.g., "112.7") refer to the section of 40 CFR which requires the information presented.

The purpose of the SPCC regulations is to prevent oil discharges from reaching navigable waters of the United States or adjoining shorelines. This Plan covers the storage of approximately 287,841 gallons of oilfield waste and wastewater containing oil (produced water, drilling mud, tank bottoms, etc.) and small quantities of waste oil and motor oil.

The Facility is currently an inactive non-hazardous centralized waste water treatment Facility. On November 18, 2014, an explosion and subsequent fire occurred at the Santa Clara Wastewater (SCWW) Santa Paula Facility. Since the explosion, the Facility has undergone recovery and remediation efforts, which have involved numerous third parties and government agencies. The Facility has not been in operation since November 18, 2014 and has not received or processed any non-hazardous wastes since.

RI-NU has requested to reopen the facility and conduct similar non-hazardous industrial and domestic waste water treatment and disposal operations previously conducted at the Facility (County Planning Application Case No. PL15-0106). The proposed Facility will provide services to various industries throughout southern California.

DRAFT

2.0 PURPOSE

This SPCC Plan has been prepared to meet the requirements of Title 40, Code of Federal Regulations (CFR), Part 112 and the California H&S Code, Chapter 6.67, §25270 - Aboveground Petroleum Storage Act. This SPCC Plan is intended to identify procedures and controls for preventing accidental releases of petroleum products and to minimize the impact if a release occurs.

On January 1, 2008, the Certified Unified Program Agencies (CUPAs) were vested with the responsibility and authority to implement the Aboveground Petroleum Storage Act (APSA). The storage statement requirement is included in this authority, but most facilities now meet the requirement by having a current business plan under the Hazardous Materials Release Response Plans and Inventories program.

3.0 PLAN AVAILABILITY – 112.3(E)

This SPCC Plan will be maintained at the Facility. It will be available to the Regional Administrator for on-site review during normal working hours.

4.0 WRITTEN SPILL REPORTS – 112.4

This section presents the requirements for written spill reports. Section 6.3 contains the requirements for verbal notifications.

EPA Requirements

Written notification must be made to the EPA for (1) a discharge of more than 1,000 gallons of oil in a single discharge or (2) two discharges of more than 42 gallons each within any 12-month period. Within 60 days, a report must be sent to:

Regional Administrator
Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105

Include the following in the report:

1. *Name of the Facility*
2. *Name of the person preparing the report*
3. *Location of the Facility*
4. *Maximum storage or handling capacity of the Facility and normal daily throughput*
5. *Corrective action and countermeasures taken, including a description of equipment repairs and replacements*
6. *An adequate description of the Facility including maps, flow diagrams and topographical maps (as necessary)*
7. *The cause(s) of the discharge, including a failure analysis of the system or subsystem in which the failure occurred*
8. *Additional preventive measures taken or contemplated to minimize the possibility of recurrence*
9. *Such other information as the (EPA) Regional Administrator may reasonably require*

DRAFT

pertinent to the SPCC Plan or discharge

Also, a complete copy of the report must be sent to:

Los Angeles Regional Water Quality Control Board
320 W. Fourth Street, Suite 200
Los Angeles, CA 90013

After a review of the information, the EPA Regional Administrator may require the Facility to update this SPCC Plan within 30 days of notice.

State Requirements

According to the Aboveground Petroleum Storage Act, Porter-Cologne Act, and CCR Title 22 - Section 67145 a petroleum spill of 42 gallons or more must be reported immediately per the verbal requirements of Section 6.3 of this Plan. Within 15 days, written notification may also be required by the Local Administering Agency, CalEPA and/or the Regional Water Quality Control Board (RWQCB) following the incident. The report should include but may not be limited to:

1. *Name of the Facility*
2. *Name(s) of the owner or operator of the Facility*
3. *Location of the Facility*
4. *Date, time, and type of incident*
5. *Name and quantity of material(s) involved*
6. *An assessment of actual or potential hazards to human health or the environment, where applicable*
7. *Estimated quantity and disposition of recovered material that resulted from the incident*
8. *Method of cleanup implemented to date and proposed cleanup actions*

DRAFT

5.0 PLAN AMENDMENTS – 112.5

RI-NU will amend the SPCC Plan whenever one of the following occurs:

1. *Whenever there is a change in Facility design, construction, operation, or maintenance that materially affects the potential for oil discharge.* Amendments must be made within six (6) months of changes.

2. *A review and evaluation of the SPCC Plan must be conducted once every five (5) years.* Amendments must be made within six (6) months of review if more effective prevention and control technology will significantly reduce the likelihood of a spill and has been field proven. Document this review using the form in Appendix B.

3. *A spill or leak has occurred and review of the Plan by the Environmental Protection Agency (EPA) reveals the need to revise the Plan.* A written spill report must be submitted to the EPA within 60 days of 1,000 gallons of oil released in any single discharge or more than 42 gallons in each of two discharges within any 12-month period, into or upon navigable waters or adjoining shorelines of the United States. Supervisory personnel will review the release and determine if any additional requirements are necessary to prevent a recurrence of the incident. These additional requirements will then be implemented and the SPCC Plan updated.

Additions, changes, or deletions made to the SPCC Plan pursuant to any of the above shall be recorded in Appendix B.

A Registered Professional Engineer must certify technical amendments to the SPCC Plan. However, 40 CFR § 112.6 allows self-certification of SPCC Plans and amendments for "qualified facilities". "Qualified facilities" are those that have 10,000 gallons or less of aggregate aboveground oil storage capacity. Because this plan covers the storage of more than 10,000 gallons of oil, technical amendments to the plan must be certified by a Registered Professional Engineer.

Non-technical amendments (e.g. changes in names and phone numbers, etc.) do not need to be certified by a Registered Professional Engineer.

DRAFT

6.0 GENERAL SPCC REQUIREMENTS – 112.7

The following sections present the general requirements of 40 CFR 112.7. This Facility is in compliance with the requirements in this section.

6.1 Management Commitment – 112.7

This Plan has full approval of management at a level of authority to commit the necessary resources to fully implement the Plan. Please see the Management Approval section in the Certification Statement at the beginning of this Plan.

6.2 Facility Description – 112.7(a)(3)

Name:	RI-NU Services, LLC
Address:	815 Mission Rock Road
	Santa Paula, California 93060
Telephone:	(951) 323-7200

RI-NU has proposed to reinstate and modify Conditional Use Permit No. 960-2 to operate the existing 6.6-acre wastewater treatment Facility located at 815 Mission Rock Road in Santa Paula, California. The site is approximately 0.3 miles south of State Route 126 (SR-126), 0.6 miles north of the Santa Clara River, and 10.7 miles northeast of Pacific Ocean. The Facility remains accessible from Mission Rock Road, which is accessible from the #126 Freeway via Pinkerton Road. See figures in Appendix A.

The Facility is currently an inactive non-hazardous centralized waste water treatment Facility. On November 18, 2014, an explosion and subsequent fire occurred at the Facility. Since the explosion, the Facility has undergone recovery and remediation efforts, which have involved numerous third parties and government agencies. The Facility has not been in operation since November 18, 2014 and has not received or processed any non-hazardous wastes since.

Prior to the November 2014 incident, the Facility was a wastewater treatment Facility, which accepted, treated, and disposed various types of non-hazardous waste streams. RI-NU has requested to take-over similar non-hazardous industrial and domestic wastewater treatment and disposal operations. The proposed Facility will provide services to the various industries throughout southern California.

The proposed Facility will have the following oil containing tanks on site (see tank locations on Figures in Appendix A, Secondary Containment Calculations in Appendix H, and National Oceanic and Atmospheric Administration (NOAA) Point Precipitation Frequency Estimate data in Appendix I):

> **Baker Waste Receiving Tanks:** The proposed RI-NU Facility will unload oil containing non-domestic wastewaters via a hose connected to a piping manifold. The manifold will direct this waste to ten (10) 20,000-gallon Baker waste receiving tanks located within a spill containment area at the southeast portion of the site. The surface's area of 5,554-square feet will be bermed to height of two 2) feet to hold a net capacity (volume available in the event of a failure of the largest tank) of 28,559-gallons. This value was calculated by considering the displacement from the other tanks in the contained region and by including sufficient freeboard for a 25-year, 24-hour rain event. NOAA's National Point Precipitation Frequency Estimate data was used to determine the most reasonable freeboard design criterion of 6.32-inches, or 0.53-feet. This region of the site will also provide containment for accumulated storm water before it is pumped back into the system to be treated.

DRAFT

Mix Tanks: Wastewater will be pumped from the Baker waste receiving tanks to six (6) 5,000-gallon mix tanks, which will be located north of the receiving tanks. The mix tanks will be used to mix the waste with treatment chemicals prior to processing. The mix tanks will be placed on top of a paved surface that has been graded to direct flow toward the adjacent truck wash channel for containment in case a spill were to occur. The truck wash channel can hold a net capacity of 24,577 gallons, which is 2.4 times the required volume (10,157 gallons) to contain the largest tank plus freeboard in the event of a failure and subsequent spill. NOAA's Point Frequency Estimate data was used to determine the most reasonable freeboard design criterion of 6.32 inches, or 0.53 feet. The truck wash channel will also contain storm water run on before being pumped back into the system for treatment.

Oil/Water Separator: The oil/water separator will work to separate oil and water by causing the oil to float and accumulate at the surface of the oil-water interface. Once at the surface, the gathered oil waste is removed by skimming. The residual oil waste will then be pumped to the two (2) skim oil tanks which will be located approximately 60 feet northeast. The site has been graded and paved on a relatively flat surface so that storm water and/or spills will pool at several locations, with the overall direction of flow in the western direction. If the oil/water separator were to fail, the spill would accumulate on the level surface between the oil/water separator and the skim oil tanks. The 1.8 to 2.6-foot concrete wall located between the tanks and the adjacent northwestern sea cargo containers (N1 and N2) will provide a barrier for any accumulated spills large enough to exceed the threshold capacity of the flat surface. The height requirement of this wall was calculated to be approximately 1.5-feet to contain the volume of the largest tank (7,121 gallons) plus freeboard in the event of a failure and subsequent spill. This wall height requirement was calculated to provide sufficient freeboard for a 25-year, 24-hour rain event. NOAA's National Point Precipitation Frequency Estimate data was used to determine the most reasonable freeboard design criterion of 6.32-inches, or 0.53-feet. This region of the site will provide secondary containment for both the skim oil tanks and the oil/water separator and will provide containment for storm water before it is pumped back into the system to be treated.

Skim Oil Tanks: The two (2) 5,000-gallon skim oil tanks will receive skimmed oil from the oil/water separators. Oil removed from the skim oil tanks will be sold or recycled. Spills that may occur from the skim oil tanks will be directed in a southwest direction back towards the oil/water separator. Pavement has been graded so that pooling will take place near the midpoint location between the skim oil tanks and the oil/water separator. A 1.8 to 2.6-foot concrete wall located between the tanks and the adjacent sea cargo tanks (N1 and N2) will provide a barrier for spills exceeding the flat surface secondary containment threshold. This region of the site will provide secondary containment for both the skim oil tanks and the oil/water separator and will provide containment for storm water before it is pumped back into the system to be treated. Refer to the oil/water separator section above to determine how the height requirement to contain the volume of the largest tank plus freeboard was verified.

Waste Oil and Motor Oil Drums: Two (2) waste oil and two (2) motor oil drums will be stored in the Covered HazMat Storage Building, which will be located in the northwest portion of the site. The Storage Building has built in spill containment. Potential spills from these four (4) 55-gallon drums would be contained inside the covered building.

Diesel Fuel Tank: This existing single-walled 500-gallon tank is contained in a steel structure. The steel structure will provide secondary containment that exceeds the tank volume. This tank has

DRAFT

its own overhead cover structure to minimize rainwater collection in the containment. It will be located in the southwest corner of the site.

There are no completely or partially buried tanks that contain oil at this Facility.

6.2.1 Materials Stored at this Facility – 112.7(a)(3)(i)

The proposed Facility will have ten (10) Baker Receiving Tanks containing oil bearing non-hazardous waste, two (2) skim oil tanks, six (6) mix tanks, one (1) oil/water separator, one (1) aboveground diesel fuel tank, and multiple drums containing oil related products. The total capacity of oil stored at the site is expected to be 287,841-gallons.

The tanks are summarized in Table 1 and can be located on the Site Plan in Appendix A.

Table 1: Aboveground Petroleum Storage Tank Summary

Tank Quantity	Description	Location	Total Capacity (gallons)	Contents	Active?
10	Baker Receiving Tanks	West and South of Main Office Offloading Area in Southeast Corner of Site	200,000	Non-Hazardous and Non-Domestic Oil Bearing Wastes	Proposed
6	Mix Tanks	Slightly North of Baker Receiving Tanks	30,000	Non-Hazardous and Non-Domestic Oil Bearing Wastes	Proposed
1	Oil/Water Separator	Center of Site Slightly North of Mix Area #2	7,121	Oil Wastewater	Proposed
2	Skim Oil Tanks	Northeastern Portion of Site Slightly North of Mix Area #2	10,000	Recyclable/Sellable Oil	Proposed
2	Waste Oil Drums	Covered HazMat Storage Building	110	Waste Oil	Proposed
2	Motor Oil Drums	Covered HazMat Storage Building	110	Motor Oil	Proposed
1	Diesel Fuel Tank	Southwest Corner of Site Next to Bermed Area	500	Diesel Fuel	Proposed
		TOTAL	**287,841**		

6.2.2 Discharge Prevention Measures – 112.7(a)(3)(ii)

The following are the general procedures and policies in place to prevent an oil discharge:

Secondary Containment*:* The 10 baker receiving tanks will be secondarily contained by a two (2) foot tall perimeter concrete berm and pavement. The six (6) mix tanks will be secondarily contained using grading, pavement, and the truck wash channel. The skim oil tanks and the oil/water separator will be secondarily contained using grading, pavement, and the 1.8 to 2.6-foot adjacent concrete wall. The diesel tank will be secondarily contained within a covered steel structure. The proposed Covered HazMat Storage Building has built in spill containment. The See Section 6.5 for additional discussion of the secondary containment used at this Facility.

Valves / Drains*:* Valves and/or drains that permit the direct outward flow of the tank's contents to the surface are secured in a closed position when in non-operating or standby use. All baker

receiving tanks and the diesel tank are equipped with shutoff valves.

Oil Pumps / Fuel Dispensers: The diesel fuel tank will be located next to existing pavement. The diesel fuel hose dispenser will be positioned so that it is located on top of the pavement while fueling in order to contain any spills that may occur. When not in use, the dispenser will be kept within the tank's steel structure to provide secondary containment. This area will be accessible only by authorized personnel.

Overhead Coverage: The diesel fuel tank will be kept underneath overhead coverage in order to minimize the potential for contamination of rainwater. Additionally, the Covered HazMat Storage Building, located within the northwest portion of the site, will be covered to contain all stored hazardous material on site.

Overfill Prevention: Tanks are either equipped with visual fill-level gauges or are manually checked prior to transferring material to prevent the overfilling of storage containers.

Inspections*:* Routine inspections will be performed as described in Section 6.6.

Employee Training*:* Employees will be trained as described in Section 6.7.

Tank Loading / Unloading Procedures*:* Loading and unloading procedures will be conducted by Facility personnel. These personnel will be available to prevent spills and respond to spills that may occur. Tanks will be equipped with visual gauges or are manually monitored prior to filling or during cleaning. The diesel tank will be constantly attended during the filling process to detect and respond to releases. Devices will be regularly inspected and tested to ensure proper operation.

Spill Kits*:* Spill kits containing cleanup materials will be located within the Covered HazMat Storage Building located within the northwest portion of the site and will be available to all employees.

6.2.3 Drainage Control – 112.7(a)(3)(iii)

The proposed RI-NU Facility will unload non-domestic waste via hose connected to a piping manifold. The manifold will direct this waste to 20,000-gallon baker waste receiving tanks located within the southeast portion of the site. The outdoor area containing the non-domestic waste will be bermed to height of two (2) feet to hold a net capacity (volume available in the event of a failure of the largest tank) of 28,559-gallons. Effluent from the baker receiving tanks will be directed to the northern mix tanks. The mix tanks will be placed on top of a paved surface graded to direct flow into the southeastern truck wash channel. After passing through the shaker and centrifuge, effluent from the mix tanks will be directed towards the oil/water separator and, subsequently, the two (2) skim oil tanks. The oil/water separator and skim oil tanks will be placed on top of a flat, paved surface, contained by the 1.8 to 2.6-foot concrete wall located in between the adjacent northwest facing sea cargo tanks (N1 and N2) and the three (3) tanks. The diesel tank will be located within the southwestern portion of the site within a steel structure that provides secondary containment. This tank will have its own overhead cover structure and will be located slightly south of the adjacent bermed area located in the southwest corner of the site. The two (2) waste oil drums and two (2) motor oil drums will be stored in the Covered HazMat Storage Building, which will be located in the northwest portion of the site. Potential spills from these four (4) 55-gallon drums will be contained before leaving the site because they will be inside a covered building.

DRAFT

The site is designed to contain storm water that comes into contact with industrial operations. Grading throughout the site will direct rain water flow to central areas of the Facility. It is predicted that storm water will pool in central low areas and then either evaporate or infiltrate the ground. Tank spills will be contained as described above and spill contents will be disposed of in accordance with Federal, State, and Local regulations. During and/or after a rain event, accumulated storm water will be inspected to determine the appropriate disposal method. Possible disposal methods include, letting the collected water evaporate, infiltrate the ground, pumping it back into the system for treatment, or sending it off site for recycling. If the storm water appears to contain visible sheen or detectable odor, the storm water will not be discharged. If sheen or odor is not observed, the storm water will be discharged and allowed to percolate the ground.

6.2.4 Spill Response Procedures – 112.7(a)(3)(iv)

These spill response procedures provide guidelines for use by those who respond to oil releases. Common sense and good judgment should be used during emergencies. Do not come in contact with any spilled material unless wearing proper personal protective equipment per the material's Safety Data Sheet (SDS).

1. ***NOTIFY SUPERVISOR*** *as soon as it is safe to do so.*
   - *If the spill involves fire, the Primary SPCC Contact will call 911 immediately.*
   - *If the Primary SPCC Contact is not available, the Secondary SPCC Contact should call 911 immediately, notify the Primary SPCC Contact, and take charge until the Primary SPCC Contact arrives.*
2. ***EVACUATE*** *the immediate area.*
3. ***AID*** *any persons that have been injured or contaminated or are in danger of being injured or contaminated. Do not put yourself in danger trying to save someone else. Avoid contacting any person that contaminated with material. Do not move anyone who may have a back injury.*
4. ***STOP FLOW****, if it is safe to do so. Stop the source of the spill and contain the material that has already been spilled. Do this only if it can be accomplished safely without endangering life or property. Minimizing the amount of material spilled reduces the potential for discharge and the amount of clean up necessary.*
5. ***ALERT OTHERS*** *in the area to stay clear.*
6. ***CONTAIN SPILL*** *if it occurs outside of the containment area or may be released from the containment area using absorbent or emergency berms. Care should be used to prevent the spill from leaving company property or entering sewers and storm drains. Sand bag storm drain inlets if necessary.*
7. ***CLEAN UP*** *spilled material with absorbent materials, dikes, etc. Contact contractors (see below) for assistance if necessary.*
8. ***NOTIFY*** *personnel and agencies presented in Section 6.3.*

The following spill response materials are located on site:

- Spill kits / absorbent materials.
- Front-end loaders and vacuum trucks.

DRAFT

- Stockpiled base material for emergency berms.

Contractors may be contacted to provide the following spill response equipment:

- Additional vacuum trucks for spill recovery and removing materials from secondary containment.
- Hazardous material trucks.
- Additional bins and equipment for used absorbent removal.

The following spill response, containment, and cleanup contractors and materials are available.

CLEANUP MATERIAL	LOCATION	RESPONSE TIME
Stockpiled Base / Soil Material	On site	Immediate
Spill Kits / Absorbent Materials	On site	Immediate

CLEANUP EQUIPMENT	LOCATION	RESPONSE TIME
Loader / Dozer	On site	Immediate
Vacuum Truck	On site	Immediate

CONTRACTOR	ADDRESS	RESPONSE TIME
Patriot Environmental Services Phone: (805) 921-1112 Emergency: (800) 624-9136	250 S. Hallock Dr., #200 Santa Paula, CA 93060	<0.5 hours

6.2.5 Methods of Waste Disposal – 112.7(a)(3)(v)

There may be various types of waste generated during spill response activities. All material generated during spill response activities will be disposed of in accordance with applicable federal, state, and local regulations. Below is a list of common materials and disposal requirements.

- **Oil and oil / water mixtures**: If a large amount of this material needs to be cleaned up, an on-site vacuum truck will be used to collect it. The material may be lab tested to determine if it is non-hazardous and if so, it may be pumped into the on-site wastewater treatment system, otherwise it will be hauled it to a licensed treatment, storage, and disposal Facility. Small spills may be cleaned up using absorbent material.
- **Soiled rags, booms, and absorbent material**: This material should be placed in drums and sent to a licensed treatment, storage, and disposal Facility.
- **Oil contaminated soils**: This material should be placed in drums, roll-off boxes, or on plastic-lined ground and sent to a licensed treatment, storage, and disposal Facility.

DRAFT

6.3 Verbal Notification Procedures

The oral notification procedures presented in this section must be followed to report spills at the Facility.

6.3.1 Verbal Notification – 112.7(a)(3)(vi)

Follow these verbal notification procedures presented to report spills at the Facility. Notification should be made as soon as possible.

If 42 gallons or more of oil has been spilled onsite, follow these verbal notification procedures:

1. *Immediately contact the Primary SPCC Contact –Timothy J. Koziol:*
   Cell *(951) 323-7200*

2. *If the above contact is unavailable, contact the Secondary SPCC Contact – Mike Legan:*
   Office *(805) 525-8315*
   Cell *(805) 407-2366*

3. *If the Primary and/or the Secondary SPCC Contact is available, one of them should immediately notify the following agencies. Note: If the Primary and Secondary SPCC Contacts are both unavailable, then the person who discovered the spill should perform these notifications:*
   Local Emergency Response: ***911***
   California Emergency Management Agency: *(800) 852-7550*
   Los Angeles Regional Water Quality Control Board: *(213) 576-6600*
   Ventura County Dept. of Environmental Health: *(805) 654-2813*

If 42 gallons or more of oil flows offsite, follow the above procedures plus:

Notify the National Response Center at: *(800) 424-8802*

For spills that threaten navigable waters, notify the above plus:

Notify United States Coast Guard at: *(562) 577-0334*

DRAFT

6.3.2 Information to be Included in Verbal Notification – 112.7(a)(4)

Below are possible questions that the agencies may ask during the verbal notification. Have as much of this information as possible when the notifications are conducted. However, ***do not*** wait until all of this information is known before contacting agencies. Always document the name, agency, position of the person you have contacted, and time of your call.

1. *Facility name, address, and phone number*
2. *Your name and position*
3. *Date and time of the spill*
    a. *Time or estimated time spill began*
    b. *Duration of spill or if it is continuing*
    c. *Location of spill*
4. *Spill information*
    a. *Materials spilled (e.g., lubricating oil)*
    b. *Volume or estimated volume spilled*
    c. *Has spill entered storm drain or navigable waters? If so, how much? If not, is there potential for the spill to enter storm drain or navigable waters?*
    d. *Source of the discharge*
    e. *A description of all affected media (i.e. water and/or soil)*
    f. *Cause of the discharge*
    g. *Damages or injuries caused by the discharge*
5. *Response measures taken*
    a. *Containment measures*
    b. *Clean up measures*
    c. *Has the source been stopped?*
    d. *Will evacuation be required?*
    e. *Which individuals and organizations who have been contacted?*
6. *Weather:*
    a. *Is it raining?*
    b. *What is the temperature?*
    c. *What is the wind speed and direction?*

DRAFT

6.4 Potential Spill Sources, Volumes, Rates, and Directions – 112.7(b)

Table 2 shows potential spill predictions for the Facility and Table 3 shows potential spill predictions for the loading and unloading procedures.

Table 2: Potential Spill Predictions – Storage Tanks

Source (Quantity)	Type of Failure	Volume (gal)	Rate (gal/hr)	Flow Direction
Baker Receiving Tanks (10)	Tank rupture / leakage	20,000 (each)	20,000	Spilled material will pool with the 2-foot tall bermed secondary containment area. If a spill breaches the containment structure, it will flow east to the nearby low area in the center of the Facility.
Mix Tanks (6)	Tank rupture / leakage	5,000 (each)	5,000	The mix tanks will be placed on top of a paved surface that has been graded to direct flow toward the adjacent truck wash channel for containment in case a spill was to occur.
Oil/Water Separator (1)	Tank rupture / leakage	7,121	7,121	The oil/water separator will be placed on a flat, paved surface that will be contained by the 1.8 to 2.6-foot concrete wall located in between the adjacent northwest facing sea cargo tanks (N1 and N2) and the oil water separator and skim oil tanks.
Skim Oil Tanks (2)	Tank rupture / leakage	5,000 (each)	5,000	The skim oil tanks will be placed on a flat, paved surface that will be contained by the 1.8 to 2.6-foot concrete wall located in between the adjacent northwest facing sea cargo tanks (N1 and N2) and the oil water separator and skim oil tanks.
Waste Oil Drums (2)	Drum rupture / spilled drum / leakage	55 (each) 110 (total)	55 (each) 110 (total)	Spills from these 55-gallon drums will be contained inside the proposed hazardous material storage building.
Motor Oil Drums (2)	Drum rupture / spilled drum / leakage	55 (each) 110 (total)	55 (each) 110 (total)	Spills from these 55-gallon drums will be contained inside the proposed hazardous material storage building.
Diesel Fuel Tank (1)	Tank rupture / leakage	500	500	Spilled material will pool in the diesel fuel tank secondary containment structure.

DRAFT

Table 3: Potential Spill Predictions – Tank and Vehicle Loading and Unloading

Source	Type of Failure	Volume (gal)	Rate (gal/hr)	Flow Direction
Waste Receiving Piping Manifold	Leakage, Rupture	~25	~25	Spilled wastewaters will collect in either the subgrade offloading area or in the baker tank area containment.
Baker Tanks Piping	Rupture, Leakage, Overfill	~25	~25	
Diesel Tank Loading / Unloading	Rupture, Leakage, Overfill	~25	~25	Spilled material from overfilling will pool in the Fueling Area secondary containment structure. Spilled material from fueling will collect on the pavement and be contained with absorbent materials .

6.5 Containment – 112.7(c)

6.5.1 Specific Secondary Containment – 112.7(c)

Specific secondary containment is containment that is engineered to adequately contain the entire capacity of the contained equipment, plus sufficient freeboard. The Aboveground Petroleum Storage Act (APSA) rule requires specific secondary containment for the following types of oil containing equipment:

- Bulk storage containers;
- Portable and mobile storage containers, except mobile refuelers; and
- Loading / unloading racks.

Table 4 summarizes the specific secondary containment utilized at this Facility. Secondary containment calculations are included in Appendix H.

Table 4: Specific Secondary Containment Summary

Source (Quantity)	Volume (gal)	Method of Secondary Containment	Containment Volume (gal)	Secondary Containment Status
Baker Receiving Tanks (10)	20,000 (each) 200,000 (total)	Berm wall, pavement, grading	28,559	Adequate
Mix Tanks (6)	5,000 (each) 30,000 (total)	Truck wash channel, pavement, grading	24,577	Adequate
Oil/Water Seperator (1)	7,121	Adjacent 1.6 to 2.8-foot wall, pavment, grading	10,950	Adequate
Skim Oil Tanks (2)	5,000	Adjacent 1.6 to 2.8-foot wall, pavment, grading	10,950	Adequate

DRAFT

Diesel Tank (1)	500	Steel secondary containment structure	1,077	Adequate
Drums (4)	55 (each) 220 (total)	Covered HazMat Storage Building	4,563	Adequate

6.5.2 General Secondary Containment – 112.8(c)(2)

The ASPA rule requires that regulated facilities provide general secondary containment for all potential discharges. There are no specific requirements for the design of general secondary containment, only that it must be sufficient to prevent harmful discharges. Types of general secondary containment systems commonly used are earthen dikes, berms, curbs, spill diversion ponds, and active containment devices (i.e., absorbent materials, storm drain covers, portable berms, etc.).

The following types of equipment require general secondary containment:

- Piping;
- Transfer operations;
- Mobile refuelers;
- Containers not meant for bulk storage (i.e., manufacturing equipment); and
- Incidental oil-filled equipment (i.e., transformers, hydraulic equipment, etc.).

General secondary containment at this Facility is provided for loading and unloading operations. Table 5 summarizes the general secondary containment utilized at this Facility.

Table 5: General Secondary Containment Summary

Source	Method of Secondary Containment	Volume (gal)	Containment Volume (gal)	Secondary Containment Status
Unloading Piping Manifold	Spilled wastewaters will collect in either the subgrade offloading area or in the baker tank area containment.	~25	>25	Adequate
Fuel Transfer - Diesel Tank Loading / Unloading	Spilled material from overfilling will pool in the Fueling Area secondary containment structure. Spilled material from fueling will collect on the pavement and be contained with absorbent materials.	~25	~25	Adequate

6.6 Inspections, Tests, and Records – 112.7(e)

Monthly Inspection
Monthly inspections will be performed and documented using the form located in Appendix D.

Annual Inspection
Annual inspections will be performed and documented using the form located in Appendix D.

Testing
Table 5 presents the tank integrity testing schedule according to the Steel Tank Institute's (STI) Standard for the Inspection of Aboveground Storage Tanks, SP001 (January 2018, 6th Edition).

DRAFT

Table 6: Testing Schedule

Tank (Quantity)	Volume (gal)	Inspection Requirements	Frequency
Baker Receiving Tanks (10)	20,000 (each) 200,000 (total)	- Visual Inspection by Facility	Monthly
		- External formal inspection	Every 5 years
		- Leak test inspection	Every 10 years
Diesel Tank (1)	500	- Visual Inspection by Facility	Monthly
Drums (4)	55 (each) 220 (total)	- Visual Inspection by Facility	Monthly

This table was developed using SP001 *Standard for the Inspection of Aboveground Storage Tanks* (6th Edition, January 2018, Steel Tank Institute)

Note that, for all tanks, monthly visual inspections are sufficient to satisfy the testing requirements in STI SP001.

Recordkeeping
The following documents will be maintained for at least three (3) years:

- **Training:** Copies of training records (see Appendix C) for all personnel associated with the Plan.
- **Spills**: Spills must be documented. This includes notification, response, mitigation, analysis, and follow-up records. Procedures can be found in Sections 4.0 and 6.3.
- **Maintenance**: Copies of the maintenance reports.
- **Inspections:** Monthly and annual inspection logs (Appendix D).
- **Testing**: Tank testing records.

6.7 Personnel Training – 112.7(f)(1)

Oil-handling personnel shall be trained annually in the following:

- Operation and maintenance of equipment to prevent discharges.
- Discharge response procedures including Personal Protective Equipment (PPE) and use of response equipment.
- Applicable pollution control laws, rules, and regulations.
- General Facility operations.
- The contents of this Spill Prevention Control and Countermeasure Plan (SPCC) Plan.

A training course outline and a training verification log are included in Appendix C.

DRAFT

6.8 Organizational Responsibilities – 112.7(f)(2)

Responsible Person	Responsibilities
Primary SPCC Contact Timothy J. Koziol, CEO/Owner	- Accountable for discharge prevention; - Implement the SPCC Plan and ensure that it is updated as necessary; - Ensure necessary resources are allocated to implement this plan and to respond to spills; - Keep records for the Plan as outlined in Section 6.6; - Respond to spills, coordinate cleanup, and notify outside agencies; - Submit Storage Statement or Hazard Materials Business Plan as required by the local CUPA; - Ensure that tanks and containment areas meet the standards of the Plan; - Ensure that personnel have received training appropriate to their responsibilities; - Ensure that monthly inspections are conducted; and - Ensure that tank maintenance, repair, and upgrades are conducted.
Secondary SPCC Contact Mike Legan, Plant Manager	- Assist the Primary SPCC Contact as necessary; - Assume the Primary SPCC Contact's responsibilities if the Primary SPCC Contact is unavailable; and - Ensure necessary resources are allocated to implement this plan and to respond to spill.

6.9 Annual Discharge Prevention Briefings – 112.7(f)(3)

Briefings for oil-handling personnel must be conducted at least once a year to ensure adequate understanding of the SPCC Plan. This will be included in the annual training (see Section 6.7).

6.10 Security / Lighting – 112.7(g)

The entrance gates to the Facility are locked when the Facility is closed, typically at night and on weekends. The Facility entrance is fenced to prohibit unauthorized site access. Security cameras are located throughout the Facility and are remotely monitored 24/7 during non-working hours. Employees living nearby are expected to be on call and will respond to incidents at the Facility during non-working hours.

The valves used to dispense fuel and oil from the tanks and drums are kept closed when the site is closed. The loading and unloading connections will be capped when not in service or on standby for an extended time.

Adequate lighting is installed throughout the Facility to deter vandalism.

6.11 Facility Tank Car and Tank Truck Loading/Unloading Rack – 112.7(h)

There are no loading / unloading racks at this Facility.

6.12 Field Constructed AST Repairs and Modifications – 112.7(i)

There are no field-constructed aboveground containers at this Facility.

DRAFT

6.13 Regulatory Requirements – 112.7(j)

This Plan is in conformance with 40 CFR 112. Please refer to the appropriate section for additional information.

Section 2.0 of this Plan outlines the California requirements (Storage Statement).

7.0 REQUIREMENTS FOR PETROLEUM OILS – 112.8

The following sections present the information required by 40 CFR 112.8.

7.1 Facility Drainage – 112.8(b)

Material that collects within the bermed areas or in low areas will be pumped back into the system for treatment. Facility drainage is discussed in detail in Section 6.2.3.

7.2 Bulk Storage Containers – 112.8(c)

The following sections present information related to the bulk storage containers at this Facility.

7.2.1 Material of Construction – 112.8(c)(1)

The diesel tank and oil drums are made of steel, which is compatible with the materials stored. Materials are stored at atmospheric temperature and pressure. The construction of the tanks is compatible with the temperature and pressure of the material stored.

7.2.2 General Secondary Containment – 112.8(c)(2)

See Section 6.5.2 for the general secondary containment utilized for this Facility. The secondary containment utilized at this Facility satisfies the requirements of this section.

7.2.3 Drainage of Rainwater – 112.8(c)(3)

The Fueling Area is completely covered. Therefore, no rainwater is expected to collect in the secondary containment. If rainwater does collect in secondary containment areas, the procedures presented in Section 6.2.3 will be used to remove it.

The baker receiving tank area is uncovered and therefore rainwater does have the potential to collect within the bermed containment area. If rainwater does collect in the secondary containment area, the procedures presented in Section 6.2.3 will be used to remove it.

7.2.4 Completely Buried Metallic Storage Tanks – 112.8(c)(4)

There are no completely buried metallic storage tanks at this Facility.

7.2.5 Partially Buried Metallic Storage Tanks – 112.8(c)(5)

There are no partially buried metallic tanks at this Facility.

7.2.6 Aboveground Tank Testing – 112.8(c)(6)

The tanks will be tested according to the schedule presented in Section 6.6.

DRAFT

7.2.7 Heating Coils – 112.8(c)(7)

There are no internal heating coils used in the oil storage tanks at this Facility.

7.2.8 Devices – 112.8(c)(8)

The diesel tank is equipped with a device to visually determine fuel level. Baker receiving tanks are equipped with visual gauges or are manually monitored prior to filling. The tanks are constantly attended during the filling process to detect and respond to releases. Devices are regularly inspected and tested to ensure proper operation.

7.2.9 Effluent Treatment Facilities – 112.8(c)(9)

This Facility does have the capability to treat wastewater and effluent. However, the effluent treatment system at this Facility is not currently active. No effluent will be treated at this Facility until reactivation permitting is complete and operations resume.

7.2.10 Visible Discharges – 112.8(c)(10)

Visible discharges will be identified and cleaned up using the procedures presented in Section 6.

7.2.11 Portable Oil Storage Containers – 112.8(c)(11)

Portable containers, such as 5-gallon and 55-gallon drums, are located in covered areas with secondary containment sufficient to contain the capacity of the largest container as well as precipitation. The area is not subject to periodic flooding.

7.3 Facility Transfer Operations – 112.8(d)

7.3.1 Buried Piping – 112.8(d)(1)

No buried oil-containing piping exists at the Facility.

7.3.2 Terminal Connections – 112.8(d)(2)

Pipelines not in service or on standby for an extended period are capped or blank flanged and marked as to their origin.

7.3.3 Pipe Supports – 112.8(d)(3)

No oil-containing pipe supports are present at the Facility.

7.3.4 Inspection – 112.8(d)(4)

Tanks and aboveground piping will be inspected using the procedures presented in Section 6.6.

7.3.5 Warning – 112.8(d)(5)

There are no active oil-containing aboveground piping and other aboveground oil transfer equipment at the site.

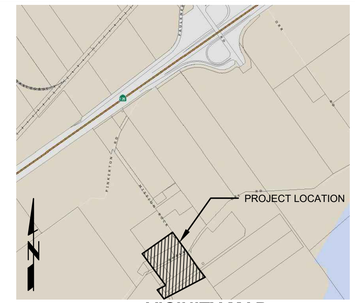
DRAFT

DRAFT

APPENDIX A

FIGURES AND DRAWINGS

NCZ0 ZONE: M3 10,000 SQ. FT.
GENERAL PLAN: EXISTING COMMUNITY



VICINITY MAP
N.T.S.

LEGEND

- CUP BOUNDARY 6.3 ACRE ±
- LOT LINE
- PARCEL LINE
- 6 FT HIGH CHAINLINK FENCE
- 6 FT HIGH CORRUGATED METAL FENCE
- EASEMENTS
- EXISTING AC./CONCRETE
- PROPOSED AC./CONCRETE
- LANDSCAPE AREA
- GRAVEL SURFACE
- TP-1 LOCATION OF BACKHOE EXPLORATION TEST PIT
  - N = NEW
  - E = EXISTING
- TRAFFIC ARROW
- FIRE HYDRANT (FH)
- EDISON POWER POLE
- BERM
- "DAY TANK" IN USE CHEMICAL ON CONTAINMENT
- COMPRESSED GAS CYLINDER
- ABANDONED OIL WELL
- ACTIVE OIL WELL
- DRAINAGE DIRECTION
- SS SAFETY SHOWER/EYEWASH
- SEWER LINE TO OXNARD
- TP-2 LOCATION OF BACKHOE PERCOLATION TEST PIT

ID	2010 Approved CUP Equipment	ID	2017 Proposed Equipment	N/E
A	Receiving Bays (4)	A	Receiving Bays (4)	E
B	Trash/Grit Removal Unit	B	Trash/Grit Removal Unit	E
		CL1-5	Clarifier Units (5)	E
		D	Mixing Tanks (6+)	N
D1	Centrifuge Unit	D1	Centrifuge Unit	E
D2	Centrifuge Unit	D2	Centrifuge Unit	E
D3	Centrifuge Unit	D3	Centrifuge Unit	E
D4	Belt Press			
E	Electro-Coagulation Unit	E	Electro-Coagulation Unit or other Metal Removal Unit	N
F1	Ozone Unit #1	F1	Ozone Unit	N
F2	Ozone Unit #2			
G	UV/Oxidation Unit	G	GEM Unit	N
H	Double Wide Office Trailer	H	1056 sq. ft. portable trailer (office)	N
I	Temporary Office Trailer			
J	Laboratory/Receiving Office	J	648 sq. ft. portable trailer (lab)	N
K	Maintenance Shed	K	Maintenance Shed	E
L	Employee Changing Room	L	864 sq. ft. portable trailer (employee changing room)	N
M	Break Room (old receiving office)			
N1	Sea Container (records storage)	N1	Sea Container (records storage)	E
N2	Sea Container (parts storage)	N2	Sea Container (parts storage)	E
N3	Sea Container (parts storage)	N3	Sea Container (parts storage)	E
N4	Sea Container (parts storage)			
N5	Sea Container (parts storage)			
N6	Sea Container (parts storage)			
N7	Sea Container (parts storage)			
O	Sea Container (chemical storage trailer)			
P	Auger			
Q	CKD Silo			
AA	3 – concrete pads	AA	3 – concrete pads	E
BB	2-Plate Presses on concrete Blocks	BB	2-Shaker Units (screens)	N
CC	Old Office (removed)			
DD	Old Air Stripper Unit (removed)			
EE	Old Tool Shed			
FF	Old Carbon Filters			
GG	Old Frac Tank			
HH	Old Skim Tanks (2) w/ concrete secondary containment	HH	Skim Tanks (2)	N
II	4 – Old Frac Tanks			
1	10 – 5000 gallon process tanks	1	10 – 20,000 gallon waste receiving tanks	E
2	7 – 5000 gallon process tanks	2	10 – 20,000 gallon process tanks	E
3	20 – 5000 gallon process tanks	3	5 – 20,000 gallon process tanks	E
4	40 – 5000 gallons process tanks	4	10 – 20,000 gallon waste receiving tanks	N
5	Pond #1 (surface impoundment) (filled in)			
6	20 – 5000 gallon process tanks	5	14 – 20,000 gallon process tanks	E
7	Pond #2 (surface impoundment			
8	10,000 gallons process tank	6	6 - 6,000 gallon poly process tanks	N
9	10,000 gallons process tank			
10	10,000 gallons process tank			
11	Offloading pump			
12	Sand Filters (6)	12	Sand Filters (6 to 8)	N
13	Sand Filters (6)	13	Portable Water Tanks	N
14	Shipping Pit	14	Shipping Pit (Not Used)	E
15	10,000 gallons process tank			
16	Carbon Filters (2)	16	Carbon Filters	N
17	Micron Filtration Pods	17	Filter Units (organo-clay)	N
18	Diesel Fuel Tank (w/secondary containment)	18	Diesel Fuel Tank (w/secondary containment)	E
19	5 – 5000 gallon process tanks	19	pH Adjustment Tanks	N
TBD	Five Receiving Bays: Bay-3, Industrial Bay, Domestic Bay, and (2) Screening Bays			
TBD	Stockpile storage and recycle area;	20	Stockpile storage and recycle area;	E
TBD	Two reverse Osmosis Units;	21	Two reverse osmosis units (or equivalent technology)	N
TBD	One Control Device;	22	One VCAPCD Control Device;	E
TBD	30- Water Processing Tanks			
TBD	All Awnings and concrete pads	23	New 4,852 square foot concrete pad	N
TBD	Three foot deep grass storm water holding basin;			
		25	610 sq. ft. hazardous materials storage building	N
		26	oil/water separator	N
	Total Approved Process Tanks = 143		Total Proposed Process Tanks = 95	

N/E – New or Existing on Site

PROJECT SITE ADDRESS: 815 MISSION ROCK RD, SANTA PAULA, CA

NOTE:
FACILITY IS WITHIN 100-YEAR FLOODPLAIN PER FEMA REVISED PRELIMINARY FIRM 06111C0778F (12/22/15) EXCEPT FOR AREA NOTED.

SCALE OF FEET: 30 0 30 60

APPLICANT:
RI-NU SERVICES LLC.
15218 SUMMIT AVE., SUITE 300
#601 FONTANA, CA 92336
P:(951)-323-7200

PROPERTY OWNER:
SANTA CLARA WASTE WATER CO.
2775 NORTH VENTURA RD.
SUITE 209
OXNARD, CA 93036
P:(909)-641-4418

APN: 099-0-060-565 :	ACRE 6.97
TOTAL:	6.97

ENGINEER:
SESPE CONSULTING INC.
ROB DAL FARRA
374 POLI ST.
SUITE 200
VENTURA, CA 93001
P:805-275-1515

TOTAL PARCEL AREA	= 303,613 SQF
CUP AREA	= 274,655 SQF
NET STRUCTURE COVERAGE	= 27,211 SQF OR 9.0%
PERVIOUS AREA WITHIN CUP	= 138,902 SQF OR 50.6%
IMPERVIOUS AREA WITHIN CUP	= 135,753 SQF OR 49.4%
LANDSCAPE AREA WITHIN CUP	= 26,862 SQF OR 9.8%

SESPE CONSULTING, INC.
374 Poli Street, Ste. 200 • Ventura, CA 93001
(805) 275-1515 • www.sespeconsulting.com

RI-NU WASTE WATER TREATMENT FACILITY
PROPOSED SITE PLAN

SCALE: HORIZ. AS SHOWN
VERT. AS SHOWN
DRAWN BY: G.CAMUS
DATE: 11/11/2020

ri→nu Services, LLC.

FIGURE NUMBER 1

S:\GR10 – Green Compass\CUP Application 2016 – SCWW\CAD\Site Plan\GR10 –RI–NU–Site–Plan–11–13–20 (septic).dwg Nov 13, 2020, 9:28am GJC

DRAFT

APPENDIX B

REVISION AND AMENDMENT RECORD

SPILL PREVENTION, CONTROL, & COUNTERMEASURE PLAN –
REVIEW FORM

RI-NU Services, LLC

SPCC Plans must be reviewed every five (5) years. After completing the review, complete the statement below and, if necessary, update the SPCC. This Facility's aggregate aboveground oil storage capacity is greater than 10,000 gallons, so technical amendments to the SPCC **must** be certified by a Registered Professional Engineer. Non-technical amendments (e.g., changes in names and phone numbers, etc.) do not need to be certified by a Registered Professional Engineer and do not require certification of familiarity with the SPCC regulations.

Record all revisions to the SPCC Plan using the form on the following page.

I have completed a review and evaluation of the SPCC Plan for RI-NU Services, LLC on _____ [date] and:

_____ Will update the plan

_____ Will not update the plan

Signature: _____ Date: _____

Name: _____ Title: _____

DRAFT

SPILL PREVENTION, CONTROL, & COUNTERMEASURE PLAN –
REVISIONS AND AMENDMENTS RECORD

RI-NU Services, LLC

Record all modifications made to the SPCC Plan on this form. The SPCC Plan must be amended within 6 months of a Facility design change. A review and evaluation of the SPCC Plan must be conducted once every five (5) years.

Date of Amendment	Section Amended	Comments
September 2018	All	New plan
November 2020	All	Design update to replace the forty (40) 6,000-gallon cone bottom receiving tanks with ten (10) 20,000-gallon baker receiving tanks.

DRAFT

DRAFT

APPENDIX C

TRAINING PLAN AND VERIFICATION FORM

SPILL PREVENTION, CONTROL, & COUNTERMEASURE PLAN –
EMPLOYEE SPCC TRAINING/DISCHARGE PREVENTION BRIEFING

RI-NU Services, LLC

Purpose To ensure that affected employees are aware of the SPCC and its requirements.

Applicability This training is required for personnel responsible for implementing the SPCC.

Review / discuss the following items during the training to ensure that employees are aware of SPCC requirements:

_____ General Facility operations.

_____ Operation and maintenance of equipment to prevent discharges.

_____ Discharge response procedures including Personal Protective Equipment (PPE) and use of response equipment.

.

_____ Applicable pollution control laws, rules and regulations. Discuss the fact that federal law requires that an SPCC Plan be prepared for facilities, which store more than 1,320 gallons of oil in Aboveground Storage Tanks.

_____ The contents of this Spill Prevention Control and Countermeasure Plan (SPCC) Plan.

_____ Review the hazards of materials stored (oil products) and an SDS for each material.

_____ Fire safety and the use of personal protection equipment (PPE).

_____ The requirement that spills be contained on-site whenever possible.

_____ Spills that have occurred at the Facility.

_____ Historical failures of equipment and malfunctioning equipment.

_____ Recently developed precautionary measures.

_____ (For Employees who will be conducting inspections). Review the inspection checklist and discuss how and when it must be completed.

_____ Ask if employees have questions about the SPCC or their responsibilities.

_____ Complete the *Employee SPCC Training Verification Form / Discharge Prevention Briefing Log*.

DRAFT

SPILL PREVENTION, CONTROL, & COUNTERMEASURE PLAN –
EMPLOYEE SPCC TRAINING FORM/DISCHARGE PREVENTION BRIEFING LOG

RI-NU Services, LLC

I hereby certify that I have conducted SPCC Training with the undersigned employees.

Instructor Name	**Signature**	**Date**

I hereby certify that I have received SPCC Training / Discharge Prevention Briefing. I am familiar with the procedures outlined in and requirements of the SPCC Plan.

Employee Name	**Signature**	**Date**

DRAFT

DRAFT

APPENDIX D

INSPECTION AND LOG SHEETS

SPILL PREVENTION, CONTROL, & COUNTERMEASURE PLAN –
MONTHLY INSPECTION FORM
RI-NU Services, LLC

Date Inspected: _____ Be sure to look at the entire tank, aboveground piping, and piping supports.

Tank	Contents	Size (gal.)	Location	Check if in good condition*			Comments
				Containers	Secondary Containment?	Valves, piping, hoses, gaskets, seals	
Baker Receiving Tanks (10)	Waste Water Containing Oil	20,000 each	Slightly South of Main Office Offloading Area in Southeast Corner of Site				
Mix Tanks (6)	Waste Water Containing Oil	5,000 each	Slightly North of Baker Receiving Tanks				
Oil/Water Separator (1)	Waste Water Containing Oil	7,121 each	Center of Site Slightly North of Mix Area #2				
Skim Oil tanks (2)	Skimmed Oil	5,000 each	Northeastern Portion of Site Slightly North of Mix Area #2				
Diesel Tank (1)	Diesel	500 each	Southern Corner of Site Next to Bermed Area				
Drums (4)	Waste Oil and Motor Oil	55 each	Covered HazMat Storage Building				

* "Good condition" means no cuts, tears, excess corrosion, or other signs of deterioration that could cause a release.

Form continues on backside.

DRAFT

Check spill kits and replace missing items: ☐ Drum ☐ Absorbent Socks ☐ Absorbent Pillows
☐ Particulate ☐ Gloves ☐ Bags and Labels

Comments or repairs conducted as a result of inspection:

Inspector _____ Signature _____

DRAFT

STI SP001 Annual Inspection Checklist

General Inspection Information:

Inspection Date: _____ Retain Until Date: _____ (36 months from inspection date)

Prior Inspection Date: _____ Inspector Name: _____

Tanks Inspected (ID #'s): _____

Inspection Guidance:

- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- Remove promptly upon discovery standing water or liquid in the primary tank, secondary containment area, interstice, or spill container. Before discharge to the environment, inspect the liquid for regulated products or other contaminants and disposed of it properly.
- In order to comply with EPA SPCC (Spill Prevention, Control and Countermeasure) rules, a facility must regularly test liquid level sensing devices to ensure proper operation (40 CFR 112.8(c)(8)(v)).
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.
- Complete this checklist on an annual basis supplemental to the owner monthly-performed inspection checklists.
- **Note: If a change has occurred to the tank system or containment that may affect the SPCC plan, the condition should be evaluated against the current plan requirement by a Professional Engineer knowledgeable in SPCC development and implementation.**

Item	Task	Status	Comments
1.0 Tank Containment			
1.1 Containment structure	Check for: • Holes or cracks in containment wall or floor • Washout • Liner degradation • Corrosion • Leakage • Paint failure • Tank settling	□Yes* □No □N/A	
2.0 Tank Foundation and Supports			
2.1 Foundation	Settlement or foundation washout?	□Yes* □No	
2.2 Concrete pad or ring wall	Cracking or spalling?	□Yes* □No □N/A	

Item	Task	Status	Comments
2.3 Supports	Check for corrosion, paint failure, etc.	□Yes* □No □N/A	
2.4 Water drainage	Water drains away from tank?	□Yes □No* □N/A	
2.5 Tank grounding	Strap secured and in good condition?	□Yes □No* □N/A	
3.0 Cathodic Protection			
3.1 Gavlvanic cathodic protection system	Confirm system is functional, includes the wire connections for galvanic systems	□Yes □No* □N/A	
3.2 Impressed current system	a. Inspect the operational components (power switch, meters, and alarms).	□Yes □No* □N/A	
	b. Record hour meter, ammeter and voltmeter readings.	□Yes □No* □N/A	
4.0 Tank Shell, Heads, Roof			
4.1 Coating	Check for coating failure	□Yes* □No	
4.2 Steel condition	Check for: • Dents • Buckling • Bulging • Corrosion • Cracking	□Yes* □No	
4.3 Roof slope	Check for low points and standing water	□Yes* □No □N/A	
5.0 Tank Equipment			
5.1 Vents	Verify that components are moving freely and vent passageways are not obstructed for: • Emergency vent covers • Pressure/vacuum vent poppets • Other moving vent components	□Yes* □No	

Item	Task	Status	Comments
5.2 Valves	Check the condition of all valves for leaks, corrosion and damage.	□Yes* □No	
5.2.1 Anti-siphon, check and gate valves	Cycle the valve open and closed and check for proper operation.	□Yes □No* □N/A	
5.2.2 Pressure regulator valve	Check for proper operation. (Note that there may be small, 1/4 inch drain plugs in the bottom of the valve that are not visible by looking from above only)	□Yes □No* □N/A	
5.2.3 Expansion relief valve	Check that the valve is in the proper orientation. (Note that fuel must be discharged back to the tank via a separate pipe or tubing.)	□Yes □No* □N/A	
5.2.4 Solenoid valves	Cycle power to valve to check operation. (Electrical solenoids can be verified by listening to the plunger opening and closing. If no audible confirmation, the valve should be inspected for the presence and operation of the plunger.)	□Yes □No* □N/A	
5.2.5 Fire and shear valves	a. Manually cycle the valve to ensure components are moving freely and that the valve handle or lever has clearance to allow valve to close completely.	□Yes □No* □N/A	
	b. Valves must not be wired in open position.	□Yes □No* □N/A	

Item	Task	Status	Comments
	c. Make sure fusible element is in place and correctly positioned.	□Yes □No* □N/A	
	d. Be sure test ports are sealed with plug after testing is complete and no temporary test fixture or component remains connected to valve.	□Yes □No* □N/A	
5.3 Interstitial leak detection equipment	Check condition of equipment, including: • The window is clean and clear in sight leak gauges. • The wire connections of electronic gauges for tightness and corrosion • Activate the test button, if applicable.	□Yes □No* □N/A	
5.4 Spill containment boxes on fill pipe	a. If corrosion, damage, or wear has compromised the ability of the unit to perform spill containment functions, replace the unit.	□Yes* □No □N/A	
	b. Inspect the connections to the AST for tightness, as well as the bolts, nuts, washers for condition and replace if necessary.	□Yes* □No □N/A	
	c. Drain valves must be operable and closed	□Yes* □No □N/A	
5.5 Strainer	a. Check that the strainer is clean and in good condition.	□Yes □No* □N/A	

Item	Task	Status	Comments
5.5 Strainer	b. Access strainer basket and check cap and gasket seal as well as bolts.	□Yes □No* □N/A	
5.6 Filter	a. Check that the filter is in good condition and is within the manufacturer's expected service life. Replace, if necessary.	□Yes □No* □N/A	
	b. Check for leaks and decreased fuel flow	□Yes □No* □N/A	
5.7 Flame arrestors	Follow manufacturer's instructions. Check for corrosion and blockage of air passages.	□Yes* □ No □N/A	
5.8 Leak detector for submersible pump systems	Test according to manufacturer's instructions and authority having jurisdiction (AHJ). Verify leak detectors are suited and properly installed for aboveground use.	□Yes □No* □N/A	
5.9 Liquid level equipment	a. Has equipment been tested to ensure proper operation?	□Yes □No* □N/A	
	b. Does equipment operate as required?	□Yes □No* □N/A	
	c. Follow manufacturer's instructions	□Yes □No* □N/A	
5.10 Overfill equipment	a. Follow manufacturer's instructions and regulatory requirements for inspection and functionality verification.	□Yes □No* □N/A	
	b. Confirm device is suited for above ground use by the manufacturer	□Yes □No* □N/A	

Item	Task	Status	Comments
6.0 Insulated Tanks			
6.1 Insulation	Check condition of insulation for: • Missing sections • Areas of moisture • Mold • Damage	□Yes* □ No □N/A	
6.2 Insulation cover or jacket	Check for damage that will allow water intrusion	□Yes* No □N/A	
7.0 Miscellaneous			
7.1 Electrical wiring and boxes	Are they in good condition?	□Yes □No* □N/A	
7.2 Labels and tags	Ensure that all labels and tags are intact and readable.	□Yes □No* □N/A	

Additional Comments:

DRAFT

APPENDIX E

AST REGULATIONS
California Aboveground Petroleum Storage Act
40 CFR 112 – Oil Pollution Prevention

HEALTH AND SAFETY CODE
SECTION 25270-25270.13

25270. This chapter shall be known and may be cited as the Aboveground Petroleum Storage Act.

25270.2. For purposes of this chapter, the following definitions apply:

(a) "Aboveground storage tank" or "storage tank" means a tank that has the capacity to store 55 gallons or more of petroleum that is substantially or totally above the surface of the ground, except that, for purposes of this chapter, "aboveground storage tank" or "storage tank" includes a tank in an underground area. "Aboveground storage tank" does not include any of the following:

(1) A pressure vessel or boiler that is subject to Part 6 (commencing with Section 7620) of Division 5 of the Labor Code.

(2) A tank containing hazardous waste or extremely hazardous waste, as respectively defined in Sections 25117 and 25115, if the Department of Toxic Substances Control has issued the person owning or operating the tank a hazardous waste facilities permit for the storage tank.

(3) An aboveground oil production tank that is subject to Section 3106 of the Public Resources Code.

(4) Oil-filled electrical equipment, including, but not limited to, transformers, circuit breakers, or capacitors, if the oil-filled electrical equipment meets either of the following conditions:

(A) The equipment contains less than 10,000 gallons of dielectric fluid.

(B) The equipment contains 10,000 gallons or more of dielectric fluid with PCB levels less than 50 parts per million, appropriate containment or diversionary structures or equipment are employed to prevent discharged oil from reaching a navigable water course, and the electrical equipment is visually inspected in accordance with the usual routine maintenance procedures of the owner or operator.

(5) A tank regulated as an underground storage tank under Chapter 6.7 (commencing with Section 25280) of this division and Chapter 16 (commencing with Section 2610) of Division 3 of Title 23 of the California Code of Regulations and that does not meet the definition of a tank in an underground area.

(6) A transportation-related tank facility, subject to the authority and control of the United States Department of Transportation, as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the United States Environmental Protection Agency, as set forth in Appendix A to Part 112 (commencing with Section 112.1) of Subchapter D of Chapter I of Title 40 of the Code of Federal Regulations.

(7) A tank or tank facility located on and operated by a farm that is exempt from the federal spill prevention, control, and countermeasure rule requirements pursuant to Part 112 (commencing with Section 112.1) of Subchapter D of Chapter I of Title 40 of the Code of Federal Regulations.

(b) "Board" means the State Water Resources Control Board.

(c) (1) "Certified Unified Program Agency" or "CUPA" means the agency certified by the Secretary for Environmental Protection to implement the unified program specified in Chapter 6.11 (commencing with Section 25404) within a jurisdiction.

(2) "Participating Agency" or "PA" means an agency that has a written agreement with the CUPA pursuant to subdivision (d) of Section 25404.3, and is approved by the secretary, to implement and enforce the unified program element specified in paragraph (2) of subdivision (c) of Section 25404, in accordance with Sections 25404.1 and 25404.2.

(3) (A) "Unified Program Agency" or "UPA" means the CUPA, or its participating agencies to the extent that each PA has been designated by the CUPA, pursuant to a written agreement, to implement and enforce the unified program element specified in paragraph (2) of subdivision (c) of Section 25404. The UPAs have the responsibility and authority, to the extent provided by

this chapter and Sections 25404.1 to 25404.2, inclusive, to implement and enforce the requirements of this chapter.

(B) After a CUPA has been certified by the secretary, the unified program agency shall be the only agency authorized to enforce the requirements of this chapter.

(C) This paragraph does not limit the authority or responsibility granted to the office, the board, and the regional boards by this chapter.

(d) "Office" means the Office of the State Fire Marshal.

(e) "Operator" means the person responsible for the overall operation of a tank facility.

(f) "Owner" means the person who owns the tank facility or part of the tank facility.

(g) "Person" means an individual, trust, firm, joint stock company, corporation, including a government corporation, partnership, limited liability company, or association. "Person" also includes any city, county, district, the University of California, the California State University, the state, any department or agency thereof, and the United States, to the extent authorized by federal law.

(h) "Petroleum" means crude oil, or a fraction thereof, that is liquid at 60 degrees Fahrenheit temperature and 14.7 pounds per square inch absolute pressure.

(i) "Regional board" means a California regional water quality control board.

(j) "Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, escaping, leaching, or disposing into the environment.

(k) "Secretary" means the Secretary for Environmental Protection.

(l) "Storage" or "store" means the containment, handling, or treatment of petroleum, for a period of time, including on a temporary basis.

(m) "Storage capacity" means the aggregate capacity of all aboveground storage tanks at a tank facility.

(n) "Tank facility" means one or more aboveground storage tanks, including any piping that is integral to the tanks, that contain petroleum and that are used by an owner or operator at a single location or site. For purposes of this chapter, a pipe is integrally related to an aboveground storage tank if the pipe is connected to the tank and meets any of the following:

(1) The pipe is within the dike or containment area.

(2) The pipe is between the containment area and the first flange or valve outside the containment area.

(3) The pipe is connected to the first flange or valve on the exterior of the tank, if state or federal law does not require a containment area.

(4) The pipe is connected to a tank in an underground area.

(o) (1) "Tank in an underground area" means a storage tank to which all of the following apply:

(A) The storage tank is located in a structure that is at least 10 percent below the ground surface, including, but not limited to, a basement, cellar, shaft, pit, or vault.

(B) The structure in which the storage tank is located, at a minimum, provides for secondary containment of the contents of the tank, piping, and ancillary equipment, until cleanup occurs. A shop-fabricated double-walled storage tank with a mechanical or electronic device used to detect leaks in the interstitial space meets the requirement for secondary containment of the contents of the tank.

(C) The storage tank meets one or more of the following conditions:

(i) The storage tank contains petroleum to be used or previously used as a lubricant or coolant in a motor engine or transmission, oil-filled operational equipment, or oil-filled manufacturing equipment, is situated on or above the surface of the floor, and the structure in which the tank is located provides enough space for direct viewing of the exterior of the tank except for the part of the tank in contact with the surface of the floor.

(ii) The storage tank only contains petroleum that is determined to be a hazardous waste, complies with the hazardous waste tank standards pursuant to Article 10 (commencing with Section 66265.190) of Chapter 15 of Title 22 of the California Code of Regulations as it may be amended, and the tank facility has been issued a unified program facility permit pursuant to Section 25404.2 for generation, treatment, accumulation, or storage of hazardous waste.

(iii) The storage tank contains petroleum and is used solely in connection with a fire pump or an emergency system, legally required standby system, or optional standby system as defined in the most recent version of the California Electrical Code (Section 700.2 of Article 700, Section 701.2 of Article 701, and Section 702.2 of Article 702, of Chapter 7 of

Part 3 of Title 24 of the California Code of Regulations), is situated on or above the surface of the floor, and the structure in which the tank is located provides enough space for direct viewing of the exterior of the tank except for the part of the tank in contact with the surface of the floor.

(iv) The storage tank does not meet the conditions in clauses (i), (ii), or (iii), but meets all of the following conditions:

(I) It contains petroleum.

(II) It is situated on or above the surface of the floor.

(III) The structure in which the tank is located provides enough space for direct viewing of the exterior of the tank, except for the part of the tank in contact with the surface of the floor, and all piping connected to the tank, including any portion of a vent line, vapor recovery line, or fill pipe that is beneath the surface of the ground, and all ancillary equipment, can either be visually inspected by direct viewing or has both secondary containment and leak detection that meet the requirements of the regulations adopted by the office pursuant to Section 25270.4.1.

(2) For a shop-fabricated double-walled storage tank, direct viewing of the exterior of the tank is not required under paragraph (1) if inspections of the interstitial space are performed or if it has a mechanical or electronic device that will detect leaks in the interstitial space.

(3) (A) A storage tank in an underground area is not subject to Chapter 6.7 (commencing with Section 25280) if the storage tank meets the definition of a tank in an underground area, as provided in paragraph (1) and, except as specified in subparagraph (B), the regulations that apply to all new and existing tanks in underground areas and buried piping connected to tanks in underground areas have been adopted by the office pursuant to Section 25270.4.1.

(B) A storage tank meeting the description of clause (i) of subparagraph (C) of paragraph (1) shall continue to be subject to this chapter, and excluded from the definition of an underground storage tank in Chapter 6.7 (commencing with Section 25280), before and after the date the regulations specific to tanks in underground areas have been adopted by the office.

(p) "Viewing" means visual inspection, and "direct viewing" means, in regard to a storage tank, direct visual inspection of the exterior of the tank, except for the part of the tank in contact with the surface of the floor, and, where applicable, the entire length of all piping and ancillary equipment, including all exterior surfaces, by a person or through the use of visual aids, including, but not limited to, mirrors, cameras, or video equipment.

25270.3. A tank facility is subject to this chapter if any of the following apply:

(a) The tank facility is subject to the oil pollution prevention regulations specified in Part 112 (commencing with Section 112.1) of Subchapter D of Chapter I of Title 40 of the Code of Federal Regulations.

(b) The tank facility has a storage capacity of 1,320 gallons or more of petroleum.

(c) The tank facility has a storage capacity of less than 1,320 gallons of petroleum and has one or more tanks in an underground area meeting the conditions specified in paragraph (1) of subdivision (o) of Section 25270.2. If this subdivision is applicable, only tanks meeting the conditions specified in paragraph (1) of subdivision (o) of Section 25270.2 shall be included as storage tanks and subject to this chapter.

25270.4. This chapter shall be implemented by the Unified Program Agency, in accordance with the regulations adopted by the office pursuant to Section 25270.4.1.

25270.4.1. (a) The office shall adopt regulations implementing this chapter. The office shall also provide interpretation of this chapter to the UPAs, and oversee the implementation of this chapter by the UPAs.

(b) The office shall establish an advisory committee that includes representatives from regulated entities, appropriate trade associations, fire service organizations, federal, state, and local organizations,

including UPAs, and other interested parties. The advisory committee shall act in an advisory capacity to the office in conducting its responsibilities.

(c) The office shall, in addition to any other requirements imposed pursuant to this chapter, train UPAs, ensure consistency with state law, to the maximum extent feasible, ensure consistency with federal enforcement guidance issued by federal agencies pursuant to subdivision (d), and support the UPAs in providing outreach to regulated persons regarding compliance with current local, state, and federal regulations relevant to the office's obligations under this chapter.

(d) Any regulation adopted by the office pursuant to this section shall ensure consistency with the requirements for spill prevention, control, and countermeasure plans under Part 112 (commencing with Section 112.1) of Subchapter D of Chapter I of Title 40 of the Code of Federal Regulations, and shall include any more stringent requirements necessary to implement this chapter.

25270.4.5.

(a) Except as provided in subdivision (b), each owner or operator of a storage tank at a tank facility subject to this chapter shall prepare a spill prevention control and countermeasure plan applying good engineering practices to prevent petroleum releases using the same format required by Part 112 (commencing with Section 112.1) of Subchapter D of Chapter I of Title 40 of the Code of Federal Regulations, including owners and operators of tank facilities not subject to the general provisions in Section 112.1 of those regulations. Each owner or operator specified in this subdivision shall conduct periodic inspections of the storage tank to ensure compliance with Part 112 (commencing with Section 112.1) of Subchapter D of Chapter I of Title 40 of the Code of Federal Regulations. In implementing the spill prevention control and countermeasure plan, each owner or operator specified in this subdivision shall fully comply with the latest version of the regulations contained in Part 112 (commencing with Section 112.1) of Subchapter D of Chapter I of Title 40 of the Code of Federal Regulations.

(b) A tank facility located on and operated by a farm, nursery, logging site, or construction site is not subject to subdivision (a) if no storage tank at the location exceeds 20,000 gallons and the cumulative storage capacity of the tank facility does not exceed 100,000 gallons. Unless excluded from the definition of an "aboveground storage tank" in Section 25270.2, the owner or operator of a tank facility exempt pursuant to this subdivision shall take the following actions:

(1) Conduct a daily visual inspection of any storage tank storing petroleum. For purposes of this section, "daily" means every day that contents are added to or withdrawn from the tank, but no less than five days per week. The number of days may be reduced by the number of state or federal holidays that occur during the week if there is no addition to, or withdrawal from, the tank on the holiday. The unified program agency may reduce the frequency of inspections to not less than once every three days at a tank facility that is exempt pursuant to this section if the tank facility is not staffed on a regular basis, provided that the inspection is performed every day the facility is staffed.

(2) Allow the UPA to conduct a periodic inspection of the tank facility.

(3) If the UPA determines installation of secondary containment is necessary for the protection of the waters of the state, install a secondary means of containment for each tank or group of tanks where the secondary containment will, at a minimum, contain the entire contents of the largest tank protected by the secondary containment plus precipitation.

25270.5.

(a) Except as provided in subdivision (b), at least once every three years, the UPA shall inspect each storage tank or a representative sampling of the storage tanks at each tank facility that has a storage capacity of 10,000 gallons or more of petroleum. The purpose of the inspection shall be to determine whether the owner or operator is in compliance with the spill prevention control and countermeasure plan requirements of this chapter.

(b) The UPA may develop an alternative inspection and compliance plan, subject to approval by the secretary and the office.

(c) An inspection conducted pursuant to this section does not require the oversight of a professional engineer. The person conducting the inspection shall complete and pass the initial aboveground storage tank inspector training program. The curriculum of the aboveground storage tank inspector training program shall focus on the spill prevention control and countermeasure plan provisions and safety requirements for aboveground storage tank inspections.

25270.6.

(a) (1) On or before January 1, 2009, and on or before January 1 annually thereafter, each owner or operator of a tank facility subject to this chapter shall file with the statewide information management system, a tank facility statement that shall identify the name and address of the tank facility, a contact person for the tank facility, the total storage capacity of the tank facility, and the location and contents of each petroleum storage tank that exceeds 10,000 gallons in storage capacity. A copy of a statement submitted previously pursuant to this section may be submitted in lieu of a new tank facility statement if no new or used storage tanks have been added to the facility or if no significant modifications have been made. For purposes of this section, a significant modification includes, but is not limited to, altering existing storage tanks or changing spill prevention or containment methods.

(2) Notwithstanding paragraph (1), an owner or operator of a tank facility that submits a business plan, as defined in subdivision (d) of Section 25501, to the statewide information management system and that complies with Sections 25503, 25505, 25505.1, 25507, 25507.2, 25508, 25508.1, and 25508.2, satisfies the requirement in paragraph (1) to file a tank facility statement.

(b) Each year, commencing in calendar year 2010, each owner or operator of a tank facility who is subject to the requirements of subdivision (a) shall pay a fee to the UPA, on or before a date specified by the UPA. The governing body of the UPA shall establish a fee, as part of the single fee system implemented pursuant to Section 25404.5, at a level sufficient to pay the necessary and reasonable costs incurred by the UPA in administering this chapter, including, but not limited to, inspections, enforcement, and administrative costs. The UPA shall also implement the fee accountability program established pursuant to subdivision (c) of Section 25404.5 and the regulations adopted to implement that program.

25270.8. Each owner or operator of a tank facility shall immediately, upon discovery, notify the Office of Emergency Services and the UPA using the appropriate 24-hour emergency number or the 911 number, as established by the UPA, or by the governing body of the UPA, of the occurrence of a spill or other release of one barrel (42 gallons) or more of petroleum that is required to be reported pursuant to subdivision (a) of Section 13272 of the Water Code.

25270.9.

(a) The board and the regional board may oversee cleanup or abatement efforts, or cause cleanup or abatement efforts, of a release from a storage tank at a tank facility.

(b) The reasonable expenses of the board and the regional board incurred in overseeing, or contracting for, cleanup or abatement efforts that result from a release at a tank facility is a charge against the owner or operator of the tank facility. Expenses reimbursable to a public agency under this section are a debt of the tank facility owner or operator, and shall be collected in the same manner as in the case of an obligation under a contract, express or implied.

(c) Expenses recovered by the board or a regional board pursuant to this section shall be deposited into the Waste Discharge Permit Fund. These moneys shall be separately accounted for, and shall be expended by the board, upon appropriation by the Legislature, to assist regional boards and other public agencies with authority to clean up waste or abate the effects of the waste, in cleaning up or abating the effects of the waste on waters of the state, or for the purposes authorized in Section 13443 of the Water Code.

25270.12.
(a) Any owner or operator of a tank facility who fails to prepare a spill prevention control and countermeasure plan in compliance with subdivision (a) of Section 25270.4.5, to file a tank facility statement pursuant to subdivision (a) of Section 25270.6, to submit the fee required by subdivision (b) of Section 25270.6, or to report spills as required by Section 25270.8, or who otherwise fails to comply with the requirements of this chapter, is subject to a civil penalty of not more than five thousand dollars ($5,000) for each day on which the violation continues. If the owner or operator commits a second or subsequent violation, a civil penalty of not more than ten thousand dollars ($10,000) for each day on which the violation continues may be imposed.
(b) (1) The civil penalties provided by this section may be assessed and recovered in a civil action brought by the city attorney or district attorney on behalf of the UPA.
(2) Fifty percent of all penalties assessed and recovered in a civil action brought on behalf of a UPA pursuant to this subdivision shall be deposited into a unified program account established by the UPA for the purpose of carrying out the functions of the unified program and 50 percent shall be paid to the office of the city attorney or district attorney, whoever brought that action.
(c) (1) The civil penalties provided in this section may be assessed and recovered in a civil action brought by the Attorney General on behalf of the office, the board, or a regional board, or on behalf of the people of the State of California.
(2) All penalties assessed and recovered in a civil action brought pursuant to this subdivision shall be deposited in the Waste Discharge Permit Fund created pursuant to Section 13260 of the Water Code. These moneys shall be separately accounted for, and shall be expended by the board, upon appropriation by the Legislature, to assist regional boards and other public agencies with authority to clean up waste or abate the effects of the waste, in cleaning up or abating the effects of the waste on waters of the state, or for the same purposes for which the State Water Pollution Cleanup and Abatement Account may be expended pursuant to Section 13443 of the Water Code.
(d) The city attorney, district attorney, or the Attorney General may seek to enjoin, in any court of competent jurisdiction, any person believed to be in violation of this chapter.
(e) The penalties specified in this section are in addition to any other penalties provided by law.

25270.12.1.
(a) An owner or operator of a tank facility who fails to prepare a spill prevention control and countermeasure plan in compliance with subdivision (a) of Section 25270.4.5, to file a tank facility statement pursuant to subdivision (a) of Section 25270.6, to submit the fee required by subdivision (b) of Section 25270.6, or to report spills as required by Section 25270.8, or who otherwise fails to comply with the requirements of this chapter is liable to the UPA for an administrative penalty of not more than five thousand dollars ($5,000) for each day on which the violation continues. If the owner or operator commits a second or subsequent violation, an administrative penalty of not more than ten thousand dollars ($10,000) for each day on which the violation continues may be imposed.
(b) The administrative penalties assessed by a UPA shall be deposited into a unified program account established by the UPA for the purpose of carrying out the functions of the unified program.
(c) When a UPA issues an enforcement order or assesses an administrative penalty, or both, for a violation of this chapter, the administering agency shall utilize the administrative enforcement procedures specified in Sections 25404.1.1 and 25404.1.2.
(d) The administrative penalties specified in this section are in addition to any other penalties provided by law, except for a violation for which a civil penalty under Section 25270.12 has already been imposed for the same violation.

25270.12.5.
(a) A person who knowingly violates Section 25270.4.5, 25270.6, or 25270.8 after reasonable notice of the violation is, upon conviction, guilty of a misdemeanor.
(b) This section does not preempt any other applicable criminal or civil penalties.

25270.13.
(a) This chapter does not preempt local storage tank ordinances, in effect as of August 16, 1989, that meet or exceed the standards prescribed by this chapter.
(b) This chapter does not preempt the authority granted to the board and the regional boards under the Porter Cologne Water Quality Control Act (Division 7 (commencing with Section 13000) of the Water Code).

40 CFR 112

§112.1 General applicability.

(a) (1) This part establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

(2) As used in this part, words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa, as the case may require.

(b) Except as provided in paragraph (d) of this section, this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act) that has oil in:

(1) Any aboveground container;

(2) Any completely buried tank as defined in §112.2;

(3) Any container that is used for standby storage, for seasonal storage, or for temporary storage, or not otherwise “permanently closed” as defined in §112.2;

(4) Any “bunkered tank” or “partially buried tank” as defined in §112.2, or any container in a vault, each of which is considered an aboveground storage container for purposes of this part.

(c) As provided in section 313 of the Clean Water Act (CWA), departments, agencies, and instrumentalities of the Federal government are subject to this part to the same extent as any person.

(d) Except as provided in paragraph (f) of this section, this part does not apply to:

(1) The owner or operator of any facility, equipment, or operation that is not subject to the jurisdiction of the Environmental Protection Agency (EPA) under section 311(j)(1)(C) of the CWA, as follows:

(i) Any onshore or offshore facility, that due to its location, could not reasonably be expected to have a discharge as described in paragraph (b) of this section. This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and must exclude consideration of manmade features such as dikes, equipment or other structures, which may serve to restrain, hinder, contain, or otherwise prevent a discharge as described in paragraph (b) of this section.

(ii) Any equipment, or operation of a vessel or transportation-related onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation, as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of EPA, dated November 24, 1971 (appendix A of this part).

(iii) Any equipment, or operation of a vessel or onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation or the U.S. Department of the Interior, as defined in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (appendix B of this part).

(2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:

(i) The completely buried storage capacity of the facility is 42,000 U.S. gallons or less of oil. For purposes of this exemption, the completely buried storage capacity of a facility excludes the capacity of a completely buried tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems, that is currently subject to all of the technical requirements of part 280 of this chapter or all of the technical requirements of a State program approved under part 281 of this chapter, or the capacity of any underground oil storage tanks deferred under 40 CFR part 280 that supply emergency diesel generators at a nuclear power generation facility licensed by the Nuclear Regulatory Commission and subject to any Nuclear Regulatory Commission provision regarding design and quality criteria, including, but not limited to, 10 CFR part 50. The completely buried storage capacity of a facility also excludes the capacity of a container that is “permanently closed,” as defined in §112.2 and the capacity of intra-facility gathering lines subject to the regulatory requirements of 49 CFR part 192 or 195.

(ii) The aggregate aboveground storage capacity of the facility is 1,320 U.S. gallons or less of oil. For the purposes of this exemption, only containers with a capacity of 55 U.S. gallons or greater are counted. The aggregate aboveground storage capacity of a facility excludes:

(A) The capacity of a container that is “permanently closed” as defined in §112.2;

(B) The capacity of a “motive power container” as defined in §112.2;

(C) The capacity of hot-mix asphalt or any hot-mix asphalt container;

(D) The capacity of a container for heating oil used solely at a single-family residence;

(E) The capacity of pesticide application equipment and related mix containers.

(F) The capacity of any milk and milk product container and associated piping and appurtenances.

(3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (appendix B of this part).

(4) Any completely buried storage tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of

this chapter, or any underground oil storage tanks including below-grade vaulted tanks, deferred under 40 CFR part 280, as originally promulgated, that supply emergency diesel generators at a nuclear power generation facility licensed by the Nuclear Regulatory Commission, provided that such a tank is subject to any Nuclear Regulatory Commission provision regarding design and quality criteria, including, but not limited to, 10 CFR part 50. Such emergency generator tanks must be marked on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.

(5) Any container with a storage capacity of less than 55 gallons of oil.

(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

(7) Any “motive power container,” as defined in §112.2. The transfer of fuel or other oil into a motive power container at an otherwise regulated facility is not eligible for this exemption.

(8) Hot-mix asphalt, or any hot-mix asphalt container.

(9) Any container for heating oil used solely at a single-family residence.

(10) Any pesticide application equipment or related mix containers.

(11) Intra-facility gathering lines subject to the regulatory requirements of 49 CFR part 192 or 195, except that such a line's location must be identified and marked as “exempt” on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.

(12) Any milk and milk product container and associated piping and appurtenances.

(e) This part establishes requirements for the preparation and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans. SPCC Plans are designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules. The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State, or local laws.

(f) Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject to the jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

(1) Following a preliminary determination, the Regional Administrator must provide a written notice to the owner or operator stating the reasons why he must prepare an SPCC Plan, or applicable part. The Regional Administrator must send such notice to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of such notice to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data and may consult with the Agency about the need to prepare an SPCC Plan, or applicable part.

(3) Within 30 days following the time under paragraph (b)(2) of this section within which the owner or operator may provide information and data and consult with the Agency about the need to prepare an SPCC Plan, or applicable part, the Regional Administrator must make a final determination regarding whether the owner or operator is required to prepare and implement an SPCC Plan, or applicable part. The Regional Administrator must send the final determination to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of the final determination to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(4) If the Regional Administrator makes a final determination that an SPCC Plan, or applicable part, is necessary, the owner or operator must prepare the Plan, or applicable part, within six months of that final determination and implement the Plan, or applicable part, as soon as possible, but not later than one year after the Regional Administrator has made a final determination.

(5) The owner or operator may appeal a final determination made by the Regional Administrator requiring preparation and implementation of an SPCC Plan, or applicable part, under this paragraph. The owner or operator must make the appeal to the Administrator of EPA within 30 days of receipt of the final determination under paragraph (b)(3) of this section from the Regional Administrator requiring preparation and/or implementation of an SPCC Plan, or applicable part. The owner or operator must send a complete copy of the appeal to the Regional Administrator at the time he makes the appeal to the Administrator. The appeal must contain a clear and concise statement of the issues and points of fact in the case. In the appeal, the owner or operator may also provide additional information. The additional information may be from any person. The Administrator may request additional information from the owner or operator. The Administrator must render a decision within 60 days of receiving the appeal or additional information submitted by the owner or operator and must serve the owner or operator with the decision made in the appeal in the manner described in paragraph (f)(1) of this section.

§112.2 Definitions.

For the purposes of this part:

Adverse weather means weather conditions that make it difficult for response equipment and personnel to clean up or remove spilled oil, and that must be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height as specified in appendix E to this part (as appropriate), ice conditions, temperatures, weather-related visibility, and currents within the area in which the systems or equipment is intended to function.

Alteration means any work on a container involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of the container.

Animal fat means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin.

Breakout tank means a container used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline.

Bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container.

Bunkered tank means a container constructed or placed in the ground by cutting the earth and re-covering the container in a manner that breaks the surrounding natural grade, or that lies above grade,

and is covered with earth, sand, gravel, asphalt, or other material. A bunkered tank is considered an aboveground storage container for purposes of this part.

Completely buried tank means any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.

Complex means a facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA.

Contiguous zone means the zone established by the United States under Article 24 of the Convention of the Territorial Sea and Contiguous Zone, that is contiguous to the territorial sea and that extends nine miles seaward from the outer limit of the territorial area.

Contract or other approved means means:

(1) A written contractual agreement with an oil spill removal organization that identifies and ensures the availability of the necessary personnel and equipment within appropriate response times; and/or

(2) A written certification by the owner or operator that the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times; and/or

(3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic area; and/or

(4) Any other specific arrangement approved by the Regional Administrator upon request of the owner or operator.

Discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under section 402 of the CWA; discharges resulting from circumstances identified, reviewed, and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a condition in such permit; or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of this part, the term discharge shall not include any discharge of oil that is authorized by a permit issued under section 13 of the River and Harbor Act of 1899 (33 U.S.C. 407).

Facility means any mobile or fixed, onshore or offshore building, property, parcel, lease, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and oil waste treatment, or in which oil is used, as described in appendix A to this part. The boundaries of a facility depend on several site-specific factors, including but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and types of activity at the site. Contiguous or non-contiguous buildings, properties, parcels, leases, structures, installations, pipes, or pipelines under the ownership or operation of the same person may be considered separate facilities. Only this definition governs whether a facility is subject to this part.

Farm means a facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, $1,000 or more of agricultural products during a year.

Fish and wildlife and sensitive environments means areas that may be identified by their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On-Scene Coordinator's spill response structure (during responses). These areas may include wetlands, National and State parks, critical habitats for endangered or threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, Federal and State lands that are research national areas, heritage program areas, land trust areas, and historical and archaeological sites and parks. These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.

Injury means a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge, or exposure to a product of reactions resulting from a discharge.

Loading/unloading rack means a fixed structure (such as a platform, gangway) necessary for loading or unloading a tank truck or tank car, which is located at a facility subject to the requirements of this part. A loading/unloading rack includes a loading or unloading arm, and may include any combination of the following: piping assemblages, valves, pumps, shut-off devices, overfill sensors, or personnel safety devices.

Maximum extent practicable means within the limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst case discharges from onshore non-transportation-related facilities in adverse weather. It includes the planned capability to respond to a worst case discharge in adverse weather, as contained in a response plan that meets the requirements in §112.20 or in a specific plan approved by the Regional Administrator.

Mobile refueler means a bulk storage container onboard a vehicle or towed, that is designed or used solely to store and transport fuel for transfer into or from an aircraft, motor vehicle, locomotive, vessel, ground service equipment, or other oil storage container.

Motive power container means any onboard bulk storage container used primarily to power the movement of a motor vehicle, or ancillary onboard oil-filled operational equipment. An onboard bulk storage container which is used to store or transfer oil for further distribution is not a motive power container. The definition of motive power container does not include oil drilling or workover equipment, including rigs.

Navigable waters of the United States means “navigable waters” as defined in section 502(7) of the FWPCA, and includes:

(1) All navigable waters of the United States, as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA (Pub. L. 92-500), and tributaries of such waters;

(2) Interstate waters;

(3) Intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; and

(4) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

Non-petroleum oil means oil of any kind that is not petroleum-based, including but not limited to: Fats, oils, and greases of animal, fish, or marine mammal origin; and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

Offshore facility means any facility of any kind (other than a vessel or public vessel) located in, on, or under any of the navigable waters of the United States, and any facility of any kind that is subject to the jurisdiction of the United States and is located in, on, or under any other waters.

Oil means oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Oil-filled operational equipment means equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Oil-filled operational equipment is not considered a bulk storage container, and does not include oil-filled manufacturing equipment (flow-through process). Examples of oil-filled operational equipment include, but are not limited to, hydraulic systems, lubricating systems (*e.g.*, those for pumps, compressors and other rotating equipment, including pump jack lubrication systems), gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device.

Oil Spill Removal Organization means an entity that provides oil spill response resources, and includes any for-profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.

Onshore facility means any facility of any kind located in, on, or under any land within the United States, other than submerged lands.

Owner or operator means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated or maintained the facility immediately prior to such abandonment.

Partially buried tank means a storage container that is partially inserted or constructed in the ground, but not entirely below grade, and not completely covered with earth, sand, gravel, asphalt, or other material. A partially buried tank is considered an aboveground storage container for purposes of this part.

Permanently closed means any container or facility for which:

(1) All liquid and sludge has been removed from each container and connecting line; and

(2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.

Person includes an individual, firm, corporation, association, or partnership.

Petroleum oil means petroleum in any form, including but not limited to crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products.

Produced water container means a storage container at an oil production facility used to store the produced water after initial oil/water separation, and prior to reinjection, beneficial reuse, discharge, or transfer for disposal.

Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flow lines or intra-facility gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil (including condensate), or associated storage or measurement, and is located in an oil or gas field, at a facility. This definition governs whether such structures, piping, or equipment are subject to a specific section of this part.

Regional Administrator means the Regional Administrator of the Environmental Protection Agency, in and for the Region in which the facility is located.

Repair means any work necessary to maintain or restore a container to a condition suitable for safe operation, other than that necessary for ordinary, day-to-day maintenance to maintain the functional integrity of the container and that does not weaken the container.

Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan means the document required by §112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.

Storage capacity of a container means the shell capacity of the container.

Transportation-related and non-transportation-related, as applied to an onshore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, (appendix A of this part).

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, the U.S. Virgin Islands, and the Pacific Island Governments.

Vegetable oil means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels.

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds.

Worst case discharge for an onshore non-transportation-related facility means the largest foreseeable discharge in adverse weather conditions as determined using the worksheets in appendix D to this part.

§112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.

The owner or operator or an onshore or offshore facility subject to this section must prepare in writing and implement a Spill Prevention Control and Countermeasure Plan (hereafter “SPCC Plan” or “Plan”),” in accordance with §112.7 and any other applicable section of this part.

(a) (1) Except as otherwise provided in this section, if your facility, or mobile or portable facility, was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, and implement the amended Plan no later than November 10, 2011. If such a facility becomes operational after August 16, 2002, through November 10, 2011, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan on or before November 10, 2011. If such a facility (excluding oil production facilities) becomes operational after November 10, 2011, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan before you begin operations. You are not required to prepare a new Plan each time you move a mobile or portable facility to a new site; the Plan may be general. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. The Plan is applicable only while the mobile or portable facility is in a fixed (non-transportation) operating mode.

(2) If your drilling, production or workover facility, including a mobile or portable facility, is offshore or

has an offshore component; or your onshore facility is required to have and submit a Facility Response Plan pursuant to 40 CFR 112.20(a), and was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, and implement the amended Plan no later than November 10, 2010. If such a facility becomes operational after August 16, 2002, through November 10, 2010, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan on or before November 10, 2010. If such a facility (excluding oil production facilities) becomes operational after November 10, 2010, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan before you begin operations. You are not required to prepare a new Plan each time you move a mobile or portable facility to a new site; the Plan may be general. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. The Plan is applicable only while the mobile or portable facility is in a fixed (non-transportation) operating mode.

(3) If your farm, as defined in §112.2, was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, and implement the amended Plan on or before May 10, 2013. If your farm becomes operational after August 16, 2002, through May 10, 2013, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan on or before May 10, 2013. If your farm becomes operational after May 10, 2013, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan before you begin operations.

(b) If your oil production facility as described in paragraph (a)(1) of this section becomes operational after November 10, 2011, or as described in paragraph (a)(2) of this section becomes operational after November 10, 2010, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan within six months after you begin operations.

(c) [Reserved]

(d) Except as provided in §112.6, a **licensed Professional Engineer** must review and certify a Plan for it to be effective to satisfy the requirements of this part.

(1) By means of this certification the Professional Engineer attests:

(i) That he is familiar with the requirements of this part;

(ii) That he or his agent has visited and examined the facility;

(iii) That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part;

(iv) That procedures for required inspections and testing have been established; and

(v) That the Plan is adequate for the facility.

(vi) That, if applicable, for a produced water container subject to §112.9(c)(6), any procedure to minimize the amount of free-phase oil is designed to reduce the accumulation of free-phase oil and the procedures and frequency for required inspections, maintenance and testing have been established and are described in the Plan.

(2) Such certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part.

(e) If you are the owner or operator of a facility for which a Plan is required under this section, you must:

(1) Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended, and

(2) Have the Plan available to the Regional Administrator for on-site review during normal working hours.

(f) *Extension of time.*

(1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of a Plan, or any amendment thereto, beyond the time permitted for the preparation, implementation, or amendment of a Plan under this part, when he finds that the owner or operator of a facility subject to this section, cannot fully comply with the requirements as a result of either no availability of qualified personnel, or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or his agents or employees.

(2) If you are an owner or operator seeking an extension of time under paragraph (f)(1) of this section, you may submit a written extension request to the Regional Administrator. Your request must include:

(i) A full explanation of the cause for any such delay and the specific aspects of the Plan affected by the delay;

(ii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay; and

(iii) A proposed time schedule for the implementation of any corrective actions being taken or contemplated, including interim dates for completion of tests or studies, installation and operation of any necessary equipment, or other preventive measures. In addition you may present additional oral or written statements in support of your extension request.

(3) The submission of a written extension request under paragraph (f)(2) of this section does not relieve you of your obligation to comply with the requirements of this part. The Regional Administrator may request a copy of your Plan to evaluate the extension request. When the Regional Administrator authorizes an extension of time for particular equipment or other specific aspects of the Plan, such extension does not affect your obligation to comply with the requirements related to other equipment or other specific aspects of the Plan for which the Regional Administrator has not expressly authorized an extension.

(g) ***Qualified Facilities***. The owner or operator of a qualified facility as defined in this subparagraph may self-certify his facility's Plan, as provided in §112.6. A qualified facility is one that meets the following Tier I or Tier II qualified facility criteria:

(1) A **Tier I** qualified facility meets the qualification criteria in paragraph (g)(2) of this section and has no individual aboveground oil storage container with a capacity greater than 5,000 U.S. gallons.

(2) A **Tier II** qualified facility is one that has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism), and has an aggregate aboveground oil storage capacity of 10,000 U.S. gallons or less.

§112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.

If you are the owner or operator of a facility subject to this part, you must:

(a) Notwithstanding compliance with §112.3, whenever your facility has discharged more than 1,000 U.S. gallons of oil in a single discharge as described in §112.1(b), or discharged more than 42 U.S. gallons of oil in each of two discharges as described in §112.1(b), occurring within any twelve month period, submit the following information to the Regional Administrator within 60 days from the time the facility becomes subject to this section:

(1) Name of the facility;

(2) Your name;

(3) Location of the facility;

(4) Maximum storage or handling capacity of the facility and normal daily throughput;

(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;

(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;

(7) The cause of such discharge as described in §112.1(b), including a failure analysis of the system or subsystem in which the failure occurred;

(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and

(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

(b) Take no action under this section until it applies to your facility. This section does not apply until the expiration of the time permitted for the initial preparation and implementation of the Plan under §112.3, but not including any amendments to the Plan.

(c) Send to the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located a complete copy of all information you provided to the Regional Administrator under paragraph (a) of this section. Upon receipt of the information such State agency or agencies may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment, and other requirements necessary to prevent and to contain discharges from your facility.

(d) Amend your Plan, if after review by the Regional Administrator of the information you submit under paragraph (a) of this section, or submission of information to EPA by the State agency under paragraph (c) of this section, or after on-site review of your Plan, the Regional Administrator requires that you do so. The Regional Administrator may require you to amend your Plan if he finds that it does not meet the requirements of this part or that amendment is necessary to prevent and contain discharges from your facility.

(e) Act in accordance with this paragraph when the Regional Administrator proposes by certified mail or by personal delivery that you amend your SPCC Plan. If the owner or operator is a corporation, he must also notify by mail the registered agent of such corporation, if any and if known, in the State in which the facility is located. The Regional Administrator must specify the terms of such proposed amendment. Within 30 days from receipt of such notice, you may submit written information, views, and arguments on the proposed amendment. After considering all relevant material presented, the Regional Administrator must either notify you of any amendment required or rescind the notice. You must amend your Plan as required within 30 days after such notice, unless the Regional Administrator, for good cause, specifies another effective date. You must implement the amended Plan as soon as possible, but not later than six months after you amend your Plan, unless the Regional Administrator specifies another date.

(f) If you appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan, send the appeal to the EPA Administrator in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment under paragraph (e) of this section. You must send a complete copy of the appeal to the Regional Administrator at the time you make the appeal. The appeal must contain a clear and concise statement of the issues and points of fact in the case. It may also contain additional information from you, or from any other person. The EPA Administrator may request additional information from you, or from any other person. The EPA Administrator must render a decision within 60 days of receiving the appeal and must notify you of his decision.

§112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.

If you are the owner or operator of a facility subject to this part, you must:

(a) **Amend the SPCC Plan** for your facility in accordance with the general requirements in §112.7, and with any specific section of this part applicable to your facility, when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in §112.1(b). Examples of changes that may require amendment of the Plan include, but are not limited to: commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacement, or installation of piping systems; construction or demolition that might alter secondary containment structures; changes of product or service; or revision of standard operation or maintenance procedures at a facility. An amendment made under this section must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

(b) Notwithstanding compliance with paragraph (a) of this section, complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part; or, if your facility was in operation on or before August 16, 2002, five years from the date your last review was required under this part. As a result of this review and evaluation, you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge as described in §112.1(b) from the facility. You must implement any amendment as soon as possible, but not later than six months following preparation of any amendment. You must document your completion of the review and evaluation, and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, “I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result.”

(c) Except as provided in §112.6, have a Professional Engineer certify any technical amendments to your Plan in accordance with §112.3(d).

§112.6 Qualified Facilities Plan Requirements.

Qualified facilities meeting the Tier I applicability criteria in §112.3(g)(1) are subject to the requirements in paragraph (a) of this section. Qualified facilities meeting the Tier II applicability criteria in §112.3(g)(2) are subject to the requirements in paragraph (b) of this section.

(a) ***Tier I Qualified Facilities*—**

(1) *Preparation and Self-Certification of the Plan.* If you are an owner or operator of a facility that meets the Tier I qualified facility criteria in §112.3(g)(1), you must either: comply with the requirements of paragraph (a)(3) of this section; or prepare and implement a Plan meeting requirements of paragraph (b) of this section; or prepare and implement a Plan meeting the general Plan requirements in §112.7 and applicable requirements in subparts B and C, including having the Plan certified by a Professional Engineer as required under §112.3(d). If you do not follow the appendix G template, you must prepare an equivalent Plan that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. To complete the template in appendix G, you must certify that:

(i) You are familiar with the applicable requirements of 40 CFR part 112;

(ii) You have visited and examined the facility;

(iii) You prepared the Plan in accordance with accepted and sound industry practices and standards;

(iv) You have established procedures for required inspections and testing in accordance with industry inspection and testing standards or recommended practices;

(v) You will fully implement the Plan;

(vi) The facility meets the qualification criteria in §112.3(g)(1);

(vii) The Plan does not deviate from any requirement of this part as allowed by §112.7(a)(2) and 112.7(d) or include measures pursuant to §112.9(c)(6) for produced water containers and any associated piping; and

(viii) The Plan and individual(s) responsible for implementing this Plan have the approval of management, and the facility owner or operator has committed the necessary resources to fully implement this Plan.

(2) *Technical Amendments.* You must certify any technical amendments to your Plan in accordance with paragraph (a)(1) of this section when there is a change in the facility design, construction, operation, or maintenance that affects its potential for a discharge as described in §112.1(b). If the facility change results in the facility no longer meeting the Tier I qualifying criteria in §112.3(g)(1) because an individual oil storage container capacity exceeds 5,000 U.S. gallons or the facility capacity exceeds 10,000 U.S. gallons in aggregate aboveground storage capacity, within six months following preparation of the amendment, you must either:

(i) Prepare and implement a Plan in accordance with §112.6(b) if you meet the Tier II qualified facility criteria in §112.3(g)(2); or

(ii) Prepare and implement a Plan in accordance with the general Plan requirements in §112.7, and applicable requirements in subparts B and C, including having the Plan certified by a Professional Engineer as required under §112.3(d).

(3) *Plan Template and Applicable Requirements.* Prepare and implement an SPCC Plan that meets the following requirements under §112.7 and in subparts B and C of this part: introductory paragraph of §§112.7, 112.7(a)(3)(i), 112.7(a)(3)(iv), 112.7(a)(3)(vi), 112.7(a)(4), 112.7(a)(5), 112.7(c), 112.7(e), 112.7(f), 112.7(g), 112.7(k), 112.8(b)(1), 112.8(b)(2), 112.8(c)(1), 112.8(c)(3), 112.8(c)(4), 112.8(c)(5), 112.8(c)(6), 112.8(c)(10), 112.8(d)(4), 112.9(b), 112.9(c)(1), 112.9(c)(2), 112.9(c)(3), 112.9(c)(4), 112.9(c)(5), 112.9(d)(1), 112.9(d)(3), 112.9(d)(4), 112.10(b), 112.10(c), 112.10(d), 112.12(b)(1), 112.12(b)(2), 112.12(c)(1), 112.12(c)(3), 112.12(c)(4), 112.12(c)(5), 112.12(c)(6), 112.12(c)(10), and 112.12(d)(4). The template in appendix G to this part has been developed to meet the requirements of 40 CFR part 112 and, when completed and signed by the owner or operator, may be used as the SPCC Plan. Additionally, you must meet the following requirements:

(i) *Failure analysis, in lieu of the requirements in §112.7(b).* Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of discharge), include in your Plan a prediction of the direction and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

(ii) *Bulk storage container secondary containment, in lieu of the requirements in §§112.8(c)(2) and (c)(11) and 112.12(c)(2) and (c)(11).* Construct all bulk storage container installations (except mobile refuelers and other non-transportation-related tank trucks), including mobile or portable oil storage containers, so that you provide a secondary means of containment for the entire capacity of the largest single container plus additional capacity to contain precipitation. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system

consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a catchment basin or holding pond. Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b).

(iii) *Overfill prevention, in lieu of the requirements in §§112.8(c)(8) and 112.12(c)(8).* Ensure that each container is provided with a system or documented procedure to prevent overfills of the container, describe the system or procedure in the SPCC Plan and regularly test to ensure proper operation or efficacy.

(b) ***Tier II Qualified Facilities—***

(1) *Preparation and Self-Certification of Plan.* If you are the owner or operator of a facility that meets the Tier II qualified facility criteria in §112.3(g)(2), you may choose to self-certify your Plan. You must certify in the Plan that:

(i) You are familiar with the requirements of this part;

(ii) You have visited and examined the facility;

(iii) The Plan has been prepared in accordance with accepted and sound industry practices and standards, and with the requirements of this part;

(iv) Procedures for required inspections and testing have been established;

(v) You will fully implement the Plan;

(vi) The facility meets the qualification criteria set forth under §112.3(g)(2);

(vii) The Plan does not deviate from any requirement of this part as allowed by §112.7(a)(2) and 112.7(d) or include measures pursuant to §112.9(c)(6) for produced water containers and any associated piping, except as provided in paragraph (b)(3) of this section; and

(viii) The Plan and individual(s) responsible for implementing the Plan have the full approval of management and the facility owner or operator has committed the necessary resources to fully implement the Plan.

(2) *Technical Amendments.* If you self-certify your Plan pursuant to paragraph (b)(1) of this section, you must certify any technical amendments to your Plan in accordance with paragraph (b)(1) of this section when there is a change in the facility design, construction, operation, or maintenance that affects its potential for a discharge as described in §112.1(b), except:

(i) If a Professional Engineer certified a portion of your Plan in accordance with paragraph (b)(4) of this section, and the technical amendment affects this portion of the Plan, you must have the amended provisions of your Plan certified by a Professional Engineer in accordance with paragraph (b)(4)(ii) of this section.

(ii) If the change is such that the facility no longer meets the Tier II qualifying criteria in §112.3(g)(2) because it exceeds 10,000 U.S. gallons in aggregate aboveground storage capacity you must, within six months following the change, prepare and implement a Plan in accordance with the general Plan requirements in §112.7 and the applicable requirements in subparts B and C of this part, including having the Plan certified by a Professional Engineer as required under §112.3(d).

(3) *Applicable Requirements.* Except as provided in this paragraph, your self-certified SPCC Plan must comply with §112.7 and the applicable requirements in subparts B and C of this part:

(i) *Environmental Equivalence.* Your Plan may not include alternate methods which provide environmental equivalence pursuant to §112.7(a)(2), unless each alternate method has been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (b)(4) of this section.

(ii) *Impracticability.* Your Plan may not include any determinations that secondary containment is impracticable and provisions in lieu of secondary containment pursuant to §112.7(d), unless each such determination and alternate measure has been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (b)(4) of this section.

(iii) *Produced Water Containers.* Your Plan may not include any alternative procedures for skimming produced water containers in lieu of sized secondary containment pursuant to §112.9(c)(6), unless they have been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (b)(4) of this section.

(4) *Professional Engineer Certification of Portions of a Qualified Facility's Self-Certified Plan.*

(i) As described in paragraph (b)(3) of this section, the facility owner or operator may not self-certify alternative measures allowed under §112.7(a)(2) or (d), that are included in the facility's Plan. Such measures must be reviewed and certified, in writing, by a licensed Professional Engineer. For each alternative measure allowed under §112.7(a)(2), the Plan must be accompanied by a written statement by a Professional Engineer that states the reason for nonconformance and describes the alternative method and how it provides equivalent environmental protection in accordance with §112.7(a)(2). For each determination of impracticability of secondary containment pursuant to §112.7(d), the Plan must clearly explain why secondary containment measures are not practicable at this facility and provide the alternative measures required in §112.7(d) in lieu of secondary containment. By certifying each measure allowed under §112.7(a)(2) and (d), the Professional Engineer attests:

(A) That he is familiar with the requirements of this part;

(B) That he or his agent has visited and examined the facility; and

(C) That the alternative method of environmental equivalence in accordance with §112.7(a)(2) or the determination of impracticability and alternative measures in accordance with §112.7(d) is consistent with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part.

(ii) As described in paragraph (b)(3) of this section, the facility owner or operator may not self-certify measures as described in §112.9(c)(6) for produced water containers and any associated piping. Such measures must be reviewed and certified, in writing, by a licensed Professional Engineer, in accordance with §112.3(d)(1)(vi).

(iii) The review and certification by the Professional Engineer under this paragraph is limited to the alternative method which achieves equivalent environmental protection pursuant to §112.7(a)(2); to the impracticability determination and measures in lieu of secondary containment pursuant to §112.7(d); or the measures pursuant to §112.9(c)(6) for produced water containers and any associated piping and appurtenances downstream from the container.

§112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

If you are the owner or operator of a facility subject to this part you must prepare a Plan in accordance with good engineering practices. The Plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan. You must prepare the Plan in writing. If you do not follow the sequence specified in this section for the Plan, you must prepare an equivalent Plan acceptable to the Regional Administrator that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. If the Plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, you must discuss these items in separate paragraphs, and must explain separately the details of installation and operational start-up. As detailed elsewhere in this section, you must also:

(a) (1) Include a discussion of your facility's conformance with the requirements listed in this part.

(2) Comply with all applicable requirements listed in this part. Except as provided in §112.6, your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.9(d)(3), 112.10(c), 112.12(c)(2), and 112.12(c)(11), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraph (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in §112.4(d) and (e).

(3) Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each fixed oil storage container and the storage area where mobile or portable containers are located. The facility diagram must identify the location of and mark as “exempt” underground tanks that are otherwise exempted from the requirements of this part under §112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes, including intra-facility gathering lines that are otherwise exempted from the requirements of this part under §112.1(d)(11). You must also address in your Plan:

(i) The type of oil in each fixed container and its storage capacity. For mobile or portable containers, either provide the type of oil and storage capacity for each container or provide an estimate of the potential number of mobile or portable containers, the types of oil, and anticipated storage capacities;

(ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);

(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;

(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);

(v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and

(vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in §112.1(b).

(4) Unless you have submitted a response plan under §112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in §112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.

(5) Unless you have submitted a response plan under §112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.

(b) Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

(c) Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b), except as provided in paragraph (k) of this section for qualified oil-filled operational equipment, and except as provided in §112.9(d)(3) for flow lines and intra-facility gathering lines at an oil production facility. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs. In determining the method, design, and capacity for secondary containment, you need only to address the typical failure mode, and the most likely quantity of oil that would be discharged. Secondary containment may be either active or passive in design. At a minimum, you must use one of the following prevention systems or its equivalent:

(1) For onshore facilities:

(i) Dikes, berms, or retaining walls sufficiently impervious to contain oil;

(ii) Curbing or drip pans;

(iii) Sumps and collection systems;

(iv) Culverting, gutters, or other drainage systems;

(v) Weirs, booms, or other barriers;

(vi) Spill diversion ponds;

(vii) Retention ponds; or

(viii) Sorbent materials.

(2) For offshore facilities:

(i) Curbing or drip pans; or

(ii) Sumps and collection systems.

(d) Provided your Plan is certified by a licensed Professional Engineer under §112.3(d), or, in the case of a qualified facility that meets the criteria in §112.3(g), the relevant sections of your Plan are certified by a licensed Professional Engineer under §112.6(d), if you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11) to prevent a discharge as described in §112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under §112.20, provide in your Plan the following:

(1) An oil spill contingency plan following the provisions of part 109 of this chapter.

(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

(e) *Inspections, tests, and records.* Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(f) *Personnel, training, and discharge prevention procedures.* (1) At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan.

(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.

(3) Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as described in §112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.

(g) *Security (excluding oil production facilities).* Describe in your Plan how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; and address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.

(h) *Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).*

(1) Where loading/unloading rack drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck

loading/unloading racks. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

(2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks or vehicle brake interlock system in the area adjacent to a loading/unloading rack, to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

(3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

(i) If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

(j) In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.

(k) *Qualified Oil-filled Operational Equipment.* The owner or operator of a facility with oil-filled operational equipment that meets the qualification criteria in paragraph (k)(1) of this sub-section may choose to implement for this qualified oil-filled operational equipment the alternate requirements as described in paragraph (k)(2) of this sub-section in lieu of general secondary containment required in paragraph (c) of this section.

(1) *Qualification Criteria—Reportable Discharge History:* The owner or operator of a facility that has had no single discharge as described in §112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war or terrorism); and

(2) *Alternative Requirements to General Secondary Containment.* If secondary containment is not provided for qualified oil-filled operational equipment pursuant to paragraph (c) of this section, the owner or operator of a facility with qualified oil-filled operational equipment must:

(i) Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and

(ii) Unless you have submitted a response plan under §112.20, provide in your Plan the following:

(A) An oil spill contingency plan following the provisions of part 109 of this chapter.

(B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

§112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under §112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage*.

(1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained storm water, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two “lift” pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in §112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers*.

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage tank installations (except mobile refuelers and other non-transportation-related tank trucks) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

(i) Normally keep the bypass valve sealed closed.

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112.1(b).

(iii) Open the bypass valve and reseal it following drainage under responsible supervision; and

(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) Test or inspect each aboveground container for integrity on a regular schedule and whenever you make material repairs. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections, which take into account container size, configuration, and design (such as containers that are: shop-built, field-erected, skid-mounted, elevated, equipped with a liner, double-walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.

(iii) Direct audible or code signal communication between the container gauge and the pumping station.

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, tele pulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). Except for mobile refuelers and other non-transportation-related tank trucks, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.*

(1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

§112.9 Spill Prevention, Control, and Countermeasure Plan Requirements for onshore oil production facilities (excluding drilling and workover facilities).

If you are the owner or operator of an onshore oil production facility (excluding a drilling or workover facility), you must: (SEE ON-LINE REQUIREMENTS)

§112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must: (SEE ON-LINE TEXT)

§112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must: (SEE ON-LINE TEXT).

Subpart D—RESPONSE REQUIREMENTS (SEE ON-LINE TEXT)

§112.20	Facility response plans.
§112.21	Facility response training and drills/exercises.
Appendix	Appendix A to Part 112—Memorandum of Understanding Between the Secretary of Transportation and the Administrator of the Environmental Protection Agency
Appendix	Appendix B to Part 112—Memorandum of Understanding Among the Secretary of the Interior, Secretary of Transportation, and Administrator of the Environmental Protection Agency
Appendix	Appendix C to Part 112—Substantial Harm Criteria
Appendix	Appendix D to Part 112—Determination of a Worst Case Discharge Planning Volume
Appendix	Appendix E to Part 112—Determination and Evaluation of Required Response Resources for Facility Response Plans
Appendix	Appendix F to Part 112—Facility-Specific Response Plan
Appendix	Appendix G to Part 112—Tier I Qualified Facility SPCC Plan

DRAFT

APPENDIX F

INCIDENT RESPONSE FORM

SPILL PREVENTION, CONTROL, & COUNTERMEASURE PLAN
INCIDENT RESPONSE FORM

RI-NU Services, LLC

According to the Aboveground Petroleum Storage Act, Porter-Cologne Act, and CCR Title 22 - Section 67145, any petroleum spill of 42 gallons or more must be reported immediately to the agencies listed in Section 6.3.1 of the SPCC. Have as much of the information in this form as possible when the notifications are conducted. However, ***do not*** wait until all of this information is known before contacting agencies. This form is to be completed by the Primary SPCC Contact or the Secondary SPCC Contact.

In the event of a spill of more than 1,000 gallons of oil in a single discharge or two (2) discharges of more than 42 gallons each within any 12-month period, a subsequent report should also be filed with the US EPA and the Los Angeles Regional Water Quality Control Board.

Regional Administrator Environmental Protection Agency, Region IX 75 Hawthorne Street San Francisco, CA 94105	Los Angeles Regional Water Quality Control Board 320 W. Fourth Street, Suite 200 Los Angeles, CA 90013

Basic Information	
Facility name:	Person preparing report:
Facility location:	Job Title:
Facility owner/operator:	Phone number:
Spill Information	
Type of spill (solid/liquid):	Release date:
Name of material spilled:	Release time:
Location of spill:	Duration of spill:
Volume of material spilled:	Weather conditions:

DRAFT

Source of discharge:	Evacuation required?
Containment measures:	Damages or injuries?
Cleanup measures:	Has source been stopped?
Notification:	
Did the spill enter a storm drain or navigable waters? Yes ☐ If so, how much? No ☐ If not, is there potential for the spill to enter a storm drain or navigable waters?	
Have all necessary individuals and agencies been contacted? (Please see above and Section 6.3.1 of the SPCC) Yes ☐ / No ☐	
Has all material been properly disposed of, including hazardous waste? Yes ☐ / No ☐	
What was the cause of the discharge, including an analysis of the system or subsystem in which the failure occurred?	
What corrective action and countermeasures have been taken, including a description of equipment repairs and replacements?	
What additional preventative measures have been taken to minimize the possibility of recurrence?	

DRAFT

DRAFT

APPENDIX G

RAINWATER DISCHARGE LOG

SPILL PREVENTION, CONTROL, & COUNTERMEASURE PLAN –
RAINWATER DISCHARGE LOG

RI-NU Services, LLC

According to 40 CFR 112.8(c)(3), you must not allow the discharge of uncontaminated rainwater unless you normally keep the bypass valve closed, inspect the water to ensure that it is uncontaminated, reseal the bypass valve after drainage is complete, and keep records of drainage events.

Removal procedures follow. REMOVAL MUST BE CONDUCTED BY AUTHORIZED PERSONNEL.

- If there is no sheen on the rainwater in the containment area, it may be discharged and allowed to percolate into the ground.
- If there is a visible sheen or detectable odor, the rainwater must be sent off site for recycling or disposal or be pumped into the on-site wastewater treatment system for treatment. IT MUST NOT BE DISCHARGED.

Use this form to document rainwater discharges.

Employee Name	Date	Approximate Discharge Volume	Appearance of Water

DRAFT

DRAFT

APPENDIX H

SECONDARY CONTAINMENT CALCULATIONS

Secondary Containment Calculations

Baker Receiving Tanks (10)

Known:

Area berm will contain = 5,554 ft^2
Volume of largest tank contained = 2,674 ft^3
Predicted inches of rainfall in a 24-hour, 25-year storm = 6.32 inches
Tank Width = 9 feet
Tank Length = 45 feet

Secondary Containment Calculation:

= Footprint of One (1) Tank = $l * w$ = 9 ft * 45ft = 405 ft^2
= Berm Height for Volume of 1 Tank = 2,674 ft^3 / 5,554 ft^2 = 0.48 ft = 5.78 inches
= Berm Height (Rounded Up to Account for Tank Displacement) = 1.4 ft
= Berm Height Including Freeboard = 1.4 ft + (6.32 inches / 12 inches per foot) = 1.92 ft = 2ft (Rounded Up)
= Berm Capacity = 5,554 ft^2 x 2 ft = 11,108 ft^3
= Total Tank Displacement = 2 ft x 405 ft^2 x 9 tanks = 7,290 ft^3
= Net Berm Capacity = 11,108 ft^3 – 7,290 ft^3 = 3,818 ft^3 = **28,559 gallons**

Mix Tanks (6)

Known:

Volume of largest tank contained = 5,000 gallons = 668 ft^3
Predicted inches of rainfall in a 24-hour, 25-year storm = 6.32 inches
Containment surface area (truck wash channel) = 1,309 ft^2
Containment capacity (truck wash channel) = 3,286 ft^3 = 24,577 gallons

Secondary Containment Calculation:

= Containment height = 668 ft^3 / 1,309 ft^2 = 0.51 ft
= Containment height including freeboard = 0.51 ft + (6.32 inches / 12 inches per foot) = 1.04 ft
= Containment volume required = 1.04 ft x 1,309 ft^2 = 1,358 ft^3 = 10,157 gallons
= 24,577 gallons > 10,157 gallons = Mix tanks sufficiently contained by truck wash channel capacity.

DRAFT

Skim Oil Tanks (2) and Oil/Water Separator (1)

Known:

Volume of largest tank contained = 7,121 gallons = 952 ft^3
Predicted inches of rainfall in a 24-hour, 25-year storm = 6.32 inches
Containment surface area = 972 ft^2
Containment wall height = 1.80 to 2.60 ft

Secondary Containment Calculation:

= Containment depth/height = 952 ft^3 / 972 ft^2 = 0.98 ft
= Containment depth/height (includes freeboard) = 0.98 ft + (6.32 inches / 12 inches per foot) = 1.51 ft
= 1.80 ft > 1.51 ft = Skim oil tanks and oil/water separator sufficiently contained by wall barrier.

Covered HazMat Storage Building Area (1)

Known:

Area berm will contain = 610 ft^2
Height of Berm (assumed) = 1.0 ft

Secondary Containment Calculation:

= 610 ft^2 x 1.0 ft = 610 ft^3 = **4,563 gallons**

Diesel Tank Storage Structure (1)

Secondary Containment Calculation*:

= 12 ft. L x 12 ft. W x 1 ft. H = 144 ft^3 = **1,077 gallons**

*Note: The tank and drums are raised and so displacement was not calculated.

DRAFT

DRAFT

APPENDIX I

National Oceanic and Atmospheric Administration's Point Precipitation Frequency Estimates for Santa Paula, California

NOAA Atlas 14, Volume 6, Version 2
Location name: Santa Paula, California, USA*
Latitude: 34.3148°, Longitude: -119.1037°
Elevation: 193.35 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.145 (0.122-0.175)	0.186 (0.156-0.225)	0.240 (0.200-0.291)	0.283 (0.234-0.346)	0.342 (0.272-0.433)	0.386 (0.301-0.501)	0.432 (0.327-0.575)	0.478 (0.352-0.656)	0.542 (0.381-0.777)	0.591 (0.401-0.880)
10-min	0.208 (0.174-0.252)	0.267 (0.223-0.323)	0.344 (0.287-0.417)	0.406 (0.335-0.496)	0.490 (0.390-0.621)	0.554 (0.431-0.718)	0.619 (0.469-0.824)	0.686 (0.505-0.941)	0.776 (0.546-1.11)	0.847 (0.575-1.26)
15-min	0.252 (0.211-0.304)	0.323 (0.270-0.391)	0.416 (0.347-0.504)	0.491 (0.405-0.600)	0.592 (0.472-0.751)	0.670 (0.521-0.868)	0.748 (0.567-0.996)	0.829 (0.610-1.14)	0.939 (0.661-1.35)	1.02 (0.695-1.53)
30-min	0.374 (0.313-0.452)	0.480 (0.401-0.580)	0.617 (0.515-0.748)	0.729 (0.602-0.891)	0.879 (0.700-1.12)	0.994 (0.774-1.29)	1.11 (0.843-1.48)	1.23 (0.906-1.69)	1.39 (0.981-2.00)	1.52 (1.03-2.27)
60-min	0.610 (0.511-0.737)	0.783 (0.654-0.946)	1.01 (0.839-1.22)	1.19 (0.982-1.45)	1.43 (1.14-1.82)	1.62 (1.26-2.10)	1.81 (1.37-2.41)	2.01 (1.48-2.76)	2.27 (1.60-3.26)	2.48 (1.68-3.70)
2-hr	0.905 (0.757-1.09)	1.15 (0.963-1.39)	1.47 (1.23-1.79)	1.73 (1.43-2.12)	2.08 (1.66-2.64)	2.35 (1.83-3.05)	2.63 (1.99-3.50)	2.91 (2.14-3.99)	3.29 (2.32-4.72)	3.59 (2.43-5.34)
3-hr	1.13 (0.944-1.36)	1.43 (1.20-1.73)	1.83 (1.53-2.22)	2.15 (1.78-2.64)	2.59 (2.06-3.28)	2.92 (2.28-3.79)	3.26 (2.47-4.34)	3.61 (2.66-4.96)	4.09 (2.88-5.86)	4.46 (3.02-6.64)
6-hr	1.60 (1.34-1.93)	2.04 (1.70-2.46)	2.61 (2.18-3.17)	3.07 (2.54-3.76)	3.70 (2.95-4.69)	4.17 (3.25-5.41)	4.66 (3.53-6.20)	5.16 (3.79-7.08)	5.83 (4.10-8.37)	6.36 (4.31-9.47)
12-hr	2.04 (1.71-2.46)	2.64 (2.20-3.19)	3.41 (2.84-4.13)	4.03 (3.32-4.92)	4.85 (3.87-6.16)	5.49 (4.27-7.11)	6.12 (4.64-8.15)	6.77 (4.98-9.29)	7.65 (5.38-11.0)	8.32 (5.65-12.4)
24-hr	2.55 (2.26-2.93)	3.35 (2.96-3.87)	4.39 (3.87-5.07)	5.21 (4.56-6.08)	6.32 (5.35-7.62)	7.16 (5.93-8.82)	8.00 (6.47-10.1)	8.86 (6.97-11.5)	10.0 (7.55-13.5)	10.9 (7.94-15.2)
2-day	3.13 (2.78-3.61)	4.20 (3.71-4.84)	5.57 (4.92-6.45)	6.68 (5.85-7.79)	8.17 (6.91-9.85)	9.30 (7.71-11.5)	10.4 (8.45-13.2)	11.6 (9.13-15.1)	13.2 (9.94-17.8)	14.4 (10.5-20.1)
3-day	3.47 (3.07-4.00)	4.70 (4.16-5.42)	6.30 (5.56-7.29)	7.59 (6.65-8.86)	9.34 (7.91-11.3)	10.7 (8.85-13.2)	12.0 (9.74-15.2)	13.4 (10.6-17.4)	15.3 (11.6-20.7)	16.8 (12.2-23.5)
4-day	3.77 (3.34-4.34)	5.14 (4.55-5.93)	6.93 (6.11-8.02)	8.39 (7.34-9.78)	10.4 (8.77-12.5)	11.9 (9.85-14.6)	13.4 (10.9-16.9)	15.0 (11.8-19.5)	17.2 (13.0-23.2)	18.8 (13.7-26.4)
7-day	4.35 (3.85-5.01)	5.95 (5.26-6.87)	8.07 (7.12-9.34)	9.81 (8.59-11.4)	12.2 (10.3-14.7)	14.1 (11.7-17.3)	16.0 (12.9-20.1)	17.9 (14.1-23.3)	20.7 (15.6-27.9)	22.8 (16.6-31.9)
10-day	4.67 (4.14-5.38)	6.41 (5.67-7.39)	8.72 (7.69-10.1)	10.6 (9.30-12.4)	13.3 (11.2-16.0)	15.3 (12.7-18.9)	17.5 (14.1-22.1)	19.7 (15.5-25.6)	22.8 (17.2-30.8)	25.2 (18.4-35.3)
20-day	5.46 (4.83-6.29)	7.54 (6.67-8.69)	10.3 (9.13-12.0)	12.7 (11.1-14.8)	16.0 (13.5-19.3)	18.6 (15.4-22.9)	21.3 (17.2-26.9)	24.2 (19.0-31.4)	28.2 (21.3-38.1)	31.4 (22.9-44.0)
30-day	6.47 (5.73-7.45)	8.95 (7.91-10.3)	12.3 (10.9-14.2)	15.2 (13.3-17.7)	19.2 (16.2-23.1)	22.3 (18.5-27.5)	25.7 (20.8-32.4)	29.2 (23.0-37.9)	34.3 (25.8-46.3)	38.3 (27.9-53.6)
45-day	7.68 (6.80-8.84)	10.6 (9.35-12.2)	14.5 (12.8-16.8)	17.9 (15.7-20.9)	22.7 (19.2-27.3)	26.5 (22.0-32.6)	30.6 (24.7-38.5)	34.9 (27.4-45.3)	41.0 (31.0-55.5)	46.0 (33.6-64.4)
60-day	8.76 (7.76-10.1)	12.0 (10.6-13.8)	16.4 (14.4-18.9)	20.2 (17.6-23.5)	25.5 (21.6-30.8)	29.9 (24.8-36.8)	34.5 (27.9-43.6)	39.5 (31.1-51.3)	46.6 (35.2-63.1)	52.5 (38.2-73.5)

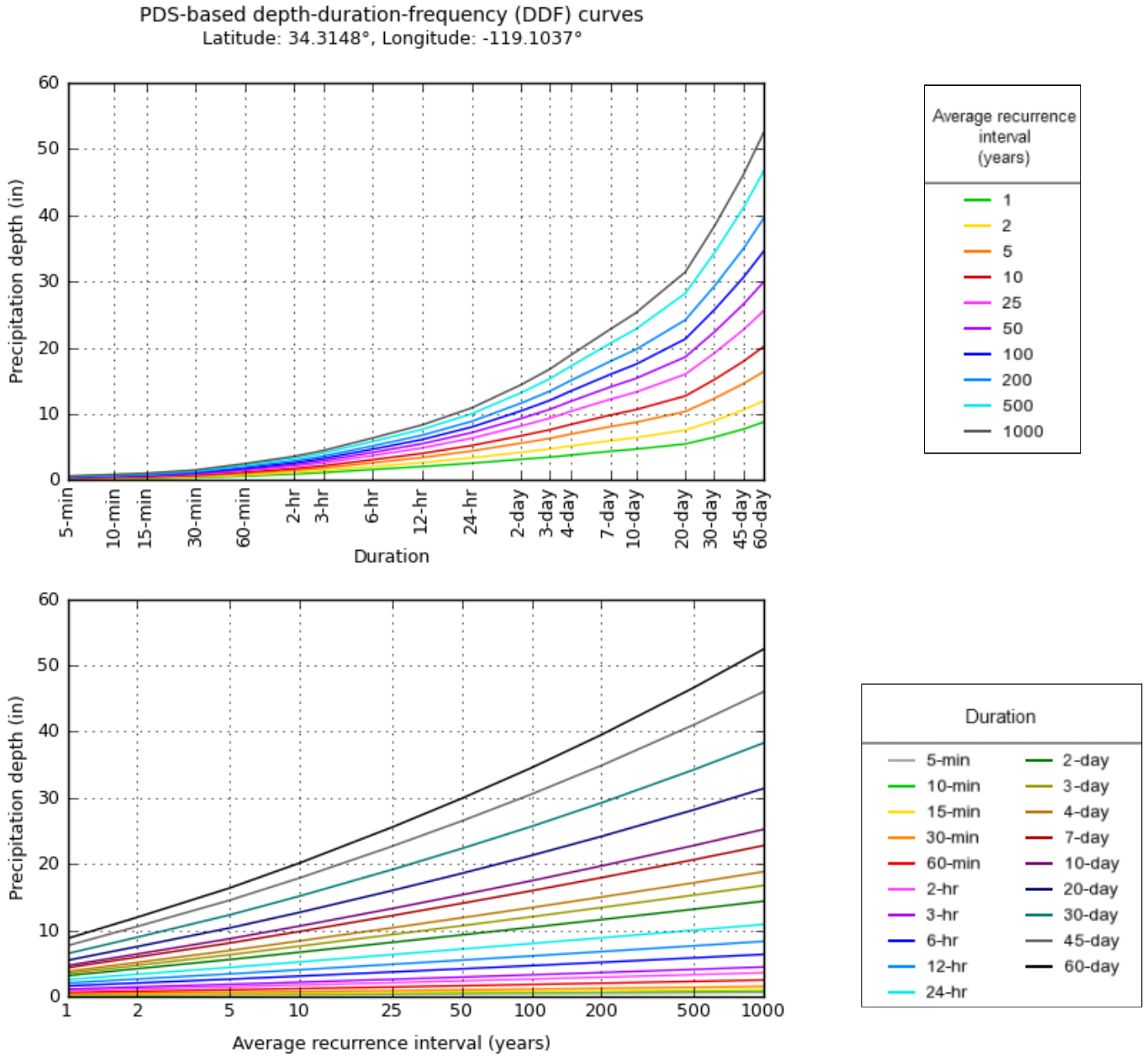
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical



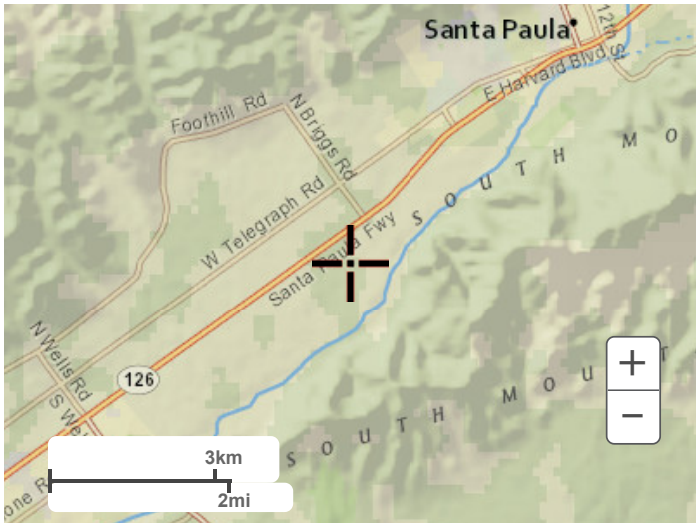
NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Mon Nov 16 22:28:04 2020

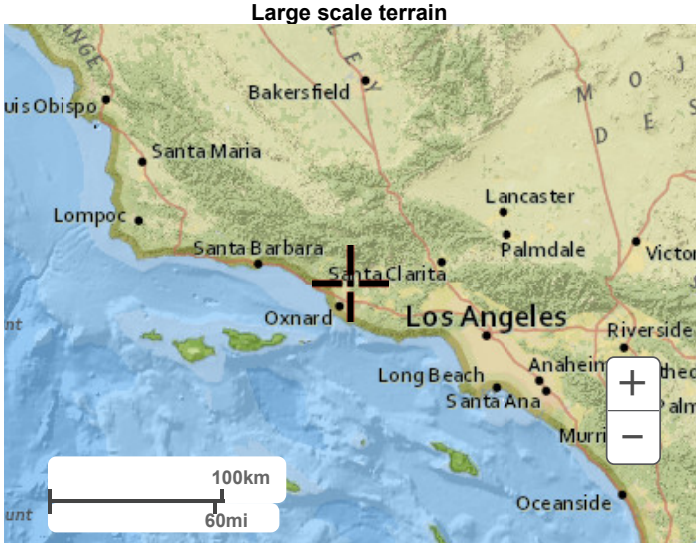
Back to Top

Maps & aerials

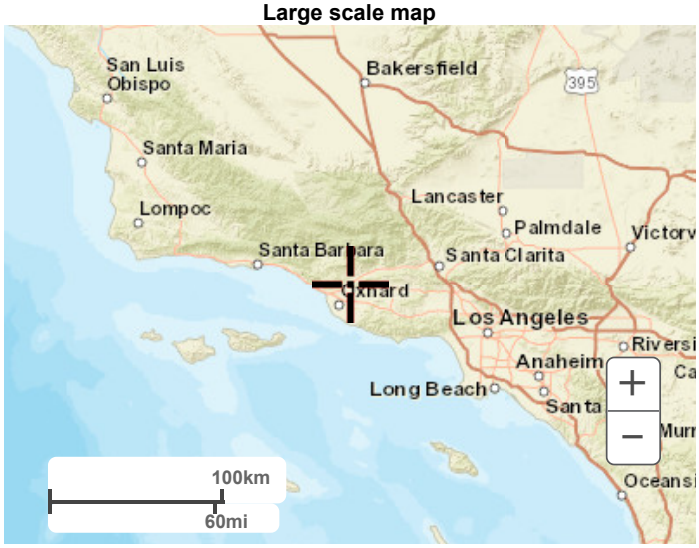
Small scale terrain



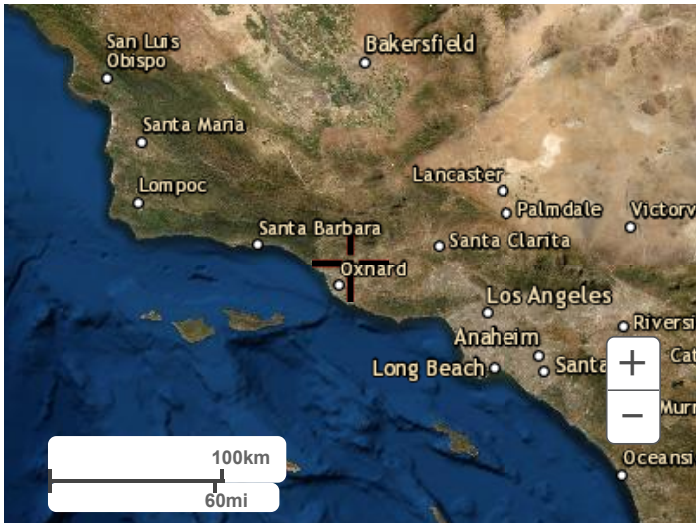
Large scale terrain



Large scale map



Large scale aerial



Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Catalyst
ENVIRONMENTAL SOLUTIONS

Technical Memorandum

Date: September 6, 2018

To: Ms. Franca Rosengren

From: Daniel Tormey, Ph.D., P.G.

RE: **Ri-Nu Services LLC Application to Reinstate Conditional Use Permit Application No. PL15-0106**

At your request, I have reviewed the application materials provided by Ri-Nu LLC and predecessor companies at the former SCWW facility located at 815 Mission Rock Road in Santa Paula, California. I have two recommendations that should be provided to the Project applicants so that they can conduct the analysis that would lead to augmenting their Project description. One recommendation has to do with the hazards identified by the explosion that occurred at the facility in November 2014, and the other has to do with the condition of the 12-mile long sewer discharge line connecting the facility to the City of Oxnard wastewater treatment plant.

Risk Evaluation and Resulting Plans and Training

The facility experienced an explosion in November 2014, and a February 27, 2015 letter from Michael Bradbury provides a *Root Cause Investigatory Report*. The report indicates that a tote(s) of sodium chlorite, properly labeled and contained, was delivered to the facility as part of a proposed program to address odors in the pipeline, but was never used. Subsequently, the product in the tote was introduced into a vacuum truck with other materials with which the strongly oxidizing sodium chlorite was chemically incompatible, resulting in an explosion and other hazardous conditions that affected first responders. The conclusion of the *Root Cause Investigatory Report* was that certain policy changes should be implemented:

1) Facility will no longer accept any wastewater contained in totes.
2) Additional targeted safety training will reinforce this new tote policy

The administrative record includes a June 20, 2013 *Safety Handbook* prepared for the Santa Clara Waste Water Company by Green Compass. The Safety Handbook was in force at the time of the explosion. It includes specific measures to address safe transfer of materials stored in totes, specific provisions regarding chemical incompatibilities, and extensive requirements for training and record keeping. In summary, the policies and procedures in place prior to the

explosion include the two items identified by the *Root Cause Investigatory Report*, as well as additional measures, that proved to be inadequate to reduce the explosion risk at the facility. In addition, the *Root Cause Investigatory Report* specifies a prohibition on storage of wastewater in totes, but the root cause involved the storage or a product in totes.

The administrative record also includes a Draft *Operations and Maintenance Manual*, prepared by Ensafe Inc. in January 2017 for Ri-Nu, and focuses on the wastewater treatment plant. In many ways this manual is a step backwards from the pre-explosion *Safety Handbook*. This is in part due to the 2017 manual's focus on the wastewater treatment plant and not the entire facility, but there is no other plan in the record that would include post-explosion lessons learned and corrective measures. Specifically, the 2017 plan makes no reference to the explosion or to the causes of the explosion, and very minor mention of the chemical incompatibilities known to occur at the facility (less than in the 2013 *Safety Handbook*). There is no mention of "new policies" or "new training" specified in the *Root Cause Analysis Investigatory Report*, even these do not appear to address the root cause identified (use of a tote for product storage, and introducing it into a vac truck).

To assist the County in their consideration of whether or not to reinstate the Conditional Use Permit and allow an expansion of the operations at the facility compared to pre-explosion operations, I recommend that the Applicants conduct a *Risk Management Analysis* for the facilities proposed operations. The analysis would be conducted and facilitated by a firm with experience in this analysis and approved by the County prior to conducting the work. Such an analysis is common in the field of managing process risks at industrial facilities, particularly after an event, such as an explosion, that demonstrates "business as usual" is not adequate to protect the facilities, first responders, and the public.

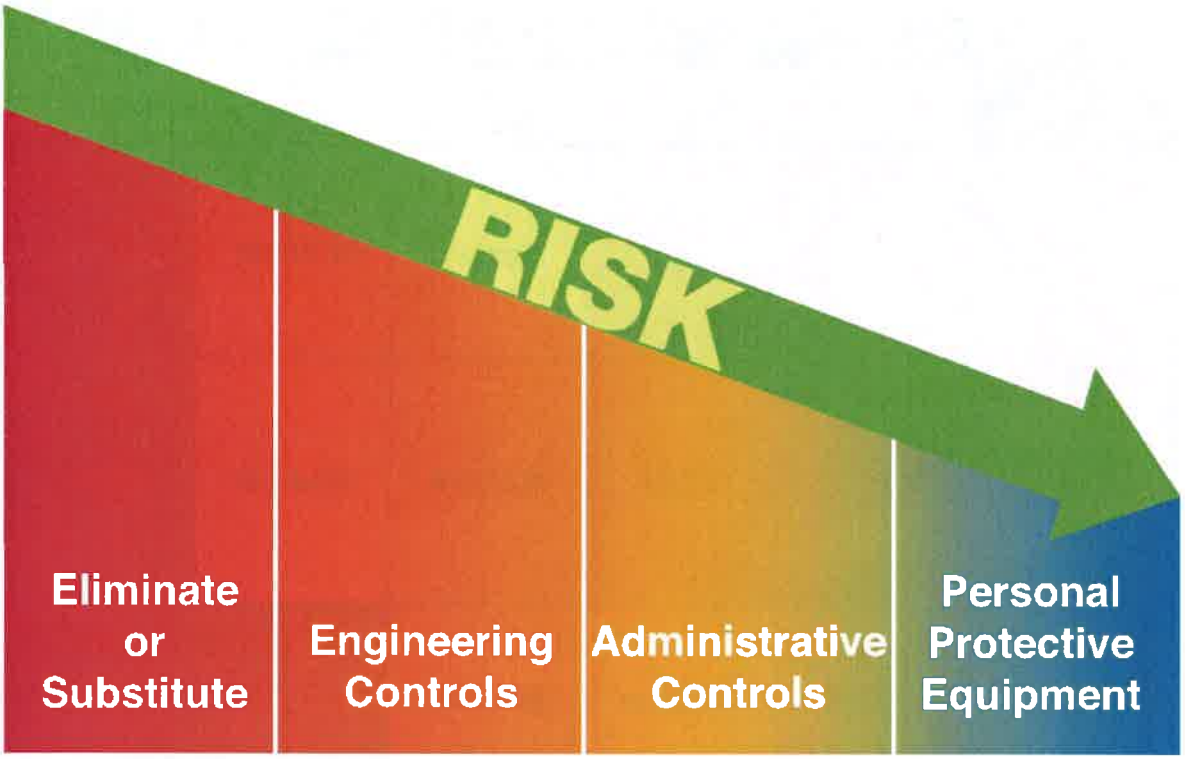
The analysis would fully address chemical use, storage, handling, and disposal, with a focus (although not an exclusive focus) on chemical incompatibilities and toxicity. I would recommend that, after the firm conducting the work is selected, that the County review and approve their workplan to ensure that the objectives of this recommendation are met.

The general scope of the analysis would be as follows:

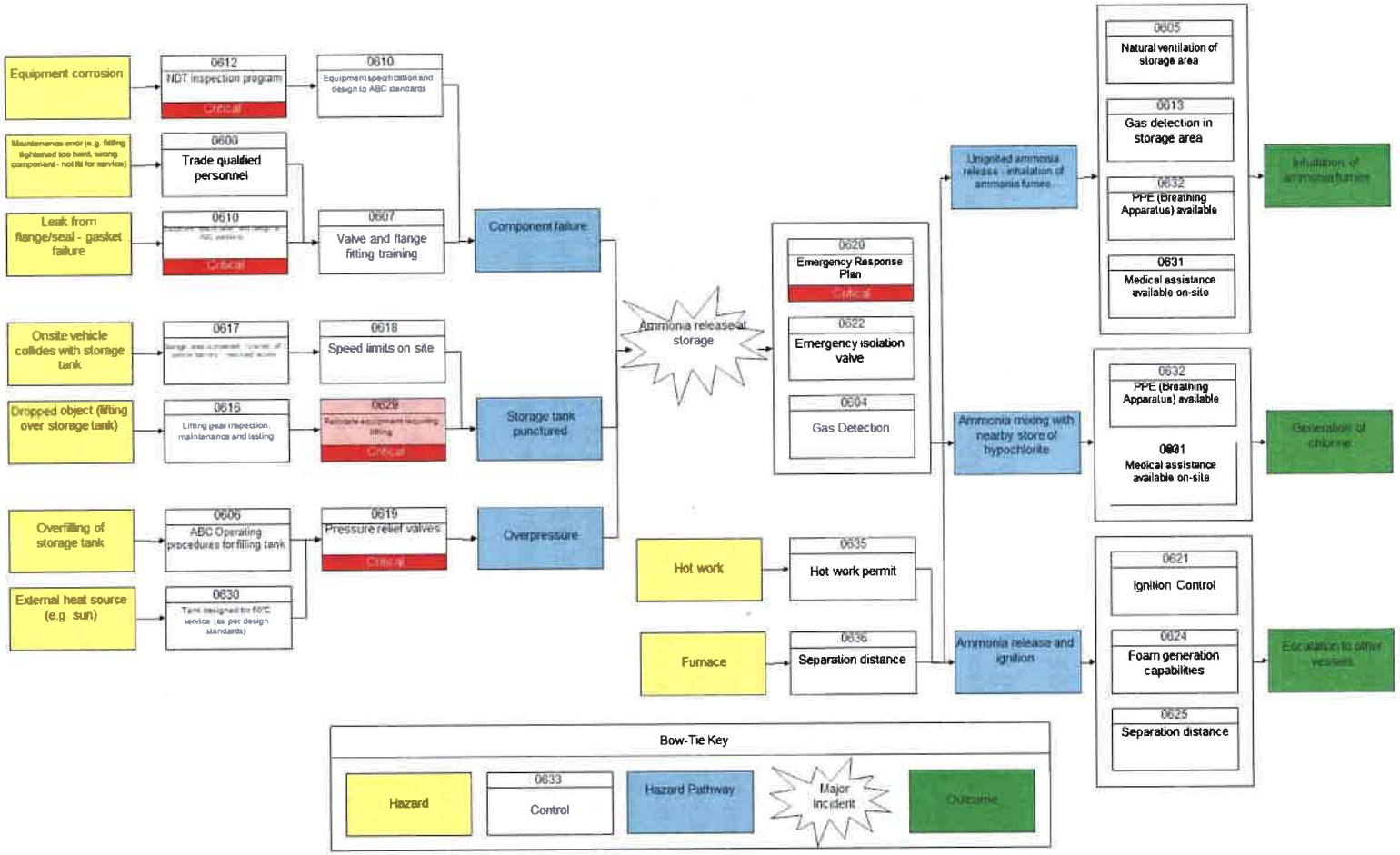
1) The selected firm would conduct a review of past and proposed chemical use, storage, handling, and disposal at the facility and develop a list of actions, potential adverse consequences, and the likelihood of occurrence of the adverse consequences. The summary would also include likely receptors (workers, first responders, public), and include a site inspection.
2) The selected firm would facilitate a workshop or workshops with Ri-Nu management and staff to rank the likelihood of occurrence and consequence level of accident conditions. A typical graphical tool supporting this facilitate workshop, and leading to a prioritization of process risks, is shown below. If no management or staff are available, the firm could conduct the ranking based on their experience and on their observations of the facility and future construction plans.

	CONSEQUENCES				
LIKELIHOOD:	1 Extreme	2 High	3 Medium	4 Low	5 Negligible
Frequent 1	Extreme	High	Medium	Medium	Low
Occasional 2	Extreme	High	Medium	Medium	Low
Possible 3	High	Medium	Medium	Low	Low
Unlikely 4	High	Medium	Low	Low	Low
Improbable 5	Medium	Low	Low	Low	Low

3) For the highest risk level actions, and specifically including those triggered by chemical incompatibilities that could lead to explosion, develop preventative measures. The measures are typically selected based on a preferred hierarchy of controls, with preference given to either elimination of the risk or to an engineering control to reduce the risk, followed by less preferable training and personal protective equipment as the only preventative measures. A typical graphic illustrating this is shown below.



4) For the specific causes, consequences, and likelihood of the sodium chlorite-triggered explosion, include a more detailed evaluation of the root cause, controls (including those that failed), and consequences. A typical graphic illustrating this is shown below.



Note that this graphic applies to an explosion related to a release from an ammonia tank, but the process depiction is applicable.

5) Develop designs, plans, and procedures that implemented the risk reduction measures. Such plans will in part depend on the outcome of the *Risk Management Analysis*, but at a minimum would include:

    a. *Risk Management Plan*, summarizing all of the proposed actions and control points; the plan should be suitable to allow inspection by VC EHD to ensure that all elements are in place and operational

    b. *Emergency Response Plan*, with contingency measures for such things as response actions under conditions of an accident-induced power outage

    c. *Training Plan*, with specific modules identified that reflect the outcome of the Risk Management Analysis and provisions for record keeping, available for inspection by VC EHD

    d. Provisions for an annual *Spill Drill* with the local first responders, to ensure that both facility personnel and first responders are aware of facility risks by location, safe response actions, and other components.

The material provided by the Applicant under this recommendation would be included in the Project Description as Applicant-proposed measures related to safety.

Pipeline Condition Assessment and Repair

The administrative record includes data that the pipeline connecting the facility to the City of Oxnard Wastewater Treatment Plant is impaired, in part because it failed a pressure test and experienced a leak in 2015, and in part owing to concerns related to internal corrosion. The inspections of the line after the pressure test, however, only appeared to evaluate external corrosion, not internal. The observations did, however, note sediment buildup in the line which would indicate low flow conditions and the buildup of chemicals and bacteria that could lead to deleterious levels of internal corrosion. There is no data in the administrative record indicating any further testing of the pipeline. The pipeline operates under a franchise agreement with the County of Ventura.

Prior to allowing further use of the pipeline, I would recommend that the County require testing for pipeline integrity by another pressure test, and an electromagnetic test of wall thickness using a smart pig too. The electromagnetic testing would identify "anomalies" with relatively low wall thickness that would be exposed and tested for actual wall thickness. If the anomaly level tested in the first round indicates inadequate wall thickness, then the contractor will evaluate anomalies at a lower level.

I understand that the City of Oxnard may have additional concerns related to odor, sedimentation that may restrict pipe flow, and other matters. These are not necessarily addressed by the pipeline integrity testing.

ri→nu

Services, LLC.

SAFETY HANDBOOK

Injury and Illness Prevention Program
Code of Safe Practices
Safety Standards (Procedures)
General Safety Policies

Please note the following:

If the "the company" or "company" is written it always refers to Ri-Nu Services, LLC.

DRAFT

TABLE OF CONTENTS Section: 0.00	Revision Number: 1 Revision Date: 6/20/2013 File Name: Table

0.00 TABLE OF CONTENTS

1.00 FOREWORD

- 1.1 Introduction and Purpose
- 1.2 Policy Statement

2.00 INJURY AND ILLNESS PREVENTION PROGRAM *(8 CCR 3203)*

- 2.1 Responsibilities
- 2.2 Compliance / Disciplinary Policy
- 2.3 Communications
  - Monthly Safety Meetings
  - Daily Safety Meetings
  - Anonymous Communication
- 2.4 Identification / Correction of W orkplace Hazards
- 2.5 Accident Reporting and Investigation Procedure
- 2.6 Training and Instruction
- 2.7 Maintenance of Records

3.00 CODE OF SAFE PRACTICES *(8 CCR 1509)(Tailgate Safety Meeting Topics)*

- 3.1 Alcohol/Drugs/Weapons
- 3.2 Compressed Gas Cylinders
- 3.3 Electrical Awareness
- 3.4 Health and Physical Requirement
- 3.5 Heavy Equipment
- 3.6 House Keeping
- 3.7 Ladders
- 3.8 Lifting
- 3.9 Loading and Hauling Equipment
- 3.10 Office Safety
- 3.11 Personal Protective Equipment
- 3.12 Public Protection
- 3.13 Radiation
- 3.14 Rigging Equipment
- 3.15 Sanitation Requirements
- 3.16 Scaffolding and Platforms
- 3.17 Slips, Trips, and Falls
- 3.18 Tools (Hand, Power, Pneumatic)
- 3.19 Marine Portable Tanks (MPT)s

DRAFT

4.00 SAFETY STANDARDS (Procedures)

4.1 Confined Space Entry Procedure
4.2 Crane Operations
4.3 Emergency Response/Emergency Action Plan
4.4 Fall Protection
4.5 Forklift Operations
4.6 Hazardous Waste Operations
4.7 Heat Illness Prevention Program
4.8 Hiring Procedure (New Employee Orientation)
4.9 Hot Work Procedure
4.10 Lockout / Tagout / Blockout Procedure
4.11 Safe Work Procedure
4.12 Vehicle Policy

5.1 GENERAL SAFETY POLICIES

5.1 Asbestos
5.2 Blood Borne Pathogens Policy
5.3 CPR and First Aid Inventories
5.4 Fire Prevention and Protection
5.5 Hazardous Communication Program
5.6 Hearing Conservation Program
5.7 Hydrogen Sulfide (H2S)
5.8 Naturally Occurring Radioactive Material (NORM)
5.9 Respiratory Protection Program
5.10 Spill Response
5.11 Waste Storage and Handling
5.12 Subcontractor Management

DRAFT

INTRODUCTION AND PURPOSE

The Company will institute and administer a comprehensive and continuous occupational Injury and Illness Prevention Program. The health and safety of an individual employee takes precedence over all other concerns. In support of this commitment, the Company provides measures to control workplace hazards through communications, periodic inspections, incident investigation, mitigation, compliance audits and employee training. Under all circumstances, it is the intent of the Company to comply with all applicable federal, state and local regulations and to provide a safe and healthful work environment for our employees.

To help us achieve an injury-free workplace, we have developed this Safety Manual, an integrated plan to manage and improve Company safety performance. As part of this process, we intend to hire employees and contractors with an exemplary safety attitude. We do this knowing we must cooperate and work as a team to obtain the desired results.

This manual is divided into five sections (Foreword, Injury and Illness Prevention Program, Code of Safe Practices, Safety Standards, and General Safety Policies).

Section 1.00 Foreword

Includes an overview of program contents, introduction and scope, and a policy statement endorsing the system as appropriate for the company.

Section 2.00 Injury and Illness Prevention Program (IIPP)

An IIPP is an element required by California Code of Regulation 3203 for all employers. It consists of seven established criteria (responsibilities, compliance/disciplinary policy, communication, identification of workplace hazards, accident reporting and investigating, employee training and record keeping). The IIPP is the core of the administrative portion of the manual.

Section 3.00 Code of Safe Practices (Tailgate Safety-Meeting Topics)

The written Safety Rules section of the program are not necessarily required by any regulatory body, however much of the contents reflect current laws and such should be used to complement independent study or assist in tailgate safety meetings.

Section 4.00 Safety Standards (procedures)

Safety standards included in section 4.00 are written job procedures developed to be utilized in most of the daily activities of the company. Most of the written job procedures are regulatory required and reference applicable federal and/or state laws within the text of the documents.

Section 5.00 General Safety Guidelines

An attempt was made to encompass all other written safety material that was not necessarily a daily function of the business, however deemed important, into a group called General Safety Guidelines. Within this section you will find general information relating to a multitude of safety requirements.

DRAFT

POLICY STATEMENT

To All Company Employees:

Safety is of primary importance in our operations. No business objective is so important that it will be pursued at the sacrifice of safety. Each of us has the responsibility to make the safety of our co-workers and ourselves a basic concern. This objective is fundamental to our well-being, as well as the efficient operation of our business. Every employee has the responsibility to prevent accidents and injuries by following established working rules, by practicing the principles taught in safety training and by providing ideas on how our safety efforts might be further strengthened.

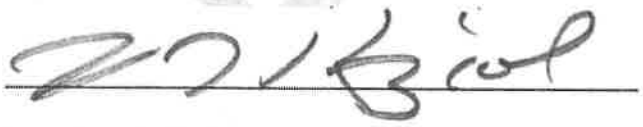
We have instituted this Environmental, Health and Safety (EHS) system which, with your help, will succeed in providing safe and healthy working conditions.

This program is designed to:

1) Assign Responsibilities to employees to carry out the necessary elements of the program;
2) Establish a Compliance/Disciplinary Policy for employees that fail to carry out their duties with regard to safe operations. Additionally, reward those that continue to work safely;
3) Develop a system to communicate with our employees concerning safety matters and to encourage feedback;
4) Identify and evaluate jobsite hazards;
5) Establish methods for investigating and correcting unsafe, or unhealthy conditions;
6) Establish a training and retraining program for employees and;
7) Maintain and continually improve the ongoing integrity of the system.

The cooperation of all people in our organization is expected. The results will be worth the effort.

Sincerely,



Tim Koziol, CEO

Implementation, administration and continual systematic improvement of this management program are the responsibility of the Company Safety Manager.

RESPONSIBILITIES

SAFETY REPRESENTATIVE

The Safety Representative has primary authority and responsibility to ensure company implementation of the management system and to ensure the health and safety of company personnel, subcontractors and customers. This is accomplished by communicating the company's emphasis on health and safety, analyzing work procedures for hazard identification and correction, ensuring regular workplace inspections, providing health and safety training, and encouraging prompt employee reporting of health and safety concerns without fear of reprisal.

The Safety Representative has responsibility for:

- Ensuring that the Safety Committee, if utilized, is aware of all accidents which have occurred, and all hazards which have been observed since the last meeting
- Working with employees and subcontractors to address safety concerns
- Assisting in the coordination of required health and safety training
- Serving as liaison for employees and others, on environmental, health and safety issues the company cannot immediately resolve
- Maintaining copies of safety meeting minutes and other safety-related records

The Safety Representative may seek assistance from other members of the company as necessary to meet these responsibilities.

SUPERVISORS

Supervisors play a key role in the implementation of the company's environmental, health and safety management system. Supervisors may include Management, Superintendents, Field Supervisors, or any other lead man on a project. They are responsible for:

- Communicating to their subordinates and subcontractors the company's emphasis on protecting health and safety
- Ensuring periodic, documented inspection of workspaces under their authority
- Promptly correcting identified hazards
- Modeling and enforcing safe and healthful work practices
- Providing, where appropriate, safety training and personal protective equipment
- Implementing measures to eliminate or control workplace hazards

- Stopping any employee's work that poses an imminent hazard to either the employee or any other individual

- Encouraging employees to report health and safety issues to the Safety Representative without fear of reprisal

INDIVIDUAL EMPLOYEES

It is the responsibility of individual employees to comply with all applicable health and safety regulations, company policies, and established work practices. This includes but is not limited to:

- Observing health and safety-related signs, posters, warning signals and directions

- Reviewing the area emergency plan and assembly area

- Learning about the potential hazards of assigned tasks and work areas

- Taking part in appropriate health and safety training

- Following all safe operating procedures and precautions

- Using proper personal protective equipment

- Warning coworkers about defective equipment and other hazards

- Reporting unsafe conditions immediately to a supervisor, and stopping work if an imminent hazard is presented

- Participating in workplace safety inspections

SUBCONTRACTORS

Each subcontractor is responsible for working in a safe manner to prevent injuries. Subcontractors must adhere to the safety policy of the Company and take responsibility for their own safety programs which shall include:

- Safe work practices

- Safe equipment

- Implementation of accident prevention methods, and

- Maintaining a safe job site

COMPLIANCE/DISCIPLINARY POLICY

All company personnel have the responsibility for complying with safe and healthful work practices, including applicable regulations, company policy, and safety procedures. Overall performance of maintenance in a safe and healthful work environment should be recognized by the supervisor and noted in performance evaluations. Employees will not be discriminated against for work-related injuries, and injuries will not be included in performance evaluations, unless the injuries were a result of an unsafe act on the part of the employee. Implementation of this policy will be by the president, safety department, project manager, project superintendent and/or combination thereof.

Standard progressive disciplinary measures in accordance with the applicable personnel policy or labor contract will result when employees fail to comply with applicable regulations, company policy, and/or company safety procedures. All personnel will be given instruction and an opportunity to correct unsafe behavior. Repeated failure to comply or willful and intentional non-compliance may result in disciplinary measures up to and including termination. Employees will be disciplined for unsafe practices in accordance with the company employee warning system.

Employee Warning System

Willful violations of work practices will result in disciplinary action in accordance with the following company policy:

1. **Verbal Warning** - As the first step in correcting unacceptable behavior, the supervisor shall review the pertinent facts with the employee. The supervisor will consider the severity of the problem and the employees past performance. A verbal warning will be issued to the employee, which will be documented by the supervisor in the employees' personnel file.
2. **Written Warning** - If the unacceptable performance continues a written warning will be issued. The written warning will clearly state the policy that was violated and steps the employee must take to correct it. Probation will be part of the written warning. It may also include time off without pay. At the completion of the probation period, the supervisor will meet with the employee to determine if the employee has achieved the required level of performance.
3. **Termination** - The third step in solving unacceptable behavior is termination. The employee may be terminated if performance is not improved within a reasonable amount of time.

The Company reserves the right to bypass the company "Employee Warning System" and terminate employees "at will" for any reason management deems necessary.

General Requirements

1. The site supervisors and/or foreman will be responsible for enforcement of the disciplinary policy.

2. The following is considered a safety violation. Not following verbal or written safety procedures, guidelines, rules, horse play, failure to wear selected PPE, abuse of selected PPE, accepting or placing waste materials in totes, etc.

3. After disciplinary action is taken management will meet with employee(s) to discuss the infraction and inform the individual(s) of the rule or procedure that was violated and the corrective action to be taken.

4. Company officials must conduct periodic inspections of work areas to ensure compliance with safety rules and policies. Supervisors must have a commitment to the safety goals of the company and take active role in the process. These actions shall include physical inspections by company officials that indicate violations showing overall lack of commitment to company safety goals. Action by supervisors shall be under the same level of disciplinary actions.

Safety Incentive Program

Company Management enthusiastically supports the protection of employee safety and health. This support is demonstrated, in part, through programs to provide recognition and extra incentives for employees to work safely and efficiently. Management provides employees the opportunity to earn awards for their own safe, efficient work, and the safe efficient work of their team members. The make-up of the program is described below. Specific awards are described in management bulletins available from the Plant Manager.

The safety incentive awards are intended to help maintain constant safety and health awareness. They are not to be considered a substitute for any element of this EH&S Management system.

Safety Incentive Programs change from time to time, but a typical list of incentives are listed below:

- **Cash**
- **Company jacket**
- **Company shirt or hat**
- **Gift certificates**
- **Event tickets**
- **Other appropriate items**

Safety Award Eligibility

The following requirements need to be fulfilled for an employee to be eligible for the company safety incentive award:

1. Employees will have no OSHA recordable injury during a six (6) month period, as defined below:

    - Any injury that results in a lost workday
    - Any other injury that does not result in a lost workday, but does require medical treatment (other than first aid); involves loss of consciousness; results in restriction of work or motion; or results in the termination of employment.

2. Employee has not caused any vehicle damage, or accidents

3. Employee has not caused damage to company tools or equipment

4. Employee must comply with all company safety rules, including personal protective equipment – hard hat, steel toed boots, safety glasses, hearing protection, etc...

5. Employee needs to attend all required safety meetings and training sessions

6. Employee must turn in all company paperwork, on time

7. No unexcused absences for scheduled work. You must call in if you are sick, otherwise it will be considered unexcused and you will forfeit your bonus for the given period.

8. If you are late to work one (1) time you will lose 25% of your bonus, two (2) times 50%, three (3) times 100%, if you are still employed.

9. Employee must work a minimum of 500 hours in each six- (6) month bonus period to stay eligible.

10. Employee must be working for the Company on the last day of the bonus period.

EMPLOYEE WARNING RECORD

GENERAL INFORMATION	
Employee's Name	
Date of Warning	

Check One:

☐	Attendance	☐	Insubordination	☐	Work Quality
☐	Carelessness	☐	Lateness/Early Quit	☐	Unauthorized Absence
☐	Safety Violation	☐	Willful Damage to Equipment	☐	Refusal to Work Overtime

If other than above explain:

☐	Verbal Warning	☐	Written Warning	☐	Termination

EMPLOYER STATEMENT

DISCIPLINARY ACTION TAKEN	☐	Yes	☐	No

Explain:

Supervisor Signature		Date	
Signature of Witness		Date	

EMPLOYEE STATEMENT

	I have read this "WARNING" and agree with the statements
	I disagree with the employer's description of the violation.

The reasons are:

Employee Signature		Date	

2021

COMMUNICATIONS

The elements of the Company Environmental Health and Safety (EHS) system shall be communicated to all employees in a readily understandable manner and shall include at a minimum, regularly scheduled monthly safety meetings, daily safety meetings for non routine projects, and anonymous communications.

A. Monthly Safety Meetings

Monthly safety meetings are normally held at the shop. At times, the regularly scheduled monthly safety meetings may be postponed and/or held at other locations due to work schedules. If a scheduled safety meeting is postponed the company may require additional meetings to ensure a minimum of twelve are held throughout the year. These meetings will be organized and instructed by the facility supervisor and / or Safety Representative. At times the monthly safety meetings may be instructed by invited guest speakers, such as industry consultants or insurance representatives.

Planned monthly safety meetings may also include training sessions according to the company's required training schedule, or other related topics deemed necessary by the Safety Representative.

B. Daily Safety Meetings

Daily safety meetings shall be require for any non-routine, hazardous, or large scale projects (i.e., spill clean up, confined space entry, lockout tagout, in service hot tapping, excavations greater than five feet deep.....). It shall be standard practice to include both subcontractor and company personnel into safety meetings relating to an effected project.

Documentation of required safety meetings shall be performed on the company "Safety Meeting/Training Record" (Form 2031) a copy of which shall be sent to the main office upon completion.

C. Anonymous Communication

A system for communicating safety concerns without fear of reprisal has been established by the company. The purpose of which is to allow an employee a way to voice concerns about safety. Safety suggestions shall be evaluated daily and corrections shall be made in a timely manner.

In addition to these communication tools the Company shall use other bulletin board postings, inter-company memos and safety meeting minutes to inform employees of company safety performance.

SAFETY MEETING/TRAINING RECORD

Date: _____

Type of Meeting: ☐ Daily/Tailgate ☐ Monthly ☐ Other: _____

Topic of Meeting/Training Session: _____

Location: _____ Prepared by: _____

Other Issues/Suggestions Raised: _____

_____

Follow-up Required: _____

Name	Company	Name	Company
1.		16.	
2.		17.	
3.		18.	
4.		19.	
5.		20.	
6.		21.	
7.		22.	
8.		23.	
9.		24.	
10.		25.	
11.		26.	
12.		27.	
13.		28.	
14.		29.	
15.		30.	

Completed copies of this form must be routed to the Safety Representative and kept in the safety files for at least one year.

2031

IDENTIFICATION AND CORRECTION OF WORKPLACE HAZARDS

Regular, periodic workplace safety inspections must be conducted by the company. The inspections should be noted on a "Action Item Matrix" *report* (Form 2041) or other documentation, and the company must maintain copies of this documentation for at least one year. These regular inspections will be supplemented with additional inspections whenever new substances, processes, procedures, or equipment introduced into the workplace represent a new occupational safety and health hazard or whenever supervisors are made aware of a new or previously unrecognized hazard.

Generally, supervisors are responsible for identification and correction of hazards that their employees and/or contractors are exposed and should ensure that the work areas they exercise control over are inspected regularly. Supervisors should check for safe work practices with each visit to the workplace and should provide immediate verbal feedback where hazards are observed.

A hazard Assessment report may also be complete and submitted by an employee anonymously, or as a referral to the Safety Representative as a result of a condition discovered during an inspection, or which the responsible supervisor could not determine an immediate remedy.

General Requirements

1. In addition to the hazard assessment methods mentioned above the Company uses several other processes to identify potential hazards such as JSA's, JHA's, and facility wide or area specific analysis/inspections.

2. Employees and/or sub-contractors must be actively involved in the hazard identification process. Identified hazards must be reviewed with all employees concerned.

3. The hazard identification process is used for routine and non-routine activities as well as new processes, changes in operation, products or services as applicable

4. Hazards are classified/prioritized and addressed based on the risk associated with the task. Refer to the Action Item Matrix (attached) which outlines severity and probability.

5. Identified hazards are addressed and mitigated via the Action Item Matrix (attached). This form documents and assigns responsibilities to appropriate personnel until action items are completed.

6. Employees will be trained in the hazard identification process including the use and care of proper PPE.

Action Item Matrix

Action Item Priority Definitions:

1. High risk potential for injury, oil spill, other adverse environmental impacts, or significant property damage. Facility or equipment may exhibit serious degradation or misuse.
2. Moderate risk potential for injury, oil spill, other adverse environmental impacts, or property damage.
3. Low risk potential for injury, oil spill, other adverse environmental impacts, or property damage. Plans, drawings, manuals, or other documentation may be incorrect or outdated. Maintenance needed.

#	Ref.	Item Description	Recommended	Status	Assigned	Date Completed	Comments

DRAFT

ACCIDENT REPORTING AND INVESTIGATING

I. PURPOSE

All accidents, injuries or potential accidents involving Company employees, subcontractors or properties shall be reported and investigated, and measures shall be taken to prevent reoccurrence of the incident. The following outlines the basic procedure for personnel to follow after an incident. This procedure defines specific responsibilities, incident reporting, and investigation criteria. Blank reports and instructions for reporting an incident online are included within the appendices.

II. RESPONSIBILITIES

FIRST RESPONDER MUST:

1. Notify The Job Site Supervisor Of Any Accident, Injury, Unsafe Condition Or Practice
2. Control The Scene, i.e. Ensure Proper Care For Injured Personnel, Evacuate The Area, And Tag Unsafe Equipment.

SUPERVISOR MUST:

1. Ensure Local Emergency Services Are Provided, If Required,
2. Immediately Notify The Safety Representative
3. Issue Report, Investigate And Implement Corrective Measures
4. Route Reports To The Main Office Within 24 Hours.

SAFETY REPRESENTATIVE MUST:

1. Determine If A Post Accident Drug Test Is Warranted.
2. Review Reports For Accuracy,
3. Ensure Reports Are Routed To Specified Company Departments,
4. Determine Whether Further Investigation Is Warranted,
5. Ensure Appropriate Government Agencies Are Notified.
6. Notify appropriate clients; as required.

III. GENERAL REQUIREMENTS

1. While all incidents should be investigated, the extent of such investigation shall reflect the seriousness of the incident utilizing a root cause analysis process or other similar method. Minor incident shall be investigated and root causes addressed. Serious incidents shall utilize Tap Root or an equivalent process.

2. Serious incidents must be verbally reported to OSHA within 8 hours of their discovery. Incidents must also be reported to the client as soon as possible, or in a timely manner (within 24 hours of incident).

3. Site Supervisors, with the assistance of the Safety Representative have the responsibility for reporting and investigation of an incident.

4. Personnel must be trained in their roles and responsibilities for incident response and incident investigation techniques. Training requirements relative to incident investigation and reporting (Awareness, First Responder, Investigation, and training frequency) should be identified in the program.

5. Proper equipment must be available to assist in conducting an investigation. Equipment may include some or all of the following items; writing equipment such as pens/paper, measurement equipment such as tape measures and rulers, cameras, small tools, audio recorder, PPE, marking devices such as flags, equipment manuals, etc.

6. Supervisors must identify evidence immediately following the incident. This might include a listing of people, equipment, and materials involved and a recording of environmental factors such as weather, illumination, temperature, noise, ventilation, and physical factors such as fatigue, age, and medical conditions.

7. Evidence such as people, positions of equipment, parts, and papers must be preserved, secured, and collected through notes, photographs, witness statements, flagging, and impoundment of documents and equipment.

8. Witness interviews and statements must be collected. Locating witnesses, ensuring unbiased testimony, obtaining appropriate interview locations, and use of trained interviewers should be detailed. The need for follow-up interviews should also be addressed

9. All incidents that are investigated will result in corrective actions taken to prevent reoccurrence.

10. Written incident reports will be prepared and include an incident report form and a detailed narrative statement concerning the events. The format of the narrative report may include an introduction, methodology, summary of the incident, investigation board member names, narrative of the event, findings and

recommendations. Photographs, witness statements, drawings, etc. should be included

11. Lessons learned shall be reviewed and communicated. Changes to processes must be placed into effect to prevent reoccurrence or similar events.

IV. INCIDENT REPORTING

Employees who are injured at work must report the injury to their supervisor **immediately**, regardless of severity. Subcontractors who are injured or involved in an accident must report the incident to Company personnel. In either case, if immediate medical treatment beyond first aid is needed, call 911, or refer to site-specific emergency phone list. The injured party must be taken to the appropriate hospital or medical center. If non-emergency medical treatment for work-related injuries, or illnesses, is needed you must still inform your supervisor as to the extent of the injury.

If the injured employee received medical treatment, the supervisor must obtain a medical release form before allowing the employee to return to work. The health care provider may stipulate work tasks that must be avoided or work conditions that must be altered before the employee resumes his or her full duties.

GUIDELINES FOR REPORTING AN INCIDENT:

- Gather all relevant information before beginning work on the report. It is important that every question on the report be answered thoroughly.
- Interview witnesses. Obtain the address and phone number of affected parties.
- Obtain a driver license number and insurance policy information from the other driver if the report is for an auto accident.
- Give specific and factual details of what took place. For example, stating "Injury to hand" is not as specific as "abrasions to right index finger."
- A copy of any Accident Report should always be placed in the safety file.

If an incident involves a subcontractor, request an internal report from the subcontractor and attach a copy of their accident report to the printed report. Documentation of an incident shall be performed on one of the following reports:

FORM	DESCRIPTION	USE
2051	Personal Injury Report	To report and investigate a Company employee work related illness or injury.
2052	Vehicle Accident Report	To report a Company vehicle accident
2053	Physical Damage Loss Report	To report and investigate any Company property damage or Loss.
2054	General Liability Report	To report and investigate any Subcontractor employee injury or Loss.

2055	Investigation Report	To Investigate all work related accidents and near misses. This report may also be used to investigate an incident further than the initial report, or investigate a vehicle accident.

Following the report of every incident a thorough investigation must be performed.

V. INCIDENT INVESTIGATION

Every incident including a near miss must be investigated to determine cause. Measures must then be taken to prevent reoccurrence. All of the company accident reports have a provision for identifying the root cause of an accident, and corrective action required to prevent any similar accident in the future. A separate Accident Investigation Report may be necessary for vehicle accidents and incidents deemed needing closer examination by the Safety Representative.

The site supervisor is responsible for ensuring an investigation is performed to determine and correct the cause(s) of the incident. Specific procedures that can be used to investigate workplace accidents and hazardous substance exposures include the following:

GUIDELINES FOR INVESTIGATING AN INCIDENT:

- Interviewing injured personnel and witnesses.
- Examining the injured employee's work site for contributing factors.
- Reviewing established procedures to ensure they are adequate and were followed.
- Reviewing training records of affected employees.
- Determining all contributing causes to the accident.
- Recording all findings and actions taken.
- Follow up on findings to ensure hazards are abated.

The supervisor's findings and corrective action required shall be documented and presented to the Safety Representative. If the supervisor is unable to determine the cause(s) and appropriate corrective action, other resources should be sought. Available resources include the President, Superintendents, Safety Representative, and/or other local management personnel.

The Safety Representative will review each accident or injury report to ensure that the investigation was thorough and that all corrective action was taken. A report with incomplete data, or inconclusive root cause and corrective action identified will be routed back to the supervisor for further follow-up.

PERSONAL INJURY REPORT

ID

Date of incident: | Time of incident: | Date reported: | Time reported: | Supervisor:

AREA INFORMATION

Job Site: | Region | District | Client

PERSON INJURED

First Name: | Last Name: | Phone: | Years in Industry:

Address: | City: | State: | Zip: | Job Title:

Social Security Number: | Hire Date: | Birth date: | Sex: | Marital Status:

MEDICAL INFORMATION

Sent to Doctor? | Name of Physician: | Physician's Phone: | Hospital Address:

WITNESS 1

Witness First Name: | Last Name: | Phone:

Address: | City: | State: | Zip:

WITNESS 2

Witness First Name: | Last Name: | Phone:

Address: | City: | State: | Zip:

REPORT SUMMARY

Description of Incident

Root Cause

Corrective Action

INJURY STATISTICS

Type of Work | Type of Injury | Body Part | Fatality | OSHA | LWD | RWD

Person Responsible for Corrective Action | Report Prepared By:

DRAFT

VEHICLE ACCIDENT REPORT

ID

Date of incident: | Time of incident: | Date reported: | Time reported: | Supervisor:

AREA INFORMATION Jobsite | Region | District

INSURED (COMPANY) VEHICLE/DRIVER

First Name: | Last Name: | Phone: | Driver's License Number:

Address: | City: | State: | Zip: | Job Title:

Year of Vehicle: | Make: | Model: | License Plate Number: | Vehicle ID Number:

Describe damage to company vehicle including exact point of impact:

OTHER VEHICLE/DRIVER

First Name: | Last Name: | Phone: | Driver's License Number:

Address: | City: | State: | Zip: | Job Title:

Year of Vehicle: | Make: | Model: | License Plate Number: | Vehicle ID Number:

Name of Owner (if different from driver) | Owner's Phone

Vehicle Insured? | Insurance Company | Policy Number

Where can vehicle be seen? | When?

Describe damage to company vehicle including exact point of impact:

INJURED PERSON(S) (including all passengers, continue on back if necessary)

First Name: | Last Name: | Phone: | Age:

Address: | City: | State: | Zip: | Sex:

WITNESS 1 (continue on back if necessary)

Witness First Name: | Last Name: | Phone:

Address: | City: | State: | Zip:

REPORT SUMMARY

Description of Incident

Root Cause

Corrective Action

Police Report Taken? | Police Division: | Report Prepared By:

DRAFT

ID

PHYSICAL DAMAGE LOSS REPORT

Date of incident:

Time of incident:

Date reported:

Time reported:

Supervisor:

AREA INFORMATION

Job Site:

Region

District

Client

AUTHORITY CONTACTED

Police Called?

Which One?

Contact Person:

Phone:

LOSS INFORMATION

Kind of Loss (fire, theft, ect..)

Probable amount of loss

REPORT SUMMARY

Description of Incident

Root Cause

Corrective Action

Person Responsible for Corrective Action

Report Prepared By:

DRAFT

GENERAL LIABILITY REPORT

ID

Date of incident: | Time of incident: | Date reported: | Time reported: | Supervisor:

AREA INFORMATION

Job Site: | Region | District | Client

PERSON INJURED

First Name: | Last Name: | Phone: | Years in Industry:

Address: | City: | State: | Zip: | Job Title:

Social Security Number: | Hire Date: | Birth date: | Sex: | Marital Status:

INJURED PERSON'S EMPLOYER INFORMATION

Employer: | Employer Contact: | Phone:

Address: | City: | State: | Zip:

MEDICAL INFORMATION

Sent to Doctor? | Name of Physician: | Physician's Phone: | Hospital Address:

WITNESS 1

Witness First Name: | Last Name: | Phone:

Address: | City: | State: | Zip:

WITNESS 2

Witness First Name: | Last Name: | Phone:

Address: | City: | State: | Zip:

REPORT SUMMARY

Description of Incident

Root Cause

Corrective Action

INJURY STATISTICS

Type of Work | Type of Injury | Body Part | Fatality | OSHA | LWD | RWD

Person Responsible for Corrective Action | Report Prepared By:

DRAFT

ID

INCIDENT INVESTIGATION REPORT

Date of incident: | Time of incident: | Date reported: | Time reported: | Supervisor:

AREA INFORMATION

Job Site: | Region | District | Client

PERSON(S) INVOLVED

(1)First Name: | Last Name: | Phone: | Years in Industry:

Address: | City: | State: | Zip: | Job Title:

(2)First Name: | Last Name: | Phone: | Years in Industry:

Address: | City: | State: | Zip: | Job Title:

REPORT SUMMARY

Description of Incident

Root Cause

Corrective Action

INJURY STATISTICS

Type of Work | Type of Injury | Body Part | Fatality | OSHA | LWD | RWD

Person Responsible for Corrective Action | Report Prepared By:

DRAFT

TRAINING AND INSTRUCTION

I. SCOPE

Employee safety training is provided at no cost to the employee. Safety training may be presented by a knowledgeable Supervisor, other Company personnel, or by representatives from other relevant specialty companies. Regardless of the instructor, all safety training must be documented using the "Safety Meeting / Training Record" (Form 2031) or an equivalent record that includes all the information required on the Form. The company must retain this documentation for at least one year.

II. INITIAL TRAINING

When the safety management system is first implemented, all company personnel will be trained on the contents, including individual responsibilities under the program, and the availability of the written procedures. Training will also be provided on how to report unsafe acts and conditions, how to access the safety related resources, and where to obtain information on workplace safety and health issues.

Personnel hired after the initial training session will be oriented on this material as soon as possible by the Safety Representative or appropriate supervisor. These individual training sessions will be documented using the, "New Employee Checklist" (Form 4071), or equivalent. The company must also keep this document for at least one year.

III. TRAINING ON SPECIFIC HAZARDS

Supervisors require training on the hazards to which the employees under their immediate control may be exposed. This training aids a Supervisor in understanding and enforcing proper protective measures.

All Supervisors must ensure that the personnel they supervise receive appropriate training on the specific hazards of work they perform, and the proper precautions for protection against those hazards. Training is particularly important for new employees and whenever a new hazard is introduced into the workplace. Such hazards may include new equipment, hazardous materials, or procedures. Health and Safety training is also required when employees are given new job assignments on which they have not previously been trained and whenever a supervisor is made aware of a new or previously unrecognized hazard.

Specific topics which may be appropriate to company personnel include but are not limited to the company "Required Training Schedule (Form 2061).

REQUIRED TRAINING SCHEDULE

Course			Required				
Tracking Code	Reference Regulatio	Description	Supervisor	Field	Dur	Freq	Man
QUALIFIED EMPLOYEE TRAINING							
QET01	CFR 1910.151, CCR 3400	Bloodborne Pathogens	ALL	ALL	N/R	1yr	Yes
QET02	CFR 1910.1030, CCR 5193	CPR/First Aid	ALL	ALL	N/R	2yr	Yes
QET03	CFR 1910.157, CCR 4848	Fire Equipment/Fire Watch	ALL	ALL	N/R	1yr	Yes
QET04	CFR 1910.1200, CCR 5194	Hazardous Communication	ALL	ALL	N/R	Initial	Yes
QET05	CFR 1910.252, CCR 4848	Hot Work	ALL	ALL	N/R	Initial	Yes
QET06	CFR 250.67, API-55	Hydrogen Sulfide & SCBA	ALL	ALL	N/R	1yr	Yes
QET07	CFR 1910.147, CCR 3314	Lockout/Tagout/Blockout	ALL	ALL	N/R	Initial	Yes
QET08	CFR 1910.146, CCR5157	Confined Space Awareness	ALL	ALL	N/R	Initial	Yes
QET09	CFR 1910.132, CCR 3380	Personal Protective Equipment	ALL	ALL	N/R	Initial	Yes
QET10	49 CFR 172, CCR 5164	Tote Safety Requirements	ALL	ALL	N/R	1yr	Yes
QET11	CFR 1910.119, CCR 5164	Chemical Reactivity	ALL	ALL	N/R	1yr	Yes
JOB SPECIFIC TRAINING							
JST01	CFR 1910.146, CCR5157	Confined Space	W/R	W/R	N/R	Initial	Yes
JST02	CFR 1910.146, CCR5157	Confined Space Rescue	W/R	W/R	N/R	Initial	Yes
JST03	CFR 1926.104, CCR 1670	Fall Protection	W/R	W/R	N/R	Initial	Yes
JST04	CFR 1910.38, CCR 3220	Emergency Response/Action Plan	ALL	ALL	ALL	Initial	Yes
JST05	CFR 1910.331, CCR 2982	Electrical Safety (low voltage)	ALL	ALL	N/T	Initial	Yes
JST06	CFR 1910.120, CCR 5192	Hazwoper – Onsite Worker	W/R	W/R	24/8 hrs	1yr	Yes
REQUIRING THE USE OF RESPIRATOR							
RUS01	CFR 1910.134, CCR 5144	Respiratory Protection Plan	W/R	W/R	N/R	1yr	Yes
RUS02	CFR 1910.134, CCR 5144	Respirator Fit Test	W/R	W/R	N/R	1yr	Yes
RUS03	CFR 1910.134, CCR 5144	Respiratory Medical	W/R	W/A	N/R	Initial	Yes
HEAVY EQUIPMENT RELATED							
HER01	CFR 1910.178, CCR 3668	Forklift Operating and Rules	W/R	W/R	N/R	3 yr	Yes
HER02	CCR 5006.1, API RP 2D	Rigger Training	W/R	W/R	N/R	W/R	Yes
CALIFORNIA SPECIFIC							
CAL01	CCR 3395	Heat Stress	W/R	W/R	N/R	1yr	Yes
CAL02	CCR 3203	IIPP (SB198)/Safe Practices	ALL	ALL	N/R	Initial	Yes
CAL03	AB 1825	Harassment	ALL	ALL	N/R	2yr	Yes
DOT SPECIFIC							
DOT01	49 CFR 199.19(c), & .241	Supervisor Drug/Alcohol	W/R	Supv.	N/R	Initial	Yes
WORK AREAS EXCEEDING 85 DbA							
HNA01	CFR 1910.95, CCR 5095	Hearing Conservation, Req.>85Dba	W/R	W/R	N/R	1yr	Yes
HNA02	CFR 1910.95, CCR 5095	Audiometric Testing	W/R	W/R	N/R	1yr	Yes
OPTIONAL TRAINING							
OPT01	BEST PRACTICES	Asbestos Awareness	W/R	W/R	N/R	W/R	No
OPT02	BEST PRACTICES	Back Injury Protection	W/R	W/R	N/R	W/R	No
OPT03	BEST PRACTICES	Benzene Awareness	W/R	W/R	N/R	W/R	No
OPT04	BEST PRACTICES	Defensive Driving	W/R	W/R	N/R	W/R	No
OPT05	BEST PRACTICES	Endangered Species	W/R	W/R	N/R	W/R	No
OPT06	BEST PRACTICES	Ergonomics	W/R	W/R	N/R	W/R	No
OPT07	BEST PRACTICES	Explosives	W/R	W/R	N/R	W/R	No
OPT08	BEST PRACTICES	Hazardous Waste Management	W/R	W/R	N/R	W/R	No
OPT09	BEST PRACTICES	Housekeeping	W/R	W/R	N/R	W/R	No
OPT10	BEST PRACTICES	Office Safety	W/R	W/R	N/R	W/R	No
OPT11	BEST PRACTICES	Safe Work Permits	W/R	W/R	N/R	W/R	No
OPT12	BEST PRACTICES	Slips, Trips, Falls	W/R	W/R	N/R	W/R	No
OPT13	BEST PRACTICES	Stairs and Ladders	W/R	W/R	N/R	W/R	No

Abbreviation Key

Dur = Duration, Freq = Frequency, Man = Mandate by Agency, 8Ref. = Annual 8 Hr Refresher
N/R = NoTime Requirement W/R = When Required for Position

MAINTENANCE OF RECORDS

Documents related to the Environmental, Health and Safety (EHS) system are maintained in the main office. Certain documents related to the program must be kept by the company for at least one year. These records include:

- Employee safety meeting / training records, including the names of all attendees and instructors, the training date, and material covered (Form 2031)
- Records of scheduled and periodic workplace inspections, including the persons conducting the inspection, any identified unsafe acts, or conditions, and corrective action taken (Form 2041)
- Incident/Investigations Reports
  (Forms 2051, 2052, 2053, 2054, and 2055)
- Applicable Training Records

Other records relating to this EHS management system shall be kept on file for a time frame deemed adequate by the Safety Representative.

DRAFT

ALCOHOL/DRUGS AND ILLEGAL WEAPONS

The Company drug, alcohol and contraband policies are expressed in various forms in the Company Safety Manual, Employee Handbooks, and Drug/Alcohol Program.

Company Policies are intended to provide a work-place free of drugs, alcohol and contraband. They strictly prohibit the use, sale, distribution or possession of contraband, alcohol or unauthorized mind altering substances and/or being under the influence of alcohol or unauthorized mind altering substances while on Company premises, in Company vehicles or while on Company business.

Violations of these Policies may result in immediate discharge, and/or be reported to law enforcement authorities.

The Company will require a drug screen for new employees who may be assigned to Safety Sensitive Positions, employees transferred or promoted to Safety Sensitive Positions and employees returning to Safety Sensitive Positions after an absence of 90 days or more. The Company reserves the right to require employees to submit to alcohol or drug testing on a random basis as determined by government regulations and management and on periodic unannounced basis for reasonable cause as determined by management. If an employee tests positive, or refuses the testing, the employee will be discharged.

Contraband includes the unauthorized possession of Company or employee property and possession of deadly weapons, explosives, illegal drugs, drug paraphernalia and alcoholic beverages. Deadly weapons include a firearm or anything designed, made or adapted for the purpose of inflicting bodily harm. Ordinary pocketknives with a blade length of five inches or less are generally excluded from this definition. Explosives include all types except those required for specific, company requested operations. Entry onto Company property or work location, including parking areas and vehicles, is deemed consent to an inspection of person, vehicle, Company furnished living quarters and personal effects at any time. If an employee refuses this inspection, the employee will be discharged immediately.

Other than in statistical form, an individual's drug test results will be treated as confidential. The test results will not be released without the written consent of the individual. The exception is that individual's information must be released upon request by certain regulatory agencies.

All contractors working on Company premises or while on Company business are subject to the provisions of these Policies.

COMPRESSED GAS CYLINDERS

GENERAL REQUIREMENTS

1. Employees in charge of the oxygen or fuel-gas supply equipment including generators, and oxygen or fuel-gas distribution piping systems shall be instructed for this work before being left in charge.

2. Rules and instructions covering the operation and maintenance of oxygen or fuel-gas supply equipment including generators, and oxygen or fuel-gas distribution piping systems shall be readily available.

3. Specific procedures must be used when possible evolution's of hazardous fumes, gases or dust to the metals are involved. Any welding, cutting or burning of lead base metals, zinc, cadmium, mercury, beryllium or exotic metals or paints not listed here shall have proper ventilation or respiratory protection.

4. A fire prevention and suppression procedure shall be established whenever any welding and cutting operations are taking place.

5. Cylinders must be kept in the upright position during use and storage. Welding fuel-gas cylinders shall be placed with valve end up whenever they are in use. Liquefied gases shall be stored and shipped with the valve end up.

6. Cylinders shall be handled carefully. Rough handling, knocks, and falls are liable to damage the cylinder, valve or safety devices and result in leakage.

7. Before connecting a regulator to a cylinder valve, the valve shall be opened slightly and closed immediately. (This action is generally termed "cracking" and is intended to clear the valve of dust or dirt that might otherwise enter the regulator.) The valve shall be opened while standing to one side of the outlet; never in front of it. A fuel-gas cylinder valve shall never be opened up, cracked near other welding work or near sparks, flame, or other possible sources of ignition.

8. Cylinders containing oxygen or acetylene or other fuel or gas shall not be taken into confined spaces.

9. Cylinders having leaking fuse plugs or other leaking safety devices shall be plainly tagged, and the supplier shall be promptly notified of the condition and his instructions followed. A warning shall be placed near the cylinders prohibiting any approach to them with a lighted cigarette or other source of ignition.

A. Handling Cylinders

1. Do not move or store cylinders without properly installing the protective cap over the valve.

2. Cylinders are smooth, heavy and difficult to hand carry. When they must be moved without a cart, use a carrier or get help.

3. Cylinders moved by a crane or derrick should be secured in a basket or similar device and should not be dropped. Use of slings, ropes or electromagnets is prohibited.

4. Cylinders should not be allowed to strike each other.

5. Cylinders should not be used for rollers, supports, or any purpose other than to contain gas.

B. Using Cylinders

1. Threads on a regulator or fitting must correspond to those on the cylinder valve outlet. Do not force or modify connections.

2. Never use a cylinder of compressed gas without a pressure-reducing regulator to the cylinder valve, except where the total system is specifically designed to handle maximum cylinder pressure.

3. Use regulators and pressure gauges only with gases and pressure ratings for which they are designed and intended.

4. Close the cylinder valve before attempting to stop leaks between the cylinder and regulator.

5. Never permit sparks, molten metal, electric currents, excessive heat or flames to contact the cylinder or attachments.

6. Never use oil or grease as a lubricant on valves or attachments to oxygen cylinders.

C. Storing Cylinders

1. Cylinders should be properly secured with chain to prevent falling.

2. Oxygen cylinders should not be stored within 20 feet of combustible gas cylinders or near any other substance where a fire could result, unless protected by a wall at least five feet high having a fire resistance rating of at least 30 minutes.

3. Cylinders should be stored in a safe, dry, well-ventilated area that limits corrosion damage and deterioration. Hydro-test should be current.

4. Empty and full cylinders should be stored separately, and plainly identified.

DRAFT

ELECTRICAL AWARENESS

ELECTRICAL AWARENESS

1. Training requirements for employees in safety related work practices that pertain to their respective job assignments include: (Employees who face a risk of electric shock but who are not qualified persons shall be trained and familiar with electrically related safety practices. Employees trained in safety related work practices that pertain to their respective job assignments. 3. Electrical clearance distances for personnel working around live feeds.

2. Safe work practices shall be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts when work is performed near or on equipment or circuits which are or may be energized.

3. Conductors and parts of electrical equipment that have been deenergized but not been locked or tagged out shall be treated as live parts.

4. While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both.

5. Employees shall not work on or near exposed energized parts. Applies to work performed on exposed live parts (involving either direct contact or by means of tools or materials) or near enough to them for employees to be exposed to any hazard they present.

6. Only qualified persons may work on electric circuit parts or equipment that have not been deenergized. Such persons shall be made familiar with the use of special precautionary techniques, PPE, insulating & shielding materials and insulated tools.

7. When working under overhead lines clearance distance must be provided or lines shall be deenergized and grounded.

8. Unqualified persons must maintain an approach distances of 10' for 50kV plus 4" for every additional 10kV.

9. Qualified employees must adhere to the approach distances in Table S5. Refer to table for higher line voltages. Unqualified personnel shall not approach live electrical.

TABLE S5

Voltage range (phase to phase)	Minimum approach distance
300V and less	Avoid Contact
Over 300V, not over 750V	1 ft. 0 in. (30.5 cm).
Over 750V, not over 2kV	1 ft. 6 in. (46 cm).
Over 2kV, not over 15kV	2 ft. 0 in. (61 cm).
Over 15kV, not over 37kV	3 ft. 0 in. (91 cm).
Over 37kV, not over 87.5kV	3 ft. 6 in. (107 cm).
Over 87.5kV, not over 121kV	4 ft. 0 in. (122 cm).
Over 121kV, not over 140kV	4 ft. 6 in. (137 cm).

10. Vehicular and mechanical equipment must maintain clearance distances of 10 ft. at all times.

11. Employees may not enter spaces containing exposed energized parts unless illumination is provided that enables the employees to work safely.

12. Protective shields, protective barriers or insulating materials as necessary shall be used when working in confined or enclosed work spaces where electrical hazards may exist.

13. Portable ladders shall have non-conductive side rails.

14. Conductive items of jewelry or clothing shall not be worn unless they are rendered non-conductive by covering, wrapping or other insulating means.

GENRAL REQUIREMENTS (State specific)

1. Only qualified persons shall work on electrical equipment or systems.

2. Work shall not be performed on exposed energized parts of equipment or systems until the following conditions are met:

- Responsible supervision has determined that the work is to be performed while the equipment or systems are energized.

- Involved personnel have received instructions on the work techniques and hazards involved in working on energized equipment.

- Suitable personal protective equipment and safe guards are provided and used

3. Duties of the authorized person after the required work on an energized system or equipment include: (1) Removing from the work area any temporary personnel protective equipment and (2) reinstalling all permanent barriers or covers.

4. All electrical equipment and systems shall be treated as energized until tested or otherwise proven to be de-energized.

5. While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both.

6. Suitable temporary barriers, or barricades, shall be installed when access to opened enclosures containing exposed energized equipment is not under the control of an authorized person.

7. Conductive measuring tapes, ropes or similar devices shall not be used when working on or near exposed energized conductors or parts of equipment conductive fish tapes shall not be used in raceways entering enclosures containing exposed energized parts unless such parts are isolated by suitable barriers.

USE OF PORTABLE ELECTRIC EQUIPMENT (Cords and Plugs)

1. All cord- and plug- connected electric equipment, flexible cord sets (extension cords), and portable electric equipment shall be handled in a manner that will not cause damage.

2. Company policy and the National Electric Code (NEC) requires the use of an approved ground fault circuit interrupter (GFCI) for used on all portable equipment tool cords.

3. Flexible electric cords connected to equipment may not be used for raising or lowering the equipment.

4. Flexible cords may not be fastened with staples or otherwise hung in such a fashion as could damage the outer jacket or insulation.

5. Portable cord and plug connected equipment and flexible cord sets (extension cords) shall be visually inspected for external defects (such as loose parts, deformed and missing pins, or damage to outer jacket or insulation) and for evidence of possible internal damage (such as pinched or crushed outer jacket) before use on any shift. However, cord- and plug- connected equipment and flexible cord sets (extension cords) which remain connected once they are put in place and are not exposed to damage need not be visually inspected until they are relocated.

6. If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee may use it until necessary repair and tests have been made to render the equipment safe.

7. Whenever an attachment plug is to be connected to a receptacle (including any on a cord set), the relationship of the plug and receptacle contacts shall first be checked to ensure that they are of proper mating configurations.

8. A flexible cord used with grounding-type equipment shall contain an equipment grounding conductor.

9. Attachment plugs and receptacles may not be connected or altered in a manner that would prevent proper continuity of the equipment grounding conductor at the point where plugs are attached to receptacles. Additionally, those devices may not be altered to allow the grounding pole of a plug to be inserted into slots intended for connection to the current-carrying conductors.

10. Adapters that interrupt the continuity of the equipment grounding connection may not be used.

11. Portable electric equipment and flexible cords used in highly conductive work locations (such as those inundated with water or other conductive liquids), or in job locations where employees are likely to contact water or conductive liquids, shall be *approved* for those locations.

DRAFT

HEALTH AND PHYSICAL REQUIREMENTS

1. All personnel must be physically and mentally fit for duty. Fitness for duty is the ability to work safely.

2. Workers who are not fit for duty will not be allowed on the job site.

3. Personnel shall NEVER work under the influence of any form of intoxicant or drug.

4. Personnel may never perform work if they are under the influence of a medicine that could affect their ability to work safely.

5. Employees must never come to work if they are feeling tired, or sick.

6. Personnel taking prescription medicine must notify their supervisor and have a valid prescription or label for use of their medicine.

7. Supervisors shall watch for workers that are unfit for duty. They will take appropriate steps, such as, take a worker home, or arrange for other transportation when he or she seems unfit for duty.

DRAFT

HEAVY EQUIPMENT

1. When working near any piece of operated equipment such as a stinger truck, backhoe, crane, tractor, A-frame or pick-up truck, make sure the operator of the equipment is aware that you are in the vicinity of the work area. You should always try to make eye contact with an operator so as to be sure that they see you.

2. When working with or near heavy equipment, frequently check around yourself and make sure you are not between the equipment or load and a stationary object. If you see others in a potential "pinch point" warn them immediately.

3. Standing under any suspended load is strictly prohibited.

4. Heavy equipment always has the right-of-way.

5. Anybody riding on a backhoe other than the operator is prohibited.

6. Keep a safe distance while a backhoe is operating or moving the stabilizers. Individuals should remain a minimum of 20 linear feet from the backhoe end of the tractor while it is operating, especially in trenches or other excavations where the ability to move quickly and freely is adversely effected. No one is allowed in a bell hole while a backhoe is excavating.

7. Locate utility lines and overhead power lines before starting to dig. Do not operate a backhoe within fifteen feet of overhead electrical lines.

8. Never attempt to lift loads in excess of the backhoe capacity.

9. Never get under the backhoe bucket or reach through the lift arms when the bucket is raised.

10. Use care in attaching towing lines to the backhoe. Pulling from the tractors rear axle or any point above the tractors rear axle may cause an accident.

11. When working with a crane never place any part of the machine or load within Fifteen feet of a power line.

12. Never exceed load capacities specified by the manufacturer.

13. A crane is least stable when operating from the side position.

14. A qualified spotter should assist the operator in placing or retrieving a load. Use only one spotter. A confused operator is more likely to have accidents.

15. The crane operator is responsible for the condition of the cable and associated rigging.

16. When equipment is moved with a crane a tag line must be attached to the load, so the oiler/helper can stand in the clear and still control the load. An exception to this rule is when a tag line presents additional hazards such as catching on a stationary object.

17. Never attempt to operate a crane without management approval and proper training.

18. All crane operators must have a valid California Commercial driver's license.

DRAFT

HOUSEKEEPING

1. Scrap lumber and debris must be keep reasonably clear from work surfaces, passageways and stairs.

2. Every job site, shop or office shall be kept in an orderly manner.

3. Storage facilities, vehicles and equipment shall be kept in a safe, clean condition.

4. Combustible scrap and debris shall be removed at regular intervals during the course of construction.

5. Proper containers shall be provided for the collection and separation of waste, trash and oily rags.

6. Piping shall be properly stored on racks, or chocked to prevent movement.

7. Materials for the job shall be kept in an orderly fashion not to interfere with the work at hand.

DRAFT

LADDERS

1. Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced, when the ladder is in position for use.

2. Ladder safe work practices must be followed. This includes not standing on the top two rungs of a step ladder, facing the ladder when ascending or descending, and instructing employees to not carry objects that could cause injury in the event of a fall.

3. Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond the manufacturer's rated capacity.

4. Ladders shall be used only for the purpose for which they were designed. Never use ladder in a horizontal position or as scaffolding, do not place ladders on top of boxes, barrels, crates, etc.

5. Ladders shall be inspected by a competent person for visible defects prior to each use, on a periodic basis and after any occurrence that could affect their safe use.

6. Portable and fixed ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components, shall either be immediately marked in a manner that readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and shall be withdrawn from service until repaired.

7. The ladder side rails shall extend at least 3 feet (.9m) above the upper landing surface. When ladders are not able to be extended then the ladder shall be secured at its top to a rigid support that will not deflect.

8. Ladders shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter (1/4) of the working length of the ladder. (The distance along the ladder between the foot and the top support.)

9. Ladders shall be placed on stable, level surface. Employees may not stand on top two rungs, or top of step ladders. Employees may not carry anything in hands that could cause injury in case of fall. Employees must face the ladder when ascending or descending.

10. Always face the ladder when climbing or descending.

11. Never stand on the top three rungs of a ladder.

12. No ladder shall be erected within 10 feet of a power line.

13. All ladders must be secured from movement.

14. Extension ladders must have both top and bottom tied off before work is performed.

15. Metal ladders must never be used where there is an exposure to electrical hazards. They shall have non-conductive side rails.

16. All ladders shall be erected so at least three feet of the rails extend over the landing.

17. Ladders shall be of the proper size and design for which it is used.

18. Any ladder found in an unsafe condition shall be removed from service.

19. It is prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked or guarded.

20. It is prohibited to place ladders on boxes, barrels, or other unstable bases to obtain additional height.

21. Employees are prohibited from using ladders that are broken, missing steps, rungs, or cleats, broken side rails or other faulty equipment.

22. It is required that when portable rung or cleat type ladders are used the base is so placed that slipping will not occur, or it is lashed or otherwise held in place.

23. Employees are prohibited from using ladders as guys, braces, skids, gin poles, or for other than their intended purposes.

LIFTING

1. No employee shall be required to lift more than they can easily manage.

2. Use a forklift or other lifting device on heavy lifts.

3. When material must be carried, use proper lifting and carrying techniques:

    a. Keep feet apart, one along side and one behind the object to be lifted. Feet should be comfortably spread to give stability.

    b. Keep back arched. An arched back means the spine, back muscles and body are in correct alignment.

    c. Grip the object with your whole hand, both the palm and fingers.

    d. Keep the elbows and arms tucked to side of body. This reduces fatigue in chest and arm muscles and is the position where the most power can be generated for lifting. This position also helps control the body's center of gravity.

    e. Keep head high and chin tucked in.

    f. Keep your body weight (center of gravity) directly over your feet. Start the lift with the thrust of the foot behind the object being lifted. Bring the load close to your body for the most efficient carrying position. Lift smoothly. Do not jerk up, back or rotate quickly.

    g. To raise an object above shoulder height, first lift the waist height.

    h. To change direction, turn the entire body, including the feet. DO NOT twist your body at the waist while lifting.

    i. Do not carry an object that is too big to see over or around.

    j. For objects that are too large or bulky to be carried by one person, use proper moving equipment or GET HELP.

General Requirements

1. Before manual lifting is performed, a hazard assessment must be completed. The assessment must consider size, bulk, and weight of the object(s), if mechanical lifting equipment is required, if two-man lift is required, whether vision is obscured while carrying and the walking surface and path where the object is to be carried.

2. Training on proper lifting techniques shall be provided. The intent is to avoid musculoskeletal injuries. Training must include general principles of ergonomics, recognition of hazards and injuries, procedures for reporting hazardous conditions, and methods and procedures for early reporting of injuries. Additionally, job specific training shall be given on safe lifting and work practices, hazards, and controls.

3. Any injury caused by improper lifting shall be investigated. Investigation findings shall be incorporated into work procedures to avoid future injuries. Musculoskeletal injuries caused by improper lifting must be investigated and documented.

4. Where use of lifting equipment is impractical or not possible, two man lifts must be used.

5. Site supervision must periodically evaluate work areas and employees' work techniques to assess the potential for and prevention of injuries. New operations shall be evaluated to engineer out hazards before work processes are implemented.

6. Manual lifting equipment such as dollies, hand trucks, lift-assist devices, jacks, carts, hoists must be provided for employees. Other engineering controls such as conveyors, lift tables, and work station design should be considered.

7. Use of provided manual lifting equipment by employees must be enforced by site supervisors.

LOADING AND HAULING EQUIPMENT

1. All loads hauled on vehicles MUST be securely tied down with approved rope, straps or chains.

2. Under no circumstances shall a load be hauled with out proper tie downs.

3. When loading a flat bed place load as far forward as possible preferably against a stationary object such as a head ache rack. When this is not feasible place the load centered over the rear axle.

4. Before hauling a load make a quick walk around the vehicle to assure all tool boxes are closed and that the load is secure.

5. When hauling a load check to be sure the load stays secure while under way. It's a good idea to pull over and re-tighten your load periodically.

6. It's the driver's responsibility to assure that the vehicle is rated for the weight that is carried on it.

DRAFT

OFFICE SAFETY RULES

Many people have the misconception that office work is not hazardous and consider office injuries inconsequential. The listed precautions, along with each individual's safe behavior, can serve as a basis for an effective office safety program and the prevention of unsafe acts and conditions.

A. Examples of Office Incidents

- Falls from chairs
- Slips, trips and falls on the same level or from elevations
- Lifting or moving heavy or bulky objects
- Repetitive or awkward movements (ergonomics)
- Falling objects or encounters with fixed or moving objects
- Pinches, mashes or abrasions
- Eye strain or muscle aches

B. Precautions

1. Safety meetings should be held at regular intervals by office supervisors.
2. Office personnel going to field locations should be aware of the training and personal protective equipment that will be required for their visit. Ensure you bring the equipment with you, or make arrangements for the field to furnish the equipment before you arrive.
3. Be familiar with the location of the fire alarm pull station nearest to your work station.
4. Become familiar with emergency procedures and know the appropriate evacuation route for your work station. Evacuation routes for each floor and building area are clearly marked. Personnel are responsible for visitor orientation and evacuation.
5. Properly position a chair before sitting down, and once seated, keep at least one foot and all chair legs on the floor at all times.
6. Keep all passageways, entryways, aisles, storerooms, service rooms and work areas clean, orderly, sanitary and well maintained, with no obstructions.

7. Aisles and hallways shall provide unobstructed movement and immediate access to emergency exits and to fire protection equipment.

8. Safely stack materials and boxes to avoid creating a hazard.

9. File drawers and desk drawers should not be left open. Do not overload top drawers so that files tip over. Secure file cabinets and bookcases as appropriate. Keep heavy files in lower drawers.

10. Do not open a file drawer if someone is working underneath.

11. Each work station should be arranged to meet specific individual needs. Select the proper chair, adjust the chair height, organize the desk, position the video display terminal (VDT) screen, and position the keyboard to suit the individual.

12. When working at a VDT or PC for long hours, periodically change position, stand up, or stretch to relieve muscle tension and eye strain.

13. Lighting should be installed or positioned to minimize direct or reflected glare or harsh shadows and to counteract potential stress and eye fatigue in VDT users.

14. Use of extension cords should be minimized and arranged to avoid tripping hazards and electrical overload.

15. Do not pull an electrical cord to shut off power to any equipment.

16. Disconnect (unplug) the power source before trying to remove jammed materials from a machine.

17. Installation or repair of any electrical equipment shall be done by qualified workers using only approved materials.

18. Office machines with moving parts, high temperature hazards, and electrical shock potential shall not be operated without proper safeguards in place.

19. Keep flammable or combustible material and residue in a building or operating area to a minimum. Stored in metal safety cans or storage cabinets which meet Underwriter's Laboratories, Inc. or Factory Mutual approval.

20. Keep food, drink and excessive combustible materials away from electrical equipment, computers, work stations or PC's. Damage to circuitry or destructive fires may result.

21. Secure paper cutter blades in the down position when not in use.

22. Store Xacto knives, thumb tacks and other sharp objects in proper containers or with the blades and points covered or shielded. Secure sharp edges before disposing of these items.

23. Do not scoot across the floor while sitting in a chair and do not lean sideways from a chair to pick up an object.

24. Use only stools or step ladders to reach materials stored above eye level. Rolling stools and ladders should be equipped with brakes that operate automatically when weight is applied. Chairs are unacceptable to use as climbing devices.

25. When moving equipment, furniture, or boxes, use proper carts, dollies or trucks.

DRAFT

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE) is among the most obvious forms of controlling incidents in the work place. Each person employed at the Company shall be made available the proper PPE for the task at hand. It is the employee's responsibility to then follow proper maintenance, and replacement procedures to ensure paramount protection during their course of employment. There are no excuses for not donning the proper PPE. When in doubt an employee should consult a Supervisor, Safety Representative, or simply look up requirements on a safety data sheet.

PPE shall be provided, used and maintained in a sanitary and reliable condition. PPE hazard assessments shall be via appropriate Job Safety Analysis (JSA) and/or applicable safe work procedures. It is essential that each employee is properly fitted to the PPE selected. Defective or damaged PPE shall NOT be used. Employee owned equipment shall be maintained in accordance with the provisions outlined below:

EYE and FACE PROTECTION

1. ANSI Z 87.1 approved, safety glasses with side shields are required on all job sites by all personnel.

2. Full face shields in combination with ANSI approved safety glasses are required when engaging in any activity that includes hazards to the unprotected face and eyes from chipped or flying particles. Some examples are chipping, scraping, buffing, grinding, etc.

3. Contact lenses should not be worn on job sites where there is a risk of liquid spray from hydrocarbons, chemicals, acid, caustics, or any liquid substances that can burn, or be corrosive to the eye. Wearers of contact lenses must inform their supervisors and co-workers that they wear the lenses so that the proper emergency treatment can be given if necessary.

4. Splash proof goggles are required when handling hazardous chemical liquids, powders, or vapors. Goggles are also required when an individual is in the immediate vicinity of these chemicals.

5. Beards that constitute a hazard while a person is near moving machinery or rotating tools are not permitted.

FOOT PROTECTION

1. ASTM Rated F2413-05 M I/75 C75 approved steel toe boots must be worn on all job sites.

2. Hobnailed boots, or boots with protruding nails or metal taps are PROHIBITED.

3. Non-slip soles that are oil resistant are recommended.

4. Lace up boots are highly preferred to slip on type, due to the increased ankle support.

HAND PROTECTION

1. Heavy leather gloves shall be worn any time an employee is using an abrasive grinder.

2. Leather or leather palm gloves should be worn when wire rope is being handled.

3. Chemical resistant gloves must be worn when acids, solvents, caustic soda, and soda ash are handled.

4. Insulated gloves must be worn when regular work gloves cannot adequately protect against burns.

HEAD PROTECTION

1. Hardhats must meet ANSI-Z89.1, type I or Type II, specifications.

2. Hard hats must be worn by all employees on all job sites. No exceptions!

3. They must be worn in the appropriate manner. Not Backwards!

4. Metal hard hats are not allowed under any circumstances.

5. Long hair enough to constitute a hazard while a person is working near moving machinery or rotating tools and equipment must be secured by a net or tied back. Hair styles that make it impossible for a person to properly wear a hard hat are NOT PERMITTED.

BODY PROTECTION

1. Nomex (fire proof) coveralls may be required inside any gas plant or receiving facility.

2. The wearing of jewelry such as rings, watchbands or neck chains on the job is discouraged because it can cause or contribute to accidents and injury.

3. Loose clothing is strictly prohibited. This includes neck ties, over sized jackets, and baggy clothes.

4. In the event an employee's clothing becomes saturated with oil, gasoline, or other chemicals the employee should immediately wash the exposed skin area with soap and water and change clothes to prevent skin irritation and risk of combustion.

HEARING PROTECTION

1. Noise levels above 90 dBA require hearing protection. If a person has to speak up to be heard then hearing protection will be required.

2. Appropriate hearing protection is provided by the Company and must be worn by all personnel in areas where signs are posted warning of excessive noise levels. Hearing protection must also be worn in areas that are not posted, but suspected of temporary excessive noise, such as where jack hammering or sand blasting are taking place.
3. Refer to Hearing Conservation Program section for additional information regarding hearing protection.

RESPIRATORY PROTECTION

1. When appropriate engineering, or operational controls are not practical to limit harmful exposure to air borne contaminants, a MSHA or NIOSH approved respirator must be worn by employees.
2. Refer to Respiratory Protection Program section for additional information on Respiratory Protection.

TRAINING

When PPE is necessary for work assignment training will be provided. Appropriate training will cover:

- What PPE is necessary;
- How to properly don, doff, adjust & wear PPE;
- The limitations of PPE;
- The proper care, maintenance, useful life & disposal of PPE.

Retraining is required when the workplace changes, making the earlier training obsolete; the type of PPE changes; or when the employee demonstrates lack of use, improper use, or insufficient skill or understanding. Certification records must include the employee name, the dates of training, and the certification subject.

HAZARD ASSESSMENT AND EQUIPMENT SELECTION

The Company shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the Company shall:

- Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;
- Communicate selection decisions to each affected employee; and,
- Select PPE that properly fits each affected employee.

The Company shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.

DEFECTIVE AND DAMAGED EQUIPMENT

Defective or damaged personal protective equipment shall not be used. Any damaged or defective PPE shall be removed from service and properly disposed.

PPE HAZARD ASSESMENT RESPONSIBILITIES

It is a management responsibility to identify the need for, and to provide personal protective equipment for the work force. OSHA requires formal analysis and definition of such equipment, as well as training on how to use, and when and where such equipment is required.

In order to meet these requirements, and in order to maintain a safe working environment, it will be necessary for all supervisors and managers to analyze the potential job hazards within their area.

Each job must be evaluated for Personal Protective Equipment needs. The following table shall be used to evaluate core tasks within the Company. Contact the Company Safety Representative to evaluate PPE needs for tasks not found on the assessment form.

PPE HAZARD ASSESSMENT

Tasks, Job Classification or Workstation	Potential Hazard	Type of PPE Required
Arc Welding or Cutting	Electric shock, metal sparks, molten and hot metal, UV, IR, arc visible light, falling, dropping, rolling and sharp objects.	Insulated/heat and puncture resistant gloves, steel toed boots, hard hat, safety glasses, welding shield or helmet with appropriate eye shade.
General Mechanical	Flying particles, falling, falling objects, cuts/puncture, lifting/carrying, noise	Safety glasses, steel toed boots, hard hat, cut/puncture resistant gloves, fall protection when working at elevations. Appropriate respirator. When using high speed power tools, a face shield.
Metal Grinding	Flying particles, falling, falling objects, cuts/punctures, lifting/carrying	Safety glasses, steel toed boots, hard hat, cut/puncture resistant gloves, fall protection when working at elevations. When using high speed power tools, a face shield.
General Maintenance Work	Rough surfaced materials, lifting/carrying	Cut/puncture resistant gloves, safety glasses, steel toed boots.
Welder Helper	Flying particles, falling, falling objects, cuts/puncture, lifting/carrying, noise	Safety glasses, steel toed boots, hard hat, cut/puncture resistant gloves, fall protection when working at elevations. When using high speed power tools, a face shield.
Painting Work	Flying particles, falling, falling objects, cuts/puncture, respiratory hazards, lifting/carrying, cleaning solvents	Safety glasses, steel toed boots, hard hat, cut/puncture resistant gloves, fall protection when working at elevations. Appropriate respirator. When using high speed power tools, a face shield.
Working with chemicals (corrosives, solvents, toxics, etc.)	Refer to chemical specific MSDS for health and physical hazards.	Safety glasses, goggles for splash hazard Light chemical resistant gloves Lab coat, closed shoe, pants Use PPE for applicable tasks as identified on the specific MSDS.
Working with small volumes of human blood, body fluids or other potentially infectious materials (OPIM) as defined in the Bloodborne Pathogen Exposure Control Plan	Potentially infected with infectious disease (BBP) Potential spread of infectious disease	Safety glasses, disposable nitrile gloves, closed shoe, pants.

The Company Safety Representative will assess the workplace to determine if hazards are present or likely to be present which requires the use of Personal Protective Equipment (PPE). If hazards are present or likely to be present, the you must:

- Select the type of PPE that will protect the employee
- Require the employee to use the PPE
- Communicate selection decisions to each affected employee

The Company Safety Representative shall verify the hazard assessment has been performed through a written certification. The certification shall:

- Identify the workplace where assessment was performed.
- Name the person certifying that the assessment was performed.
- Give the date(s) that the hazard assessment was performed.
- Be identifiable as a document of certification of hazard assessment.

Assure that defective or damaged PPE not be used.

The Company Safety Representative will provide training to each employee who is required by this section to use PPE. Each employee shall be trained to know at least the following:

- When PPE is necessary;
- What PPE is necessary;
- How to put on, take off, adjust, and wear PPE;
- Limitations of PPE; and
- Proper care, maintenance, useful life, and disposal of the PPE.

Before being allowed to perform work that requires the use of PPE, each employee shall;

- Demonstrate an understanding of training provided;
- Demonstrate ability to properly use PPE.

When the anyone has reason to believe that an employee does not understand the training or possess the skill required to wear the PPE the employer shall retrain the employee. Other circumstances where retraining is required include, but not limited to:

- Changes in the workplace that render previous training obsolete.
- Changes in PPE that render previous training obsolete.
- Employee does not retain understanding or skill to use PPE.

The site supervisor shall verify that each affected employee receives and understands the required training. The verification shall:

- Be a written certification.
- Show the name of the employee trained.
- Show the date(s) of training.
- Identify the subject of certification.

The hazard assessment must indicate a determination if hazards are present or are likely to be present, which necessitate the use of PPE. Documentation of assessments and certifier's name, signature, date(s) & identification shall be on each JSA. documents

General Requirements

1. Each employee who may need to wear PPE shall be properly trained. Proper training includes at least, when PPE is necessary, what PPE is necessary, how to properly don, doff, adjust & wear PPE, the limitations of PPE, the proper care, maintenance, useful life and disposal of PPE.

2. Retraining will be conducted when the workplace changes making the earlier training obsolete, the type of PPE changes or when the employee demonstrates lack of use, improper use, or insufficient skill or understanding. Retraining of the employee is required when the workplace changes, making the earlier training obsolete, the type of PPE changes or when the employee demonstrates lack of use, improper use, or insufficient skill or understanding.

3. PPE training must be documented. The certification must include the employee name, the dates of training, and the certification subject.

4. Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

5. If employees provide their own PPE, the Company shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment. If used, it must be adequate for use, inspected, maintained, and kept sanitary as per Company policy

6. A written hazard assessment must be performed and signed. The hazard assessment must indicate a determination if hazards are present or are likely to be present, which necessitate the use of PPE. Certifier's name, signature, date(s) and identification of assessment documents

7. Selected PPE must be fitted to each affected employee. Fitting must include proper donning, doffing, cleaning, and maintenance.

8. Defective or damaged PPE shall not be used

DRAFT

PUBLIC PROTECTION

1. No visitors are allowed onto any job sites without expressed permission from Company management.

2. No visitors shall be allowed on to any job site without proper personal protective equipment, i.e., hard hat, safety glasses, steel toed boots.

3. Warning signs, barriers or devices shall be placed where necessary to provide adequate warning of hazards to the public.

4. Heavy equipment and tools will be secured when company personnel are not present.

5. Job sites will be left clean and free of obvious hazards to the public prior to the end of each shift.

DRAFT

RADIATION

Radiation from X-rays is one of the most over looked safety hazards in the industry. If an employee is too close to the source of radiation at the time a radiographer snaps a shot it can cause severe burns, gang green and death. Know what the radiation warning sign looks like.

1. Only qualified radiographers shall be allowed to operate X-ray equipment. Company personnel are strictly prohibited from operating, or handling any X-ray equipment.

2. Employees shall not expose themselves to radiation from X-rays. A competent radiographer shall calculate a safe distant perimeter from the source of radiation. The safe distance perimeter shall be roped off and with radiation warning signs posted. Radiation warning cones may replace the need for rope if appropriate measures have been taken to warn other workers of the radiation hazard.

3. No employee shall place any part of their body inside the safe distance perimeter designated by the radiographer. Violating the safe distance perimeter is against the law and grounds for dismissal. An exception to this safety rule is allowed when a radiographer sets up in a position where it is not feasible for an employee to pass by with out crossing through the safe distance perimeter. In this case, if it is not feasible for the radiographer to adjust his equipment to allow safe access. The employee MUST, from outside the perimeter, ask the radiographer if it is safe to pass through the boundaries.

4. If conditions require an employee to work within a close proximity of any active radiation source, then the Safety Manager MUST be notified prior to commencing work and appropriate radiation surveillance methods shall be instrumented. Employees may be required to wear radiation detection badges.

RIGGING EQUIPMENT

1. Rigging equipment shall be inspected to ensure it is safe. Rigging equipment for material handling shall be inspected prior to use and on each shift and as necessary during its use to ensure that it is safe.

2. Defective equipment shall not be used and removed from service immediately.

3. Rigging equipment shall not be loaded beyond its recommended safe working load and load identification shall be attached to the rigging.

4. Rigging equipment not in use shall be removed from the immediate work area so as not to present a hazard to employees.

5. Tag lines shall be used unless their use creates an unsafe condition.

6. Latches will be in place on all hooks, eliminating the hook throat opening. Hooks on overhaul ball assemblies, lower load blocks, or other attachment assemblies shall be of a type that can be closed and locked, eliminating the hook throat opening. Alternatively, an alloy anchor type shackle with a bolt, nut and retaining pin may be used

7. No employee will be allowed under a suspended load All employees shall be kept clear of loads about to be lifted and of suspended loads.

8. Know the safe carrying capacity of sling chains, wire rope and other lifting apparatus and do not overload them.

9. Immediately discard defective lifting equipment.

10. Do not tie knots in sling chains, rope slings or wire cables to shorten them.

11. Do not place bolts or other material between links of chain to shorten or splice it.

12. Do not exceed the hoist load rating and check the general condition before using the hoist.

13. Do not use rope for rigging or lifting loads except where it is impractical to use other methods.

14. Modify lifting equipment only after Engineering approval.

15. Use stingers on load and whip lines to prevent the block and headache ball from swinging into the rigger.

SANITATION REQUIREMENTS

1. An adequate supply of portable water shall be provided in all places of employment.

2. Portable containers used to dispense drinking water shall be capable of being tightly closed, and equipped with a top. Water shall not be dipped from containers.

3. Drinking cups shall be provided.

4. Outlets for non-potable water shall be identified by signs to indicate clearly that the water is unsafe to drink.

5. Washing facilities will be provided in near proximity to the work site to enable employees to remove substances, such as, paints, coatings and herbicides.

6. Toilets shall be provided for employees as follows:

Number of Employees	Number of Facilities
20 or less	1
20 or more	1 toilet seat, 1 urinal per 40 Workers
200 or more	1 toilet seat, 1 urinal per 50 Workers

Toilet facility requirements do not apply to mobile crews where a rest room is within a short drive from the location.

DRAFT

SCAFFOLDING AND PLATFORMS

Employees required to perform work while on a scaffolding shall be trained by a person "qualified" in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. Qualified training personnel shall be from a pre-approved vendor, i.e. Rolls Scaffolding, or equivalently experienced.

Appropriate training shall include the following areas, as applicable:

1. The nature of any electrical hazards, fall hazards and falling object hazards in the work area;
2. The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used;
3. The proper use of the scaffold, and the proper handling of materials on the scaffold;
4. The maximum intended load and the load-carrying capacities of the scaffolds used; and
5. Any other pertinent requirements of the Construction Industry Scaffold Standard, 29 CFR 1926 subpart L and General Duty Scaffolding Standard, 29 CFR 1910.28.

Employees who are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold shall also be trained by a "competent person" to recognize any hazards associated with the work in question. The training shall include the following topics, as applicable:

1. The nature of scaffold hazards;
2. The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question;
3. The design criteria, maximum intended load-carrying capacity and intended use of the scaffold;
4. Any other pertinent requirements of the Construction Industry Scaffold Standard, 29 CFR 1926 subpart L and General Duty Scaffolding Standard, 29 CFR 1910.28.

GENERAL REQUIREMENTS (State specific)

1. The design load of all scaffolds shall be calculated on the basis of:

   - Light--Designed and constructed to carry a working load of 25 pounds per square foot.
   - Medium--Designed and constructed to carry a working load of 50 pounds per square foot.
   - Heavy--Designed and constructed to carry a working load of 75 pounds per square foot.

2. The maximum work level height shall not exceed 3 times the least base dimension below the platform. Where the basic mobile unit does not meet this requirement, outrigger frames shall be employed to achieve this least base dimension, or provisions shall be made to guy or brace the unit against tipping.

3. All scaffold work levels 6 feet or higher above the ground or floor shall have a toe board at locations where persons are required to work or pass under the scaffold. (See Section 3210.)

4. All scaffold work levels 30 inches or higher above the ground or floor shall have guardrail protection that meets the requirements of Section 3209 and 3210.

5. Wheels or casters shall be properly designed for strength and dimensions to support 4 times the design working load. All scaffold wheels, casters and swivels shall be provided with a positive locking device, or other effective means to prevent movement of the scaffold.

6. Where leveling of the elevated work platform is required, screw jacks or other similar means for adjusting the height shall be provided in the base section of each mobile unit. The screw jack shall extend into its leg tube at least 1/3 its length, but in but in no case shall the exposed portion of the screw jack exceed 12 inches.

GENERAL REQUIREMENTS

1. Training shall be provided to all employees regarding hazards by "qualified" persons in the subject matter of scaffolding.

2. Scaffolding training program must include hazards (fall, electrical, falling objects), fall protection, use and load capacity.

3. Anytime the company has reason to believe that an employee lacks the skill or understanding needed for safe work involving scaffolding employees shall be retrained. Retraining is required: where changes at the worksite present a hazard about which an employee has not been previously trained; or where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been previously trained; or where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

4. Scaffold inspections must be conducted by a competent person prior to use and periodically throughout the shift. Competent person must ensure scaffolds are safe prior to and during use,

5. Tags must be used when defective equipment or unsafe conditions are found. Unsafe equipment or conditions must be tagged out by Competent Person, and must be complied with.

6. Appropriate scaffolding inspections shall be performed by "competent persons" prior to, and during, each use.

7. Modifications of scaffolding equipment shall only be performed by qualified "competent persons" because non-qualified personnel may create additional hazards. Violations of this policy will result in disciplinary action up to and including termination.

8. Defective equipment shall be tagged "Danger Do Not Operate" (refer to appendix).

9. All scaffolding must be secure prior to utilization. Rolling towers must have the wheel brakes set.

10. Under no circumstances shall a rolling tower be moved with a worker on top of the scaffolding.

11. All work areas shall have a means of safe access and egress.

12. All platforms, suspended scaffolding or rolling towers shall be properly designed for the intended use.

13. Standard guardrails must be installed on all scaffolding or platforms six feet or higher above the ground. Top rails should be 42 inches high and a mid rail must be installed.

14. Toe boards 4 inches high shall be installed on all scaffolds, elevated platforms, and wall openings six feet above the ground.

DRAFT

APPENDIX

SAMPLE "DANGER" TAG

SLIPS, TRIPS AND FALLS

Slips, trips, and falls are a major contributor to injuries and lost time accidents. Be careful and observe the following rules.

1. The following situations should be avoided to help prevent slipping:

    A. wet floors/decks
    B. oily floors/decks
    C. highly waxed and polished floors

2. Remove any spilled liquid from the floor immediately.

3. Good traction helps prevent slipping. The soles of some boots may increase the chance of slipping; therefore, wear boots that provide good traction.

4. When exerting extreme force on wrenches, make sure that your footing is stable in case the wrench slips or releases quickly.

5. Good housekeeping helps prevent tripping.

6. In addition to tools used in day-to-day operations, many items can cause tripping. Be alert for tripping hazards such as garden hoses, shovels, rakes, concrete bumpers in parking lots, uneven grating in catwalks, extension cords, loose shoe laces, etc. Take action to prevent tripping hazards where possible.

7. Every opening in a deck, a floor, or the ground, and pits which a person could accidentally step into should be constantly attended, protected by barricades or standard railings, or roped off before any grating or boards are removed, or before any holes are opened.

8. Employees MUST wear safety harness when working four feet or more above the ground, unless other adequate protection against falling is provided.

9. Safety climbs that are installed on ladders attached to vessels or other equipment MUST be used. Safety climbs have safety harness attachments that allow personnel to climb without detaching their safety belts after each step.

10. Tools, equipment, and materials MUST NOT be left on walkways or stairs.

TOOLS (HAND, POWER, AND PNEUMATIC)

1. All hand and power tools shall be maintained in a safe condition.

2. Guards shall be in place and operable at all times while the tool is in use. The guard may not be manipulated in such way that will comprise its integrity or compromise the protection in which intended. Guarding shall meet the requirements set forth in ANSI B15.1. Never remove safety guards from power tools.

3. Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dust, fumes, mists vapors, or gases shall be provided with particular PPE, necessary to protect them from the hazard.

4. Any tool which is not in compliance with any applicable requirement of this part is prohibited. Such tool shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.

5. Pneumatic power tools shall be secured to the air hose either by an approved quick connect fitting or by Chicago fittings with safety clips.

6. Before servicing any power tool, such as changing drill bits, saw blades, or grinding wheels, you must unplug the tool first.

7. NEVER plug in a wheel grinder or wire brush without first making sure the power switch is in the "off" position.

8. All tools and equipment shall be maintained in good condition.

9. Damaged tools or equipment shall be removed from service and tagged "DEFECTIVE."

10. Pipe or Stillson wrenches shall not be used as a substitute for other wrenches.

11. Only appropriate tools shall be used for the job.

12. Files shall be equipped with handles and not used to punch or pry.

13. A screwdriver shall not be used as a chisel.

14. Wheelbarrows shall not be pushed with handles in an upright position.

15. Portable electric tools shall not be lifted or lowered by means of the power cord. Ropes shall be used.

16. Opening, closing, or tampering with any valve on the job site, without management approval, is strictly prohibited.

17. Boards must not be thrown or left around with nails protruding. The nails should be removed or bent down.

18. The following situations should be avoided to help prevent slipping: wet, oily, or highly waxed floors.

19. Electric cords shall not be exposed to damage from vehicles driving over them.

20. In locations where the use of a portable power tool is difficult, the tool shall be supported by means of a rope or similar support of adequate strength.

DRAFT

MARINE PORTABLE TANKS (MPT)s

PURPOSE

This policy contains rules concerning transfer of combustible liquids, certain flammable liquids, and other hazardous materials to or from Marine Portable Tanks (MPT)s. The purpose of this policy is to standardize the steps utilized when loading and unloading MPTs. The goal is to significantly reduce the likelihood of an incident while making transfers.

OVERVIEW

An MPT may contain substances or material that could adversely affect the safety of the public, handlers or transporters. The specific hazardous materials that may be present in a MPT include:

- Flammable Liquids
- Flammable Gas
- Corrosive liquid
- Toxic Material
- Any other substance that meets the definition of hazardous material.

Hazardous materials authorized for transfer to and from portable tanks include:

- Acetone
- Alcohols
- Benzene
- Gasoline
- Hydrocarbon Mixtures
- Hydrochloric acid Mixtures

It is not uncommon to find additional hazards such as detectible levels of radioactivity and hydrogen sulfide in these tanks.

GENERAL

1. No person may smoke within 50 feet of any portable tank on site.

2. No person may stow a portable tank in the vicinity of another tank that contains a chemically incompatible product.

3. No person may store a portable tank near (within 50 feet) of live electrical devices, unless all electrical equipment is explosion-proof or intrinsically safe.

4. No person may transfer a hazardous material to or from a portable tank, unless the tank has been properly grounded via a separate grounding wire until the transfer hose is drained and disconnected.

5. No person may operate a cargo pump to transfer a product to or from a portable tank unless the pump is electrically grounded.

6. No welding, burning, or other hot work is allowed within the vicinity of a portable tank unless approved by the site supervisor. And, only upon strict adherence to the company hot work procedure.

7. No person may transfer a product to or from a portable tank unless:
   - Transfer hoses are long enough to not allow strain on the hose, or transfer piping system.
   - Each transfer hose is supported in a manner that prevents strain on its coupling;
   - Each transfer hose has no loose covers, kinks, bulges, soft spots, and no gouges, cuts, or slashes that penetrate the hose reinforcement;
   - Each coupling is maintained in accordance with manufacturer's requirements.
   - Each drain in a discharge containment system is closed;
   - The person in charge of the transfer operations, and all personnel involved in the transfer operations hold a conference, to discuss the specific safety precautions (fire protection, spill clean up, ect..) to be taken prior to transfer.

8. Each person who makes a connection for a transfer operation shall:
   - Use suitable material in joints and couplings to make a tight seal;
   - Use a bolt in at least every other hole and in no case less than four bolts in each temporary connection utilizing an American National Standards Institute (ANSI) standard flange coupling;
   - Use a bolt in each hole of couplings other than ANSI standard flange couplings;
   - Use a bolt in each hole of each permanently connected flange coupling;
   - Use bolts of the same size in each bolted coupling; and
   - Tighten each bolt and nut uniformly to distribute the load.
   - No person may pipe a portable tank with another tank that contains a chemically incompatible product.

9. Warning signs shall be posted within the vicinity of transfer operation which contain letters 2 inches in height or larger and read:

10. Solid, liquid or waste materials must never be placed in a portable tote.

WARNING
No open lights
No smoking

MPT TRANSFER PROCEDURE

1) Verify Chain of Custody

Prior to accepting an MPT for transfer, review the "*Chain of Custody*" form to ensure the product you are receiving is acceptable for your location. Do not accept a load with out proper documentation.

Consult with the driver and review the "*Chain of Custody*" form to ensure you are aware of the proper personal protective equipment (PPE) requirements. Do not unload a tank without proper PPE.

If the hazardous contents of an MPT are unknown you must assume the product is immediately dangerous to life and health (IDLH). Special precautions must be taken if the contents are unknown. It may require the use of supplied air and an increased level of face and skin protection.

While donning the appropriate PPE, pull a vapor test at an inspection point on the tank utilizing an approved monitor. At a minimum, the load should be tested for Oxygen content, Lower Explosive Levels and Hydrogen Sulfide. Other tests may be warranted given conditions.

2) Verify Fire Protection

Prior to making a transfer ensure adequate fire extinguisher and /or charged fire hose is at the site. Two fire protection devices must be immediately available prior to transfer. Fire hoses, must be fitted with approved fire nozzles. Fire extinguishers of a dry chemical type must be "purple K" or equivalent rated for ABC.

3) Utilize Grounding and Bonding Techniques

The complete transfer system must be suitably grounded so that there is a continuous conductive path from the MPT through the hose and nozzle to the discharge tank, or source container. Bonds and grounds shall not be removed until all transfer operations are completed and hoses, nozzles, ect.., are disconnected.

The MPT must be bonded, with a bonding cable and connected from the MPT to the receiving container. This will reduce the likelihood of a spark being created in the vicinity of flammable vapors when the suction, or discharge, nozzles are removed.

4) Make the Transfer

Make the transfer, only after all personnel involved in the transfer operations hold a conference, to discuss the specific safety precautions (fire protection, spill clean up, ect..) to be taken prior to transfer.

5) Completing the Transfer

- Upon completing the transfer flush and remove all transfer hoses and associated equipment.
- Remove all grounding rods and bonding wires.
- Close all open or exposed openings in the tanks and piping.

DRAFT

TABLE OF CONTENTS

I. PURPOSE 2
II. SCOPE 2
III. REFERENCE 2
IV. DEFINITIONS 2
V. GENERAL REQUIREMENTS 3
VI. PRE-ENTRY PROCEDURE 6
VII. ENTRY PROCEDURE 7
VIII. RESTORATION OF VESSEL OR CONFINED SPACE 8
IX. CONTRACTOR PERMIT CONFINED SPACE ENTRY 8
X. CLASSIFICATION OF A NON-PERMIT CONFINED SPACE 9
XI. TRAINING 9

APPENDIX A

CONFINED SPACE ENTRY PERMIT INSTRUCTIONS (Completing the Form)
CONFINED SPACE ENTRY PERMIT

DRAFT

CONFINED SPACE ENTRY PROCEDURE

I. PURPOSE

This standard establishes procedures necessary for preparation, entry and restoration of a confined space to be entered by personnel. It is designed to maintain a safe environment for personnel working in a confined space.

II. SCOPE

This standard applies to any vessel, confined space or excavation greater than four (4) feet deep and to any vessel, or confined space that is large enough to be entered bodily and has one or more of the following characteristics: has a limited or restricted openings for entry and exit, contains or has potential to contain a hazardous atmosphere, is not intended for continuous occupation, has insufficient natural ventilation, and may contain known or potential hazards.

III. REFERENCE

TITLE 8 CCR, subsection 5157, *Permit-Required Confined Space*
29 CFR 1910.146, *Permit-Required Confined Spaces*

IV. DEFINITIONS

Acceptable Entry Conditions: Are the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

Attendant: An individual stationed outside a permit space who is to monitor the authorized entrant(s), permit space and surrounding area. Responsibilities include, but or not limited to, knowing the hazards that may be encountered during entry, remaining outside the permit space during entry operations, maintaining adequate communication with the entrant(s), monitoring the permit space and insuring that unauthorized personnel stay out of the area. If conditions warrant, the Attendant must order the entrants to evacuate the confined space and may be required to summon rescue or emergency services to the scene.

Authorized Entrant: An employee authorized by the employer to enter a permit space. An Authorized Entrant must know the hazards that may exist during entry, the proper use of personal protective equipment (PPE), and proper communication procedures. In addition, an Authorized Entrant must recognize unsafe conditions that may arise in a confined space and be able to follow through with associated evacuation procedures in the event of an emergency.

Confined Space: A Confined Space is a space that: 1) Is large enough and so configured that an employee can bodily enter and perform assigned work: and, 2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits), and 3) Is not designed for continuous employee occupancy.

Entry: The action by which a person passes through an opening into a permit required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrants body breaks the plane of an opening into the space.

Entry Supervisor: The person responsible for determining if acceptable entry conditions are met prior to allowing entry into the confined space. The Entry Supervisor will authorize and oversee operations, terminate entry as required, and conduct a pre- entry safety briefing.

Non-Permit Confined Space: A space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazards capable of causing death or serious physical harm.

Permit Required Confined Space: A confined space that has one or more of the following:

- Contains a hazardous atmosphere (or has potential to contain one).
- Contains a material that has potential for engulfing an entrant.
- Has an internal configuration in which an entrant could be trapped or asphyxiated.
- Contains any other recognized serious safety or health hazard.

Rescue Person: The person available on site when a permit required confined space is entered by an employee. A Rescue Person shall be trained equivalent to that of an Authorized Entrant. In addition, complete training in confined space rescue, First Aid / CPR, and the use of rescue and personal protective equipment required for the job. Rescue personnel must have PPE and training at no cost and practice rescues at least once every 12 months.

V. GENERAL REQUIREMENTS

1. Each affected employee must be trained prior to initial assignment, prior to a change in assigned duties, if a new hazard has been created or special deviations have occurred.

2. Training certifications shall include employee name, trainer signature/initials, and dates of training. Certifications must be made available to employees and their authorized representative.

3. When performing confined space entry protection must be maintained from external hazards for employees including pedestrians and vehicles. Warning signs such as the one shown below must be posted on any open permit required confined space. Vehicle barriers such as k-rails and/or warning signs, caution tape, cones and delineators must be in place, if vehicles could enter the work area. These barriers are necessary to protect entrants from external hazards and to ensure conditions in the permit space are acceptable for entry during its duration.

4. An attendant must be on duty, as described within the Definitions section of this plan, outside the confined space for the duration of permit entry operations.

5. One or more properly equipped and trained attendant(s) shall be posted outside the space to remain in direct communications with workers inside. The practice of allowing one attendant monitoring more than one permit space is not allowed.

6. Duties of authorized entrants, attendants and entry supervisors are defined within the definitions section of this plan.

7. Rescue services shall be either provided by the host facility, or outside services, and for any IDLH conditions. If provided by the host facility: it must be noted on the confined space permit and safety program and it must be agreed upon by both parties. If outside services are used, outside services must be given an opportunity to examine the entry site, practice rescue, and decline as appropriate. IDLH Conditions require trained rescue on site while work is being performed. Outside services must also be given an opportunity to examine the entry site, practice rescue, and decline as appropriate.

8. All permit required confined space entries shall be in accordance with Confined Space Entry Permit within the appendices of this plan. Means of preparation, issuance, use, and cancellation of entry permits are described within the Appendix A, Confined Space Entry Permit Instructions.

9. When contractors perform work at company facilities that involve a permit required confined space entry, the Company representative inform the contractor of the provisions illustrated within the Contractor Permit Confined Space Entry part of this plan. This section includes procedures for coordinating entry operations for multi employers so that employees of one employer do not endanger the employees of any other employer.

10. Procedures for terminating a confined space entry permit and closing it out after job completion are located within the Restoration of Vessel or Confined Space section.

11. A review of the permit space program will be done using the canceled permits retained within 1 year after each entry. These reviews will be done within 1 year after each entry and the program will be revised as necessary, to ensure that employees are protected. If no entry is performed during a 12-month period, no review is necessary.

12. Upon monitoring of the space the site supervisor must inform the entrants of the potential hazards and results; additionally entrants must participate in the permit review and signing. Ventilation must always be used during a permit required entry and testing must be conducted before entry and during work at intervals specified by the site supervisor.

13. Employees, or their representatives, must be given an opportunity to request the space be re-evaluated as needed.

14. Rescue services must be provided on site during permit required entry. They must be either:

    - Provided by the host facility; or
    - provided by an outside service which is given an opportunity to examine the entry site, practice rescue and decline as appropriate; or
    - Provided by the employer by selecting a rescue team that is equipped and trained to perform the needed rescue services.

15. Rescue service must always be on-site for immediately dangerous to life and health (IDLH) conditions while confined space entry work is being performed.

VI. PRE-ENTRY PROCEDURE

The entry supervisor is responsible for proper preparation of the vessel or permit confined space to be entered. Prior to entry, a pre-entry safety meeting will be conducted by the supervisor with all affected personnel.

In preparation for entry, the checklist on the **Confined Space Entry Permit (attached)** shall be initiated and completed by a qualified person. In addition, the following steps must be adhered to:

- The vessel and confined space must be properly isolated through blinding or disconnection as outlined in the SAFETY STANDARD - Lockout/Tagout and SAFETY STANDARD - Blinding procedure. Every line, including sight glasses, connected to the vessel must be blinded or disconnected as close to the vessel as possible. A sketch or drawing is recommended for identifying lines.

- The vessel must be purged, steamed, washed, etc., as much as necessary to properly free the vessel of all hazardous atmospheres.

- Signs and/or barricades shall be posted outside to notify personnel of permit-required confined space entry and prohibit unauthorized entry.

- Establish ventilation to ensure movement of fresh air in the vessel. Natural ventilation is considered insufficient. Air driven or explosion-proof electric fans are required if flammable gas or vapors are present. An approved breathing air line and escape air cylinder may be used only as an additional precaution for entry after attempts to normalize the atmosphere are complete.

- Fire extinguisher(s) and other fire fighting equipment shall be available where needed.

- Proper personal protective equipment should be available -- coveralls, goggles, gloves, respirators, etc.

- At least one person trained in CPR and first aid must be available on-site, along with a first-aid kit.

- Lighting conditions, temperature, the need for climbing, scaffolding or the presence of water in deep excavations should be considered. All lighting equipment shall be explosion proof (Class 1, Division 1) and have a ground fault circuit interrupter (GFCI) device installed.

- Equipment such as air movers and vacuum truck hoses shall be properly grounded or bonded to prevent static sparks.

- Lifelines, harnesses and other rescue equipment (hoist, etc.) shall be provided for top openings on large vessels, spaces or deep excavations where rescuing workers would be difficult.

- A self-contained breathing apparatus (SCBA - 30 minute rescue type) shall be immediately available outside should rescue be necessary.

- A communication system (electronic, voice, hand signals, etc.) shall be established between workers and standby personnel prior to entry.

- All affected personnel shall be trained in and familiar with their assigned duties, any hazardous materials that may be present in the confined space, rescue equipment, procedures and emergency contacts.

- Outside services which should be summoned in the event of an emergency and the means of communication with those services shall be listed on or attached to the permit.

- A pre-entry briefing shall be held and documented for all personnel involved in permit-confined space entries. All precautions and concerns should be discussed.

- Check the atmosphere for oxygen level (should be 19.5% to 23.5%), combustible vapors (should be 0% LFL/LEL), and toxic gases in this order. Record those results on the permit. Possible toxic gases may include, but are not limited to, hydrogen sulfide, carbon monoxide, carbon dioxide, mercaptan and benzene.

- One or more properly equipped and trained attendant(s) shall be posted outside the space to remain in direct communications with workers inside. The practice of allowing one attendant monitoring more than one permit space is not allowed.

- One trained standby person shall be available at the site and immediately available to perform rescue and emergency services.

When all of the preparation steps on the confined Space Entry Permit are complete and any additional precautions are taken, the permit to enter a space may be then signed and issued.

VII. ENTRY PROCEDURE

- Entry may be made by authorized entrants after preparation requirements have been met and a Confined Space Entry Permit has been signed and issued.

- The attendant must not leave the confined space with someone inside without first ensuring another standby person is present. In addition, the attendant must maintain communication with the entrants.

- Unauthorized personnel shall not be allowed entry, and if the vessel or confined space is left unattended, the signs barricades etc. shall be left in place.

- The atmospheric conditions shall be **RECHECKED** as often as necessary during entry to ensure a safe work environment.

If subsequent repairs require hot work, a separate Hot Work Permit must be issued in accordance with the SAFETY STANDARD - Hot Work Procedure.

VIII. RESTORATION OF VESSEL OR CONFINED SPACE

When all work is complete and the vessel or confined space is ready to be returned to service, this checklist should be used for proper restoration. Additional questions to consider while restoring a confined space include:

- Are all personnel out of the space?
- Are all blinds removed using the blind list?
- Are all equipment and tools removed?
- Are all man-ways and flanges closed and sealed?
- Has the atmosphere been purged and returned to normal?
- Have start-up procedures been reviewed?

IX. CONTRACTOR PERMIT CONFINED SPACE ENTRY

When contractors perform work at company facilities that involve a permit required confined space entry, the Company representative shall notify the contractor of:

- The work which involves a permit confined space entry. The contractor can use their own entry permit as long as it meets the requirements of the Company SAFETY STANDARD - Confined Space Entry Procedure and State and Federal regulations. Utilizing a contractor's permit does not exempt the use of a Company permit.
- The hazards associated with the vessel or confined space.
- The actions required to coordinate Company and the contractors activities in the area where the contractor's employees will be working.

In addition, the contractor will:

- Obtain available information regarding the vessel or confined space hazards from the Company representative before beginning work.
- Coordinate entry with other activities in the area of his operations.

- Inform the Company representative of the vessel or confined space entry program that the contractor will follow.
- Immediately inform the Company representative of any hazard confronted in the vessel or confined space entry.

X. CLASSIFICATION OF A NON-PERMIT CONFINED SPACE

At times a Confined Space may be entered without the need for a written permit provided the space is determined not to be a permit required confined space. All spaces must be considered permit required confined spaces until pre-entry procedures determine otherwise.

If it is necessary to enter a space to eliminate hazards, such entry must be performed under permit required confined space procedures. If testing and inspection during the entry demonstrate that the hazards within the space have been eliminated, and there is no potential for hazards to develop, the space can be reclassified as a non-permit space.

As conditions, use or configuration of a confined space change over time the space can be reclassified from a permit to a non-permit space or vice-versa. This means that sometimes a non-permit space will be reclassified as a permit space because hazards have risen within the space.

The entry supervisor must document the basis for the decision that all hazards have been eliminated. Documentation must contain the date, the location of the space and a signature. The Safe Work permit must be used for this purpose.

XI. TRAINING

The Company shall provide training to all employees whose work is regulated by this program. Each affected employee must be trained prior to initial assignment, prior to a change in assigned duties, if a new hazard has been created or special deviations have occurred. The employer must certify that the required training has been accomplished.
The certification shall include employee name, trainer signature/initials, and dates of training. Certification must be made available to employees & their authorized representative.

APPENDIX A

CONFINED SPACE ENTRY PERMIT INSTRUCTIONS (Completing the Form)

SECTION I WORK

This section of the permit is to be completed by the Permit Initiator/Entry Supervisor and/or Site Supervisor. The effective and expiration date/time must be listed. A permit is not valid beyond the duration of the job scope, or beyond a shift change, whichever is less. All Authorized Entrants, Attendants and Rescue personnel must be listed and a complete description of the proposed task and work location must be identified.

SECTION II HAZARDS/VAPOR TEST

The vapor test portion of this section is to be completed and initialed by a Company employee or contract personnel who is qualified by training to perform the required tests. Tests shall be repeated at sufficient intervals of time to ensure that conditions do not change during the work activities. Sufficient time intervals range from continuous monitoring, while personnel are inside the confined space, to every four hours depending on hazard potential.

SECTION III EMERGENCY

The emergency service section is to be completed by the Site Supervisor, and discussed with all affected parties prior to commencement of work. Appropriate emergency service providers must be identified and means of contacting them in the event of an incident. Rescue personnel must be staged on site during permit entry operations. Additionally, this section will must state the name and phone number of the nearest fire department, hospital and/or ambulance service (medivac if remotely located or offshore).

The type of communication means the Attendant will utilize to signal an emergency evacuation of the confined space shall be provided/listed. If all of the Authorized Entrants will be within plain site of the Attendant, state "Visual Communication".

SECTION IV SITE INSPECTION

This section is to be completed by the Site Supervisor and Entry Supervisor performing the Confined Space Work. The Person's initials indicate that an inspection has been made and that applicable precautions have been taken and will remain in effect until the work listed is completed or until the permit expires.

SECTION V PERSONAL PROTECTIVE EQUIPMENT (PPE)

Appropriate Personal Protective Equipment (PPE) to be used shall be specified in this section. The Site Supervisor must review this section prior to authorizing the work permit.

SECTION VI SIGNATURES

This section requires signatures described below:

1. Permit Initiator/Entry Supervisor -The person to whom the permit is issued shall acknowledge that they understand and will comply with all conditions, precautions and restrictions of the permit by signing their signature to the permit.

2. Authorized Entrant/Attendant/Rescue - All Authorized Entrants, Attendants and Rescue personnel must provide signatures acknowledging precautions will be followed.

3. Simultaneous Operation/Co-Signature - If a simultaneous operation is in effect at one facility, each of the individual Job Supervisors must also sign the co-authorized section. The co-authorized signature ensures all appropriate parties are informed of additional work activities.

4. Site Supervisor - The person responsible for the job site/ location shall authorize the work by signing their signature only after:

   - Ensuring all elements of the "Confined Space Entry Procedure" are followed.
   - Conducting a site inspection (refer to Site Inspection checklist on the Confined Space Entry Permit).
   - Ensuring the atmospheric tests for safe Oxygen content, flammables, and toxics (O_2, LFL/LEL, and H_2S) are performed.
   - Ensuring permit initiator has signed applicable simultaneous work permits, i.e. (Safe Work, Hot Work, Confined Space).
   - Ensuring that the person to whom the permit is issued fully understands the conditions, restrictions, and precautions of the permit.

DISTRIBUTION OF PERMIT

COPY 1 Post with Site Supervisor until work is completed, usually in the control room or office.

COPY 2 Keep on file for a minimum of 5 years.

COPY 3 Post at the Job Site.

CONFINED SPACE ENTRY PERMIT

SECTION I — WORK

Effective_____ Time_____AM/PM Expires_____ Time_____AM/PM

(PERMIT VALID FOR DURATION OF JOB, OR UNTIL SHIFT CHANGE, WHICHEVER IS LESS)

Permit Issued To: _____ Authorized Entrants:

_____ Name Company

_____

Description of Work _____

Attendant: _____

Specific Location _____ No. of Workers_____

Rescue: _____

SECTION II — HAZARDS/ VAPOR TEST

PERMIT SPACE HAZARDS (Indicate specific hazards with initials)

_____ Oxygen Deficiency (less than 19.5%)
_____ Oxygen Enrichment (greater than 23.5%)
_____ Flammable Gases (greater than 10% LFL/LEL)
_____ Toxic Gases/Vapors (H_2S, Benzene, SO_2, etc.)
_____ Mechanical Hazards
_____ Electrical Shock Hazards
_____ Heat Stress Hazards
_____ Slip, Trip and Fall Hazards
_____ Engulfment
_____ Skin Irritants
_____ Other _____

ATMOSPHERIC TESTING RECORD

	Acceptable Range					
Time						
Oxygen	19.5% - 23.5%					
Flammables	0 – 10% LFL/LEL					
H_2S	0 –10 PPM					
Toxic	0 – PEL					

Specify Toxic Gas/Vapor_____ PEL _____

Tester's Initials _____

SECTION III — EMERGENCY

EMERGENCY SERVICE

Name of Service Phone Number Method of Contact

_____

_____

COMMUNICATION PROCEDURES to be used by attendants and entrants:

_____

_____

Rescue service availability **verified** by Entry Supervisor?_____yes_____no

SECTION IV — SITE INSPECTION

INSPECTION ITEMS	Initial Verified	N/A	INSPECTION ITEMS	Initial Verified	N/A
Proposed work has been checked with Site Supervisor/ Operator in Charge			Ventilation equipment is installed, bonded and operating continuously during entry		
Hot work permit required			Applicable MSDS consulted		
ALL energy sources have been locked out and tagged			Rescue winch in place for vertical entries over 5' deep		
Equipment and piping depressurized and vented			Space has been drained, cleaned, or purged as necessary		
Piping has been properly blinded or disconnected / misaligned			Sight gauges have been drained and closed as necessary		
Explosion proof lighting in place			Personnel have had the required confined space training		
Entrants wearing harnesses w / retrieval line attached			Pre-entry safety meeting conducted		

Other Conditions: _____

SECTION V — PPE

☐ Hard Hat
☐ Safety Glasses
☐ Steel Toed Boots
☐ Gloves (cotton, leather, chemical)
☐ Safety Harness/Retrieval Line
☐ Anti-Fall Device
☐ Face Shield
☐ Safety Goggles
☐ Protective Clothing
☐ Rubber Boots
☐ Welder Helper Glasses
☐ Rescue Retrieval Winch (Required for entries over 5' deep)
☐ SCBA / Airline Unit
☐ Cartridge Respirator
☐ Dust Mask
☐ Other _____

SECTION VI — SIGNATURES

We have received instructions on safety procedures and hazards of this job and the permit is complete.

Permit Initiator/Entry Supervisor_____ Attendant _____

Authorized Entrants _____ _____

_____ _____ _____

Simultaneous Operations Co-Signatures _____ _____

_____ _____

Site Supervisor / Designee _____ Rescue _____

Air Test Log

Document air test readings every_____minutes.

Time	O_2 19.5% - 23.5%	LFL 0 – 10%	H_2S 0 – 10 PPM	Other: 0 - PEL	Tester's Initials

TEST EQUIPMENT INFORMATION

Analyzer type:	
Serial Number:	
Calibration Date:	

TABLE OF CONTENTS

I. PURPOSE 2

II. APPLICABILITY 2

III. REFERENCE 2

IV. GENERAL 2

V. RESPONSIBILITIES 2

VI. OPERATORS/OILERS QUALIFICATIONS 2

VII. GENERAL REQUIREMENTS 3

VIII. TRAINING 5

IX. RECORD KEEPING 5

X. CRANE CERTIFICATION AND GUIDELINES 6

XI. PERSONNEL PROTECTIVE EQUIPMENT 7

XII. CRANES SAFETY SUPPLIES 8

XIII. INSPECTIONS 8

XIV. PRE-OPERATIONAL SITE INSPECTION 8

XV. PRE-OPERATIONAL EQUIPMENT WALK AROUND 9

XVI. PRE-START UP CHECK 9

XVII. PERIODIC SCHEDULED INSPECTIONS (MONTHLY, ANNUALLY, 4-YEAR) 10

XVIII. CRANE MAINTENANCE 10

XIX. GENERAL SAFETY RULES FOR CRANES 11

XX. LIFTING OF PERSONNEL CODE OF SAFE PRACTICES 11

XXI. OPERATION GUIDELINES FOR LIFTING PERSONNEL 12

XXII. SLING SAFETY PRACTICES 12

XXIII. POWER LINES 13

I. PURPOSE

To ensure that all cranes, hoists and rigging devices are properly inspected, maintained and operated in accordance with manufacturers' recommendations, federal, state, and local regulations.

II. APPLICABILITY

This policy applies to all company owned cranes. Compliance with this program is mandatory.

III. REFERENCE

29 CFR 1910.184, *Slings*
29 CFR 1910.179, *Overhead and Gantry Cranes*
29 CFR 1926.550, *Cranes and Derricks*
TITLE 8 CCR, subsection 4999, *Handling Loads*
TITLE 8 CCR, subsection 5004, Crane or Derrick Suspended Personnel Platforms
TITLE 8 CCR, subsection 5006.1, *Crane Operator Qualification and Certification*

IV. GENERAL

The Company has the potential to work with cranes capacities ranging from 5 ton to 175 ton and as a part of our hazard assessment has determined the need for a written crane hazard prevention plan in accordance with (29 CFR 1910.*179-. 181).* Crane operation requires careful attention to safety details, as they can be a source of serious injury to operators and to those in the vicinity of the crane.

V. RESPONSIBILITIES

Management: provide support and endorsement

The Safety Representative – program, qualifications of operators/riggers, certifications, records, and safety equipment

Site Supervisors: daily operations - safety inspections, personnel fitness and direction, and safety equipment use

VI. OPERATORS/OILERS QUALIFICATIONS:

Potential crane operator/oilers must meet company and Department of Transportation (DOT) specific guidelines including:

- Physical and mental examination including drug screening prior to assignment.

- Be 21 years of age, speak and read English well enough to converse with the general public, understand and read all traffic signs/signals, read and understand all safety related material, and to make entries on required reports.
- Possess current valid commercial driver's license issued from the State of California.
- Provide a DMV printout of driving record.
- Demonstrate through testing the required knowledge and understanding of crane operations including its characteristics, capabilities, and capacity.
- Pass a written exam.
- Meet all the physical and mental requirements of the job description for crane operator/oiler.

VII. GENERAL REQUIREMENTS

1. Equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction with the use of supporting materials, the equipment manufacturer's specifications for adequate support and degree of level of the equipment are met.

2. The manufacturer's procedures and prohibitions must be complied with when assembling and disassembling equipment.

3. The assembly/disassembly of equipment must be directed by a competent and qualified person.

4. The work zone shall be identified by demarcating boundaries such as flag and range limiting devices, or defining the work zone as 360 degrees around the equipment up to the maximum working radius. The hazard assessment must determine if any part of the equipment could get closer than 20 feet to a power line.

5. If it is determined that any part of the equipment, load line or load could get closer than 20 feet to a power line then at least one of the following measures must be taken:

    - Ensure the power lines have been deenergized and visibly grounded.
    - Ensure no part of the equipment, load line or load gets closer than 10 feet to the power line.
    - Determine the line's voltage and minimum approach distance permitted in Table A (page 14)

6. A competent person must conduct a visual inspection of equipment prior to each shift. The inspection must consist of observation for apparent deficiencies. Some inspection items shall include control mechanisms, pressurized lines, hooks and latches, wire rope, electrical apparatus, tires (when used), and ground conditions

7. Equipment must be inspected monthly by a competent person. The inspection must be documented. Documentation must include the following: items checked, results of inspection, and name and signature of the inspector. Documentation must be retained for 3 months. (Documented monthly inspection not required if the daily inspection is documented and records are retained for 3 months)

8. Safety devices are required to be on all equipment and must be in proper working order before operations begin. If any of the devices are not in proper working order the equipment must be taken out of service and operations must not resume until the device is working properly again. Examples of safety devices may include: crane level indicator, boom stops, jib stops, foot pedal brake locks, horns, etc

9. All manufacturer procedures applicable to the operational functions of equipment, including its use with attachments, must be complied with.

10. The operator shall have access to procedures applicable to the operation of the equipment. Procedures include rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions and operator's manual.

11. Whenever there is a safety concern, the operator must have the authority to stop and refuse to handle loads until a qualified person has determined that safety has been assured.

12. A signal person must be provided for the following situations:

    - The point of operation is not in full view of the operator
    - The view is obstructed when the equipment is traveling
    - The operator or the person handling the load determines it is necessary due to site specific concerns

13. The program must address safety measures to be used when the equipment has the potential to strike and injure an employee or pinch/crush an employee against any other object.

14. Only those employees qualified by training or experience shall be allowed to operate equipment and machinery. Within 4 years of November 8th 2010, employers must ensure operators be qualified/certified by one of the following methods:

    - Certification by an accredited crane operator testing organization
    - Qualification by an audited employer program
    - Qualification by the U.S. military
    - Licensing by a government entity.

15. The manufacturer must approve all modifications/additions in writing. A registered professional engineer must be qualified with respect to the equipment involved, and must ensure the original safety factor of the equipment is not reduced.

VIII. TRAINING

Only designated, prescreened and trained employees are allowed to operate, drive and/or set up cranes. Operators, oilers, riggers, and signal/ground personnel must be trained in the operation, limitations and emergency procedures of the cranes they operate or work with. All personnel associated with crane operation must be trained prior to assignment, when an injury/accident involving a crane has occurred and annually thereafter. Training will include:

- Site Hazards and Inspection.
- Characteristics of the equipment, including manufactures requirements and recommendations for safe operation.
- Characteristics of the loads and potential dangers.
- Operation procedures, including emergency procedures.
- Inspections, including pre-start up and regular inspections.
- Proper preventative maintenance.

A Certificate of Training Completion will be given to those that have satisfactorily completed the training course. Retraining must be done in a timely manner and will include a re-certification exam.

IX. RECORD KEEPING

All records regarding application for employment, references – background checks, DMV records, and evaluations must be retained in a personnel file.

Information involving I-9 Applicants eligibility to work in the United States must be kept in a separate locked file.

All records involving physical examination, drug screening and anything involving physical or medical information must be retained in a separate locked medical file. Due to the sensitivity of the material only the Safety Representative should be allowed access.

Safety records such as program, meetings, exams, certifications, OSHA 300 log and inspections must be retained by the Safety Representative.

Permits and Crane certification must be obtained and retained by the Safety Representative.

X. CRANE CERTIFICATION AND GUIDELINES

All employers must comply with the manufacturer's specifications and limitations applicable to the operation of all cranes and derricks. Where such specifications are not available, the limitations assigned to the equipment must be based on the determination of a qualified engineer competent in the field and such determination must be documented. Attachment used with the cranes must not exceed the capacity, rating or scope recommended the manufacturer. Rated load capacities, recommended operating speeds, and hazard warnings or instruction must be posted on all equipment and visible to the operator while at his control station.

All truck cranes (and crawler and locomotive cranes) must meet the applicable requirements for design, inspection, construction, testing maintenance, and operation prescribed in ANSI B30.5-1968, Safety Code for Crawler, Locomotive, and Truck Cranes. The manufacturer's specifications regarding design, erection, operation and safety must be available at the job site.

A thorough annual inspection of the hoisting machinery must be made by a competent person or by a government or private agency recognized by the U.S. Department of Labor. A record of the date and results of the inspections for each hoisting machine and piece of equipment must be retained. Cranes rated over 3 tons must be Proof Load tested and certified annually.

Hand signals to crane operators must be those prescribed by the applicable ANSI standard for the type of crane in use. An illustration of the signals must be posted at the job site and on the crane.

Wire rope must be taken out of service in:

(1) Running rope - when there are six randomly distributed broken wires in one strand in one lay, or three broken wires in one strand in one lay; or there is wear of one-third of the original diameter of outside individual wires or kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure; or evidence of heat damage from any cause.

(2) Standing rope - when there are more than two broken wires in one lay in sections beyond end connections or more than one broken wire at end connection.

All wire rope factors shall be in accordance with ANSI B 30.5-1968 or SAE J959-1966.

Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts or equipment must be guarded if such parts are exposed to contact by employees or otherwise create a hazard. Guarding must meet the requirements of ANSI B15.1-1958 Rev., Safety Code for Mechanical Power Transmission Apparatus. Cabs, guardrails, handholds, and steps must conform to ANSI B30.5. Platforms and walkways must have antiskid surfaces.

Material and personnel hoists and platforms must comply with the manufacturer's specifications and limitations applicable. Rated load capacities, recommended operating speeds, and hazard warnings or instructions must be posted on cars and platforms. Car arresting devices must be installed in case of rope failure. All hoists must meet with ANSI A10.5-1969 and safety requirements in (CFR 1926.552)

No modifications or additions that affect the capacity or safe operations of the equipment may be made without the manufacturer's written approval. If modifications are made, the capacity, operation, and maintenance instruction plates, tags, or decals should be changed accordingly. The employer must comply with Power Crane and Shovel Association Mobile Crane Hydraulic Standard No. 2. All sideboom cranes mounted on wheels or crawler tractors must meet SAE J743a-1964 requirements.

XI. PERSONNEL PROTECTIVE EQUIPMENT

1. Eye and Face protection (8 CCR 3381): ANSI approved Safety glasses (safety goggles may be required for splash protection) are required at all times. ANSI approved Face shields must be worn when there is the potential for exposure to excessive heat, chemicals or corrosives.

2. Foot protection (8 CCR3385): ANSI approved steel toed boots that protect against potential electrical shock, chemicals, and falling objects must be worn at all times and on all surfaces unless otherwise indicated by Safety Representative.

3. Hand protection (8 CCR 3384): ANSI approved gloves must be worn. Gloves should not be worn if they could become entangled in moving machinery (nor should rings, watches or jewelry).

4. Head protection (8 CCR 3381): ANSI approved hard hats are mandatory for all employees due to the potential of flying or falling objects. If hair is long and could be tangled in equipment or machinery it must be confined.

XII. CRANE SAFETY SUPPLIES

1. Fire Extinguisher rated 10-BC or higher, fully charged.
2. First Aid Kit that has been approved by physician and stock maintained.
3. Caution tape for use in flagging holes, pits, sumps, work areas, overhead power lines, etc.
4. A copy of emergency procedures including contacts.
5. Accident report and procedure to follow.
6. SDS indicating hazardous material at the job site.
7. Job site survey form indicating potential hazards.
8. Warning signs including High Voltage warning signs.
9. Flares and appropriate barricades.
10. De-energizing equipment such as: ground jumper cables.

XIII. INSPECTIONS

Inspection of the crane ensures that all equipment is operating correctly. Inspections are done:

1. Pre-operational site inspection
2. Pre-operational equipment walk around
3. Pre-start up check
4. Periodic scheduled inspections (monthly, annually, and 4-year)

XIV. PRE-OPERATIONAL SITE INSPECTION

Before operating a crane at a particular site or in a specific operation, the area should be reviewed for possible hazards such as:

- Overhead lines (power, telephone, etc.)
- High voltage signs properly displayed
- Unstable ground, holes, uneven, loose or muddy soil
- High wind or special weather conditions
- Other types of work activities in the area

Characteristics of the load

- Hazardous or toxic materials
- Weight factors, Dimension factors, Gravity factors
- Lift points
- Methods of attachment
- Boom and Sling angles
- Load vectors
- Crane orientation and capacities

XV. PRE-OPERATIONAL EQUIPMENT WALK AROUND

Daily crane inspection should include:

1. All exposed parts to make sure they are guarded or isolated.
2. All crane components for defects. All areas used for lifting, swinging or lowering load.
3. Wire rope to identify wear, kinking, heat damage, or reduced nominal diameter.
4. Swivels for freedom of rotation.
5. Tires for defects and damage.
6. Surfaces for fluid leaks.
7. Batteries for corrosion, proper fluid levels, and tightness of connectors.
8. Crane for proper lubrication.
9. Heaves, drums, rigging, hardware, and attachments and all operating mechanisms for proper function.
10. Guardrails, handholds, and steps for sturdiness.
11. Platforms and walkways for damage and/or slippery conditions.
12. Turntable connections for defects or damage.
13. The boom and jig for straightness and damage such as cracking, bending, or deformation of welds and corrosion
14. Paint to identify cracking or peeling that may indicate structure fatigue of the metal, which precedes failure.
15. Lattice beams for bent lacing.
16. Beams or cylinders of outriggers for distortion and cracking and all welds for cracks.
17. The extension and retraction beams and cylinders to ensure smooth operation and ability to hold load.
18. Check the condition of the floats.

XVI. PRE-START UP CHECK

Start with the Cab.

1. Is the cab clean and free of debris?
2. Does it have inspection and maintenance records?
3. Does it have proper control labeling?
4. Do all the gauges, warning lights, signal horn, and back-up alarms function properly?
5. Does service/ parking brake function properly?
6. Does door and cabin seat function properly?
7. Is fire extinguisher accessible and properly rated and full?
8. Are windows clear and free of cracks or breaks that may affect operators view?
9. Are boom hoist lockouts, anti-two-block devices, and load moment indicators functional and properly calibrated?

10. Are all gauges and warning lights indicating the proper readings while engine is running?

11. Are all controls operating properly while engine is running?

XVII. PERIODIC SCHEDULED INSPECTIONS (MONTHLY, ANNUALLY, 4-YEAR)

Inspection records must be maintained on:

- Brakes
- Crane hooks
- Hoist chains
- Ropes

Periodic inspections would include items listed in the walk-around as well as more detailed items. Qualified crane inspector must do periodic inspections. Inspection records must include the date of inspection, name and signature of inspector and serial number or other identifier of the equipment. All defects or failures must be indicated using the part number (if available) and name. If equipment needs repair, the equipment must be taken out of service until qualified maintenance personnel has completed and certified repairs, corrections or adjustments. Boom members that are repaired must be certified that the repair meets manufacturer's original design standards.

XVIII. CRANE MAINTENANCE

Cranes require regular preventative maintenance to prevent untimely repairs. It is important to follow the company's preventative maintenance program. Maintenance should be within the guidelines established by the manufacturer's guidelines. Only designated personnel may perform maintenance, adjustments or repair on any crane. Maintenance procedures must include the following guidelines:

1. The crane must be in a location where it will cause the least amount of interference with other cranes or equipment.
2. All controls must be in the off position.
3. Lock the main or emergency switch in the off position.
4. Place "Out of Order" signs on the crane, and on the hook or on the floor of the crane.
5. Provide rail stops or other suitable means to prevent the interference of other cranes operating on the same runway as the idle crane.
6. Do not operate crane after repairs or adjustments until all guards have been reinstalled, safety devices reactivated, and maintenance equipment removed.

XIX. GENERAL SAFETY RULES FOR CRANES

1. Do not carry loads over people.
2. Do not allow anyone to ride the hook or load during hoisting, lowering or traveling.
3. Do not walk away from the crane with a load suspended.
4. Move loads slowly; avoid sudden starts or stops.
5. Operators must accept stop signals from anyone. However, the crane operator is always in-charge of the lift.
6. Store necessary clothing and personal belongings in such a manner that they do not interfere with the crane's access or operation.
7. Store tools, fuses, and oilcans in the toolbox, do not allow them to lie loosely in cab.
8. **Do not** exceed the recommended load ratings. Include all items that add weight to the load.
9. **Do not** change the recommended counterweights or the boom may collapse.
10. **Do not** lift an unsecured or unbalanced load.
11. **Do not** lift two separately rigged loads at the same time.

XX. LIFTING OF PERSONNEL CODE OF SAFE PRACTICES

Lifting of personnel creates the potential for serious injury if not done correctly. Our hazard assessment requires the following actions must be adhered to:

1. All employees engaged in the personnel lift must do a thorough review of the operating instructions and safety procedures. The meeting must be documented.
2. Compliance with the manufacturer's specifications and limitations regarding the operation of all personnel hoists must be met.
3. Rated load capacities, recommended operating speeds, and hazard warning instructions must be posted on cars, platforms and/or baskets.
4. Man Baskets must be used to lift only personnel and the tools they will need for the job. Do not use to lift material and/or equipment.
5. Controls must be tested prior to use and a trail lift of 125% of capacity must be done prior to lifting personnel.
6. A visual inspection of the lift device, lines and basket must be done prior to personnel lift.
7. Only authorized employees may operate the lifting equipment.
8. Only employees trained in the proper use of fall protection systems (body harness & lanyard) may be lifted.
9. Unless over water employees to be lifted must have a body harness and lanyard, and inspect them prior to use. Harness shall be either attached to a fixed attachment point inside the basket; the basket shall have a safety line attached above the head ache ball. Employees lifted over water must wear a coast guard approved life vest.
10. Crane cannot be moved while someone is in the man basket.

11. Employees must stay in the basket during raising and lowering and may not use the sides as a platform or ladder.
12. Crane load lines must be able to handle 10 times the maximum rated capacity of the man basket.
13. Free fall is prohibited.
14. Crane operator must stay at the controls when using the man basket.
15. Watch out for power lines-do not place material or equipment under power lines.
16. Always have an emergency action plan.

XXI. OPERATION GUIDELINES FOR LIFTING PERSONNEL

1. Cranes must be level and all outriggers used.
2. The employee in the man basket must attach his lanyard to the lower load block or overhaul ball or to a structural member of the basket.
3. Lift the man basket in a slow, controlled and cautious manner to avoid sudden jerks.
4. Set the brakes and dogs or pawls when the man basket is at its working place.
5. Tie the basket to the working structure if it is safe.
6. Tag lines must be used if it is safe to do so.
7. When using a boatswain chair, use an independent safety line.

XXII. SLING SAFETY PRACTICES

1. Slings and attachments must be inspected daily for damage or defects.
2. Damaged or defective slings must be removed from service immediately.
3. Chain or rope slings must not be shortened by knots, bolts, or other means.
4. Slings must not be kinked or overloaded.
5. Slings must be padded to protect against damage from sharp loads.
6. Suspended loads must be kept clear of all obstructions.
7. Wrought iron chains must be annealed every six months; alloy chains must not be annealed.
8. Deformed or defective sling hooks must not be used.
9. Keep hands and fingers away from slings when sling is being tightened around load.
10. Do not use sling over rated capacity.
11. Do not use slings from under loads if it will damage the sling. Set load on blocks.
12. Avoid passing loads over employees or occupied structures. When loads must pass over workers or occupants, use safety type hooks.

XXIII. POWER LINES

All power lines must be considered energized unless the electrical utility owning the lines indicate that the lines are not energized, and they are visibly grounded and appropriately marked. When operating near power lines, minimum clearance between the lines and **any part** of the crane or load must be:

Voltage	Minimum Clearance
600 to 50,000	10 feet
50,000 to 75,000	11 feet
75,000 to 125,000	13 feet
125,000 to 175,000	15 feet
175,000 to 250,000	17 feet
250,000 to 370,000	21 feet
370,000 to 550,000	27 feet
550,000 to 1,000,000	42 feet

When in transit with no load and boom lowered, the equipment clearance must be decrease by 4 feet in each category. Example: 600 to 500,000 is 6 feet.

Where maintaining the proper clearance by sight is difficult for the operator, a signalman must be present. The signalman must be familiar with all the hand signals for the crane operated and the power line guidelines.

- Maximize safety around power lines.
- Use nonconductive taglines to stabilize load.
- Use insulating boots and gloves.
- Erect insulating barriers to prevent physical contact with the lines.

DRAFT

TABLE OF CONTENTS

I. PURPOSE 2

II. SCOPE 2

III. REFERENCES 2

IV. EVACUATION ROUTES/PROCEDURES 2

V. EMERGENCY RESPONSE GUIDELINES 4

DRAFT

EMERGENCY RESPONSE/EMERGENCY ACTION

I. PURPOSE

The Company will make an organized effort to protect personnel from injury and to minimize property damage in an emergency event. Resources will be made available to respond to an emergency by using trained employees and additional outside response agencies. All employees shall be aware of these emergency response procedures. These emergency response procedures supplement any response plans required by specific standards.

The purpose of the Emergency Response Procedure is to establish a systematic method for ensuring safe working conditions and procedures are followed during an emergency condition.

II. SCOPE

This standard will define: the type of work requiring an Emergency Response Plan, the qualifications of personnel involved in the response procedure, and instructions on how to properly implement the plan.

III. REFERENCES

TITLE 8 CCR, subsection 3220, *Emergency Action Plan*
29 CFR 1910.38, *Emergency Action Plans*

IV. EVACUATION ROUTES/PROCEDURES

Company supervisory personnel must review the site-specific Emergency Action Plan prior to commencing work. In the event of an emergency that necessitates an evacuation of a work site, the following procedures will be implemented:

- Evacuation notification should be made using the hand-held radios.
- All personnel should evacuate upwind of any activities. Ensure that a predetermined meeting location is identified off-site in case of an emergency, so that all personnel can be accounted for in the event of an emergency.

Personnel will be expected to proceed to the closest exit with their buddy and mobilize to the safe distance area associated with the evacuation route. Personnel will remain at that designated safe briefing area until an authorized individual provides further instructions.

Management shall ensure that emergency programs are instituted at all sites, and that they are reviewed frequently. All employees are encouraged to contribute to the development of the emergency response/action program. As a minimum site specific emergency action plans shall include the following:

- Procedures to be followed by employees who remain to perform or shut down critical operations before they evacuate;
- Emergency escape procedures and emergency escape routes;
- Procedures to account for all employees after an emergency evacuation has been completed;
- Rescue and medical duties for those employees who are to perform them;
- The preferred means for reporting fires and other emergencies;
- Names and phone numbers of nearest emergency services.

The site specific plan must detail evacuation procedures and meeting places in case of an emergency, emergency fire fighting procedures, and emergency rescue procedures for "man down" situations. The supervisor must ensure that every employee at each job site is familiar with the Plan. The Emergency Plan must be maintained by the Safety Representative to reflect changes in the job.

V. EMERGENCY RESPONSE GUIDELINES

A. INJURIES

You must report any injury to your Supervisor immediately. In the event of an injury, the following procedures should be performed:

1) Provide first aid to the injury
2) Shut down operations if necessary.
3) Control access to the area.
4) Instruct all personnel involved not to discuss the accident with anyone except the immediate Supervisor.
5) Supervisors must prepare an accident report by the end of that workday to be turned into the main office.

B. FIRE OR EXPLOSION

In the event of a fire or explosion, the fire department should be contacted immediately. Upon the arrival of the fire department, the person in charge, or designated alternative will advise the fire officer of the location, nature, and identification of the hazardous materials on-site. If it is safe to do so, site personnel may use fire-fighting equipment available on-site to control or extinguish the fire and remove or isolate flammable or other hazardous materials which may contribute to the fire. Company personnel should not attempt to fight a fire beyond the incipient stage.

Report a fire to your supervisor immediately. Supervisors shall ensure that the fire is reported directly to the Fire Department, or 911.

1. Stay on the line until the Fire Department tells you to hang up. Be sure the Fire Department has all pertinent information such as:

   - Exact Location
   - Your name, Company name and purpose of call
   - Description of the type of fire
   - Your phone number
   - Location where someone will meet the Fire Department

2. Isolate all fuel and electrical sources if possible.
3. Try to put out the fire if you have the proper equipment and are trained. Never endanger yourself or others.
4. Stay out of the way when the Fire Department arrives. Be ready to help if you have the proper training.
5. After the fire is extinguished, stand by in case of a re-start.

C. EARTHQUAKES

Earthquakes are a frequent occurrence in the Pacific, but major earthquakes are a rare occurrence. Most injuries from earthquakes occur from falling objects and debris. The safest place to be in an earthquake is outdoors away from buildings and wires.

During an earthquake:

Remain calm as you will be better able to access your situation.
If you are indoors:

If you are Indoors

- Stand under a doorway, get under heavy furniture or stand against a wall in the center of the building. Keep away from windows and outside doors.
- Get under a heavy piece of furniture or move toward a interior wall
- Stay clear of windows, bookcases and mirrors
- Turn off any gas appliances

If you are Outdoors

- Stay away from buildings, poles, wires, and windows.
- Get into a open area away from buildings, trees, walks or power lines
- Sit or lie down and brace yourself

If you are in a vehicle:

- Pull off the road away from overpasses, bridges or power lines
- Stay in your vehicle

After an earthquake aftershocks can occur. Report any broken power, gas, or water lines and stay tuned to local radio and television stations for Civil Defense messages.

In all cases follow your supervisors instructions after the earthquake. Stay away from power lines and shut off any leaking fuel sources.

D. VEHICLE ACCIDENTS

If you are involved in a vehicle accident you must follow the procedures listed below:

1) Set out emergency reflectors to protect yourself and others. These are located under the seat in all Company vehicles.
2) Administer first aid to injured persons.
3) Notify the appropriate emergency personnel, including the local Police Department.
4) Notify your Supervisor.
5) Exchange drivers license numbers, insurance Company and policy number with other driver(s) involved. All Company vehicles are required to have the vehicle insurance I.D. card in the glove compartment.
6) Complete a Vehicle Accident Report with the Safety Representative at the main office.

E. CHEMICAL SPILLS

1) Try to contain the spill if possible.
2) Notify your immediate Supervisor and standby for further instructions.

F. EMERGENCY EQUIPMENT

General emergency equipment and supplies in Company vehicles shall include the following:

- First-aid kit
- Bloodborne Pathogen kit
- Fire extinguisher
- Communication device (radio or mobile telephone)

DRAFT

TABLE OF CONTENTS

I. PURPOSE 2

II. SCOPE 2

III. REFERENCE 2

IV. WORKING SURFACES ELEVATED MORE THAN FOUR (4) FEET 2

V. WORKING AT ELEVATIONS GREATER THAN SIX (6) FEET 2

VI. QUALIFICATION OF PERSONNEL 2

VII. GENERAL REQUIREMENTS 3

DRAFT

FALL PROTECTION

I. PURPOSE

This standard establishes procedures necessary for protection of employees working in elevated positions. It is designed to maintain a safe environment for personnel working above four (4) feet from the ground level.

II. SCOPE

This standard describes the personnel training requirements, minimum fall protective equipment, and safe work practices to be taken while working in elevated positions.

III. REFERENCE

TITLE 8 CCR, subsection 3299, Personal Fall Protection
TITLE 8 CCR, subsection 1670, Personal Fall Arrest Systems
29 CFR 1926.503, Fall Protection

IV. WORKING SURFACES ELEVATED MORE THAN FOUR (4) FEET

Working surfaces that are more than four feet above ground or more than four feet above an adjacent platform or work surface handrails/guardrails, or another means of fall protection must be provided.

V. WORKING AT ELEVATIONS GREATER THAN SIX (6) FEET

Appropriate fall protection must be used at all times while personnel are working at elevations greater than six feet above the ground or an adjacent platform/working surface (measured by the level of the workers' feet).

Personnel climbing to or from such working surfaces should use a ladder, stairs, or an appropriate means of fall protection (i.e., safety climbs).

VI. QUALIFICATION OF PERSONNEL

Specific fall protection plan(s) shall be developed by qualified/competent personnel. This task should be completed by the job site supervisor, i.e. Site Foreman.

In rare circumstances, where no other alternative methods have been implemented a safety monitoring system shall be implemented and Competent personnel assigned monitoring duties shall: recognize fall protection hazards, warn employees if they are unaware of a fall hazard or are acting in an unsafe manner, stay on working surfaces and in visible light, and stay close enough for verbal communications, not have any other duties that would take monitors attention from the monitoring function.

VII. GENERAL REQUIREMENTS

1. A training program shall be provided for each employee who might be exposed to fall hazards. Employees shall receive training pertaining to the recognition and elimination of fall hazards. Training shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to follow to minimize these hazards.

2. Re-training shall be provided when the following are noted: 1) Deficiencies in training. 2) Work place changes. 3) Fall protection systems or equipment changes that render previous training obsolete.

3. Written certification records shall be maintained showing the following: 1) Who was trained, when, dates of training 2) Signature of person providing training and date Company determined training was deemed adequate.

4. Fall protection is required whenever employees are potentially exposed to falls from heights. For general industry every wall opening from which there is a drop of more than 4 feet shall be guarded. For Construction, each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.

5. Site specific plans shall be developed by a qualified person. The fall protection plan shall be prepared in accordance with this program and by a qualified person for the specified work site.

6. Accident investigations shall be conducted to evaluate the fall protection plan for potential updates to practices, procedures or training in order to prevent reoccurrence

7. When purchasing equipment and raw materials for use in fall protection systems applicable ANSI & ASTM requirements should be met.

8. Site Supervisors shall provide for prompt rescue of employees in the event of a fall or shall assure the employees are able to rescue themselves when working from heights.

9. Full body safety harnesses are required anytime a person is working over 6 feet off the ground or above the existing walking or working surface. Standard waist type safety belts are strictly prohibited.

10. Any time a person is working over 6 feet off the ground they must be tied off to a stationary object capable of withstanding 5,400 pounds.

11. Approved rope grabs and safety lines shall be used any time a worker is required to work in an area with out adequate tie off protection, such as while using a spider basket or shuttling.

12. A full body harness **must** be worn whenever fall protection is required. Safety harnesses **should** fit snugly and comfortably.

13. When safety harnesses are used for fall protection, they **must** use lanyards with shock/absorber systems.

14. When working at elevations where it is necessary to disengage a lanyard to move around equipment or obstacles, a double lanyard **must** be utilized to assure fall protection.

15. All equipment **must** be inspected for excessive wear or damage prior to each use.

16. Modifications to any fall protection equipment, other than those performed by the manufacturer, may result in premature failure of the equipment and are **strictly prohibited**.

17. All equipment **must** be worn in accordance with the manufacturer's recommendations.

18. Any fall protection equipment that is worn or damaged **must** be destroyed so that it is no longer usable, and then discarded.

19. Safety belts, harnesses, and lanyards that have been used to stop a fall **must** be destroyed and discarded.

20. Safety harnesses shall be stored properly and inspected on a regular basis for excessive wear. Warn or damaged harnesses shall be destroyed prior to discarding.

21. Anytime personnel work from heights provisions for prompt rescue of employees in the event of a fall and/or supervisors shall assure the employees are able to rescue themselves.

TABLE OF CONTENTS

I. INTRODUCTION 2
II. REFERENCE 2
III. SCOPE 2
IV. RESPONSIBILITIES 2
V. GENERAL REQUIREMENTS 2
VI. TRAINING 3
TRAINING PROGRAM CONTENT 3
REFRESHER TRAINING 4
VII. INSPECTIONS 4
PRE-USE INSPECTION (Daily) 4
POWER SOURCE INSPECTION 4
Battery Power 4
Propane Power 5
VIII. FUEL HANDLING AND STORAGE 5
IX. BATTERY HANDLING AND STORAGE 5
DESIGNATED AREAS 5
CHARGING BATTERIES 5
X. MAINTENANCE 6
XI. GENERAL FORKLIFT SAFETY 6
XII. FORKLIFT OPERATING GUIDELINES 6
XIII. HANDLING AND MOVING LOADS 7
TO PICK UP A LOAD 7
DRIVING WITH A LOAD 8
SAFE STEERING 8
TO PUT A LOAD DOWN 8

APPENDIX A – FORKLIFT PRE-USE INSPECTION FORM
APPENDIX B – FORKLIFT OPERATOR PERFORMANCE EVALUATION
APPENDIX C – CALOSHA - FORKLIFT OPERATING RULES

I. INTRODUCTION

It is the policy of the Company that all employees who operate or anticipate operating a forklift during their employment must complete forklift safety training and comply with this program. Only trained and certified operators, including supervisors, are allowed to operate Industrial Lift Trucks.

II. REFERENCE

The following requirements are incorporated into the forklift safety program.

Title 8 CCR 3650-3668 *Industrial Trucks*
29 CFR1910.178, *Powered Industrial Trucks*,
29 CFR 1926.602, *Material Handling Equipment*, and
NFPA 505, *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Maintenance, and Operation*.

III. SCOPE

This program covers all persons who are employed by the Company and related facilities who are designated responsibility to operate a forklift.

IV. RESPONSIBILITIES

- The Company will provide forklift training
- Departmental supervisors are responsible for ensuring employees attend training and that forklifts are repaired when malfunctioning

V. GENERAL REQUIREMENTS

All powered industrial trucks acquired and used after February 15, 1972 are required to meet the design and construction requirements for powered industrial trucks established in the American National Standards Institute (ANSI) Standard for Powered Industrial Trucks, Part II, ANSI B56.1-1969, except for vehicles intended primarily for earth moving or over-the-road hauling. Approved trucks are required to bear a label or some other identifying mark indicating approval by the testing laboratory.

Nameplates and markings must be in place and must be maintained in a legible condition.

Modifications and additions which affect capacity and safe operation without the manufacturer's prior written approval are prohibited. Capacity, operation, and maintenance instruction plates, tags, or decals should be modified accordingly.
All Company forklifts are used in unclassified locations according to 29 CFR 1910.178 Table N-1. If the location is classified as hazardous, 29 CFR 1910.178 (c) should be consulted in order to determine the appropriate type of forklift.

High lift rider trucks must be equipped with an overhead guard manufactured in accordance with 29 CFR 1910.178 (a)(2), unless operating conditions do not permit the use of the guard. The overhead guard is intended to offer protection from the impact of small packages, boxes, bagged material, etc., but not to withstand the impact of a falling capacity load.

VI. TRAINING

Forklift operators are required to attend and pass forklift safety training at least every three years, operate and maintain their vehicles in a safe manner according to their training, and report all vehicle problems to their supervisor. Training will include: lecture, discussion, and/or interactive computer learning, videos, and written materials. Forklift operator training includes instructor demonstrations and trainee exercises. Operator evaluation (critiques) are documented on the evaluation form shown in appendix B. All operator training and evaluation shall be conducted by persons who have the knowledge, training and experience to train powered industrial truck operators and evaluate their competence.

TRAINING PROGRAM CONTENT

Powered industrial truck operators shall receive initial training in the following topics:

1. Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate;
2. Differences between the truck and the automobile;
3. Truck controls and instrumentation: where they are located, what they do, and how they work;
4. Engine or motor operation;
5. Steering and maneuvering;
6. Visibility (including restrictions due to loading);
7. Fork and attachment adaptation, operation, and use limitations;
8. Vehicle capacity;
9. Vehicle stability;
10. Any vehicle inspection and maintenance that the operator will be required to perform;
11. Refueling and/or charging and recharging of batteries;
12. Operating limitations;
13. Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.
14. Surface conditions where the vehicle will be operated;
15. Composition of loads to be carried and load stability;
16. Load manipulation, stacking, and unstacking;
17. Pedestrian traffic in areas where the vehicle will be operated;
18. Narrow aisles and other restricted places where the vehicle will be operated;
19. Hazardous (classified) locations where the vehicle will be operated;
20. Ramps and other sloped surfaces that could affect the vehicle's stability;
21. Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust;
22. Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.
23. The requirements of applicable OSHA regulations.

REFRESHER TRAINING

Refresher training in relevant topics shall be provided to the operator when:

1. The operator has been observed to operate the vehicle in an unsafe manner;
2. The operator has been involved in an accident or near-miss incident;
3. The operator has received an evaluation that reveals that the operator is not operating the truck safely;
4. The operator is assigned to drive a different type of truck; or
5. A condition in the workplace changes in a manner that could affect safe operation of the truck.
6. An evaluation of each powered industrial truck operator's performance shall be conducted **at least once every three years**.

Employer certification must include operator name, training date, evaluation date, and trainer/evaluator name.

VII. INSPECTIONS

PRE-USE INSPECTION (Daily)

A daily pre-use inspection identifies potential hazards that may be encountered from a damaged forklift and should be performed at least daily. If at any time a forklift is found to be in need of repair, defective, or in any way unsafe, remove it from service until it has been restored to safe operating condition.

The pre-use inspection process is as follows:

1. Inspect the mast for broken or cracked weld points and any other obvious damage.
2. Ensure roller tracks are greased and that chains are free to travel.
3. Forks should be equally spaced and free from cracks along the blade and at the heels.
4. Check hydraulic fluid levels.
5. Check each hydraulic line and fitting for excessive wear or crimping.
6. Check lift an tilt cylinders for damage or leaking fluid.
7. Inspect mounting hardware on the cylinders.
8. Check tires for excessive wear, splitting or missing tire material.
9. Check pneumatic tires for proper pressure indicated on the tire.

POWER SOURCE INSPECTION

Battery Power

Batteries contain acid so protective gloves, goggles, and long sleeves must be worn when working with batteries.

Batteries should be inspected for:

1. cracks or holes,
2. securely sealed cells,
3. frayed cables,
4. broken insulation,
5. tight connections, and
6. clogged vent caps.

Propane Power

1. The propane tank should be inspected for cracks, broken weld points, and other damage.
2. All valves, nozzles, and hoses should be secure and do not leak.
3. If damage is found, the equipment should not be operated until the damage has been corrected.

VIII. FUEL HANDLING AND STORAGE

Store and handle liquid fuels such as gasoline and diesel in accordance with NFPA Flammable and Combustible Liquids Code (NFPA No. 30-1969).

Store and handle liquefied petroleum gas in accordance with NFPA Storage and Handling of Liquefied Petroleum Gases (NFPA No. 58-1969).

Turn off engine before filling fuel tanks.

IX. BATTERY HANDLING AND STORAGE

DESIGNATED AREAS

1. Locate battery charging installations in designated areas that provide flushing and neutralizing of spilled electrolyte, fire protection, protection of charging apparatus, damage by trucks, and adequate ventilation for dispersal of battery gassing fumes.
2. Battery handling equipment and a carboy tilter or siphon for handling electrolyte should be provided.
3. Smoking is prohibited in the designated area.

CHARGING BATTERIES

1. When charging batteries, pour acid into water; not water into acid.
2. Properly position forklift and apply brake before attempting to change or charge batteries.
3. Ensure vent caps are functioning and the battery (or compartment) cover(s) are open to dissipate heat.
4. Prevent open flames, sparks, or electric arcs in battery charging areas.
5. Keep tools and other metallic objects away form the top of uncovered batteries.

X. MAINTENANCE

- Do not use open flames to check for electrolyte level in storage batteries or liquid fuel level in tanks.
- Conduct repairs to fuel and ignition systems of forklifts which involve fire hazards in designated locations.
- Disconnect batteries prior to repairing electrical systems.
- Use only replacement parts equivalent with those in the original design.
- Do not alter the relative positions of various parts from what they were received from the manufacturer. Do not add any parts not supplied by the manufacturer nor delete any parts supplied by the manufacturer (no additional counterweighting of forklifts unless approved by the manufacturer).
- Keep forklift mufflers in proper working condition and free of debris.
- Keep the forklift in clean condition, free of lint, excess oil, and grease.

XI. GENERAL FORKLIFT SAFETY

The most common forklift accidents are caused: when a person is struck by the forklift, stock is shoved into or falls upon another person or falls upon the forklift operator, the operator is injured when getting on or off the forklift, when the forklift collides with another forklift or other vehicle, when the forklift falls off the dock or tips over, where the operator is struck by passing objects, or the forklift tips over because the rated capacity is exceeded or the load is handled improperly.

When mounting or dismounting a forklift, always:

- face the vehicle,
- never jump off,
- use a three-point stance (always have both hands and one foot or vice-versa in contact with the unit),
- wear proper shoes (oil resistant and non-slippery),
- wear proper clothing (do not wear loose clothing or dangling jewelry), and
- restrain long hair.

After mounting the vehicle, always fasten the seat belt, apply the brake, and shift to neutral. Also, check around the forklift for clearance and pedestrians before moving.

XII. FORKLIFT OPERATING GUIDELINES

A. Only trained and authorized personnel are permitted to operate a forklift.
B. Do not stand or pass under the elevated portion of any forklift.
C. Passengers are prohibited from riding on forklifts.
D. Do not place arms or legs between the uprights of the mast or outside the running lines of the truck.

E. A forklift is considered unattended when the operator is 25 feet or more away from the vehicle and it remains in his view, or whenever the operator leaves the vehicle and it is not in his view. When a forklift is left unattended:

1. fully lower load engaging means,
2. neutralize controls,
3. shut off power; and
4. set brakes.

F. When the forklift operator is dismounted, within 25 feet and in view of the forklift, then fully lower the engaging means, neutralize the controls, and set the brakes to prevent movement.
G. Maintain a safe distance from the edge of ramps or platforms while on any elevated dock or platform.
H. Forklifts are not to be used to open or close freight doors.
I. Where general lighting is less than two lumens per square foot, provide auxiliary directional lighting on the truck.
J. Fixed jacks may be necessary to support a semi trailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.
K. Set brakes and block wheels to prevent movement of trucks and trailers while loading or unloading.
L. Check the flooring of trucks and trailers for breaks and weakness before loading or unloading.
M. Check for sufficient headroom under overhead hazards such as lights, pipes, or sprinkler systems.
N. Use only approved forklifts in hazardous locations.
O. The brakes of highway trucks shall be set and wheel chocks placed under the rear wheels to prevent the trucks from rolling while they are boarded with powered industrial trucks.

XIII. HANDLING AND MOVING LOADS

TO PICK UP A LOAD

1. Only pick up stable and safely arranged loads within the rated capacity of the forklift.
2. Adjust long or high (including multiple tiered) loads which may affect capacity.
3. Square up on the center of the load and approach it straight with forks in traveling position.
4. Stop when the tips of the forks are about a foot away from the load.
5. Level the forks and slowly drive forward until the load is resting against the backrest.
6. Lift the load high enough to clear whatever is under it.
7. Carefully tilt the mast back to stabilize the load.

DRIVING WITH A LOAD

1. Starts and stops should be gradual.
2. Observe all traffic regulations and keep forklift under control at all times.
3. Reduce speed and sound horn at cross aisles and other locations where vision is obstructed.
4. Pedestrians have the right-of-way. Always be aware of their presence especially in aisles and doorways.
5. Do not drive forklift up to anyone standing in front of a bench or other fixed object.
6. Keep a clear view of the path of travel. Always look in the direction of travel.
7. Always travel with a load tilted slightly back for added stability. Do not lift or lower the load when the forklift is in motion.
8. Travel with the load at a height of four to six inches at the tips and two inches at the heels to clear most uneven surfaces and avoid debris.
9. Horse play is not permitted.
10. Slow down for wet, slippery or uneven floors.
11. Avoid running over loose objects on the roadway surface.
12. Properly secure dockboards and bridgeplates before driving over them. Drive over slowly and never exceed their rated capacity.
13. Drive in reverse rather than looking around the load if you are unable to see over it.
14. Travel down inclines in reverse and up inclines going forward. Ascend and descend grades slowly. If the grade is in excess of 10 percent, drive with load upgrade.

SAFE STEERING

1. Never make a turn at normal traveling speed, always slow down to maintain balance.
2. Stay wide when turning into an aisle to help clear the sides and square up with the destination.
3. Allow enough room for forks to clear the sides before turning, when backing out of an aisle.
4. When negotiating turns, turn the steering wheel in a smooth sweeping motion. At very low speeds, turn the steering wheel at a moderate, even rate.

TO PUT A LOAD DOWN

1. Square up and stop about a foot away.
2. Level the forks and then drive the rest of the way in.
3. Lower the load.
4. Tilt the forks slightly forward to avoid hooking the load.
5. Look over both shoulders and back straight out until the forks clear the pallet.

APPENDIX A – FORKLIFT PRE-USE INSPECTION FORM

FORKLIFT PRE-USE INSPECTION
(COMPLETE PRIOR TO START OF EACH SHIFT)

DATE	TRUCK NO.	LOCATION	SHIFT
TYPE: ☐ INTERNAL COMBUSTION ☐ELECTRIC		HOUR METER:	
OPERATOR'S SIGNATURE		SUPERVISOR'S SIGNATURE	

CHECK OFF INSPECTED AND CLEARED ITEMS "✓"
CHECK ANY DEFECTIVE WITH AN "X" AND GIVE DETAILS BELOW.

☐	ACCELERATOR	☐	HOUR METER
☐	ALARMS	☐	HYDRAULIC CONTROLS
☐	BATTERY CONNECTOR	☐	LIGHTS – HEAD AND TAIL
☐	BATTERY – INDICATOR	☐	LIGHTS-WARNING
☐	BELTS	☐	MAST
☐	BRAKES-PARKING	☐	OIL LEAKS
☐	BRAKES-SERVICE	☐	OIL PRESSURE
☐	CABLES	☐	OVERHEAD GUARD
☐	ENGINE OIL LEVEL	☐	RADIATOR LEVEL
☐	FORKS	☐	SAFETY EQUIPMENT
☐	FUEL LEVEL	☐	STEERING
☐	GAUGES	☐	TIRES
☐	HORN	☐	UNUSUAL NOISES
☐	HOSES	☐	OTHER

DETAILS:

ORIGINAL

5181

APPENDIX B – FORKLIFT OPERATOR PERFORMANCE EVALUATION

Employee Name	Employee ID Number	Date			Time:
		N/A	Yes	No	Comments
1. Followed proper instructions for maintenance-conducted inspections					
2. Shows familiarity with truck controls					
3. Approached load properly					
4. Checked for overhead clearances and hazards					
5. Load balanced and secured properly					
6. Forks placed under load completely					
7. Lifted load properly					
8. Maneuvered properly					
9. Sounded horn at intersections					
10. Kept a clear view of direction of travel					
11. Turned corners correctly – was aware of rear swing					
12. Yielded to pedestrians					
13. Drove under control; Forklift and load stable					
14. Traveled with load at proper height					
15. Lowered load smoothly/slowly					
16. Stops smoothly/completely					
17. Demo: place loads within marked area					
18. Demo: drive backward when required					
19. Demo: check load weights					
20. Demo: place forks on ground when parked, controls neutralized, brake on set, power off					
Total Rating					
Evaluator		Signature			Date

ORIGINAL

5182

APPENDIX C – CALOSHA - FORKLIFT OPERATING RULES

OPERATING RULES FOR INDUSTRIAL TRUCKS

General Industry Safety Order 3664
Operating Rules (Part (a)).

(a) Every employer using industrial trucks or industrial tow tractors shall post and enforce a set of operating rules including the appropriate rules listed in Section 3650.

General Industry Safety Order 3650
Industrial Trucks. General (Part(s)).

(t) Industrial trucks and tow tractors shall be operated in a safe manner in accordance with the following operating rules:

(1) Only drivers authorized by the employer and trained in the safe operations of industrial trucks or industrial tow tractors pursuant to Section 3668 shall be permitted to operate such vehicles.

(2) Stunt driving and horseplay are prohibited.

(3) No riders shall be permitted on vehicles unless provided with adequate riding facilities.

(4) Employees shall not ride on the forks of lift trucks.

(5) Employees shall not place any part of their bodies outside the running lines of an industrial truck or between mast uprights or other parts of the truck where shear or crushing hazards exist.

(6) Employees shall not be allowed to stand, pass, or work under the elevated portion of any industrial truck, loaded or empty, unless it is effectively blocked to prevent it from falling.

(7) Drivers shall check the vehicle at the beginning of each shift, and if it is found to be unsafe, the matter shall be reported immediately to a foreman or mechanic, and the vehicle shall not be put in service again until it has been made safe. Attention shall be given to the proper functioning of tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system for fork lifts (forks, chains, cable, and limit switches).

(8) No truck shall be operated with a leak in the fuel system.

(9) Vehicles shall not exceed the authorized or safe speed, always maintaining a safe distance from other vehicles, keeping the truck under positive control at all times and all established traffic regulations shall be observed. For trucks traveling in the same direction, a safe distancemay be considered to be approximately 3 truck lengths or preferably a time lapse — 3 seconds — passing the same point.

(10) Trucks traveling in the same direction shall not be passed at intersections, blind spots, or dangerous locations.

(11) The driver shall slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

(12) Operators shall look in the direction of travel and shall not move a vehicle until certain that all persons are in the clear.

(13) Trucks shall not be driven up to anyone standing in front of a bench or other fixed object of such size that the person could be caught between the truck and object.

(14) Grades shall be ascended or descended slowly.

(A) When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.

(B) On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

(C) Motorized hand and hand/rider trucks shall be operated on all grades with the load-engaging means downgrade.

(15) The forks shall always be carried as low as possible, consistent with safe operations.

(16) When leaving a vehicle unattended (the operator is over 25 feet (7.6 meters) from or out of sight of the industrial truck), the brakes are set, the mast is brought to the vertical position, and forks are left in the down position, either:

(A) The power shall be shut off and, when left on an incline, the wheels shall be blocked; or

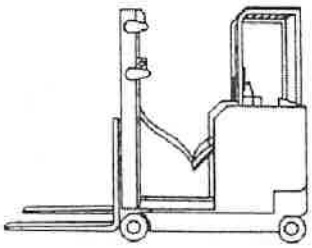
(B) The power may remain on provided the wheels are blocked, front and rear.

(17) When the operator of an industrial truck is dismounted and within 25 feet (7.6 meters) of the truck which remains in the operator's view, the load engaging means shall be fully lowered, controls placed in neutral, and the brakes set to prevent movement.

continued...

LEFT (1/2)

Operating rules for industrial trucks contained on this poster are current through Register 2002, No. 22 California Code of Regulations (operative 6-27-2002). Other rules may also apply.



Exception: Forks on fork-equipped industrial trucks may be in the raised position for loading and unloading if the forks are raised no more than 42 inches above the level where the operator/loaders are standing, and the power is shut off, controls placed in neutral and the brakes set. If on an incline, the wheels shall be blocked.

(18) Vehicles shall not be run onto any elevator unless the driver is specifically authorized to do so. Before entering an elevator, the driver shall determine that the capacity of the elevator will not be exceeded. Once on an elevator, the industrial truck's power shall be shut off and the brakes set.

(19) Motorized hand trucks shall enter elevators or other confined areas with the load end forward.

(20) Vehicles shall not be operated on floors, sidewalk doors, or platforms that will not safely support the loaded vehicle.

(21) Prior to driving onto trucks, trailers and railroad cars, their flooring shall be checked for breaks and other structural weaknesses.

(22) Vehicles shall not be driven in and out of highway trucks and trailers at loading docks until such trucks or trailers are securely blocked or restrained and the brakes set.

(23) To prevent railroad cars from moving during loading or unloading operations, the car brakes shall be set, wheel chocks or other recognized positive stops used, and blue flags or lights displayed in accordance with applicable regulations promulgated by the Public Utilities Commission.

(24) The width of one tire on the powered industrial truck shall be the minimum distance maintained from the edge by the truck while it is on any elevated dock, platform, freight car or truck.

(25) Railroad tracks shall be crossed diagonally, wherever possible. Parking closer than 8 1/2 feet from the centerline of railroad tracks is prohibited.

(26) Trucks shall not be loaded in excess of their rated capacity.

(27) A loaded vehicle shall not be moved until the load is safe and secure.

(28) Extreme care shall be taken when tilting loads. Tilting forward with the load engaging means elevated shall be prohibited except when picking up a load. Elevated loads shall not be tilted forward except when the load is being deposited onto a storage rack or equivalent. When stacking or tiering, backward tilt shall be limited to that necessary to stabilize the load.

(29) The load engaging device shall be placed in such a manner that the load will be securely held or supported.

(30) Special precautions shall be taken in the securing and handling of loads by trucks equipped with attachments, and during the operation of these trucks after the loads have been removed.

(31) When powered industrial trucks are used to open and close doors, the following provisions shall be complied with:

(A) A device specifically designed for opening or closing doors shall be attached to the truck.

(B) The force applied by the device to the door shall be applied parallel to the direction of travel of the door.

(C) The entire door opening operation shall be in full view of the operator.

(D) The truck operator and other employees shall be clear of the area where the door might fall while being opened.

(32) If loads are lifted by two or more trucks working in unison, the total weight of the load shall not exceed the combined rated lifting capacity of all trucks involved.

S-503-04/07

(2/2) RIGHT

HAZARDOUS WASTE OPERATIONS

TABLE OF CONTENTS

I. PURPOSE 2

II. SCOPE 2

III. APPLICABLE REGULATIONS 2

IV. RESPONSIBILITIES 2

V. GENERAL REQUIREMENTS 4

VI. EMPLOYEE TRAINING 5

VII. ANNUAL REFRESHER TRAINING 6

VIII. TRAINERS 6

IX. REQUIRED PERSONAL PROTECTIVE EQUIPMENT 6

X. FREQUENCY AND TYPES OF AIR MONITORING/SAMPLING 9

XI. EMERGENCY RESPONSE PLAN 9

XII. MEDICAL SURVEILLANCE REQUIREMENTS 10

XIII. DECONTAMINATION PLAN 11

XIV. DECON LOCATION AND LAYOUT SCHEMATIC 14

XV. SITE CONTROL MEASURES 15

XVI. SITE MAP DEPICTING WORK ZONES 16

HAZARDOUS WASTE OPERATIONS

I. PURPOSE

The purpose of the Hazardous Waste Operations and Emergency Response Program is to provide guidelines for training and response to incidents involving the uncontrolled release of hazardous materials at Client facilities.

II. SCOPE

These Hazardous Waste Operations and Emergency Response Guidelines apply to any Company employee who respond to an uncontrolled release of hazardous materials as defined by 29 CFR 1910.120 or Title 8 CCR 5192.

III. APPLICABLE REGULATIONS

This program is written to assist in complying with the provisions set forth in the following regulations:

- TITLE 8 CCR, subsection 5192, *Hazardous Waste Operations/Emergency Response*
- 29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*
- 29 CFR 1926.65, *Hazardous Waste Operations and Emergency Response*

Other regulations and guidelines, either directly of indirectly, applicable to the requirements of this plan include:

- 29 CFR 1910.1200, *Hazard Communication*
- 29 CFR 1910.146, *Permit-Required Confined Spaces*
- 29 CFR 1910.1038, *Benzene*
- 29 CFR 1910.134, *Respiratory Protection*
- Company Specific, *Corporate Health and Safety Policies*

All operations personnel having the potential for exposure to site hazards are subject to the requirements of this Site-Specific HASP. The COMPANY Project Manager will serve as the Site Safety Officer (SSO) for the activities and will be responsible for implementation of the Site-Specific HASP and oversight of the field personnel. Specific health and safety roles and responsibilities are as follows:

IV. RESPONSIBILITIES

PROJECT MANAGER

The Project Manager will ensure that the a Site Safety Plan (SSP) is prepared, is compatible with the field study procedures, and that it is implemented appropriately. The Project Manager will also review the plan during its preparation and will

authorize the plan after it has been reviewed and authorized by the Program/Agency Safety Officer, Site Safety Officer (SSO), and individual employees. Finally, the Project Manager will review and approve any modifications to the HASP, as needed.

SITE SAFETY OFFICER (SSO)

The Site Safety Officer has primary authority and responsibility to ensure company implementation of the safety plan and to ensure the health and safety of company personnel, and client(s). This is accomplished by communicating the requirements of the plan, analyzing work procedures for hazard identification and correction, ensuring appropriate health and safety training has been completed, and encouraging prompt employee reporting of health and safety concerns.

The Site Safety Officer has responsibility for:

- Ensuring a Pre-entry safety meeting is held and documented each day prior to initiating any site activity and at such other times as necessary to ensure that employees are apprised of the site specific safety plan and that this plan is being followed.
- Briefing personnel working in the study area on the contents of this HASP, including potential hazards, safe work practices personal protective equipment (PPE), and emergency procedures prior to project initiation.
- Ensuring that specified PPE is available and worn by field personnel working in the project area.
- Ensuring required monitoring activities are performed and documented in the project area.
- Obtaining information and data from ongoing site characterization(s) and analysis work.
- Ensuring the effectiveness of the safety plan by performing inspections to determine its effectiveness.
- Correcting any deficiencies in the effectiveness as work progresses.

INDIVIDUAL EMPLOYEES

It is the responsibility of individual employees to comply with all applicable health and safety regulations, company policies, and established work practices. This includes but is not limited to:

- Attending the daily Pre-entry briefings, and observing health and safety-related signs, posters, warning signals and directions
- Reviewing the area emergency plan and assembly area
- Following all safe operating procedures and precautions
- Using proper personal protective equipment
- Reporting unsafe conditions immediately to a supervisor, and stopping work if an imminent hazard is presented
- Reading and understanding the requirements and procedures in the site safety plan.

- Participating in all Health and Safety training, which may include a 40-hour OSHA approved training course, daily site safety briefings, and site-specific training.
- Maintaining PPE, including safety eyeglasses, steel-toe boots, and respiratory protection equipment in good working condition for use, as required.

V. GENERAL REQUIREMENTS

1. Employees will be trained in the area they are working in. The training will be based on the duties and functions the employee intends to administer. As a general rule, most company employees will be trained in accordance with the 24- hour site worker criteria described in 29 CFR 1910.120 with an additional 1 day of field work. If contaminants have the potential to exceed the permissible exposure levels which will require the use of respirators, forty hours of training will be performed with 3 days of field work. Management and supervisors shall attend an additional 8 hours of supervisor training. Certificates of training shall be available on site while commencing any hazardous materials work.

2. First responder awareness level training is for individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release.

   These individuals are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release.

3. Trainers who teach any of the required classes must be qualified to instruct in hazardous waste operations and emergency response. In addition, they must satisfactorily completed a course for teaching the specific subjects they are expected to teach, or they must have the training and/or academic credentials and instructional experience necessary to demonstrate competent instructional skills in the subject matter.

4. An 8 hour annual refresher class is required for any personnel who has completed the on site worker, or management training. Topics will include an overview of the initial training and a critique of incidents that occurred over the last year. A record of methods used must be kept on file at the main office.

5. An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection by employees, their representatives and OSHA.

6. The emergency response program must address the following minimum elements:

- Pre-emergency planning & coordination with outside parties.
- Personnel roles, lines of authority, training & communications.
- Emergency recognition & prevention.
- Safe distances & places of refuge.

7. The senior official at an emergency response is the most senior official on the site who has the responsibility for controlling operations at the site. All other personnel will be assigned per the Incident Command System organizational chart.

8. Emergency response employees who exhibit signs or symptoms which may have resulted from exposure to hazardous substances during the course of an emergency shall be provided with medical consultation.

VI. EMPLOYEE TRAINING

Employee training will be conducted according to applicable emergency response regulations. As a general rule, most company field employees will be trained in accordance with the 24-hour site worker criteria described in 29 CFR 1910.120 with an additional 1 day of field work. If contaminants have the potential to exceed the permissible exposure levels which will require the use of respirators, forty hours of training will be performed with 3 days of field work. Management and supervisors shall attend an additional 8 hours of supervisor training. Certificates of training shall be available on site while commencing any hazardous materials work.

The following items are taught in class an re-enforced at the field:

- Training and frequency requirements.
- Chemical hazards.
- Emergency Response Plan, [29 CFR 1910.120(l)].
- Engineering controls and work practices.
- Heavy machinery.
- Personal protective equipment.
- Physical hazards.
- Respiratory Protection.
- Sanitation [29 CFR 1910.120(n)].
- Site Characterization and Analysis.
- Site Control [29 CFR 1910.120(d)].
- Symptoms of overexposure to hazards.

Documentation of site-specific training should be provided in the field log book.

VII. ANNUAL REFRESHER TRAINING

An 8 hour annual refresher class is required for any personnel who has completed the on site worker, or management training. Topics will include an overview of the initial training and a critique of incidents that occurred over the last year.

VIII. TRAINERS

Trainers who teach any of the required classes must be qualified to instruct in hazardous waste operations and emergency response. In addition, they must satisfactorily completed a course for teaching the specific subjects they are expected to teach, or they must have the training and/or academic credentials and instructional experience necessary to demonstrate competent instructional skills in the subject matter.

IX. REQUIRED PERSONAL PROTECTIVE EQUIPMENT

All personnel performing operations on a hazardous materials site shall be required to use the appropriate level of PPE as specified by the SSO.

This section describes the personal protective equipment (PPE) ensemble described in the regulations. OSHA designates levels of protection ranging from A to D. The specific levels of protection at the site will vary according to job tasks and site conditions. As a general rule, PPE must be worn when response activities involve known or suspected atmospheric contamination vapors, gases, or particulates, which may be generated by site activities, or when direct contact with skin-affecting substances may occur. Chemical-resistant clothing protects the skin from contact with skin-destructive and potentially hazardous absorbable chemicals.

LEVELS OF PERSONAL PROTECTIVE EQUIPMENT

The specific levels of protection and necessary components for each have been divided into four categories according to the degrees of protection afforded:

Level A: Should be worn when the highest level of respiratory, skin, and eye protection is needed.

Level B: Should be worn when the highest level of respiratory protection is needed, but a lesser level of skin protection.

Level C: Should be worn when the criteria for using air-purifying respirators are met, and a lesser level of skin protection is needed.

Level D: Should be worn when respiratory protection is not required, but some skin protection is necessary. For example, PPE may include Anti-C's, shoe covers, gloves, TLD's.

Modified Level D: Same as Level D but with the addition of dermal (skin) protection added, i.e., impermeable (PVC) steel toed boots and impermeable coveralls and chemical resistance gloves.

Modifications of these levels are permitted, and may be routinely employed during site work activities. For example, Level C respiratory protection and Level D skin protection may be required for a given task. Likewise, the type of chemical protective ensemble (i.e., material, format) will depend on contaminants and degree of contact expected for each work activity and work area.

The Level of Protection selected is based upon the following:

- Type and measured concentration of the chemical substance in the ambient atmosphere and its toxicity.
- Potential for exposure to hazardous substances by ingestion, inhalation or skin contact.
- Knowledge of on-site hazardous substances along with properties such as toxicity, route of exposure, and contaminant matrix.

Prior to initial site entry, the level of PPE needs to be determined by worst-case scenario using site-specific knowledge. In situations where the types of contaminants and their concentration are not known or available, the highest appropriate level of protection shall be selected based on professional experience and judgment of the SSO until the hazards can be better identified. The specific levels of protection selected for each task are listed in Section 5.

Level A Personnel Protective Equipment

- Supplied-air respirator approved by the Mine Safety and Health Administration (MSHA) and National Institute for Occupational Safety and Health (NIOSH). Respirators must be positive-pressure self-contained breathing apparatus (SCBA), or positive-pressure airline respirator with escape bottle for Immediately Dangerous to Life and Health (IDLH) or potential IDLH atmospheres
- Fully encapsulating chemical-resistant suit
- Coveralls
- Long cotton underwear
- Long underwear
- Gloves (outer), chemical-resistant
- Gloves (inner), chemical-resistant
- Boots, chemical-resistant, steel-toed and shank (depending on suit construction, worn over or under suit boot)
- Hard hat (Note: Wear hardhat under hood of coveralls)
- Disposable gloves and boot covers may be worn over fully-encapsulating suit.

Level B Personnel Protective Equipment

- Supplied-air respirator approved by the Mine Safety and Health Administration (MSHA) and National Institute for Occupational Safety and Health (NIOSH).

Respirators must be positive-pressure self-contained breathing apparatus (SCBA), or positive-pressure airline respirator with escape bottle for Immediately Dangerous to Life and Health (IDLH) or potential IDLH atmospheres

- Chemical-resistant clothing (overalls and long-sleeved jacket; hooded, one or two-piece chemical-splash suit; disposable chemical-resistant, one-piece suits)
- Coveralls
- Gloves (outer), chemical-resistant
- Gloves (inner), chemical-resistant
- Boots (outer), chemical-resistant, steel-toed and shank
- Boot-covers (outer), chemical-resistant (disposable)
- Hard hat

Level C Personnel Protective Equipment

- Air-purifying respirator, full-face, cartridge-equipped (MSHA/NIOSH approved)
- Chemical-resistant clothing (coveralls: hooded, one-piece or two-piece chemical splash suit; chemical-resistant hood and apron; disposable chemical-resistant coveralls)
- Coveralls
- Long cotton underwear
- Gloves (outer), chemical-resistant
- Gloves (inner), chemical-resistant
- Boots (outer), chemical-resistant, steel-toed and shank
- Boot-covers (outer), chemical-resistant (disposable)
- Hard hat

Level D Personnel Protective Equipment

- Coveralls and/or chemical resistance suit
- Hand protection consisting of inner chemical resistance and outer chemical resistance gloves
- Boots/shoes, leather or chemical-resistant, steel-toe and shank
- Safety glasses
- Hard hat
- Shoe/boot covers

The minimum personal protective equipment required by the Company on a typically oil spill shall consist of the following:.

1. Hard Hat meeting ANSI Z89.1 standard
2. Steel Toed Boots meeting ANSI Z41 standards - chemical resistant
3. Safety Glasses meeting ANSI Z87.1 standard
4. Gloves - chemical resistant
5. Coveralls -chemical resistant

Minimum required personal protective equipment listed assumes toxins, corrosives, flammable substances and other health hazards are within acceptable safe limits. Additionally, site assessments must reveal that respiratory equipment for personnel will not be required. In the event that any of these hazards exists, the site safety manager shall determine the appropriate personal protective equipment to be used based on the levels outlined in the regulation.

X. FREQUENCY AND TYPES OF AIR MONITORING/SAMPLING

This section explains the general concepts of the air monitoring program and specifies the surveillance activities that will take place during project completion at the site. The purpose of air monitoring is to identify and quantify airborne contaminants in order to verify and determine the level of worker protection needed. Initial screening for identification is often qualitative, i.e., the contaminant, or the class to which it belongs, is demonstrated to be present, but the determination of its concentration (quantification) must await subsequent testing.

Two principal approaches are available for identifying and/or quantifying airborne contaminants:

- The on-site use of direct-reading instruments.
- Laboratory analysis of air samples obtained by gas sampling bag, collection media (i.e., filter, sorbent), and/or wet-contaminant collection methods.

Air monitoring shall identify and qualify airborne levels of hazardous substances. Monitoring should address initial entry, periodic monitoring, and possible IDLH dangers. The tasks specific conditions and duration of monitoring, including PPE assessments shall be specified within the site specific safety plan.

XI. EMERGENCY RESPONSE PLAN

Written emergency response plans shall be developed to address anticipated uncontrolled releases. The emergency response plan must address the criteria outlined below:

1. Pre-emergency planning
2. Personnel roles, lines of authority, and communication.
3. Emergency recognition and prevention.
4. Safe distances and places of reference.
5. Site security and control.
6. Evacuation routes and procedures.
7. Decontamination procedures.
8. Emergency medical treatment and first aid.
9. Emergency alerting and response procedures.
10. Critique of response and follow up.

11. Personal protective and emergency equipment.

XII. MEDICAL SURVEILLANCE REQUIREMENTS

Medical monitoring programs are designed to track the physical condition of employees on a regular basis as well as establish pre-employment or baseline conditions prior to potential exposures. The medical surveillance program is a part of company health and safety program and is given at no cost to employees.

BASELINE OR PRE-ASSIGNMENT MONITORING

Prior to being assigned to a hazardous or a potentially hazardous activity involving exposure to toxic or hazardous substances, each employee will receive a pre-assignment or baseline physical. The specific tests and requirements of each physical are to be determined by company medical consultant. As suggested by NIOSH/OSHA/USCG/EPA's Occupational Safety & Health Guidance Manual for Hazardous Waste Site Activities, the minimum medical monitoring requirements for work at the Site are as follows:

- Complete medical and work histories
- Physical examination
- Pulmonary function tests (FVC and FEV1)
- Chest X-ray (baseline, or as required by a physician)
- EKG
- Eye examination and visual acuity
- Audiometry
- Urinalysis
- Blood chemistry and heavy metals toxicology
- Whole Body Count (If there is a possibility that the employee will be exposed to ionizing radiation
- During the pre-assignment (baseline) physical, the occupation physician should determine if each employee is fit-for-duty and able to wear respiratory protection
- (OSHA Respirator Medical Evaluation Questionnaire (Mandatory) - 29 CFR 1910.134 App C (effective January 5, 1999) applies).

Depending on anticipated site activities and site contaminants, the occupational physician may suggest additional testing.

PERIODIC MONITORING

In addition to a baseline physical, all employees must have an annual physical unless the advising physician believes a shorter interval is appropriate. The employer's medical consultant should prescribe an adequate medical examination which fulfills OSHA and EPA's SSP requirements. The pre-assignment medical examination outlined above may be applicable.

All personnel working in contaminated or potentially contaminated areas at the site will attest to their medical monitoring exam within the previous twelve month period. This is done by indicating the date of the last physical on the safety meeting sign in sheet.

SITE-SPECIFIC MEDICAL MONITORING

For some sites and contaminants, specific tests may be required prior to individuals entering the site. If contaminants exceed published action levels the Company Health Physicist and/or Occupational Physician will be consulted.

EXPOSURE/INJURY/MEDICAL SUPPORT

As a follow-up to an injury or possible exposure above established exposure limits, all employees are entitled, and encouraged, to seek medical attention and physical testing. Depending on the type of exposure, it is critical to perform follow-up testing within 24-48 hours. It will be up to Company's medical consultant to advise the type of test(s) required to accurately monitor for exposure effects. It is advisable that the examining physician should consult the HPO to ensure that the most appropriate information about radiation be available to the physician.

EXIT PHYSICAL

At termination of employment or reassignment to an activity or location which does not represent a risk of exposure to hazardous substances, an employee shall receive an exit physical.

XIII. DECONTAMINATION PLAN

STANDARD OPERATING PROCEDURES

Decontamination involves the orderly controlled removal of contaminants. Standard decontamination sequences are presented in the decontamination figure. All site personnel should minimize contact with contaminants in order to minimize the need for extensive decontamination. If necessary, showers and other sanitation equipment shall be provided in accordance with the Company Sanitation Policy.

Level A Decontamination

Step 1 Segregated equipment drop

Step 2 Boot cover and glove wash

Step 3 Boot cover and glove rinse

Step 4 Tape removal - boot and glove

Step 5 Boot cover removal

Step 6 Outer glove removal

Step 7 Suit/safety boot wash

Step 8 Suit/safety boot rinse

Step 9 Safety boot removal

Step 10 Fully encapsulating suit removal

Step 11 SCBA backpack and hard hat removal

Step 12 Inner glove wash

Step 13 Inner glove rinse

Step 14 Face piece removal

Step 15 Inner glove removal

Step 16 Inner clothing removal

Step 17 Field wash

Step 18 Redress

Level B Decontamination

Step 1 Segregated equipment drop

Step 2 Boot cover and glove wash

Step 3 Boot cover and glove rinse

Step 4 Tape removal - boot and glove

Step 5 Boot cover removal

Step 6 Outer glove removal

Step 7 Suit/safety boot wash

Step 8 Suit/safety boot rinse

Step 9 Safety boot removal

Step 10 SCBA backpack removal Step

11 Coverall and hard hat removal Step

12 Inner glove wash

Step 13 Inner glove rinse

Step 14 Face piece removal

Step 15 Inner glove removal

Step 16 Inner clothing removal

Step 17 Field wash

Step 18 Redress

Level C Decontamination

Step 1 Segregated equipment drop

Step 2 Boot cover and glove wash

Step 3 Boot cover and glove rinse

Step 4 Tape removal

Step 5 Boot cover removal

Step 6 Outer glove removal

Step 7 Suit/safety boot wash

Step 8 Suit/safety boot rinse

Step 9 Safety boot removal

Step 10 Splash suit removal

Step 11 Inner glove wash

Step 12 Inner glove rinse

Step 13 Face piece removal

Step 14 Inner glove removal

Step 15 Inner clothing removal

Step 16 Field wash

Step 17 Redress

Level D Decontamination

Step 1 Remove outer garments (i.e., coveralls)

Step 2 Remove gloves

Step 3 Wash hands and face

LEVELS OF DECONTAMINATION PROTECTION REQUIRED FOR PERSONNEL

The levels of protection required for personnel conducting or assisting with the decontamination process will utilize Level C. The SSO is responsible for monitoring decontamination procedures and ensuring appropriate level of PPE has been selected. Employee may not leave the area until all associated clothing and materials have been disposed of or decontaminated.

EQUIPMENT DECONTAMINATION

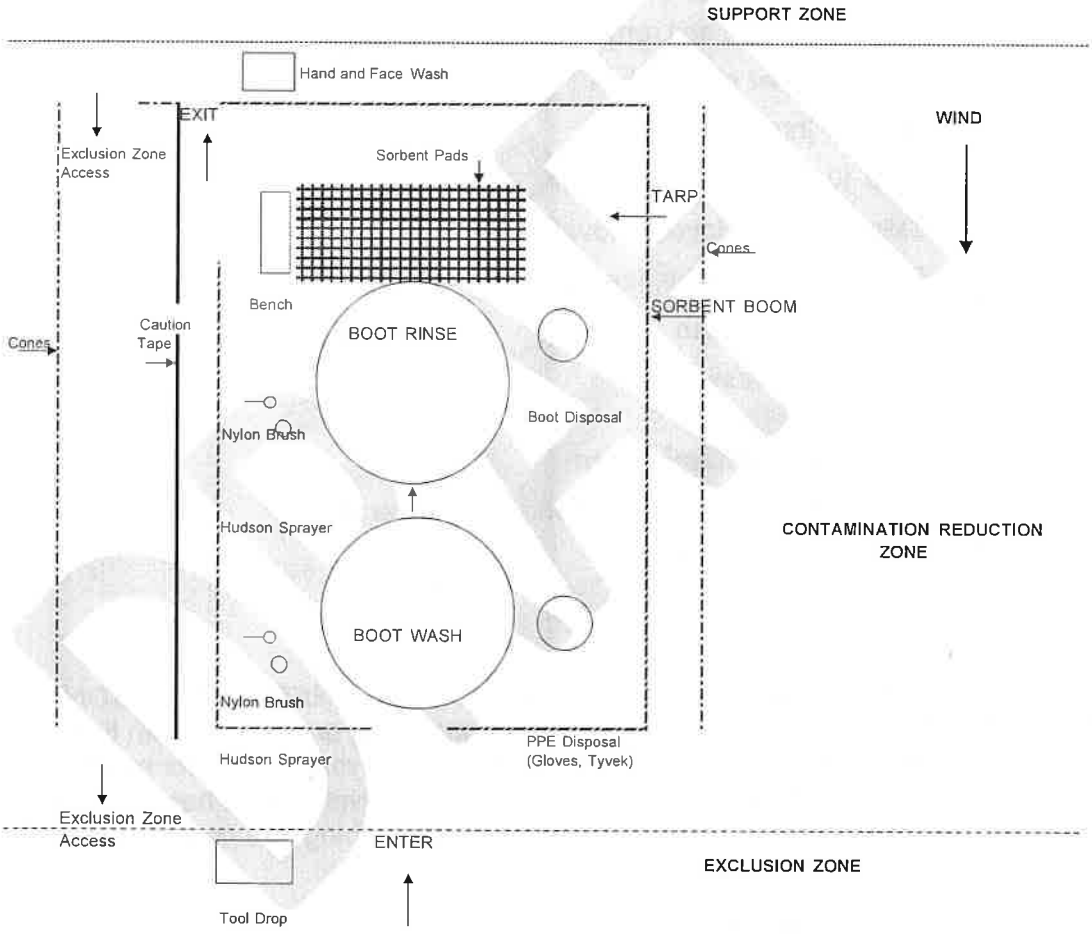
Sampling equipment and personal protective equipment will be decontaminated in accordance with procedures as defined in the project operations plan and SOPs. PPE and other equipment that cannot be decontaminated, cleaned, laundered, maintained shall be replaced.

DISPOSITION OF DECONTAMINATION WASTES

All equipment and solvents used for decontamination shall be decontaminated or disposed of properly as per the site specific waste management plan. Commercial laundries or cleaning establishments that decontaminate protective clothing or equipment shall be informed of the potentially harmful effects of exposures.

Decon location and layout shall follow the schematic listed below.

XIV. DECON LOCATION AND LAYOUT SCHEMATIC



XV. SITE CONTROL MEASURES

The following section defines measures and procedures for maintaining site control. Site control is an essential component to preventing unauthorized entry into controlled zones.

BUDDY SYSTEM

During all activities, the implementation of a buddy system is mandatory. A buddy system requires at least two people who work as a team; each looking out for each other.

SITE COMMUNICATIONS PLAN

Successful communications between field teams and contact with personnel in the support zone is essential. Two-way radios and hand signals will be the main mode of communication on the site. The following list outlines the hand signals and their definitions.

Hand Signals and Definitions

Signal	Definition
Hands clutching throat	Out of air/cannot breath
Hands on top of head	Need assistance
Thumbs up	OK/I am all right/I understand
Thumbs down	No/negative
Arms waving upright	Send backup support
Grip partners wrist	Exit area immediately

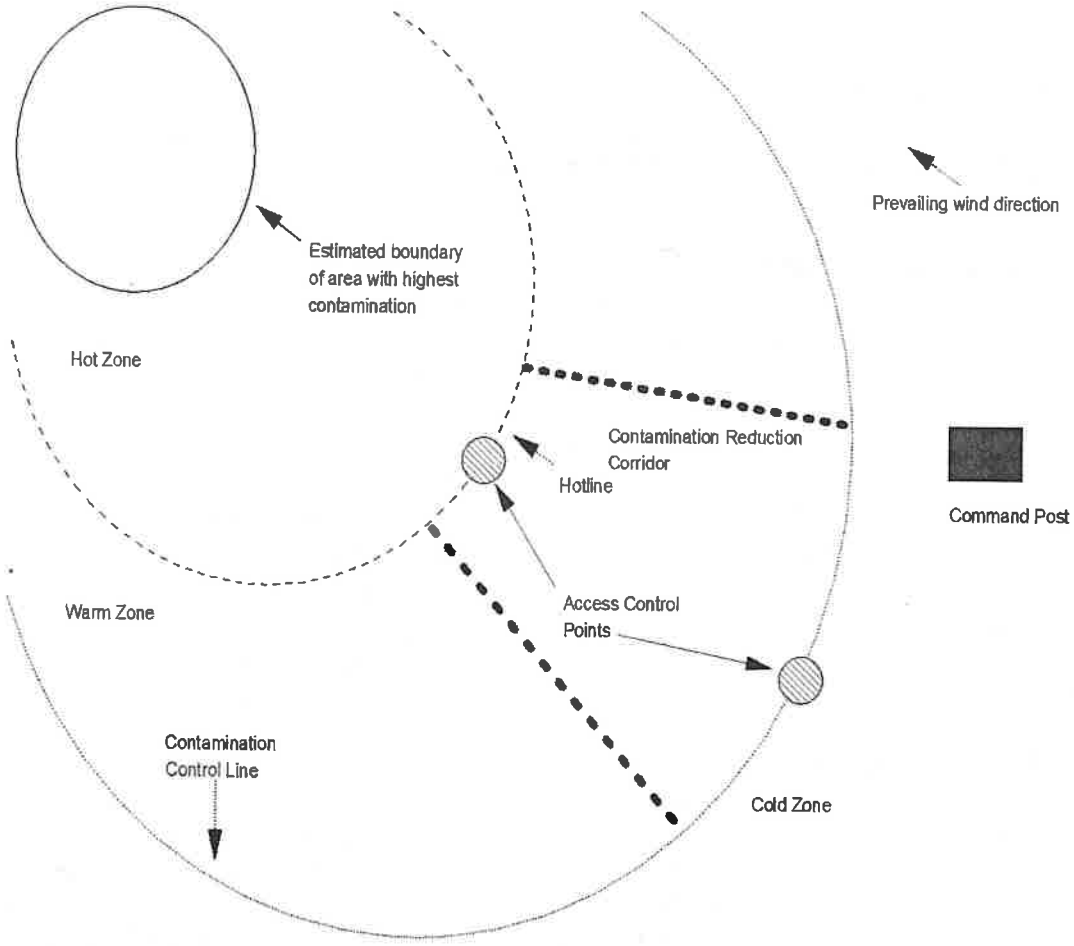
WORK ZONE DEFINITION

The three general work zones established at the site are the Exclusion Zone, the Contamination Reduction Zone, and the Support Zone. The figure below provides a site map with the work zones designated. The Exclusion Zone is defined as the area where contamination is either known or likely to be present, or because of activity, will provide a potential to cause harm to personnel. Entry into the Exclusion Zone requires the use of PPE.

The Contamination Reduction Zone is the area where personnel conduct personal and equipment decontamination. It is a buffer zone between contaminated areas and clean areas. Activities to be conducted in this zone will require personal protection as defined in the decontamination plan.

The Support Zone is situated in clean areas where the chance of encountering hazardous materials or conditions is minimal. However, even in support zones, some PPE, such as hard hats, safety shoes, and/or safety glasses, may be required.

XVI. SITE MAP DEPICTING WORK ZONES



SITE SAFETY PLAN

INCIDENT INFORMATION

Location: _____

Date: _____ Time: _____

Site Supervisor: _____

Brief Description of Incident: _____

_____

Product Spilled: _____

Contained: ☐ Yes ☐ No

PERSONAL PROTECTIVE EQUIPMENT

☐	☐
☐ Hard Hat	☐ Work Vest
☐ Safety Glasses	☐ Barrier Cream
☐ S.T. Rubber Boots	☐ Goggles
Tyvek	Face Shield
☐ Rain Slicker	☐ Rubber Gloves
☐ Face Shield	☐ Duct Tape
☐ Respirator	☐ Sun Screen

PHYSICAL HAZARDS

☐ Terrain	☐ Crane operations
☐ Slip/Trip/Fall	☐ Electrical
☐ Small boat operations	☐ Noise
☐ Heavy Equip. operations	☐ Heat exhaustion
☐ Transfer operations	☐ Overhead
☐ Biological	☐ Confined space
☐	☐
Chemical	Atmospheric

MONITORING INFORMATION

INITIAL TEST:

O_2 _____

LFL _____

H_2S _____

Benzene _____

Other: _____

Type of monitor: _____

Calibration Date: _____

Frequency of testing: _____

COMMUNICATION INFORMATION

Command Post Phone #: _____

Working Radio Freq. # _____

Emergency Radio Freq. # _____

Other: _____

EMERGENCY EVACUATION/SERVICES

Evacuation/Alarm Signal: _____

Evacuation Assembly Location: _____

Name of Service Phone #

_____

_____

WEATHER AND SEA

Wind Direction: (From): _____

Speed: Sun % _____

Temperature: Humidity: _____

Fog: Rain: _____

Sea Condition (ft.): _____

Ground (wet/dry): _____

Other: _____

SITE DESCRIPTION

☐ Attach site map indicating location of perimeter, control zones, command post, decon corridor and decon procedures.

TRAINING REQUIRED

☐ Emergency Response (Subpart (q) compliant)

☐ 24 hour Hazwoper (below PEL)

☐ 40 hour Hazwoper (above PEL)

Other _____

SAFETY MEETING TOPICS

_____

_____

_____

_____

_____

Print Name: _____

Signature: _____

☐ Attach MSDS

☐ Attach Safety Meeting Report and fax to Incident Command

DRAFT

TABLE OF CONTENTS

I. OBJECTIVE 2

II. AUTHORITY 2

III. POLICY 2

IV. DEFININTIONS 2

V. RESPONSIBILITIES 3

VI. GENERAL REQUIREMENTS 3

VII. PROCEDURES 4

VIII. PROVISIONS FOR WATER 5

IX. ACCESS TO SHADE 6

X. HIGH HEAT PROCEDURES 6

XI. EMERGENCY PROCEDURES 7

XII. TRAINING 8

Appendix A - Guidelines for Heat Exposure Limits

DRAFT

HEAT ILLNESS

I. OBJECTIVE

Many workers at the company work in hot environments. Working in hot conditions poses many safety and health hazards to the workers. This policy addresses ways to minimize and control these hazards. The objective of this policy is to reduce the risk of illness, injury or fatality to company employees, contractors and related personnel from heat related disorders.

California Employers with any outdoor places of employment must comply with the Heat Illness Prevention Standard T8 CCR 3395. These procedures have been created to assist the employer in crafting their heat illness prevention procedures, and to reduce the risk of work related heat illnesses among their employees.

II. AUTHORITY

Title 8 CCR 3395, Heat Illness Standard

III. POLICY

This policy sets forth company requirements for work in hot environments.

IV. DEFININTIONS

"Acclimatization" means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

"Heat Illness" means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

"Environmental risk factors for heat illness" means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

"Personal risk factors for heat illness" means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

"Preventative recovery period" means a period of time to recover from the heat in order to prevent heat illness.

"Shade" means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

V. RESPONSIBILITIES

Safety Representative is available to monitor the heat exposure of individual jobs and make recommendations to reduce heat stress risk. If employees must work for extended periods (i.e. more than 1 continuous hour/day) outdoors during hot weather or above the threshold limit value (TLV) for heat exposure.

Supervisors have the primary responsibility for the implementation of the Heat Stress Prevention Program in their work area. The supervisor has ultimate responsibility for the safety of the employees. This includes evaluation of the work to be performed, providing ready access to drinking water or electrolyte replacement drinks, ensuring workers take are familiar with the signs and symptoms of heat related disorder, allow for acclimatization of workers in hot environments, adoption of work rest regimes and scheduling of work to reduce heat stresses as appropriate and providing training for employees.

Employees are responsible for attending training and following the instructions given. They are also responsible for monitoring themselves for signs and symptoms of heat stress.

VI. GENERAL REQUIREMENTS

1. Employees shall have access to potable drinking water. Where it is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity throughout the work shift.

2. Employees suffering from heat illness or believing a preventative recovery period is needed, shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling. Such access to shade shall be permitted at all times.

3. Supervisors must receive training in the prevention of heat related illnesses prior to supervising employees working in heat.

4. Supervisors must be trained in the employer's heat illness procedures to prevent heat illness and procedures to follow when a employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

5. Procedures must be in place to control the effects of environmental factors that can contribute to heat related illness. The most common environmental factors are air temperature, humidity, radiant heat sources and air circulation. Refer to section VII for specific requirements.

6. Physical factors that contribute to heat related illness should be taken into consideration before performing a task. The most common physical factors that can contribute to heat related illness are type of work, level of physical activity and duration, and clothing color, weight and breathability.

7. Supervisors must ensure personal factors that contribute to heat related illness are taken into consideration before assigning a task where there is the possibility of a heat-related illness occurring. The most common personal factors that can contribute to heat related illness are age, weight/fitness, drug/alcohol use, prior heat-related illness, etc.

VII. PROCEDURES

These procedures are not intended to supersede or replace the application of any other Title 8 regulation, particularly T8 3203 Injury and Illness Prevention Program (IIPP). Title 8 CCR 3203 requires an employer to establish, implement, and maintain an effective IIPP.

There are other standards that apply to Heat Illness Prevention some of the provisions that were already required by regulation include:

- Providing for Emergency Medical Services (EMS)
- Providing adequate supply of Potable Water
- Keeping drinking water fresh and suitably cool
- Keeping clean drinking cups available
- Provide CPR/First Aid training for any remote location.

The key elements within this Heat Illness Prevention Program are those contained in Title 8 of the California Code of Regulations, Section 3395 (T8 CCR 3395) and consist of the following:

1. Provisions for Water
2. Access to Shade
3. Written Procedures
4. Training

VIII. PROVISIONS FOR WATER

Water is a key preventive measure to minimize the risk of heat related illnesses.
3395 (c) Employees shall have access to potable drinking water meeting the requirements of Sections 1524, 3363, and 3457, as applicable. Where the supply of water is not plumbed or otherwise continuously supplied, water shall be provided in sufficient quantity at the beginning of the work shift to provide **one quart per employee per hour for drinking** for the entire shift.

Supervisors may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour. The frequent drinking of water, as described in (e), shall be encouraged.

Procedures for Provisions of Water

1. Bring at least 2 quarts per employee at the start of the shift, and Supervisor/designated person will monitor water containers every 30 minutes, and employees are encouraged to report to supervisor/designated person low levels or dirty water.
2. Supervisor will provide frequent reminders to employees to drink frequently, and more water breaks will be provided.
3. On days that will exceed 75 degrees F, every morning there will be short tailgate meetings to remind workers about the importance of frequent consumption of water throughout the shift.
4. Place water containers as close as possible to the workers, not away from them.
5. When drinking water levels within a container drop below 50%, the water shall be replenished immediately; or water levels should not fall below the point that will allow for adequate water during the time necessary to effect replenishment.
6. Disposable/single use drinking cups will be provided to employees, or provisions will be made to issue employees their own cups each day.
7. Noise making devices, such as air horns, may be used to remind employee's to take their water break.

To ensure access to sufficient quantities of potable drinking water Supervisors must either provide clean iced coolers or iced bottled water **one quart per employee per hour.**

To encourage frequent drinking of potable water Supervisors must give adequate work breaks and ensure employees are drinking water on regular intervals.

IX. ACCESS TO SHADE

Access to rest and shade or other cooling measures are important preventive steps to minimize the risk of heat related illnesses. 3395 (d) Employees suffering from heat illness or believing a preventative recovery period is needed, shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. Such access to shade shall be permitted at all times.

Procedures for providing Shade:

- Supervisor will set-up an adequate number of; umbrellas, canopies or other portable devices, at the start of the shift and will relocate them to be closer to the crew, as needed. Equipment should be placed in close proximity (i.e., no more than 50-100 yards) to the work activity.
- Employees have access to office or construction trailer, or other building with air conditioning.
- Every morning there will be short tailgate meetings (in the employees' language) to remind workers about the importance of rest breaks and the location of shade.
- Non-agricultural employers can use other cooling measures if they demonstrate that these methods are as effective as shade.

To ensure access to shade at all time Supervisors shall provide easy ups when ambient temperature exceeds 75 degrees F. To ensure that employees have access to a preventative recovery period Supervisors shall ensure employees take regular breaks in increasing amounts based on temperature.

X. HIGH HEAT PROCEDURES

When the temperature equals or exceeds 95 degree Fahrenheit, the Site Supervisors shall implement the high-heat preventive procedures by:

1. Ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor when needed. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable.

   This preventive measure is particularly important in circumstances where the supervisor is not present at the site and needs to be immediately alerted of a problem, such as when the outdoor temperature has suddenly spiked or the water used for replenishing containers have run out.

2. Observing employees for alertness and signs or symptoms of heat illness.

   Recognition of signs or symptoms of heat illness by a supervisor is crucial for assuring that sick workers be provided immediate access to shade and medical treatment. Delay of prompt medical response is likely to occur if employees working individually or in small groups suffer heat syncope, disorientation or loss of consciousness or any other symptoms of heat illness without the supervisor's knowledge.

   In instances where employees work in small groups without a supervisor present throughout the shift, the supervisor must designate an employee with sufficient experience and training to look for signs and symptoms of heat illness. Such a designated observer must know what steps to take if heat illness occurs.

3. Reminding employees throughout the shift to drink plenty of water.

   During period of high temperatures workers may be more likely to skip drinking water and or take rest breaks because they are in a rush to finish their work, and do not realize this can increase their risk of heat illness.

4. Close supervision of a new employee's for the first 14 days of employment. Exceptions to the close supervision requirements are if the employee indicates at the time of hire that he or she has been doing similar outdoor work for at least 10 of the past 30 days for 4 or more hours per day.

   It is important to supervising new employees to ensure that necessary preventive measures such as frequent drinking of water and taking cool down breaks are followed.

XI. EMERGENCY PROCEDURES

Written emergency procedures help reduce the risk of heat related illnesses, and ensure that assistance is provided without delay. 3395 (e) (3) The Company's procedures required by subsections (e) (1) (B), (G), (H), and (I) shall be in writing and shall be made available to employees and to representatives of the Division upon request. These include:

- Procedures for complying with the requirements of this standard,
- Procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary,
- Procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider;

- Procedures for ensuring that, in the event of emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

Procedures for complying with the Heat Illness Standard:

- All employees will be trained prior to working outdoors.
- Working hours will be modified to work during the cooler hours of the day, when possible.
- When a modified or shorter work-shift is not possible, more water and rest breaks will be provided.
- Supervisors will continuously check all employees, and stay alert to the presence of heat related symptoms.
- Supervisors will carry cell phones or other means of communication, to ensure that emergency services can be called, and check that these are functional at the worksite prior to each shift.
- Every morning, workers will be reminded about address and directions to the worksite and emergency procedures.

To reduce the risk of heat-related illness (HI) and respond to possible symptoms of HI Supervisors shall monitor employees for heat related illnesses during hot days. In the event of an emergency Supervisors shall keep emergency medical numbers to the nearest location readily available.

XII. TRAINING

Training is critical to help reduce the risk of heat related illnesses and to assist with obtaining emergency assistance without delay. 3395 (e) (1) Employee training: Training in the following topics shall be provided to all supervisory and non-supervisory employees:

- The environmental and personal risk factors for heat illness;
- The employer's procedures for complying with the requirements of this standard;
- The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties;
- The importance of acclimatization;
- The different types of heat illness and the common signs and symptoms of heat illness;

- The importance to employees of immediately reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers;
- The employer's procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary;
- The employer's procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider;
- The employer's procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders. Communication for employees shall be in a form readily understandable by all affected employees.

Supervisor training: Prior to assignment to supervision of employees working in the heat, training on the following topics shall be provided:

- The information required to be provided by section (e) (1) above.
- The procedures the supervisor is to follow to implement the applicable provisions in this section.
- The procedures the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

Procedures for complying with the heat illness training provision:

- All employees will receive heat illness prevention training prior to working outdoors. Especially all newly hired employees.
- On hot days, and during a heat wave, supervisors will hold short tailgate meetings to review this important information with all workers.
- All newly hired workers will be assigned a buddy or experienced coworker to ensure that they understood the training and follow the company procedures.
- Supervisors will be trained prior to being assigned to supervise outdoor workers.

Appendix A - Guidelines for Heat Exposure Limits

Always monitor signs and symptoms of heat-stressed workers. Discontinue any activity for a person when:

- Sustained heart rate greater than 160 beats per minute for those under 35 and 140 for those 35 and over.
- There are complaints of sudden and severe fatigue, nausea, dizziness, lightheadedness, or fainting.
- There are periods of inexplicable irritability, malaise or flu-like symptoms.
- Sweating stops and the skin becomes hot and dry.

Relative Humidity %	Environmental Temperature °F									
	70	75	80	85	90	95	100	105	110	115
0%	64	69	73	78	83	87	91	95	99	103
10%	65	70	75	80	85	90	95	100	105	111
20%	66	72	77	82	87	93	99	105	112	120
30%	67	73	78	84	90	96	104	113	123	135
40%	68	74	79	86	93	101	110	123	137	151
50%	69	75	81	88	96	107	120	135	150	
60%	70	76	82	90	100	114	132	149		
70%	70	77	85	93	106	124	144			
80%	71	78	86	97	113	136	Extreme Danger			
90%	71	79	88	102	122					
100%	72	80	91	108						

Category	Apparent temperature (°F)	Dangers
Extreme danger	Greater than 120	Heat stroke imminent
Danger	105-120	Heat exhaustion likely
Extreme caution	90-105	Heat cramps, exhaustion possible
Caution	80-90	Exercise more fatiguing than normal

Apparent temperature, Heat Stress Index (HSI): A measure of how hot it really feels in degrees Fahrenheit when relative humidity is factored with the actual air temperature. This chart has been adapted from the National Weather Service's "heat index" and an adjustment has been made with the apparent temperature categories to match more closely working in full sunshine. This guideline should be followed for employees not wearing protective clothing.

HIRING PROCEDURE

- Review employment applications and check all references.
- Schedule and conduct employment interviews with all perspective employees.
- Give perspective employee the Company Safety Handbook. Perspective employee must study the Code of Safe Practices, Injury and Illness Prevention Program, and Hazardous Communication Section in the Safety Handbook. They will be tested on these programs and must score 75% or higher to be hired.
- Contact perspective employees' to schedule a time for the Pre Employment Training.
- Schedule a pre-employment drug test and physical for perspective employee. After approximately three days, the M.R.O will contact you with the results of the drug test and physical. If drug test is negative and there are no restrictions on physical abilities then proceed with hiring.
- Upon acceptable completion of the Pre-Employment and Hazardous Communication Training, go through New Employee Checklist (Form 4061) at the end of this section. Thoroughly review all documentation upon completion, supervisor and new hire shall initial the checklist. Be sure that the employee understands the company commitment to safety and what is expected.
- Turn the New Employee Checklist, acknowledgements, and testing information into the main office for review and record keeping.
- Notify new employee that they are under a 30-day trial period. Notify the foreman that he is responsible for ensuring that the new employee receives On-The-Job Training.

NEW EMPLOYEE CHECK LIST

New or Reassigned Employee Safety, Health and Environmental Orientation

Prospective employee must initial the box(s) as the following Company policies are discussed.

	GENERAL
	Employment application
	I-9 and W-4
	Pre-placement physical
	Pre-employment Drug/Alcohol screen
	Safety Manual issued and explained
	Required attendance and participation in safety meetings explained
	Required reporting to Supervisor of every injury, property loss, unsafe condition and every unsafe practice
	Lockout/Tagout Standard discussed
	Confined Space/Safe Work Permit/Hot Work Standard discussed
	Fire protection equipment and extinguishing agents discussed
	Electrical safety training, as needed
	Respiratory protection training, if applicable
	Facial hair policy
	Enforcement policy *(verbal, written, terminated)*
	Employee responsibility for preventing accidents
	Pipeline and plant Emergency Procedures
	Discuss the safety suggestion box
	HAZCOM overview training received, as needed
	Accident Reporting and Investigation Procedures received and discussed
	Review Drug and Alcohol Policy
	Company Vehicle Policy reviewed
	Vehicle safety inspection form reviewed
	Hard hat issued
	Safety glasses issued
	Uniform and steeled toed boot policy reviewed
	Policy for, PPE reviewed *(hard hat, ANSI Z87.1 safety glasses, steel toed boots).*
	SAFETY INCENTIVE PROGRAM
	Company Safety Incentive Program explained.
	Employee agrees to fully cooperate with the safety efforts of the employer and use good judgment, concerning safe behavior.

All of the above has been diligently and completely explained to me. I have read and understand the safety expectations of the Company and understand what is expected of me as an employee.

Employee Signature _____ **Date** _____

Completed copies of this form must be kept in the safety files for a minimum of three years.

TABLE OF CONTENTS

I. PURPOSE 2
II. REFERENCE 2
III. APPLICABILITY 2
IV. DEFINITIONS 2
V. WELDER QUALIFICATION 3
VI. RESPONSIBILITIES 4
VII. GENERAL REQUIREMENTS 5
VIII. WELDING EQUIPMENT 7
IX. PERFORMING THE HOT WORK 7
X. COMPLETION OF THE HOT WORK 7
XI. WELDING IN A CONFINED SPACE 7
XII. TRAINING 8

APPENDIX A

HOT WORK PERMIT INSTRUCTIONS (Completing the Form)
HOT WORK PERMIT

DRAFT

HOT WORK PROCEDURE

I. PURPOSE

This standard establishes proper safety precautions to be taken when work could create a source of ignition in an area that is normally free of ignition sources. It does not apply to designated "Safe Welding and Burning Areas". This written document includes a work authorization system (Hot Work Permit) and the precautions to follow in order to complete work safely.

II. REFERENCE

Cal OSHA, Title 8 CCR, subsection 4848, *Fire Prevention*
Fed OSHA, 29 CFR 1910.252-255, *Oxygen-Fuel Gas Welding and Cutting*
BOEMER, 30 CFR 250.109-114, *Welding and Burning Plans*
NFPA Standard, 51B, *Fire Prevention During Welding*

III. APPLICABILITY

This procedure applies to all company and contract personnel, as defined above. The *Hot Work Procedure* does not apply to designated "Safe Welding and Burning Areas".

A Hot Work Permit is also required when a motorized vehicle enters an area classified Class I, Division 1. If it remains stationary to perform work, all applicable provisions of this policy apply. Vehicles may temporarily enter a Class I, Division 2 area providing it has been determined safe by appropriate lower flammable limits (LFL/LEL) tests, and continuous monitoring occurs during the duration of the work.

IV. DEFINITIONS

Classified Area: Electrical classification - Includes all areas of the facility which have been classified by Class I Division 1 or Class I Division 2, by the *National Electric Code*.

Designated Safe-Welding and Burning Areas: Some facilities have designated safe-welding and burning location(s). When welding operations are conducted in these approved areas a Hot Work Permit and/or Fire Watch is not required, providing the provisions of the designated area are satisfied.

Fire Watch: The qualified person with associated fire protection equipment, and communication equipment assigned to stand by during and at least thirty (30) minutes after welding, cutting or open flame operations.

Ignition Source: An open flame, welding, hot tapping, burning, grinding, abrasive blasting, open and energized electrical junctions, or any spark producing device. Electrical hand tools, vehicles and other spark ignited engines are ignition sources.

Job Supervisor/Permit Initiator: The person controlling the execution of work, typically the welder or contract supervisor.

Simultaneous Operations: Operations at a facility by more than one work group, such as, operations, drilling, production and/or construction. When simultaneous operations occur at one facility, each of the individual Job Site Supervisors must endorse the other Work Permit(s), i.e., sign the "Simultaneous Operations/Co-Signatures" section of the permits. This method ensures all parties are informed of the work activities at hand.

Site Supervisor: Person(s) authorized to approve and sign a Hot Work Permit, usually the Lead Operator, Foreman or designee.

V. WELDER QUALIFICATION

Welder standard certification shall be verified by the site supervisor or designated person in charge prior to allowing welding operations. If required certification cannot be produced, the welder must not be allowed to perform any welding operation. Typical welder certification requirements are as follows:

DOT Pipelines: Certifications of welders welding on DOT jurisdictional transmission piping or facilities must meet section III of API 1104 specifications, or other specifications defined in DOT Pipeline O&M procedures.

Pressure Vessels: Qualification and certification of welders welding on ASME Section I or Section IV boilers, or ASME Section VIII hydrocarbon vessels must meet ASME Boiler and Pressure Vessel Code, Section IX specifications.

Gas Plants: Qualification and certification of welders welding on all Gas Plant or Offshore platform process piping (ANSI B31.3 piping) must meet ASME Boiler and Pressure Vessel Code, Section IX specifications.

Flowlines: Certifications of welders welding on field liquid transmission piping or flowlines (ANSI B31.4 piping) or field gas transmission piping flowlines (ANSI B31.8 piping) must meet ASME Boiler and Pressure Vessel Code, Section IX, or API 1104 specifications.

Structural: Certification of welders welding major structural members must meet AWS D1.1 specifications (Examples include: Deck beams, deck extensions, boat landing and structural supports).

Other Welding: Any burning or welding on anything other than main structural or process equipment shall be performed by personnel acceptable to the Site Supervisor. Welders shall be fully aware of all safety regulations. "Other Welding" should be limited

to minor structural welding (Examples include: handrails, grating, pipe supports, fire tubes, etc.).

VI. RESPONSIBILITIES

Job Supervisor/Permit Initiator must:

- Initiate the "Hot Work Permit" by following the permit instructions attached to the booklet.
- Review and sign simultaneous work permits, i.e. (Safe Work, Hot Work, Confined Space), when applicable.
- Review the "Hot Work Permit" conditions and sign the permit, acknowledging that conditions are understood.
- Contact the Site Supervisor to inspect and authorize the work.
- Conduct pre-job safety meeting to review job scope, Hot Work Permit conditions and applicable simultaneous operations.

Site Supervisor Must:

- Ensure all elements of the Hot Work Permit Procedure are followed.
- Inspect Welder Qualification/Certification(s) in accordance with the definition of "Qualified Welder" above.
- Conduct a site inspection (refer to Site Inspection checklist on the Hot Work Permit).
- Ensure the atmospheric tests for safe Oxygen content, flammables, and toxics (O_2, LFL/LEL, and H_2S) are performed.
- Ensure permit initiator has signed applicable simultaneous operational permits.
- Review, sign and approve the Hot Work Permit.

Designated Fire Watch Must:

- Ensure adequate fire extinguisher and /or charged fire hose is at the site during the hot work. Two fire protection devices must be available for hot work operations in Class I, Division 1 and Class I, Division 2) areas.
- Alert personnel entering the permitted area of hazards, i.e., flashes, grinding, cutting, overhead hazards, etc.
- Stop the hot work if sparks, flame or heat project outside the permitted area.
- Activate the fire alarm and/or emergency shut down (ESD) and then attempt to extinguish any incipient stage fires.
- Continuously monitor the area during and thirty (30) minutes after the hot work (welding, cutting or open flame operations) is completed.

A FIRE WATCH MAY HAVE NO OTHER DUTIES!

VII. GENERAL REQUIREMENTS

1. Training shall be required in the use of fire extinguishing equipment for employees assigned to fire watch. Assigned fire watchers must be trained in the use of fire extinguishing equipment and familiar with the facilities for sounding an alarm in the event of a fire.
2. Welders and their supervisors must be suitably trained in the safe operations of their equipment and the safe use of the process.
3. If the object to be welded or cut cannot readily be moved, all moveable fire hazards should be removed. A thirty-five (35) foot clearance must be maintained from all flammable/combustible hazards without guards in place.
4. If all the fire hazards cannot be removed, then guards shall be used to confine the heat, sparks and slag and to protect the immovable fire hazards.If the object to be welded or cut cannot be moved and if all the fire hazards cannot be removed, then guards shields, fire blankets, etc. shall be used to confine the heat, sparks and slag and to protect the immovable fire hazards.
5. If welding cannot be conducted safely the welding and cutting shall not be performed. If fire hazards cannot be taken to a safe place or guards cannot be used to confine heat, sparks, slag and protect the immovable fire hazards, the welding and cutting shall not be performed.
6. A fire watch is required when welding, cutting, brazing and/or soldering is performed near combustible materials and/or in locations where fire may develop.
7. Fire watch personnel shall have at least one fire extinguisher readily available. A backup means of fire protection, i.e. additional fire extinguisher, fire hose, buffalo, or water truck), should also be available.
8. A fire watch shall be maintained at least a half an hour after the welding or cutting operation was completed.
9. A hot work permit must be completed before performing hot work. Precautions that are to be taken shall be in the form of a written permit. Before cutting or welding is permitted the area shall be inspected and the written permit shall be used to authorize welding and cutting operations.
10. Respiratory protection equipment shall be utilized when evolution of hazardous fumes, gases, or dust is possible. Any welding, cutting or burning of lead base metals, zinc, cadmium, mercury, beryllium or exotic metals or paints not listed here shall have proper ventilation or respiratory protection.
11. Equipment operators must report equipment defects and discontinue use until it has been repaired or replaced. Operators of equipment should report any equipment defect or safety hazards and discontinue use of equipment until its safety has been assured. Repairs shall be made only by qualified personnel.
12. If the object to be welded or cut cannot readily be moved, all moveable fire hazards should be removed. A thirty-five (35) foot clearance must be maintained from all flammable/combustible hazards without guards in place.

13. If the object to be welded or cut cannot be moved and if all the fire hazards cannot be removed, then guards shields, fire blankets, etc. shall be used to confine the heat, sparks and slag and to protect the immovable fire hazards.
14. If fire hazards cannot be taken to a safe place or guards cannot be used to confine heat, sparks, slag and protect the immovable fire hazards, the welding and cutting shall not be performed.
15. A fire watch is required when welding, cutting, brazing and/or soldering is performed near combustible materials and/or in locations where fire may develop. The only time a fire watch will not be required is when hot work is in a designated safe welding and burning area.
16. Fire watch personnel shall have at least one fire extinguisher readily available. A backup means of fire protection, i.e. additional fire extinguisher, fire hose, buffalo, or water truck), should also be available.
17. A fire watch shall remain on duty at least thirty (30) minutes after the welding or cutting operation has been completed.
18. Any welding, cutting or burning of lead base metals, zinc, cadmium, mercury, beryllium or exotic metals or paints not listed here shall have proper ventilation or respiratory protection.
19. Operators of equipment should report any equipment defect or safety hazards and discontinue use of equipment until its safety has been assured. Repairs shall be made only by qualified personnel.
20. Atmospheric tests for safe oxygen content, flammables, and toxics (O_2, LFL/LEL, and H_2S) must be performed prior to issuing hot work permit.
21. Drains / vents within thirty-five (35) feet (minimum) radius must be sealed and adjacent areas inspected.
22. Hydrocarbon/flammable sources within thirty-five (35) feet of work area must be relocated, rendered inert, or protected with flameproof covers/shields.
23. If Hot Work is conducted within ten (10) feet of a well bay, variance is issued and producing wells are shut in at the surface safety valve.
24. Verify that there are no combustible materials on the backside of bulkhead or fire watch must be posted on each side.
25. Oil and other combustibles have been cleared from equipment to be welded.
26. Applicable safety systems are bypassed, flagged, logged and monitored.

If the general requirements stated above to weld safely cannot be satisfied welding cannot be conducted.

VIII. WELDING EQUIPMENT

Welding equipment must be maintained in a safe and workman like manner. Equipment must be visually inspected prior to each use.

The following welding equipment standards must be verified in place by the site supervisor or designated person in charge prior to hot work activities:

- Spark arrestors and drip pans on portable welding machines,
- Welding leads insulated and in good condition,
- Hoses free of leaks and equipped with proper fittings, gauges, and regulators,
- Oxygen and fuel gas bottles secured.
- Caps must be secured on cylinders and gauges removed prior to storage and/or transport.
- Oxygen and fuel in storage separated by 20' or 5' high non combustible barrier.

IX. PERFORMING THE HOT WORK

After the Hot Work Permit is approved and the hot work has begun, operating personnel will make periodic checks with an approved gas detector. If combustible gases are found greater than 10% of the Lower Flammable Limit (LFL/LEL), the job will be shut down and the area re-permitted.

Operations personnel must verify that designated Fire Watch personnel are continuously monitoring the area during the job and for a minimum of thirty (30) minutes after the hot work.

X. COMPLETION OF THE HOT WORK

- Immediately after the work is completed, the work area and adjacent areas will be inspected to ensure there has been no spread of sparks or heat.
- The fire watch will remain at the work site for a minimum period of thirty (30) minutes after hot work has ceased, to ensure that the area is secure.
- The person(s) doing the work will return their copy of the permit to the Site Supervisor after the job is complete and the area is secure.
- Upon completion of job, the site supervisor and/or designee must close out the permit by reviewing/initialing within the acknowledgement box.

XI. WELDING IN A CONFINED SPACE

Welding in a confined space is extremely dangerous. Provisions must be taken to obtain a confined space permit in addition to the hot work permit. At a minimum ensure adequate ventilation is in place, cylinders bottles are secure, lifelines are used, electrodes are removed, gas cylinders are shutoff and warning signs are posted. Refer to the company confined space entry procedure.

XII. TRAINING

Fire Watch: The training for a Fire Watch should include: 1) hands-on fire extinguisher training, 2) demonstration of their ability to properly use gas detection equipment, 3) demonstration of their ability to use a fire hose reel, and 4) demonstration of applicable fire prevention procedures.

Additionally, assigned fire watch personnel must be trained in the use of fire extinguishing equipment and be familiar with the facilities for sounding an alarm in the event of a fire.

Welders/Cutters: Cutters, welders must be suitably trained in the safe operations of their equipment and the safe use of the process.

Site Supervisor: The Site Supervisor must attend general fire protection training and be familiar with the applicable provisions of this procedure.

DRAFT

APPENDIX A

HOT WORK PERMIT INSTRUCTIONS (Completing the Form)

SECTION I WORK

This section of the permit is to be completed by the Permit Initiator and/or Site Supervisor. The effective and expiration date/time must be listed. A permit is not valid beyond the duration of the job scope, or beyond a shift change, whichever is less. All designated Fire Watch(s) must be listed and a complete description of the proposed task and work location must be identified.

SECTION II EMERGENCY SERVICE/VAPOR TEST

The emergency service section is to be completed by the Site Supervisor, and discussed with all affected parties prior to commencement of work. Appropriate emergency service providers must be identified and means of contacting them in the event of an incident. This section will typically have the name and telephone number of the nearest fire department, hospital and/or ambulance service.

The vapor test portion of this section is to be completed and initialed by a Company employee, or contract personnel who are qualified by training to perform the required tests. Tests shall be repeated at sufficient intervals of time to ensure that conditions do not change during the work activities. Sufficient time intervals range from continuous monitoring to every four hours depending on hazard potential.

SECTION III SITE INSPECTION

This section is to be completed by the Site Supervisor and person performing the Hot Work, usually the welder. The Supervisor's initials indicate that an inspection has been made and that applicable precautions have been taken and will remain in effect until the work listed is completed or until the permit expires.

SECTION IV PERSONAL PROTECTIVE EQUIPMENT (PPE)

Appropriate Personal Protective Equipment (PPE) to be used shall be specified in this section. The Site Supervisor must review this section prior to authorizing the work permit.

SECTION V SIGNATURES

This section requires signatures described below:

1. Permit Initiator/Job Supervisor -The person to whom the permit is issued shall acknowledge that they understand and will comply with all conditions, precautions and restrictions of the permit by signing their signature to the permit.

2. Fire Watch - All designated Fire Watch personnel must sign, acknowledging precautions will be followed.

3. Simultaneous Operation/Co-Signature - If a simultaneous operation is in effect at one facility, each of the individual Job Supervisors must also sign the co-authorized section. The co-authorized signature ensures all appropriate parties are informed of additional work activities.

4. Site Supervisor - The person responsible for the job site/ location shall authorize the work by signing their signature only after:

   - Ensuring all elements of the Hot Work Procedure are followed.
   - Inspecting Welder Qualification/Certification(s) in accordance with the definition of "Qualified Welder".
   - Conducting a site inspection (refer to Site Inspection checklist on the Hot Work Permit).
   - Ensuring the atmospheric tests for safe oxygen content, flammables, and toxics (O_2, LFL/LEL, and H_2S) are performed.
   - Ensuring permit initiator has signed applicable simultaneous work permits, i.e. (Safe Work, Hot Work, Confined Space).
   - Ensuring that the person to whom the permit is issued fully understands the conditions, restrictions, and precautions of the permit.

DISTRIBUTION OF PERMIT

COPY 1 Post with Site Supervisor until work is completed, usually in the control room or office.

COPY 2 Keep on file for a minimum of 5 years.

COPY 3 Post at the Job Site.

HOT WORK PERMIT

SECTION I — WORK

Effective_____Time_____AM/PM Expires_____Time_____AM/PM

(PERMIT VALID FOR DURATION OF JOB, OR UNTIL SHIFT CHANGE, WHICHEVER IS LESS)

Permit Issued To: _____ Designated Firewatch(s): _____

_____Name Company

Description of Work_Specific Location _____

_____No. of Workers _____

SECTION II — EMERGENCY/ VAPOR TEST

EMERGENCY SERVICE

Name of Service Phone Method of Contact

_____

_____

_____

ATMOSPHERIC TESTING RECORD

	Acceptable Range					
Time						
Oxygen	19.5% - 23.5%					
Flammables	0 – 10% LFL / LEL					
H_2S	0-10 PPM					
Toxics	0 - PEL					

Monitor Type:_____Calibration Date: _____

Tester's Initials

SECTION III — SITE INSPECTION

INSPECTION ITEMS	Initials Verified	Initials N/A	INSPECTION ITEMS	Initials Verified	Initials N/A
Designated fire watch has adequate fire extinguisher and /or charged fire hose at the site during the hot work.			Welding equipment and leads in good condition and are not creating a trip hazard.		
Atmospheric tests for safe oxygen content, flammables, and toxics (O_2, LFL / LEL, and H_2S) are performed.			There are no combustible materials on the backside of bulkhead and fire watch is posted on each side.		
Drains / vents within a 35 feet (minimum) radius are sealed and adjacent areas inspected.			Oil and other combustibles have been cleared from equipment to be welded.		
Hydrocarbon / Flammable sources located within 35 feet of work site relocated, rendered inert, or protected with flameproof covers/shields.			Engine-driven welding machines are equipped with spark arrestors, emergency shutdowns (ESD) and drip pans.		
If Hot Work is conducted within 10 feet of a well bay, variance is issued and producing wells are shut in at the surface safety valve.			Special approval / procedures are required for hot taps. Refer to Hot Tap Procedure for additional guidance.		
Oxygen and acetylene bottles secured in a safe place.			Applicable safety systems are bypassed, flagged, logged and monitored.		
Welding curtains, spark boards and shields are in place.			Job Site Safety Analysis (JSA) and/or Pre-job safety meeting completed.		

Other conditions _____

SECTION IV — PPE

- ☐ Hard Hat
- ☐ Safety Glasses
- ☐ Steel Toed Boots
- ☐ Gloves (cotton, leather, chemical)
- ☐ Safety Harness/Retrieval Line
- ☐ Anti-Fall Device
- ☐ Face Shield
- ☐ Safety Goggles
- ☐ Protective Clothing
- ☐ Rubber Boots
- ☐ Welder Helper Glasses
- ☐ Rescue Retrieval Winch (Required for entries over 5' deep)
- ☐ SCBA
- ☐ Cartridge Respirator
- ☐ Dust Mask
- ☐ Other _____

SECTION V — SIGNATURES

We have received instructions on safety procedures and hazards of this job and the permit is complete.

Permit Initiator / Job Supervisor: _____

Fire Watch(s) : _____ _____

(Must monitor area for 30 minutes after completion of hot work.)

Simultaneous Operations / Co-Signatures: _____ _____

_____ _____

Site Supervisor / Designee: _____

Permit Closed Out by: _____

POST AT JOB SITE

4091

TABLE OF CONTENTS

I. PURPOSE 2
II. SCOPE 2
III. REFERENCES 2
IV. RESPONSIBILITIES 2
V. DEFINITIONS 3
VI. ENERGY CONTROL PROCEDURES 4
VII. ENERGY CONTROL METHODS 5
VIII. GENERAL REQUIREMENTS 7
IX. IMPLEMENTATION (OSHA's 6-Steps) 9
X. PERFORMING THE WORK 10
XI. RESTORING EQUIPMENT TO NORMAL OPERATIONS (Removing Devices) 11
XII. PROCEDURE INVOLVING MORE THAN ONE PERSON (Group Lockout) 12
XIII. SHIFT CHANGES 12
XIV. TAGOUT PROCEDURES (When Lockout is not feasible) 13
XV. TRAINING 14

APPENDIX A

SAMPLE – TAGOUT DEVICE

APPENDIX B

PERIODIC (Lockout/Tagout) INSPECTION FORM

I. PURPOSE

This policy establishes procedures for the safety of personnel working on equipment that must be locked out to prevent the unexpected energization, start-up or release of stored energy. They shall be followed by all employees whose duties require them to service, repair, adjust, lubricate, or perform work activities in which the unexpected energization, start-up or release of stored energy could cause injury. Hazardous energy includes, but is not limited to, electrical, hydraulic, pneumatic, mechanical, chemical, thermal, stored and momentum/gravity. These forms of energy must be eliminated, isolated or controlled prior to servicing, repairing or maintaining equipment and machines.

II. SCOPE

These procedures are generic to provide direction to all operations. However, the OSHA regulation requires specific procedures for different types of machines and equipment. Therefore, each operating entity shall develop written procedures for the different types of equipment in their operation. Similar machines and/or equipment (those using the same type and magnitude energy), which have the same or similar types of controls, can be covered with a single procedure.

This procedure does not apply to cord and plug connected electrical equipment if the equipment is unplugged and the plug is in the exclusive control of the employee who is performing the servicing or maintenance of that equipment. The cord and plug is considered to be within the employee's control if it is in sight or is otherwise under their physical control. If the cord and plug is not within the employee's sight or physical control, a lockout device shall be attached to the plug in such a way that it shall not permit the plug to be inserted into the outlet.

III. REFERENCES

Title 8 CCR 3203 Injury and Illness Prevention Program;
Title 8 CCR 3314 Cleaning, repairing, servicing and adjusting of prime movers;
29 CFR 1910.147 Control of hazardous energy (lockout/tagout)

IV. RESPONSIBILITIES

Safety Representative

- The Safety Representative will administer the Lockout/Tagout Program.
- Conduct or contract for employee training and notification.
- Ensure that an audit of the Lockout/Tagout program is conducted at least annually. Those conducting the audit may Company employees but they may not audit their own systems.

Site Supervisors/Foremen shall be responsible for ensuring the following:

- Verifying the use of energy control procedures where the procedures are required.
- Assuring the availability of lock out devices.
- Assuring new process equipment is designed to accept a lock out device.

Employees / Contractors are responsible for ensuring the following:

- Using energy control devices and following the Energy Control Procedures.
- Verifying that process equipment is disengaged or de-energized before working on the equipment.
- Helping develop Energy Control Procedures for equipment that currently does not have procedures.
- Safely returning equipment to service.

V. DEFINITIONS

Affected Employee – An employee who operates equipment or machines on which service or maintenance is being performed under lockout/tagout procedures, or whose job requires him to work in an area in which such servicing or maintenance is being performed.

Authorized Employee – An employee who is authorized to initiate the lockout/tagout procedure on machines or equipment to perform servicing or maintenance, provided they have received the proper training.

Blockout – A blockout may be necessary when potential energy does not a means for lock and/or tag placement. Examples of this are when safety blocks, or stands, are placed under raised equipment so that parts that may fall are braced. Another example is when blinds are placed in piping systems so that substances cannot pass through. Blocks and blinds do not de-energize equipment. Use them only after the machinery has been isolated from its main energy sources.

Energized – Connected to an energy source or containing stored or residual energy.

Energy Isolating Device – A mechanical device that physically prevents the transmission or release of energy including, but not limited to, the following: manually operated electrical circuit breaker, disconnect switch, slip blind, blind flange, line valve, a block or similar device, etc. This does not include a push button or selector type switch.

Energy Source – Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, pressurized piping, compressed air or other energy which, if unexpectedly released, could cause injury to employees.

Lockout – The placement of a lockout device or energy isolating device, in accordance with an established procedure, to ensure that the energy isolating device and equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device – A device that uses a positive means such as a keyed lock or combination lock to hold any energy isolating device in a safe position and prevent the energizing of a machine or equipment. Examples include lockout hasps, valve lockouts, chain with a lock and circuit breaker lockout.

Shall – Mandatory, must be done.

Should – Advisory, may be done.

Standard Operating Procedure (SOP) – A set of instructions written in such detail that the desired operation can be performed repeatedly with a consistently desirable end result.

Tagout – The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout Device – A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and equipment being controlled may not be operated until the tagout device is removed. See Appendix A.

VI. ENERGY CONTROL PROCEDURES

Failing to identify and control the energy of machinery and process equipment before working on it is a major cause of serious injury and death. An employee not performing a crucial step or a coworker re-activating machinery or process equipment usually causes the uncontrolled release of energy. Each operating entity shall develop equipment specific energy control procedures on all process equipment, process vessels, machines or operating systems that require servicing, repair or frequent maintenance.

Equipment may be grouped by type, i.e. one procedure for two Worthington reciprocating type gas compressors, but two separate procedures for a Worthington reciprocating and a Sullair screw type compressor. Equipment specific energy control procedures shall ensure that:

1. The type and magnitude of energy sources are identified and controllable.
2. The location of control points and method of control are identified.

3. There is a standard operating procedure (SOP) to shut down, de-energize, verify zero energy potential, and start up of each piece of equipment.
4. There are adequate lockout devices available to control all energy sources.
5. There is a method of communicating to coworkers the status of de-energized process equipment, i.e. tags, permits, etc.

VII. ENERGY CONTROL METHODS

Only authorized employees shall implement these energy isolation and control procedures. Affected employees in the work area shall be notified by the site supervisor or the authorized employee of the type and duration of the work to be performed and of the application and/or removal of lockout and/or tagout devices. Notification shall be given before the controls are applied and after they are removed from the machine or equipment

Locks and tags shall be used to control hazardous energy/substance sources.

Chains used with a lock shall be considered a lockout device for equipment in which the chain is used to prevent movement, for instance in the case of a wheel type handle on a valve.

Tagout shall be used on those hazardous energy/substance isolating devices that are not capable of being locked out.

A. Blinding

Process fluids and gases in most cases require line blinding or double block and bleed to provide proper energy isolation.

- Blinds shall be tagged to identify for later removal.
- A blinding list should be used.
- Blinds should be coded (by a certified vendor) or constructed using Table 1 to determine the minimum thickness required when using steel plate with yield strength of ASTM A-36 or equivalent. A facility/mechanical engineer shall approve any variance in the thickness or material of the blind.
- When isolating process piping, care shall be taken to verify pressure is not trapped in the isolated section.

TABLE 1: Minimum Plate Thickness for ASTM A-36 Material

ANSI Nominal Pipe Size (NPS)

Class	2 inches	3 inches	4 inches	6 inches	8 inches	10 inches	12 inches
150	1/4"	1/4"	3/8"	1/2"	5/8"	3/4"	3/4"
300	3/8"	3/8"	1/2"	3/4"	7/8"	1 1/8"	1 1/4"
600	3/8"	5/8"	5/8"	7/8"	1 1/8"	1 3/8"	1 5/8"

Source: ASME B31.3, section 304.5.3

B. Blocking

A double block and bleed may also be used to isolate energy. All valves shall be **locked and tagged**. A simple block valve may be locked and tagged closed for a low risk maintenance operation. Examples would include site glass removal, removing/replacing instruments, and changing out relief valves and rupture disks.

Double block and bleed should **NOT** be used for high-risk isolation activities. Examples include a valve with a history of serious leakage, isolation using a butterfly valve and confined space entry operations.

Blocking may also include methods to isolate equipment with stored energy such as spring loaded mechanisms or elevated devices subject to the force of gravity such as a raised bucket on a backhoe or the horse's head on a pumping unit. Examples of energy isolation would include using slings, blocks, cribbing, clamps or chocks to prevent movement.

C. Electrical Disconnect

The electrical disconnect switch or circuit breaker may be used to isolate electrical energy to a machine or piece of equipment only after that machine or equipment has been shutdown with its normal operating controls such as a stop button. The nearest operating control device should be used in performing the shutdown. An orderly shutdown must be used to avoid any additional or increased hazards to employees.

If the equipment does not have a disconnect switch and the only way to isolate it after it has been turned off is to remove a fuse, **only a qualified electrician shall remove the fuse.** When the equipment is to be re-energized, only a qualified electrician shall replace the fuse.

VIII. GENERAL REQUIREMENTS

1. This program addresses potential energy from any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy. Other energy may include potential exposure to steam, tension, gravity, ect..

2. Lockout Tagout devices shall indicate the identity (name) of the employee applying the device.

3. Periodic inspections of the company Lockout/Tagout procedures are required to be conducted and documented at least annually to ensure procedures & requirements are being followed.

   The Lockout/Tagout inspection shall be performed by someone other than those actually using the procedure. A certified review of the inspection including date, equipment, employees & the inspector should be documented on the form shown in Appendix B.

4. Before an authorized or affected employee turns off a machine or equipment, the authorized employee shall have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the methods or means to control the energy.

5. The machine or equipment shall be turned off or shutdown using the procedures established for the machine or equipment. Refer to equipment shut down procedures (if available). An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.

6. All energy isolating devices that are needed to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source.

7. Stored energy and the possibility of re-accumulation:

   1) Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained and otherwise rendered safe.
   2) If there is a possibility of re-accumulation of stored energy level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

8. Prior to starting work on machines or equipment that have been locked or tagged out; the authorized employee shall verify that isolation and deenergization of the machine or equipment have been accomplished.

9. This program addresses specific procedures for handling multiple groups of workers involved in a lockout. The procedure must afford the group of employees a level of protection equal to that provided by a personal lockout or tagout device. Refer to "Procedure Involving More Than One Person - GROUP LOCKOUT" within this document.

10. The authorized employee should ascertain the exposure status of individual group members. Each employee shall attach a personal lockout or tagout device to the group's device while he/she is working and then remove it when finished. During shift change or personnel changes, there should be specific procedures to ensure the continuity of lockout or tagout procedures. Refer to "Procedure Involving More Than One Person - GROUP LOCKOUT" within this document.

11. The training must include recognition of hazardous energy source, type and magnitude of energy available, methods and means necessary for energy isolation and control. Each authorized employee shall receive adequate training. The training must address that all affected employees are instructed in the purpose and use of the energy control procedure.

    The training provision of this plan (Section XV) is for any employee whose work operations are in an area where energy control procedures may be utilized. Employee training addresses when tagout systems are used including the limitations of a tag (tags are warning devices and do not provide physical restraint). The training must also address that a tag is not to be removed without authorization. A Lockout/Tagout tag is never to be ignored or defeated in any way.

12. Retraining is required when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced.

13. All training and/or retraining must be documented, signed & certified. Refer to the "TRAINING" (Section XV) part of this plan for more detail.

IX. IMPLEMENTATION (OSHA's 6-Steps)

Although each machine or piece of equipment will have a specific lockout tagout procedure, the following steps shall be followed in the sequence listed.

Step 1 - Prepare for Isolation/Control

The authorized employee shall make an evaluation of the affected equipment, prior to starting work, in order to identify the potential hazardous energy sources, their hazards, and all isolating devices (electrical disconnects, valves, blinds, etc.) and to determine the method(s) of control. The machine or equipment specific lockout/tagout procedure shall be used as a reference in the evaluation.

The authorized employee shall notify all affected employees of the pending work.

Step 2 - Shut Down the Machine or Equipment

The machine or equipment/system shall be shut down by using its normal operating controls (stop button, open switch, close valve, set brake, etc.). The nearest operating control device to the machine should be used to perform the shutdown.

Step 3 - Isolate the Machine/Equipment/System

Isolate the machine/equipment/system by using hazardous energy isolating devices such as closing valves, opening the appropriate disconnect switch or circuit breaker, installing a blind or performing double block and bleed.

Step 4 - Apply Lockout and Tagout Devices

Lockout (individual locks or group locks with clasp-type devices) and tagout devices, whichever applies, shall be attached to **each** hazardous energy isolating device by the authorized employee. Lockout devices shall be attached in a manner that will secure the hazardous energy/substance isolating devices in a "safe" or "off" position.

Tags with a "**Danger**" legend shall be attached to the shackle of the lock. The tag must include the name of the authorized employee applying the device.

In cases where lockout cannot be accomplished due to equipment design, tagout shall be used to isolate the equipment. The tagout procedure in this policy shall be followed.

Step 5 - Control/Relieve the Stored Energy

Following the application of the lockout or tagout devices, all potential hazardous stored or residual energy (such as that in capacitors, springs, elevated machine parts, rotating flywheels or motor sheaves, hydraulic systems and air, gas, steam or water pressure, etc.) shall be relieved, disconnected, restrained, blocked, bled down or otherwise rendered safe.

If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed or until the possibility of such accumulation no longer exists. The frequency of the verification should be based on knowledge of the hazard and should be established before the operation begins.

Step 6 - Verify Equipment Isolation

After determining that employees are not exposed, the authorized employee shall confirm that the hazardous energy source has been disconnected or isolated. This **must** be done prior to starting the work by attempting to energize or activate the machine/equipment/system by pushing the start button or other normal operating controls to make certain the equipment will not operate.

Return the operating controls to the "neutral" or "off" position after completing the test.

X. PERFORMING THE WORK

The equipment is now locked and/or tagged out and ready for work to proceed. Lockout and tagout devices must remain in place until the work is completed. In situations in which lockout/tagout must be temporarily removed from the hazardous energy/isolating device to test or adjust the machine/equipment, the following procedure shall be followed:

1) The machine/equipment shall be cleared of tools and equipment.
2) Employees shall be cleared from the area
3) The lockout device shall be removed by the authorized employee

4) The machine/equipment shall be energized
5) The work or adjustment shall be performed
6) In returning to the lockout/tagout condition, the energy control measures outlined in Section IX shall be followed in sequence.

XI. RESTORING EQUIPMENT TO NORMAL OPERATIONS (Removing Devices)

After the servicing or repair work is completed and the equipment is ready for normal operation, the authorized employee shall confirm that all work is completed and the equipment is returned to operating condition and ready for startup.

The authorized employee shall then check the area around the machine/equipment to ensure that all tools and equipment have been removed and that employees have been safely positioned or cleared from the area.

The lockout/tagout devices shall then be removed by the same authorized employee who installed the device except as provided below within this policy.

The affected employees shall be notified that the lockout/tagout devices have been removed.

The hazardous energy isolating devices and/or valves will be operated to restore energy/pressure to the equipment in accordance with normal start-up procedures.

Removal of Lockout/Tagout Devices by Someone Other Than the Authorized Employee

Under normal circumstances, only the authorized employee who installed it shall remove a lockout/tagout device. Only the site supervisor/foreman is authorized to remove another employee's lock after they accept full responsibility. Where removal by someone else is necessary, the steps listed below shall be followed.

1) The removal of a lockout/tagout device shall be done only under the direction of the supervisor/foreman in charge of the job, after they have confirmed that it is safe to remove it.

2) The supervisor/foreman shall verify in advance that the authorized employee who applied the lockout device is not at the facility.

3) All reasonable efforts shall be made to contact the authorized employee to inform them that the lockout device is being removed.

4) The supervisor/foreman shall ensure that the authorized employee has been informed of the removal of the lockout device before they resume work at the facility.

XII. PROCEDURE INVOLVING MORE THAN ONE PERSON (Group Lockout)

When servicing or maintenance work is performed by more than one authorized employee, one of the following procedures shall be followed as applicable.

Group Lockout – A group lockout device shall be used on each piece of equipment locked out. Authorized employees shall provide for their own protection by attaching a tagged lock to the group lockout device.

Individual authorized employees shall remove their own lock(s) when they (or their crew) stop working at the facility or depart from the job, i.e., at the end of the shift or conclusion of the work assignment.

Job Locks and/or Tags – Job locks or tags may be used by the supervisor/foreman of the authorized employees to assure continuity of hazardous energy/substance isolation from shift to shift as applicable.

To achieve job lockout, the supervisor/foreman shall place a lock on the equipment and leave it on the lockout device for the duration of the job. The supervisor/foreman or their relief shall maintain possession of the key. Each authorized employee shall place their lock on the lockout device upon coming on the job requiring lockout or tagout and remove their lock or tag whenever they depart the job, i.e., at the end of the shift or conclusion of the work assignment.

XIII. SHIFT CHANGES

When an off-going authorized employee transfers servicing duties to an on-coming employee (relieving in the presence of each other on the job during the shift change), the on-coming employee shall install their lock as soon as the off-going employee removes their lock.

When an off-going authorized employee transfers servicing duties (during a shift change) to an on-coming employee by removing their lock before the on-coming employee arrives, the employees shall observe the following procedures:

- The off-going employee shall apply a temporary tagout device at the time they remove their lock.

- The temporary tagout device shall indicate that the off-going employee's lock has been removed but the machine or equipment had not been re-energized, re-pressured, etc.

- The on-coming employee shall verify that the system is still at a zero energy state and shall remove the temporary tagout device and substitute their lockout/tagout device.

When temporary tagout devices are used in place of lockout devices, the off-going authorized employee transfers their servicing duties to the on-coming employee by signing off in the appropriate space on the tag.

The tag shall have spaces for the off-going employee to sign, date and indicate the time and for the on-coming employee to sign, date and indicate the time (see Appendix A). Each employee will verify the energy isolation of the machine or equipment for their own protection before signing onto the tag.

XIV. TAGOUT PROCEDURES (When Lockout is not feasible)

Tagout procedures shall be used only when a hazardous energy isolating device is not capable of being locked out. If it becomes necessary to use a tagout, the following procedures shall be followed in addition to the ones described for lockout.

- All of the procedures relating to the application and removal of lockout devices are also applicable to tagout devices.

- Additional measures shall be considered to make the protection afforded by the tagout procedure equivalent to that provided by the lockout procedure. These include, but are not limited to, removal of a valve handle, the blocking of a controlling switch, or the opening of an extra disconnecting device.

- Tagout devices shall be attached in a manner that will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited.

- Where the equipment is not designed with the capability of being locked, a tagout device must be attached at the same point at which the lock would have been attached.

- The tag itself must: have a standard format; be able to withstand wear and the environment to which it is exposed; be secured so that it

cannot be accidentally detached; and identify the person who applied it and the date it was applied (see Appendix A).

- The tag attachment mechanism must: be attachable by hand; be self-locking; and be non-releasable with a minimum unlocking strength of no less than 50 pounds.

- Tags shall not be removed without authorization of the authorized person responsible for it.

- When tagout only is used, employees shall be trained in the limitations of tags and in the tagout procedures.

XV. TRAINING

All employees involved in lockout/tagout operations shall be trained in the purpose, use and function of the lockout/tagout procedures. Each new or transferred employee shall be similarly trained before beginning work involving lockout/tagout.

Each authorized employee shall be trained in the requirement of the applicable OSHA standard, recognition of hazardous energy sources, the type and magnitude of the energy present in the workplace, and in the methods and means necessary for energy isolation and control.

Each affected employee shall be trained in the purpose and use of the energy control procedure.

Lockout/Tagout training shall be given to all new employees and refreshed annually. Additionally, retraining is required when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced. All training and/or retraining must be documented, signed & certified.

Training must include recognition of hazardous energy source, type & magnitude of energy available, methods & means necessary for energy isolation & control. Each authorized employee shall receive adequate training. The training should address that all affected employees are instructed in the purpose and use of the energy control procedure.

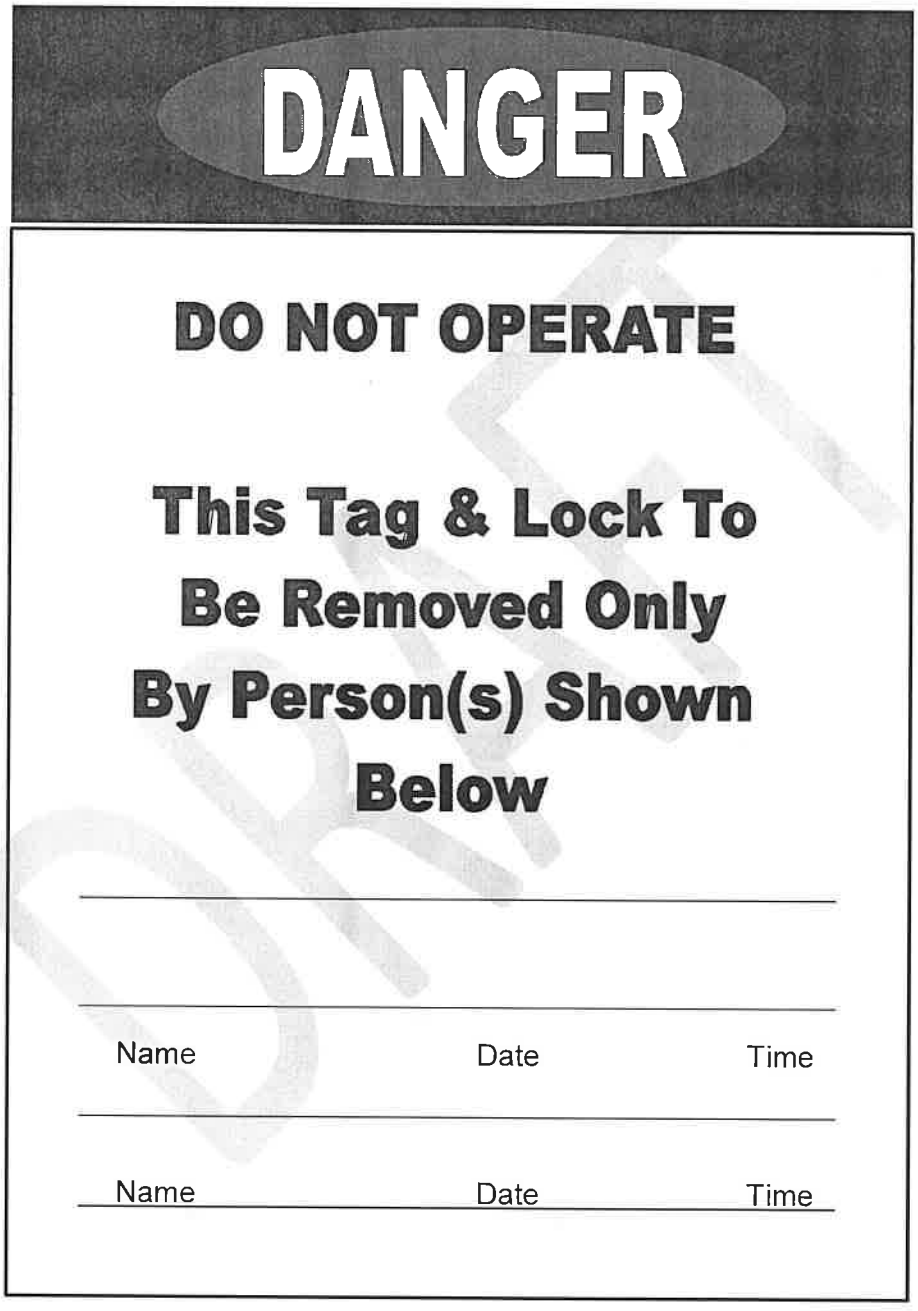
All other employees whose work operations are or may be in an area where energy control procedures may be used, shall be instructed about the procedures and about the prohibition of attempting to restart or re-energize machines or equipment that is locked and/or tagged out.

Employee training shall also address when tagout systems are used including the limitations of a tag (tags are warning devices & do not provide physical restraint). The training shall also include that a tag is not to be removed without authorization. The tag is never to be ignored or defeated in any way.

Retraining is required when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced. All training and/or retraining must be documented, signed & certified.

DRAFT

Appendix A: Sample Tagout Device



Appendix B: Periodic Inspection Form

LOCKOUT/TAGOUT PROCEDURE INSPECTION

Machine or Equipment Reviewed:_____ Location:_____

Employees Included in the Inspection		
Last Name	**First Name**	**MI**

Was the Lockout/Tagout Procedure performed correctly? ☐YES ☐NO
Do all employees understand their responsibilities in the procedure? ☐YES ☐NO
If tags were used, do the employees understand their limitations? ☐YES ☐NO

Employees Requiring Additional Training		
Last Name	**First Name**	**MI**

Comments _____

_____
Signature of Inspector/Supervisor Date

TABLE OF CONTENTS

I. PURPOSE 2

II. SCOPE 2

III. APPLICABILITY 2

IV. DEFINITIONS 2

V. RESPONSIBILITIES 3

VI. QUALIFICATIONS OF PERSONNEL ISSUING PERMIT 3

APPENDIX A

SAFE WORK PERMIT INSTRUCTIONS (Completing the Form)

SAFE WORK PERMITS

DRAFT

SAFE WORK PROCEDURE

I. PURPOSE

The purpose of the Safe Work Permit Standard is to establish a systematic method for ensuring safe working conditions and procedures are followed during Simultaneous Operations and Non-Routine Work.

II. SCOPE

This standard will define: the type of work requiring a Safe Work Permit, the qualifications of personnel allowed to authorize and sign the Permit, and instructions on how to properly complete the form.

III. APPLICABILITY

This procedure applies to all company and contract personnel. It does not apply to Hot Work and /or Confined Space Entry. Refer to the SAFETY STANDARDS 4.02 and 4.03 for specific instructions on Hot Work and Confined Space Entry.

A Safé Work Permit is required for any Simultaneous Operation and/or Non-Routine Work.

IV. DEFINITIONS

Job Supervisor/Permit Initiator: The person controlling the execution of work. Typically this is a company supervisor, contract supervisor, or lead maintenance person.

Non-Routine Work: Defined as any work with an unusual nature, with inherent danger, or unusual work site conditions.

Simultaneous Operations: Operations at a facility by more than one work group, such as, operations, drilling, production and/or construction. When simultaneous operations occur at one facility, each of the individual Job Site Supervisors must endorse the other Work Permit(s), i.e., sign the "Simultaneous Operations/Co-Signatures" section of the permits. This method ensures all parties are informed of the work activities at hand.

Site Supervisor: Person(s) authorized to approve and sign a Safe Work Permit, usually the Lead Operator, Foreman or designee.

V. RESPONSIBILITIES

Job Supervisor/Permit Initiator must:

- Initiate the "Safe Work Permit" by following the permit instructions attached to the booklet.
- Review and sign simultaneous work permits, i.e. (Safe Work, Hot Work, Confined Space), when applicable.
- Review the "Safe Work Permit" conditions and sign the permit, acknowledging that conditions are understood.
- Contact the Site Supervisor to inspect and authorize the work.
- Conduct pre-job safety meeting to review job scope, Safe Work Permit conditions and applicable simultaneous operations.

Site Supervisor Must:

- Ensure all elements of the Safe Work Permit Procedure are followed.
- Ensure a site inspection is completed prior to issuing permit (refer to Site Inspection checklist on the Safe Work Permit).
- If applicable, ensure the atmospheric tests for safe Oxygen content, flammables, and toxics (O_2, LFL/LEL, and H_2S) are performed.
- Ensure permit initiator has signed applicable simultaneous operational permits.
- Review, sign and approve the Safe Work Permit.

VI. QUALIFICATIONS OF PERSONNEL ISSUING PERMIT

Any person, including contract personnel, can initiate a Safe Work Permit. However, only a qualified Site Supervisor or designee may authorize and sign the permit. In addition, the Site Supervisor must have sufficient knowledge of the applicable company procedures to be utilized.

APPENDIX A
SAFE WORK PERMIT INSTRUCTIONS (Completing the Form)

SECTION I WORK

This section of the permit is to be completed by the Permit Initiator and/or Site Supervisor. The effective and expiration date/time must be listed. A permit is not valid beyond the duration of job scope or beyond a shift change, whichever is less. A complete description of the proposed task and work location must be identified.

SECTION II EMERGENCY

The emergency service section is to be completed by the Site Supervisor, and discussed with all affected parties prior to commencement of work. Appropriate emergency service providers must be identified and means of contacting them in the event of an incident must be provided. This section will typically have the name and phone number of the nearest fire department, hospital and/or ambulance service.

SECTION III SITE INSPECTION

This section is to be completed by the Site Supervisor and/or person performing the work. The person's initials indicate that an inspection has been made and that applicable precautions have been taken and will remain in effect until the work listed is completed or until the permit expires.

SECTION IV PERSONAL PROTECTIVE EQUIPMENT (PPE)

Appropriate Personal Protective Equipment (PPE) to be used shall be specified in this section. The Site Supervisor must review this section prior to authorizing the work permit.

SECTION V SIGNATURES

This section requires the signatures described below:

1. Permit Initiator/Job Supervisor -The person to whom the permit is issued shall acknowledge that they understand and will comply with all conditions, precautions and restrictions of the permit by signing their signature to the permit.

2. Simultaneous Operation/Co-Signature - If a simultaneous operation is in effect at one facility, each of the individual Job Supervisors must also sign the co-authorized section. The co-authorized signature ensures all appropriate parties are informed of additional work activities.

3. Site Supervisor - The person responsible for the job site/ location shall authorize the work by signing their signature only after:

- Ensuring all elements of the Work Permit Procedure are followed.
- Ensuring permit initiator has signed applicable simultaneous work permits, i.e.(Safe Work, Hot Work, Confined Space).
- Ensuring that the person to whom the permit is issued fully understands the conditions, restrictions, and precautions of the permit.

DISTRIBUTION OF PERMIT

COPY 1 Post with Site Supervisor until work is completed, usually in the control room or office.

COPY 2 To kept in the files for a minimum of 5 years

COPY 3 Post at Job Site

DRAFT

SAFE WORK PERMIT

SECTION I — WORK

Effective _____ Time _____ AM/PM Expires _____ Time _____ AM/PM

(PERMIT VALID FOR DURATION OF JOB, OR UNTIL SHIFT CHANGE, WHICHEVER IS LESS)

Permit Issued To: _____
Name Company

Description of Work _____

Specific Location _____ No. of Workers _____

SECTION II — EMERGENCY

EMERGENCY SERVICE

Name of Service	Phone Number	Method of Contact

SECTION III — SITE INSPECTION

INSPECTION ITEMS	Initials Verified	N/A	INSPECTION ITEMS	Initials Verified	N/A
Ensure adequate lighting			Protect cable trays or other electrical		
Ensure Ground Fault Circuit Interrupter (GCFI) use on temporary circuits. Ground / bond equipment.			Competent person has inspected scaffolding or trench		
Use power ventilation equipment			MSDS on location		
De-pressurize / vent piping and equipment			Ensure the correct tools for the job are used		
Blind, blank or disconnect / misalign piping and equipment – refer to blind/equipment isolation list			Control hazards to adjacent operations / locations		
Disconnect, lock and tag ALL energy sources			Clean / wash equipment first		
Cover or plug drains			Purge equipment / piping		
Identify overhead / underground hazards			Hold pre-job safety meeting		
Applicable safety systems bypassed, flagged, Logged and monitored			Job Site Safety Analysis (JSA) for task		

Other conditions: _____

SECTION IV — PPE

- ☐ Hard Hat
- ☐ Safety Glasses
- ☐ Steel Toed Boots
- ☐ Gloves (cotton, leather, chemical)
- ☐ Safety Harness/Retrieval Line
- ☐ Anti-Fall Device
- ☐ Face Shield
- ☐ Safety Goggles
- ☐ Protective Clothing
- ☐ Rubber Boots
- ☐ Welder Helper Glasses
- ☐ Rescue Retrieval Winch (Required for entries over 5' deep)
- ☐ SCBA / Airline Unit
- ☐ Cartridge Respirator
- ☐ Dust Mask
- ☐ Other _____

SECTION V — SIGNATURES

We have received instructions on safety procedures and hazards of this job and the permit is complete.

Permit Initiator / Job Supervisor _____

Simultaneous Operations Co-Signatures _____ _____

_____ _____

Site Supervisor / Designee _____

Permit Closed Out by: ☐

4111

POST AT JOB SITE

Air Test Log

Document air test readings every_____minutes.

Time	O_2 19.5% - 23.5%	LFL 0 – 10%	H_2S 0 – 10 PPM	Other: 0 - PEL	Tester's Initials

TEST EQUIPMENT INFORMATION

Analyzer type:	
Serial Number:	
Calibration Date:	

TABLE OF CONTENTS

Purpose 2

Scope 2

Reference 2

Responsibilities 2

Defensive Driving 3

Commentary Driving Techniques 3

General Vehicle Safety Rules 4

Training 5

DRAFT

VEHICLE POLICY

Purpose

According to the Bureau of Labor Statistics (BLS); more than 2,000 deaths a year are caused by occupational motor vehicle incidents. This figure represents greater than 30 percent of the annual number of fatalities from occupational injuries. Vehicle Accidents is the #1 cause of job related injuries and deaths. Therefore this policy has been created to reduce, if not eliminate, the number of work related vehicle incidents in our Company.

Scope

This program applies to motor vehicle safety while driving Company vehicles, which is defined as the use of vehicles that are Company owned, leased, rented, or otherwise designated for Company use, including personal vehicles used for Company business.

Reference

Best Practices - Vehicle Safety Training is not mandated by law.

Responsibilities

Supervisors shall be responsible for ensuring the following:

- Incident free driving on Company business.
- Verifying that drivers under their control have a valid and appropriately designated driver's license.
- Ensuring daily pre-trip inspections of the vehicle and its emergency equipment are performed.
- Ensuring employee and passenger safety, including requiring the use of safety belts.
- Reporting defects so that corrective action can be taken.
-

Employees / Contractors are responsible for ensuring the following:

- The safety of you and all passengers.
- Incident free driving on Company business.
- Driving with appropriate and valid driver's license.
- Informing your supervisor in the event your driver's license becomes suspended for any reason.
- Completing daily pre-trip inspections and walk around of the vehicle and its emergency equipment.
- Safely returning vehicles and equipment to service.

Defensive Driving

Incident free driving is the key responsibility of all Company personnel. To obtain this goal requires the attitude of a professional defensive driver. A defensive driver is one who drives to prevent incidents despite weather conditions, the actions of others, road conditions, etc.

Defensive driving includes the following behaviors:

- Conducting pre-trip inspections of the vehicle and its emergency equipment.
- Walking around your vehicle prior to leaving.
- Ensuring passenger safety, including the use of safety belts.
- Reporting defects so that corrective action can be taken.
- Journey planning and anticipating delays.
- Eliminating distractions, such as cell phone/radio use, eating, or drinking.
- Obeying traffic laws.
- Ensuring that vehicle cab housekeeping is maintained.
- Utilizing defensive driving techniques at all times.

The Defensive Driving Principles of Space Cushion driving shall be observed. Allowing adequate space for the vehicle and adequate visibility provides time to predict the actions of others. It also allows the driver to avoid potentially dangerous situations and to communicate their presence and/or intentions to other drivers.

The keys to Space Cushion driving are summarized as follows:

- ✓ Aim High in Steering
- ✓ Get the Big Picture
- ✓ Keep Your Eyes Moving
- ✓ Leave Yourself An Out
- ✓ Make Sure They See You

Commentary Driving Techniques

Commentary driving is a valuable training tool, it forms part of the process of becoming an advanced driver. The ability to give a driving commentary will help you (amongst other things) to improve your concentration level and to drive systematically. These are two of the key areas that need development when learning to drive at the advanced standard required by the advanced driving tests.
Quite a lot of drivers find it difficult to talk and drive at the same time. The reasons for this range from the variation in the ways that our brains (as individuals) process information, through to the simple fact that some people are embarrassed about talking out loud as they drive.

When trying commentary driving for the first time some drivers slow down as they struggle for words to describe the ever changing scene ahead.
In extreme cases the commentary can cause problems if one aspect of the driving scene is dwelt on for too long.

The ability to give a running commentary, like any other aspect of driving, improves with constant practice. Consider the following aspects of commentary driving:

- Keeping it relevant
- Keeping it simple
- The benefits for your training

A good commentary includes information about:

- The driver's actions
- Weather conditions
- The actions of other road users
- Time and location
- Physical features of the road
- The characteristics of the road surface
- Traffic signs and road markings

While talking about all the factors listed above the driver will be anticipating the likely outcome of any developing situation and the action that will be taken to negotiate that situation safely.

By talking out loud you will start to 'prioritize' areas which require a specific course of action – in turn this will help to raise your awareness of the importance of planning ahead.

Your commentary will help you to structure the way you think while driving.

General Vehicle Safety Rules

1. You shall have a valid driver's license to drive any vehicle on company premises. All drivers of company vehicles must have the appropriate driver's license i.e. (Class A, B, or C).

2. Each company vehicle must be inspected by the employee prior to driving. All trash must be removed before you leave your vehicle at the end of day.

3. It is company policy for all drivers and passengers to wear seat belts.

4. Company vehicles are not to be used for non-Company business.

5. Use drive-through parking whenever possible to reduce backing accidents. When parking your vehicle leave enough room ahead to allow exiting in forward gear. Never leave a running vehicle unattended. Wheel chocks are required on vehicles in excess of 1 ton capacity.

6. Perform the circle of safety, i.e. circle your vehicle prior to leaving to avoid hitting low level objects. Do not back up any vehicle or equipment when you do not have a clear view. Have an observer signal you if the rear view is blocked.

7. The maximum speed limit on any job site is 25 MPH, unless posted otherwise.

8. Never drive over unprotected flow lines or other barriers. Do not park in areas that contain weeds or other combustible barriers.

9. Passengers may not ride outside the cad of any truck, i.e. they must not ride in beds, on truck bumpers, running boards, or tailgates.

10. Pipe carrying racks must never be overloaded. All fittings, tools, supplies, equipment and loose objects hauled on trucks must be firmly secured or restrained to prevent them from falling off into the path of other vehicles.

11. All loads hauled on vehicles must be securely tied down with approved rope, straps or chains. Under no circumstances shall a load be hauled without proper tie downs. Before hauling a load make a quick walk around the vehicle to assure all tool boxes are closed and that the load is secure. Use red flags on any load that exceeds 4 feet overhang beyond truck, trailer or dolly.

12. When hauling a load check to be sure the load stays secure while under way. It's a good idea to pull over and re-tighten your load periodically.

13. DO NOT stand near trucks when unbinding or unloading pipe.

14. NEVER attempt to perform work or drive a vehicle when you are impaired by alcohol, medication or drugs.

15. Vehicles shall not be parked behind other vehicles or in such a position that places the vehicle in another vehicle's blind spot.

Training

All drivers of Company or rental vehicles must complete an initial defensive driving course, participate in the commentary drive program, and participate in BBS observations. Drivers shall also attend periodic refresher defensive driving course as required.

VEHICLE INSPECTION REPORT

WEEK ENDING DATE: _____ DRIVER: _____

CHECK ITEMS WHICH ARE DEFECTIVE (X) AND SUPPLY DETAILS ABOUT THE DEFECT IN THE "REMARKS" SECTION BELOW. USE (√) IF INSPECTION WAS SATISFACTORY. MARK N/A FOR NOT APPLICABLE.

VEHICLE NO.:	M	T	W	T	F	S	S
BRAKES (SERVICE)							
BRAKES (PARKING)							
BODY							
CLUTCH							
COOLING SYSTEM							
DEFROSTER							
DRIVE LINE							
ENGINE							
EXHAUST SYSTEM							
FRAME							
FUEL TANKS							
HEATERS							
HORN							
LEAKS							
LIGHTS							
OIL PRESSURE							
REAR VISION MIRRORS							
REFLECTORS							
SPEEDOMETER							
STEERING SYSTEM							
SUSPENSION SYSTEM							
TIRES							
WHEELS & RIMS							
WINDOWS							
WINDSHIELD WIPERS							
OTHER:							

TRAILER NO.:	M	T	W	T	F	S	S
BRAKES							
BRAKE CONNECTIONS							
BUMPER							
COUPLING DEVICE							
DOORS							
HITCH							
KINGPIN							
LANDING GEAR							
LIGHTS							
REFLECTORS							
SECUREMENT SYSTEMS							
SUSPENSION SYSTEM							
TIRES							
WHEELS & RIMS							
OTHER							
SAFETY/EMERGENCY EQUIPMENT							
FIRE EXTINGUISHER							
FLAGS							
FUSES & FLARES							
REFLECTIVE TAPE							
FIRST AID KIT							
SEATBELTS							
OTHER:							

REMARKS:

☐ CONDITION OF VEHICLE IS SATISFACTORY

I CERTIFY THAT I AM SATISFIED THAT THIS VEHICLE IS IN SAFE OPERATING CONDITION AND I HAVE REVIEWED THE LAST VEHICLE INSPECTION REPORT AND VERIFIED THAT REQUIRED REPAIRS HAVE BEEN COMPLETED.

_____ _____

DRIVER'S SIGNATURE DATE

☐ ABOVE DEFECTS CORRECTED

☐ ABOVE DEFECTS NEED NOT BE CORRECTED FOR SAFE OPERATION OF VEHICLES

_____ _____

MECHANIC'S SIGNATURE DATE

ASBESTOS

RECOGNITION OF INDUSTRY ASBESTOS HAZARDS

The first step in recognition of industrial asbestos hazards is to develop knowledge of the types of construction materials that historically have contained asbestos. Common materials that may contain asbestos include:

- sprayed-on insulation on ceilings or walls
- sprayed-on insulation on beams
- insulation around or in duct work
- boiler insulation
- pipe coverings
- ceiling, floor or wall tiles or panels
- fire walls and doors
- sprayed-on decorative surfaces
- gaskets in piping or other systems
- automotive braking systems (covered under general industry standard even when found in a construction environment)

The second step is positive identification of asbestos in the material. This is done by taking a bulk sample of the material and submitting it to a laboratory for analysis. Only a small amount of the material is needed for analysis. The samples should be shipped to the laboratory in 20-milliliter scintillation vials, 35-millimeter film canisters, or small prescription bottles from pharmacies. Do not send samples in plastic bags or envelopes, as these may break or leak and contaminate other samples in the same shipment and/or the laboratory environment and personnel. The recommended analytical technique is polarized light microscopy.

To obtain samples from some materials it may be necessary to use a scraping or cutting tool, such as a penknife, putty knife or sheetrock knife. In some cases it may be necessary to patch-up places where a sample has been taken. For example, duct tape may be applied over a hole in pipe lagging.

In all cases, be careful not to overexpose yourself when taking a sample. Use of an appropriate respirator and other protective equipment may be required.

NOTE: OSHA does not recommend the use of commercially available kits for screening for the presence of asbestos in construction materials because of the following problems:

GENERAL REQUIREMENTS

1. Asbestos awareness training is required for employees whose work activities may contact asbestos containing material (ACM) or presumed asbestos containing material (PACM) but do not disturb the ACM or PACM during their work activities. The training must be documented.

2. Possible locations where employees may be exposed to asbestos during their job functions include: asbestos materials are used in the manufacture of heat-resistant clothing, automotive brake and clutch linings, and a variety of building materials including insulation, soundproofing, floor tiles, roofing felts, ceiling tiles, asbestos-cement pipe and sheet, and fire-resistant drywall. Asbestos is also present in pipe and boiler insulation materials, pipeline wrap and in sprayed-on materials located on beams, in crawlspaces, and between walls.

3. Health effects of asbestos include respiratory disease and various types of cancer. Exposure to asbestos has been shown to cause lung cancer, asbestosis, mesothelioma, and cancer of the stomach and colon.

4. Employees will abide by warning signs and labels and will not disturb the asbestos containing material. Signs and labels shall identify the material which is present, its location, and appropriate work practices which, if followed, will ensure that asbestos containing material (ACM) and/or presumed asbestos containing material (PACM) will not be disturbed.

5. When working on multi-contractor worksites, employees shall be protected from exposure. If employees working immediately adjacent to a Class I asbestos jobs are exposed to asbestos due to the inadequate containment of such job, the company shall either remove the employees from the area until the enclosure breach is repaired or perform an initial exposure assessment.

TABLE OF CONTENTS

I PURPOSE 2

II APPLICABILITY 2

III DEFINITIONS 2

IV GENERAL REQUIREMENTS 3

V GENERAL PROGRAM MANAGEMENT 4

VI EXPOSURE DETERMINATION 4

VII METHODS OF COMPLIANCE 5

VIII PERSONAL PROTECTIVE EQUIPMENT (PPE) 6

IX RESPONSE PROCEDURES 6

X INFORMATION AND TRAINING 7

XI LABELING 7

XII POST-EXPOSURE EVALUATION AND FOLLOW-UP 8

XIII MAINTENANCE OF RECORDS 8

Appendix A 9

DRAFT

BLOODBORNE PATHOGEN POLICY

I PURPOSE

An infection control plan must be prepared for all persons who handle, store, use, process, or dispose of infectious medical wastes, or may foreseeably be exposed to blood or body fluids in the conduct of their job. This infection control plan was written to comply with OSHA requirement, 29 CFR 1910.1030, Blood Borne Pathogens. The plan includes requirements for personal protective equipment, housekeeping, training, and a procedure for reporting exposures. **Employees who provide 1st aid response as part of their job task must be included in the program.** Ordinarily, custodial workers do not need to be included in the program, however, their jobs should be evaluated to determine the risk of exposure for their particular worksite.

The purpose of the Bloodborne Pathogens Standard is to "reduce occupational exposure to Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV), the virus that causes AIDS, and other Bloodborne pathogens" that employees may encounter in their workplace.

II APPLICABILITY

The Bloodborne Pathogen program applies to all company personnel that can reasonably anticipate exposure to blood or other infectious material. Exposure determinations shall be made without regard to use of personal protective equipment, i.e. employees protected with appropriate PPE are considered exposed in the determination. Exposure shall be assumed for all personnel expected to provide emergency care and/or trained in First Aid procedures.

III DEFINITIONS

Biological Hazard - The term biological hazard or biohazard is taken to mean any viable infectious agent that presents a risk, or a potential risk, to the well being of humans.

Medical Wastes/Infectious Wastes - All waste emanating from human or animal tissues, blood or blood products or fluids. This includes used first aid bandages, syringes, needles, sharps, material used in spill cleanup and contaminated PPE or clothing.

Universal Precautions - Refers to a system of infectious disease control that assumes that every direct contact with body fluids is infectious and requires every employee exposed to be protected as though such body fluids were infected with blood-borne pathogens. All infectious/medical material must be handled according to Universal Precautions (OSHA Instruction CPL 2-2.44A)

Hazards - Unprotected exposure to body fluids presents the possible risk of infection from a number of bloodborne pathogens notably Hepatitis and HIV.

Engineering Controls - Refers to prevention of exposure to bloodborne pathogens via controls that include proper storage facilities and containers, autoclaves, and disinfectant equipment.

Administrative Controls - Administrative controls include universal precautions, assignment of PPE, employee training, use of spill kits specifically designed for blood and body fluids, restricted access to waste collection points and waste disposal procedures.

IV GENERAL REQUIREMENTS

1. Training shall be provided at the time of initial assignment and within 1 year of their previous training.

2. Occupational exposure to blood or other potentially infectious materials requires that all employers that can "reasonably anticipate exposure" of employees to infectious material to prepare and implement a written exposure control plan. Site specific exposure control plans shall be developed.

3. Universal precautions must be observed. Under circumstances in which differential between body fluids is difficult or impossible, all body fluids will be considered potentially infectious.

4. Employees will have access to a copy of the exposure control plan. Access to a copy of the exposure control plan shall be provided in a reasonable time, place, and manner.

5. Hand washing facilities must be readily available at all work locations or ensure antiseptic solutions/ towelettes will be available for use. If provision of hand washing facilities are not feasible, then an appropriate antiseptic hand cleanser in conjunction with cloth/paper towels or antiseptic towelettes must be provided.

6. When the possibility of occupational exposure is present, PPE is to be provided at no cost to the employee such as gloves, gowns, etc. PPE shall be used unless employees temporarily declined to use under rare circumstances. PPE shall be repaired and replaced as needed to maintain its effectiveness

7. All equipment or environmental surfaces shall be cleaned and decontaminated after contact with blood or other infectious materials.

8. The Hepatitis B vaccine shall be available to all employees that have occupational exposure at no cost to the employee(s).

9. Accurate records for each employee with occupational exposure must be maintained for at least the duration of employment plus 30 years.

10. Training records shall be maintained for 3 years from the date of training.

V GENERAL PROGRAM MANAGEMENT

There are a number of general principles that should be followed when an employee has occupational exposure to blood or other potentially infectious materials. Under all circumstances it shall be assumed universal procedures apply, i.e. all body fluids shall be considered potentially infectious.

1. It is prudent to minimize all exposure to bloodborne pathogens.
2. Risk of exposure to bloodborne pathogens shall never be underestimated.
3. Engineering and work practice controls shall be structured to eliminate or minimize employee exposure to bloodborne pathogens.

Other Potential Infectious Materials (OPIM)

All occupational exposure to blood or **other potentially infectious materials (OPIM)** place workers at risk for infection with bloodborne pathogens. OSHA defines blood to mean human blood, human blood components, and products made from human blood. **Other potentially infectious materials (OPIM) means:** (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

VI EXPOSURE DETERMINATION

Tasks and procedures in which occupational exposure to blood or other potentially infectious materials can occur are as follows:

1. Care of Lacerations and Similar Wounds
2. Administering First Aid or CPR
3. Caring for Burned Skin

VII METHODS OF COMPLIANCE

Employee Access to Exposure Plan
Employees shall receive a copy of the exposure control plan upon hire. Additional copies are available from the company Safety Representative upon request.

Communication of Hazards
Bloodborne Pathogen hazards shall be communicated to employees via information within this policy, information booklets, training and warning labels/signs.

Universal Precautions
Universal Precautions will be used to prevent contact with blood and other potentially infectious material. Unless it is known otherwise, all human blood, or bodily fluids will be treated as if they are infected with HBV, HIV or other bloodborne pathogens.

Engineering Controls
The Safety Representative or his designee will work with department managers and supervisors to review tasks and procedures performed at the work sites in situations where engineering controls can be implemented and/or updated. Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

The following engineering controls are used throughout each location:

- Hand washing facilities, which are readily accessible to all employees who have the potential for exposure.
- If hand-washing facilities are not feasible, an appropriate antiseptic hand cleanser in conjunction with cloth/paper towels or antiseptic towelettes shall be provided.

Work Practice Control
All appropriate work practice controls shall be in place as follows:

- Specimens of blood or potentially infectious materials must be put in leak proof bags for handling.
- Hands are to be washed immediately or as soon as feasible, after removal of gloves or other personal protective equipment.
- Following any contact of body areas with blood or any other potentially infectious materials, wash hands and any other exposed skin with soap and water as soon as possible. Flush exposed eyes, nose and/or mouth if any of these areas are affected.

- In all procedures involving blood or other potentially infectious material, employees should minimize splashing, spraying or other actions generating droplets of these materials.

- Equipment or environmental surfaces shall be thoroughly cleaned & decontaminated after contact with blood or other infectious material.

VIII PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal Protective Equipment is provided to Company employees for protection against occupational exposure to blood and other potentially infectious material. It shall be used when rendering aid and provided at no cost to employees. PPE shall be appropriately sized for responders and readily available. PPE shall be cleaned/laundered and properly disposed. The specific PPE available at Company Facilities includes, but is not limited to, the following:

Type Available	Locations
Disposable gloves	In all first aid boxes
Safety glasses with solid side shields	In all first aid boxes
Disposable pocket masks with one way valves	In all first aid boxes

IX RESPONSE PROCEDURES

Incidents involving exposure to blood or other potentially infectious material are to be dealt with as follows:

1. The employee is to report the incident to his/her direct supervisor before the end of the work shift during which the incident occurred. The employee's supervisor will notify the Safety Representative when the employee reports the incident.

2. Employees who render first aid assistance in any situation involving the presence of blood, or other potentially infectious material, regardless of whether or not a specific exposure incident occurs **will be offered a series of Hepatitis B (HBV) immunizations at no cost to employee** as soon as possible, but no later than 24 hours following initial exposure. The employee's direct supervisor is to inform the employee of this when the exposure is reported.

3. The Safety Representative or his designee will contact the locally approved Medical Facility to arrange for the exposed employee to receive the HBV immunization series.

4. Exposed employees that decline the HBV vaccination series should read and sign the OSHA Declination Form.

X INFORMATION AND TRAINING

Information will be provided to all employees during Company provided CPR/ Medic First Aid / Bloodborne pathogens training program. The written policy may be obtained from any Safety Representative, or within the Company Safety Manual.

All personnel assigned duties as deemed at risk of exposure will receive initial and annual training by a qualified instructor on the Bloodborne Pathogen Policy. Additionally, personnel trained in First Aid shall be offered this annual training. All new and current affected Employees will be trained initially and annually thereafter.

The content of the training program will include:

- Facility Policy
- Types and transmission of Blood-Borne Pathogens
- General Safety Rules
- Universal Precautions
- Use of Personal Protective Equipment
- Waste Disposal Procedures
- Post Exposure Treatment and Procedures
- HBV Vaccinations

XI LABELING

Warning labels must be affixed to containers of infectious waste. Labels must include the BIOHAZARD legend and symbol. Labels must be fluorescent orange or orange-red, or predominantly so, with lettering or symbols in contrasting color.

- Labels should be affixed as close as possible to the container by string, wire, adhesive, or another method that prevents loss or unintentional removal.

- Labels for contaminated equipment must meet the specifications above, and must state the portions of the equipment which remain contaminated.

LABELS SHOULD DISPLAY THIS UNIVERSAL BIOHAZARD SYMBOL

The area Safety Representative must be contacted to determine appropriate disposal of biohazard waste.

XII POST-EXPOSURE EVALUATION AND FOLLOW-UP

Accident Investigation
If an employee is involved in an incident where exposure to blood or other potentially infectious materials occurs:

- The exposed employee's supervisor will investigate the circumstances surrounding the exposure incident.
- Make sure that medical consultation and treatment (if required) is provided as quickly as possible.

XIII MAINTENANCE OF RECORDS

Documents related to the Company Bloodborne Pathogen Policy are maintained in the main office. Accurate records for each employee with occupational exposure must be maintained for at least the duration of employment plus 30 years.

Records include:

- Individual exposure and/or medical documents.
- Applicable training records, to include: date and content of training, name and job title of personnel attending.

All records required by this section shall be made available upon request of employees, Assistant Secretary and the Director for examination. and copying. Medical records must have written consent of employee before released. The employer shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020(h). The company Safety Representative is responsible for maintaining medical and/or training records and has the overall responsibility for the effectiveness of this policy.

Appendix A

Record of Hepatitis "B" Vaccine Declination

I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to me. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee's Name (Print) Date

Employee's Signature Date

DRAFT

TABLE OF CONTENT

I. PURPOSE 2

II. SCOPE 2

III. REFERENCE 2

IV. RESPONSIBILITIES 2

V. GENERAL REQUIREMENTS 3

VI. ABC EVALUATION 4

VII. SEVERE BLEEDING 5

VIII. FIRST AID KIT INVENTORIES 6

DRAFT

I. PURPOSE

The Company Inc. will provide employees with CPR/First Aid training so that personnel will be available for initial first aid treatment of injuries should an accident occur. Any employee who feels they are not capable of administering CPR/First Aid should seek immediate help by calling 9-1-1 for the victim of an accident and stay with the victim until help arrives, or seek out another employee that can administer this service.

II. SCOPE

Each remote work site shall have a person certified in first aid and CPR available to render emergency care. Although the Company does not have designated First aid/CPR responders we do provide First Aid/CPR training for all of its employees every two years. Employees are not required to respond to first aid or CPR events, but if they feel they have adequate knowledge, training and capability, they may respond as "Good Samaritans".

III. REFERENCE

29 CFR 1910.151(b), *Medical Services and First Aid*
29 CFR 1910.1030(d), *Bloodborne Pathogens*
29 CFR 1926.23, *First Aid and Medical Attention*
CCR Title 8, Sections 1512 and 3400, *Emergency Medical Services and First Aid*

IV. RESPONSIBILITIES

- Site supervisors shall ensure first aid kits are inspected before being sent to each job and weekly to ensure expendable items are replaced as necessary.
- Site supervisors shall keep a list of appropriate emergency phone numbers, for hospitals, physicians, ambulance and other emergency services necessary in the event an injured person must be transported.
- Site supervisors shall ensure appropriate fresh water, drinking cups, washing facilities are available at each site.
- Site supervisors shall ensure appropriate eye wash facilities are available when employees are exposed to corrosive materials.

V. GENERAL REQUIREMENTS

1. In the absence of an infirmary, clinic, hospital, or physician, that is reasonably accessible in terms of time and distance to the worksite, which is available for the treatment of injured employees, a person who has a valid certificate in first aid shall be available at the worksite to render first aid.

2. A valid certificate in first aid training must be obtained from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence.

3. First aid supplies must be readily available and easily accessible when required

4. First aid kits shall consist of appropriate items which will be adequate for the environment in which they are used (refer to inventory list shown above). For construction operations, items shall be stored in a weather proof container with individual sealed packages of each type of item.

5. Site Supervisors shall ensure the availability of adequate first aid supplies, and periodically reassess the demand for supplies and adjust their inventories. For construction operations, first aid kits shall be checked before being sent out to each job and at least weekly.

6. Proper site specific equipment for prompt transportation of the injured person to a physician or hospital or a communication system for contacting necessary ambulance service shall be provided.

7. Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities shall be provided within the work area.

VI. ABC EVALUATION

The initial evaluation of a victim should follow the procedure developed by the American Red Cross for basic life support, called the "ABC Evaluation" (Airway, Breathing, Circulation).

A review of the procedure for performing ABC evaluation is provided in the table below.

Step	Action	Explanation
1	Check for responsiveness	• If the victim responds, monitor condition and consider obtaining medical attention for the victim. • No additional action is required by the rescuer. • If the victim does not respond, call for help and proceed to Step 2.
2	Position the victim	• If necessary, move the victim so he/she is lying on their back.
3	Clear the victim's airway	• Open the airway by using the head-tilt/chin-lift method. • Look into the victim's mouth and remove anything that is blocking or could block the airway.
4	Determine whether or not the victim has stopped breathing	• Place your cheek next to the victim's nose and mouth to feel an exchange of air for 3 to 5 seconds. • At the same time, watch for any chest movement. • *If the victim is breathing, proceed to Step 5.* • *If breathing has stopped, begin rescue breathing.*
5	Locate the carotid artery to feel if the heart is circulating blood	• Initially place the tips of two fingers on the larynx (voice box). • Gently slide your fingers into the groove between the voice box and the large muscle of the neck. • Feel for the victim's pulse *If circulation has stopped, begin CPR.*

VII. SEVERE BLEEDING

Severe bleeding is the result of a wound to large vessels of the body and MUST be controlled quickly.
Prior to performing any first aid on a bleeding victim, you should:

- Call for medical help or have someone else call while first aid is being initiated.
- Use personal protective clothing such as surgical gloves, mask, and other protective items from the first aid kit.

Control severe bleeding by referring to the table below to identify and initiate the correct procedure.

If the bleeding...	**Then...**
Can be controlled with a: • clean pad • handkerchief, or • cloth	1. Place a clean pad, handkerchief, or cloth over the wound and press firmly with your hands *Note: If you do not have a pad or bandage, close the wound with your hand or fingers.* 2. Apply pressure directly over the wound. 3. Hold the pad firmly in place with a bandage, necktie, or cloth strip, etc.
If the bleeding...	**Then...**
is the result of an injury such as amputation, mangled, or crushed arms or legs and CANNOT be controlled with the procedure described above	Apply pressure at a point and then if not controlled apply a tourniquet to the wound by: 1. finding a strong, wide piece of cloth; 2. placing it immediately above the wound, making sure that it is just tight enough to stop the bleeding, and; 3. notify medical responders that a tourniquet is in place.

VIII. FIRST AID KIT INVENTORIES

First aid kits will be provided by the company. The size of the kit will be determined by the number of employees it will serve. The contents of the first aid kits shall be stored in a weatherproof container with individually sealed packages and inspected regularly (at least weekly) to ensure that the expended items are replaced. The contents of first aid kits shall be arranged to be quickly found and remain sanitary. Each kit has been approved by our company physician and should include at a minimum:

Truck Kits (up to 10 people)	
32 Sheer Bandages, 3/4X3"	4 NON-STICK pads medium
2 KLING Gauze Bandages, 2"	2 Oval Eye Pads
1 Triangle Bandages	1 First Aid Tape, 1/2x180"
10 Antiseptic Wipes	1 First Aid Guide
2 Disposable Gloves	2 Burn Cream, 1/8 oz. packs
2 CPR Barriers	

JOB SITE KITS (up to 25 people)	
32 Sheer Bandages, 3/4x3"	2 KLING Gauze Bandages, 2"
4 NON-STICK pads medium	2 Oval Eye Pads
1 Triangle Bandages	1 First Aid Tape, 1/2x180"
10 Antiseptic Wipes	2 Burn Cream, 1/8 oz. packs
2 Disposable Gloves	20 Flex. Fabric Bandages,1x3
2 CPR Barriers	4 NON-STICK Pads Small
1 First Aid Guide	1 Elastic Bandage, 2"
1 Scissors & Tweezers	1 Instant Cold Pack, Small

JOB SITE KITS (up to 100 people)	
4 Disposable Gloves	12 Burn Cream, 1/8 oz. packs
30 Antiseptic Wipes	2 First Aid Tape, 1/2x180"
2 Triangle Bandages	4 KLING Gauze Bandages, 2"
4 NON-STICK pads medium	4 Oval Eye Pads
1 First Aid Guide	100 Sheer Bandages, 3/4x3"
4 CPR Barriers	40 Flex. Fabric Bandages, 1x3
2 NON-STICK Pads Small	1 Elastic Bandage, 2"
2 Instant Cold Pack, 41/2x6"	1 Scissors & Tweezers
10 Plastic Bandages , Ex. Lg.	10 Flex. Fabric Knuckle Band.
10 Flex. Fabric Finger Band.	2 NON-STICK Pads, Medium
2 NON-STICK Pads, Large	2 NU-Gauze Sterile Sponges
2 KLING Rolled Bandages, 4"	2 Combined Dressings, 5x9"
1 Tourniquet, 3/4x36"	1 Elastic Bandage 2"
1 First Aid Cream, 8oz.	2 Ophthalmic Irrigating Fld.
1 Rescue Blanket, 56"x 84"	

TABLE OF CONTENTS

I. PURPOSE 2

II. REFERENCE 2

III. GENERAL REQUIREMENTS 2

IV. SAFETY REPRESENTATIVE RESPONSIBILITIES: 3

V. WORKPLACE FIRE HAZARDS 4

VI. POTENTIAL IGNITION SOURCES 5

VII. FIRE PROTECTION EQUIPMENT 5

VIII. MAINTENANCE OF FIRE PROTECTION EQUIPMENT 5

IX. FIRE EXTINGUISHER INSPECTION AND MAINTENANCE 6

X. TRAINING 6

XI. RESPONSIBLE PROCEDURES 8

XII. FIRE PREVENTION GUIDELINES 9

DRAFT

FIRE PREVENTION AND PROTECTION

I. PURPOSE

OSHA's Fire Prevention Plan regulation, requires the company, to have a written fire prevention plan (FPP). This plan applies to all operations in our company where employees may encounter a fire.

This FPP is in place at this company to control and reduce the possibility of fire and to specify the type of equipment to use in case of fire. This plan addresses the following issues:

- Major workplace fire hazards and their proper handling and storage procedures.
- Potential ignition sources for fires and their control procedures.
- The type of fire protection equipment or systems which can control a fire involving them.
- Regular job titles of personnel responsible for maintenance of equipment and systems installed to prevent or control ignition of fires and for control of fuel source hazards.

II. REFERENCE

TITLE 8 CCR, subsection 3221, Fire Prevention Plan
29 CFR 1910.38, Emergency Action Plans

III. GENERAL REQUIREMENTS

The plan is closely tied to our emergency action plan where procedures are described for emergency escape and route assignments, procedures to account for all employees after emergency evacuation has been completed, rescue and medical duties for those employees who perform them. Please see the emergency action plan for this information.

1. Fire equipment training (an educational program) shall be provided to employees whose duties require the use of fire protective equipment. The goal is to familiarize employees with the general principles of fire extinguisher use and the hazards involved in incipient stage fire fighting.

2. Training will be provided before initial assignment and annually thereafter.

3. Portable fire extinguishers are subjected to monthly visual inspections and an annual maintenance check.

IV. SAFETY REPRESENTATIVE RESPONSIBILITIES:

The assigned Safety Representative is responsible for the following activities. He must:

1. Develop a written fire prevention plan for day and evening work conditions.
2. Immediately notify the Long Beach fire or police departments, and the building owner/superintendent in the event of a fire affecting the office.
3. Integrate the fire prevention plan with the existing general emergency plan covering the building occupied.
4. Distribute procedures for reporting a fire, the location of fire exits, and evacuation routes to each employee.
5. Conduct drills to acquaint the employees with fire procedures, and to judge their effectiveness.
6. Satisfy all local fire codes and regulations as specified.
7. Train designated employees in the use of fire extinguishers and the application of medical first-aid techniques.
8. Keep key management personnel home telephone numbers in a safe place in the office for immediate use in the event of a fire. Distribute a copy of the list to key persons to be retained in their homes for use in communicating a fire occurring during non-work hours.
9. Decide to remain in or evacuate the workplace in the event of a fire.
10. If evacuation is deemed necessary, the Operations Manager ensures that:

    - All employees are notified and a head count is taken to confirm total evacuation of all employees.
    - When practical, equipment is placed and locked in storage rooms or desks for protection.
    - The building owner/superintendent is contacted, informed of the action taken, and asked to assist in coordinating security protection.
    - In locations where the building owner/superintendent is not available, security measures to protect employee records and property are arranged as necessary.

V. WORKPLACE FIRE HAZARDS

It is the intent of this company to assure that accumulation of combustible waste materials are controlled so that a fast developing fire, rapid spread of toxic smoke, or an explosion will not occur. Employees are to be made aware of the hazardous properties of materials in their workplaces, and the degree of hazard each poses.

Fire hazards at our facilities include, but are not limited to, oily waste, such as oily rags, compressed gases contained in cylinders, and petroleum fuel materials.

Fire prevention measures must be developed for all fire hazards found. Once employees are made aware of the fire hazards in their work areas, they must be trained in the fire prevention measures developed and use them in the course of their work. For example, oil soaked rags must be treated differently than general paper trash in office areas. In addition, large accumulations of waste paper or corrugated boxes, etc., can pose a significant fire hazard. Accumulations of materials which can cause large fires or generate dense smoke that are easily ignited or may start from spontaneous combustion, are the types of materials with which this fire prevention plan is concerned. Such combustible materials may be easily ignited by matches, welder's sparks, cigarettes and similar low level energy ignition sources. It is the intent of this company to prevent such accumulation of materials.

Certain equipment is often installed in workplaces to control heat sources or to detect fuel leaks. An example is a temperature limit switch often found on deep-fat food fryers found in restaurants. There may be similar switches for high temperature dip tanks, or flame failure and flashback arrester devices on furnaces and similar heat producing equipment. If these devices are not properly maintained or if they become inoperative, a definite fire hazard exists. Again employees and supervisors should be aware of the specific type of control devices on equipment involved with combustible materials in the workplace and should make sure, through periodic inspection or testing, that these controls are operable. Manufacturer's recommendations should be followed to assure proper maintenance procedures.

Fuel is used throughout the plant as an energy source for various systems or equipment. This fuel can be a significant fire hazard and must be monitored and controlled.

VI. POTENTIAL IGNITION SOURCES

Flammable or combustible materials may not ignite on their own without an external source of ignition.

The following procedures are used to control known ignition sources at this company: no accumulation of oily rags; cylinders are inspected and maintained in proper working condition; fuel materials are not exposed to external ignition sources

VII. FIRE PROTECTION EQUIPMENT

Fire protection equipment, selected and purchased by the Operations Manager, in use at this company includes the following extinguishers to protect from the various types of fire hazards.

Type of Fire: B, flammable liquids, gases and greases. Type of Extinguisher: B or ABC, foam, carbon dioxide, dry chemicals
In addition, Fire hoses are also present to control fires. They are located at various places throughout the plants.

VIII. MAINTENANCE OF FIRE PROTECTION EQUIPMENT

Once hazards are evaluated and equipment is installed to control them, the equipment must be monitored on a regular basis to make sure it continues to function properly.

Housekeeping Procedures

Our company controls accumulations of flammable and combustible waste materials and residues so that they do not contribute to a fire. We have identified the following potential hazards in our facility:

- Accumulation of oily rags
- Open fuel oil containers
- Stockpiled Paper products

The following procedures have been developed to eliminate or minimize the risk of fire due to improperly stored or disposed of materials.

- Keep floor free of paper and dust.
- Store oily rags in specially designed containers.
- Store all flammables in fire cabinets when not in use.

IX. FIRE EXTINGUISHER INSPECTION AND MAINTENANCE

All Company vehicles (except personal vehicles) should be equipped with an approved fire extinguisher. The size of the extinguisher should be determined by the anticipated need:

VEHICLE TYPE	MINIMUM REQUIREMENT
Pickups and Cars	2-1/2 pound fire extinguisher
Gang trucks, heavy equipment, hydro-cranes and welding trucks	20-pound fire extinguisher

- Fire extinguishers are an important segment of any fire protection program. Fire extinguishers should be:

    a. Accessible
    b. Properly maintained
    c. Inspected monthly by trained personnel and documented
    d. Inspected annually by qualified personnel and documented

- The supervisor is responsible for ensuring that all extinguishers are properly maintained and inspected. Each employee should know how to identify and report extinguishers needing recharging and/or maintained.

- Portable fire extinguishers shall be inspected visually monthly and re-certified on an annual basis. Appropriate records of annual certifications shall be kept with each individual fire extinguisher.

X. TRAINING

At the time of a fire, employees should know what type of evacuation is necessary and what their role is in carrying out the plan. In cases where the fire is large, total and immediate evacuation of all employees is necessary. In smaller fires, a partial evacuation of nonessential employees with a delayed evacuation of others may be necessary for continued plant operation. We must be sure that employees know what is expected of them during a fire to assure their safety.

This document is not one for which casual reading is intended or will suffice in getting the message across.

If passed out as a statement to be read to oneself, some employees will choose not to read it, or will not understand the plan's importance. In addition, training on the plan's content is required by OSHA.

A better method of communicating the fire prevention plan is to give all employees a thorough briefing and demonstration.

Training, conducted on initial assignment, includes:

- What to do if employee discovers a fire
- Demonstration of alarm, if more than one type exists
- How to recognize fire exits
- Evacuation routes
- Assisting employees with disabilities
- Measures to contain fire (e.g., closing office doors, windows, etc. in immediate vicinity)
- Head count procedures (see EAP for details)
- Return to building after the "all-clear" signal

If the Operation Manager has reason to believe an employee does not have the understanding required, the employee must be retrained.

The Environmental Compliance Consultant certifies in writing that the employee has received and understands the fire prevention plan training.

Because failure to comply with company policy concerning fire prevention can result in OSHA citations and fines as well as employee injury, an employee who does not comply with this program will be disciplined.

The Environmental Compliance Consultant provides training for each employee who is required to use fire prevention equipment. Employees shall not use fire prevention equipment without appropriate training. Training, before an individual is assigned responsibility to fight a fire, includes:

- Types of fires
- Types of fire prevention equipment
- Location of fire prevention equipment
- How to use fire prevention equipment
- Limitations of fire prevention equipment
- Proper care and maintenance of assigned fire prevention equipment and
- Extinguishing a small oil fire

Employees must demonstrate an understanding of the training and the ability to use the equipment properly before they are allowed to perform work requiring the use of the equipment.

If the Operation Manager has reason to believe an employee does not have the understanding or skill required, the employee must be retrained.

The Environmental Compliance Consultant certifies in writing that the employee has received and understands the fire prevention equipment training.

XI. RESPONSIBLE PROCEDURES

In case of fire the following procedure should be used:

1. **Summon help by whatever means available.** Do not fight a fire before alerting someone else.

2. Analyze the situation, considering:

   a. Threat to life?
   b. Damage to public property?
   c. Evacuate or is extinguishing the fire possible?
   d. Notification and assistance from outside authorities appropriate?
   e. Hazardous or toxic chemicals present?

3. Isolate all fuel sources and/or threatened facilities.

4. Fighting a fire in the initial stages is considered incipient fire fighting. **DO NOT FIGHT FIRES BEYOND THE INCIPIENT STAGE UNLESS YOU ARE TRAINED AND EQUIPPED TO DO SO AS A PART OF A FIRE BRIGADE OR EMERGENCY RESPONSE TEAM.** Such fire fighting should be limited to trained personnel using fire extinguisher and water streams at long range.

5. Locate the fire fighting equipment and approach the fire **FROM THE UPWIND SIDE.** In the case of a gas fire, extinguish the fire by shutting off the fuel source.

6. **NEVER OPERATE AN EXTINGUISHER IN SUCH A MANNER THAT ANY PART OF THE BODY IS LOCATED DIRECTLY IN FRONT OF THE FILL CAP.**

7. After the fire is extinguished, stand by to ensure that there are no flashbacks.

XII. FIRE PREVENTION GUIDELINES

1. Class A fire materials should not be stored in or used as construction material in process areas.

2. Keep all buildings in which solvents or chemicals are being handled well ventilated at all times.

3. Report and repair all hydrocarbon liquid or gas leaks immediately. If immediate repairs are not possible, post an adequate warning sign, isolate the area and take extra precautions against fire.

4. In the event of a hydrocarbon liquid or gas leak, extinguish all fires and remove other sources of ignition immediately. Shut down engines and other potential sources of ignition, such as pilot lights. Report the leak promptly to the supervisor in charge. Shut off fuel supply or process if possible.

5. Use soap suds when testing for gas leaks on connections. Never use an open flame.

6. Use gasoline as a motor fuel only. Using gasoline as a cleaning agent on Company property is strictly forbidden. Use a high flash point (140 +F) safety solvent to clean tools, machinery and other similar equipment. Wear gloves made of hydrocarbon-resistant rubber to protect hands.

7. Transport gasoline only in approved, clearly marked containers. Never place gasoline containers inside car or truck passenger compartments.

8. Follow proper procedures when lighting direct-fired heater. Lighting procedure stickers are available from your Compliance director.

9. Flame arresters should be properly maintained and inspection port covers keep in place.

10. When transferring hydrocarbon (especially "flashing" liquids) form a line or vessel to another container, the source container and the receiving container should be electrically bonded to prevent ignition due to static electricity.

TABLE OF CONTENTS

I. PURPOSE 2

II. SCOPE 2

III. APPLICABILITY 2

IV. REFERENCE 2

V. DEFINITIONS 2

VI. RESPONSIBILITIES 3

VII. EMPLOYEE RIGHTS 3

VIII. GENERAL REQUIREMENTS 4

IX. LIST OF HAZARDOUS CHEMICALS 5

X. PROPOSITION 65 LISTED CHEMICALS 5

XI. HAZARDOUS CHEMICAL COMMONLY FOUND ON SITE 6

XII. SAFETY DATA SHEETS 7

XIII. LABELS AND OTHER FORMS OF WARNING 7

XIV. PICTOGRAMS AND HAZARDS 8

XV. NON-ROUTINE TASKS 9

XVI. TRAINING 9

XVII. SUBCONTRACTORS AND MULTI-EMPLOYER SITES 10

XVIII. ADDITIONAL INFORMATION 11

I. PURPOSE

This written Hazard Communication Plan covers the requirements of OSHA's Hazard Communication Standard. Our Company is committed to administering legally and morally correct actions to protect its employees, contractors, the surrounding communities and the environment from exposure to chemical and/or hazardous substances.

II. SCOPE

To ensure that information about the dangers of hazardous chemicals used at our locations is known by all affected employees, the following hazard information program has been established. Under this program, you will be informed of the contents of OSHA's hazard communication standard, the hazardous properties of chemicals with which you work, safe handling procedures, and measures to take to protect yourself from these chemicals.

III. APPLICABILITY

This program applies to all work operations in our company where you may be exposed to hazardous chemicals under normal working conditions or during an emergency situation. All work units of this company will participate in the hazard communication program. Copies of the program are available in the main office for review by any interested employee.

Our Safety Representative is the program coordinator who has overall responsibility for the program. He will review and update the program, as necessary. Copies of the written program may be obtained from him at the main office.

IV. REFERENCE

29 CFR 1910.1200, *Hazard Communication*
CCR Title 8, Section 5194, *Control of Hazardous Substances*

V. DEFINITIONS

Hazardous Chemical: means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

Health Hazard: means a chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.

Globally Harmonized System (GHS): is an internationally agreed-upon system for labeling, created by the United Nations. It is designed to replace the various classification and labeling standards used in different countries by using consistent criteria for classification and labeling on a global level.

Label: means an appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

Physical *Hazard*: means a chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas.

Safety Data Sheet (SDS): Formally known as Material Safety Data Sheet (MSDS); means written or printed material concerning a hazardous chemical that is prepared in accordance with the regulation.

VI. RESPONSIBILITIES

Management is responsible to ensure adequate resources are dedicated to provide for compliance with the standard.

Employees must review this written hazard communication plan and:

- Follow all safety instructions provided by this plan and by your supervisor
- Complete hazard communication training and pass the test
- Obtain an SDS for any new chemical to be tested or purchased
- Forward new SDSs to the Safety Representative to facilitate updating SDS binders.
- Label containers that are used for the transfer of chemicals (secondary or portable containers)
- Read Safe Use Guide information and chemical labels prior to working with a chemical
- Always wear personnel protective equipment specific to each chemical

VII. EMPLOYEE RIGHTS

Under the law, the hazard communication program also establishes rights for employees:

1. You have the right to personally receive information regarding hazardous substances to which you may be exposed.
2. You have the right for your physician or collective bargaining agent to receive information regarding hazardous substances to which you may be exposed.

3. You may exercise your rights under the provisions of the Occupational Safety and Health Act (OSHA) without concern for any discharge or discrimination.
4. This written hazard communication program is available for you to read at any time mutually acceptable between employer and employee.
5. You have the right to refuse to work with a toxic substance if you have not been provided with SDS information within the prescribed time limits.
6. You may petition OSHA to have any chemical or substance added, removed or modified on the OSHA toxic substance list.
7. You may request a copy of an SDS for a material to which you may be exposed.

VIII. GENERAL REQUIREMENTS

1. Employees shall be provided with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new physical or health hazard the employees have not previously been trained about is introduced into their work area. Information and training shall be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and safety data sheets.

2. A written hazard communication program (this program) shall be developed, implemented, and maintained at each workplace that describes how labels and other forms of warning, safety data sheets, and employee information will be met.

3. A list of the hazardous chemicals known to be present at each location must be maintained, using an identity that is referenced on the appropriate SDS.

4. When you are required to perform hazardous non-routine tasks (e.g., cleaning tanks, entering confined spaces, etc.), special training will be provided in order to inform you regarding the hazardous chemicals to which you might be exposed and the proper precautions to take to reduce or avoid exposure.

5. Site specific programs shall have specific methods for providing information concerning hazardous chemicals at job sites, methods of providing SDS sheets, methods of precautionary measures to be taken and methods of providing information on labeling systems. Where employees must travel between work places during a work shift (multi job sites), the written program may be kept at a primary job site. If there is no primary, then the program should be sent with employees.

6. Container labels shall contain the following information: Identity of hazardous chemicals, appropriate hazard warnings and name and address of the chemical manufacturer, importer or other responsible party.

7. Waste material, waste water or solid wastes shall not be placed in totes.

8. Chemical manufacturers are responsible for developing SDSs. The Company shall have a SDS for each chemical used.

9. SDSs shall be maintained and readily accessible in each work area. SDSs can be maintained at the primary work site. However, they must be available in case of an emergency. SDS must be made available, upon request, to employees, their designated representatives, the Assistant Secretary and the Director.

IX. LIST OF HAZARDOUS CHEMICALS

Our Safety Representative will make a list of all hazardous chemicals used at each location, and will update the list as necessary. Our list of chemicals identifies all of the chemicals used in our work areas. It identifies the corresponding SDS for each chemical by using the *same* name as that used on the corresponding SDS. For example, if the label says "DYCOTE 8" on the container, any time you want to know more about it, go to the SDS listed under the name "DYCOTE 8". The labels of all containers shipped to us from outside will also contain the name and address of the chemical manufacturer who can be contacted if additional information is desired.

X. PROPOSITION 65 LISTED CHEMICALS

The Safe Drinking Water and Toxic Enforcement Act of 1986 requires that the Governor revise and republish at least once per year the list of chemicals known to the State to cause cancer or reproductive toxicity. The following chemicals are known to be on the proposition 65 list and may be present at any job site.

Location	Chemical	Prop65
Field	Diesel #2 (diesel exhaust is prop 65 listed)	Cancer
Field	Gasoline Unleaded (vapors are prop 65 listed)	Cancer
Field	Paints	Cancer
Field	Solvents	Cancer
Field	Thinners	Cancer
Field	Select Process Chemicals	Cancer

XI. HAZARDOUS CHEMICAL COMMONLY FOUND ON THE HAZARDOUS MATERIALS INVENTORY IN CERS.

ACETONE
ACETYLENE GAS
ADHESIVES
AGGREGATE
ALUMINUM ETCHING AGENT
AMMONIA
ANTI-FREEZE
ARSENIC COMPOUNDS
ASBESTOS
ASPHALT (PETROLEUM)
BENZENE (and derivatives)
BLEACHING AGENTS
CARBON BLACK
CARBON MONOXIDE (IN CYLINDERS)
CAULKING, SEALANT AGENTS
CAUSTIC SODA (SODIUM HYDROXIDE)
CEMENT
CHROMATE SALTS
CHROMIUM
CLEANERS
COAL TAR PITCH
COATINGS (BRUSH OR SPRAY)
COBALT
CONCRETE CURING COMPOUNDS
CREOSOL
KEROSENE
LEAD
LIME
LIMESTONE
LUBRICATING OILS
LYE (SODIUM HYDROXIDE
SODIUM HYDROXIDE)
MAGNESIUM
MASONRY MATERIALS
METAL CONDUIT
METALS
METHANOL (METHYL ALCOHOL)
METHYL ETHYL KETONE
(2-BUTANONE)
MORTAR
MOTOR OIL ADDITIVES
MURIATIC ACID
NAPTHA (COAL TAR)
NITROGLYCERIN DIOXIDE (IN
CYLINDERS)
OXYGEN (IN CYLINDERS)
PAINT REMOVER
PAINT STRIPPER
PAINTS
CUTTING OIL
DE-EMULSIFIER FOR OIL
DIESEL GAS, DIESEL OIL
DRYWALL
ENAMEL
ETHYL ALCOHOL
EXPLOSIVES
ETCHING AGENTS
FIBERGLASS
FOAM INSULATION
FORM OILS
FREON 20, R20 (AND OTHERS)
GALVANIZED JUNCTION BOXES
OUTLETS, SWITCHES
GASOLINE (PETROL, ETHYL)
GLUES
GRAPHITES
GREASES
GROUTS
GYPSUM (CALCIUM SULFATE)
HELIUM (IN CYLINDERS)
HYDRAULIC BRAKE FLUID
HYDAULIC ACID
INKS
INSULATION
IRON
PHOTOGRAVURE INK (COPY
MACHINES)
PIPE
PIPE THREADING OIL
PLASTICS
POLISHES
PROPANOL
PUTTY
PVC-PIPE CEMENT
ROOFING FELTS
SEALERS
SOLDER, FLUX
SOLVENTS
SOLDER, SOFT (LEAD, TIN)
SULFURIC ACID
THINNER, PAINT/LACQUER
TIN
TRANSITE
TURPENTINE, GUM SPIRIT
VARNISHES
WAXES
WOOD ALCOHOL (METHANOL)
WOOD DUST

DRAFT

XII. SAFETY DATA SHEETS

SDS's provide specific information on the chemicals in use. Our Safety Representative will maintain a binder in his office with an SDS on every hazardous chemical on our premises. Each SDS will be a fully completed OSHA Form 174 or the equivalent and maintained as appropriate.

The Safety Representative will also make sure that each work site maintains an SDS for the hazardous chemicals in that area at a place where it is readily available to employees while they are at work. If you do not know where they are located, ask your supervisor.

Our Safety Representative is responsible for acquiring and updating SDS's. He will contact the chemical manufacturer or vendor if additional information is necessary or if an SDS has not been supplied with an initial shipment. All new procurements for the company must be cleared by the Safety Representative.

These Safety Data Sheets contain the following information about the chemicals in your workplace and will be IN compliance with the GHS requirements.

Section 1. Identification
Section 2. Hazard(s) identification
Section 3. Composition/information on ingredients
Section 4. First-Aid measures
Section 5. Fire-fighting measures
Section 6. Accidental release measures
Section 7. Handling and storage
Section 8. Exposure controls/personal protection
Section 9. Physical and chemical properties
Section 10. Stability and reactivity
Section 11. Toxicological information
Section 12. Ecological information
Section 13. Disposal considerations
Section 14. Transport information
Section 15. Regulatory information
Section 16. Other information, including date of preparation or last revision

XIII. LABELS AND OTHER FORMS OF WARNING

Our Safety Representative will also ensure that all hazardous chemicals on work sites are properly labeled and updated, as necessary. The labels list at least the chemical identity, appropriate hazard warnings, and the name and address of the manufacturer, importer or other responsible party.

Container labels must contain the following information: Identity of hazardous chemicals, appropriate hazard warnings and name and address of the chemical manufacturer, importer or other responsible party. Company and/or employees shall not remove or deface labels on incoming containers of hazardous chemicals. This policy applies to all chemical containers including drums, totes, carboys, gas cylinders, buckets, pails and bags.

Containers of products that include any hazardous chemical that is shipped *from* our location will be checked by the Safety Representative or a person assigned to that responsibility, in order to make sure all containers are properly labeled.

If there are a number of stationary containers within a work area that have similar contents and hazards, each of them need not be labeled. However, signs will be posted to convey the needed hazard information.

On our stationary process equipment, we may sometimes substitute regular process sheets, batch tickets, blend tickets, and similar written materials for container labels—but they will contain the same information as labels. If used, those written materials will be readily available to you during your work shift.

If you transfer chemicals from a labeled container to a portable container that is intended only for your immediate use, no labels are required on the portable container.

Pipes or piping systems do not have to be labeled but their contents will be described in the training sessions. If you ever have any questions about pipes or their contents, ask your supervisor.

XIV. PICTOGRAMS AND HAZARDS

Workplace chemical containers are labeled by the chemical manufacturer when received. Under OSHA's HAZCOM GHS standard, labels need to include the following:

- ✓ **Pictogram**: a symbol plus other graphic elements, such as a border, background pattern, or color that is intended to convey specific information about the hazards of a chemical. Each pictogram consists of a different symbol on a white background within a red square frame set on a point (i.e. a red diamond). There are nine pictograms under the GHS.
- ✓ **Signal words**: a single word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for less severe hazards.
- ✓ **Hazard Statement:** a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.
- ✓ **Precautionary Statement**: a phrase that describes recommended measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling of a hazardous chemical.

Pictograms and Hazards

Health Hazard	Flame	Exclamation Mark
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	• Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	• Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non Mandatory)
Gas Cylinder	**Corrosion**	**Exploding Bomb**
• Gases under Pressure	• Skin Corrosion/ burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
Flame over Circle	**Environment (Non Mandatory)**	**Skull and Crossbones**
• Oxidizers	• Aquatic Toxicity	• Acute Toxicity (fatal or toxic)

XV. NON-ROUTINE TASKS

When you are required to perform hazardous non-routine tasks (e.g., cleaning tanks, entering confined spaces, etc.), special training will be provided in order to inform you regarding the hazardous chemicals to which you might be exposed and the proper precautions to take to reduce or avoid exposure.

XVI. TRAINING

Everyone who works with or is potentially exposed to hazardous chemicals will receive initial training from the Safety Representative (or his designee) on the hazard communication standard and the safe use of those hazardous chemicals to which you may be exposed.

A program that uses both audiovisual materials, classroom-type training, and/or on-the-job training has been prepared for this purpose. The training program may vary among workers but every worker will be trained in the OSHA hazard communication standard and all chemicals to which he or she may be exposed while at work.

Whenever a new hazard is introduced, additional training will be provided as appropriate. Regular safety meetings may also be used to review the information presented in the initial training. Site supervisors will be extensively trained regarding hazards and appropriate protective measures so they will be available to answer questions from employees and provide daily monitoring of safe work practices. If you

are ever unsure about what you should do or uncertain about the consequences of any action you plan to take, *DON'T ACT. Ask your supervisor beforehand*!

The training plan will emphasize these items:

- Summary of the standard and this written program.
- Chemical and physical properties of hazardous materials (e.g., flash point, reactivity) and methods that can be used to detect the presence or release of chemicals (including chemicals in unlabeled pipes).
- Physical hazards of chemicals (e.g., potential for fire, explosion, etc.).
- Health hazards, including signs and symptoms of exposure, associated with exposure to chemicals and any medical condition known to be aggravated by exposure to the chemical.
- Procedures to protect against hazards (e.g., personal protective equipment required, proper use, and maintenance; work practices or methods to assure proper use and handling of chemicals; and procedures for emergency response).
- Work procedures to follow to assure protection when cleaning hazardous chemical spills and leaks.
- Where SDS's are located, how to read and interpret the information on both labels and SDS's, and how employees may obtain additional hazard information.

The Safety Representative or designee will regularly review our employee training program and advise management on training or retraining needs. As part of the assessment of the training program, he or she may want to obtain input from employees regarding the training they have received, and their suggestions for improving it. If you have any suggestions, give them to your supervisor. He or she will see to it that they are provided to the appropriate party.

Retraining is required when the hazard changes or when a new hazard is introduced into the workplace. It is also company policy to provide training whenever it is needed to whoever needs it. If you do not think you are fully or properly trained, or if you ever feel you need additional training in any aspect of your job or your work environment, report that to your supervisor *immediately!*

XVII. SUBCONTRACTORS AND MULTI-EMPLOYER SITES

Upon notification by the responsible supervisor, our Safety Representative or a person specifically designated for the purpose will provide outside contractors with notice of any chemical hazards that may be encountered in the normal course of their work on the

premises, the labeling system in use, the protective measures to be taken, the safe handling procedures to be used, and the location and availability of SDS's. Each contractor bringing chemicals on-site must provide us with the appropriate hazard information on those substances, including the labels used and the precautionary measures to be taken in working with those chemicals.

XVIII. ADDITIONAL INFORMATION

All employees, or their designated representatives, can obtain further information on this written program, the hazard communication standard, applicable SDS's, chemical information lists and any other safety or health matter that may interest or concern them at our main office.

Non-English speaking employees' information shall be presented in their native language. Labels shall be legible and in English.

DRAFT

TABLE OF CONTENTS

I. PURPOSE 2

II. SCOPE 2

III. REFERENCES 2

IV. DEFINITIONS 2

V. GENERAL REQUIREMENTS 2

VI. NOISE LEVEL SURVEYS 4

VII. HEARING CONSERVATION PARTICIPANTS 4

VIII. HEARING PROTECTION 5

IX. TRAINING 5

X. MEDICAL EVALUATIONS 5

XI. STANDARD THRESHOLD SHIFT (STS) 6

XII. RECORDING WORK RELATED INJURIES 6

DRAFT

I. PURPOSE

The company shall institute a hearing conservation program to include training and medical surveillance when employees are exposed to sound levels greater than 90 dba on an 8-hour time-weighted average basis. The training shall be repeated annually for each employee. Training shall be updated consistent to changes in PPE and work processes. The company shall make available to affected employees and the Assistant Secretary copies of the noise exposure procedures and shall also post a copy in the workplace.

II.SCOPE

When employees are subject to sound levels exceeding permissible exposure limits, feasible administrative and or engineering controls shall be utilized. If such controls fail to reduce sound levels below acceptability, than personal protective equipment is required to reduce sound levels within the acceptable range.

III.REFERENCES

29 CFR 1910.95, Occupational Noise Exposure
29 CFR 1926.52, Occupational Noise Exposure
CCR Title 8, Section 5095, Occupational Noise

IV.DEFINITIONS

- dBA (decibel on "A" weighted scale) - Standard unit of sound pressure measurement.
- TWA (Time Weighted Average) - Exposure averaged out over a certain period, usually 8 hours.
- Standard Threshold Shifts (STS) - A hearing threshold exceeding 25 dBA at any of the test frequencies of 500, 1000, 3000, 4000, or 6000 H_z in either ear.

V.GENERAL REQUIREMENTS

1. A training program shall be provided for all employees who are exposed to action level noise. The training shall be repeated annually for each employee. Training shall be updated consistent to changes in PPE and work processes. The company shall make available to affected employees copies of the noise exposure procedures and shall also post a copy in the workplace. The company shall also allow the Assistant Secretary and the Director access to records.

2. A continuing effective hearing conservation program shall be administered when employees are exposed to sound levels greater than 85 dbA on an 8 hour time-weighted average basis.

3. When information indicates that employee exposure may equal/exceed the 8 hr time-weighted avg. of 85 decibels, a monitoring program shall be implemented to identify employees to be included in the hearing conservation program

4. An audiometric testing program will be established and maintained by making audiometric testing available to all employees whose exposures equal or exceed an 8-hr. time-weighted avg. 85 decibels.

5. Within 6 months of an employee's first exposure at or above the action level, a valid baseline audiogram shall be established against which future audiograms can be compared. When a mobile van is used, the baseline shall be established within 1 yr.

6. Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protection may be used to meet the requirement. Employees shall also be notified to avoid high levels of noise.

7. At least annually after obtaining the baseline audiogram, the employer shall obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels. Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee shall be informed of this fact in writing, within 21 days of the determination.

8. If a threshold shift has occurred, use of hearing protection shall be re-evaluated and/or refitted and if necessary a medical evaluation may be required.

9. Hearing protectors are available to all employees exposed to an 8-hr. time-weighted average of 85 decibels at no cost to the employee This is done at no cost to employee. Hearing protection shall be replaced as necessary. Employers shall ensure that hearing protectors are worn. Employees shall be properly trained in the use, care and fitting of protectors.

10. The company shall evaluate hearing protection for the specific noise environments in which the protector will be used.

11. Accurate records of all employee exposure and audiometric measurements shall be maintained as required by the regulation.

VI. NOISE LEVEL SURVEYS

- Noise level surveys shall be conducted by qualified personnel at all work locations where employees may be exposed to noise in excess of the required action level of 85 dBA.
- Surveys shall be conducted as needed or within 60 days when warranted by significant process, work procedure, or engineering control changes which affect the workers' noise exposure.
- Any area with noise levels greater than 85 dBA shall be designated a noise hazard area and posted with signs requiring Hearing Protection.
- No person shall enter without wearing suitable personnel hearing protection, capable of reducing exposure to a level below 85 dBA.
- Affected employees or their representatives shall be given the opportunity to witness any noise survey conducted in their work area if they wish to do so.

PERMISSIBLE NOISE EXPOSURES

Duration per Day Hour	Sound Level dba Slow Response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

VII. HEARING CONSERVATION PARTICIPANTS

- Any employee with a TWA equal to or greater than 85 dBA shall be notified and enrolled in the Hearing Conservation Program.
- Within six months of employees' first exposure at or above an 8-hour TWA of 85 dBA, a baseline audiogram.

- All employees included in the Hearing Conservation Program are required to have their hearing tested on an annual basis after obtaining their baseline audiogram.

- Audiometric testing will be conducted only by Company-approved clinics, physicians or mobile vans.

- Employees shall avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination

VIII.HEARING PROTECTION

- Hearing protection shall be provided at no charge to all employees included in the Hearing Conservation Program. Employees shall be given a choice of several types of hearing protection.

- Supervisors shall ensure hearing protection is worn by all personnel when working:

    1. In posted areas (entrance to a periphery of areas greater than or equal to 85 dBA).
    2. Around other noise exposure areas as required.

- Hearing protection must attenuate exposure to a TWA less than 85 dBA.

IX.TRAINING

- All employees who are included in the Hearing Conservation Program shall be trained on an annual basis. Subjects covered include:

    1. Effects of noise on hearing,
    2. Purpose of hearing protectors, advantages, disadvantages, and attenuation of various types,
    3. Instructions on selection, fitting, use and care; and
    4. Purpose of audiometric testing and an explanation of testing procedures.

X.MEDICAL EVALUATIONS

- A Licensed Health Care Provider (audiologist, otolaryngologist or physician) will conduct and review all audiometric tests and results.

- If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee shall be informed of this fact, in writing, within 21 days of the determination.

XI.STANDARD THRESHOLD SHIFT (STS)

- Management will ensure that any employee identified as experiencing an STS will be informed by sealed letter within two weeks of receipt of the summary report from the Licensed Health Care Provider.

- Supervisors shall ensure that employees experiencing a STS wear approved hearing protection when exposed to noise greater than or equal to 85 dBA.

- Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. This comparison may be done by a technician.

- If the annual audiogram shows that an employee has suffered a standard threshold shift, the employer may obtain a retest within 30 days and consider the results of the retest as the annual audiogram.

- Upon receiving notification that a STS has been experienced, the employee's Supervisor will:

    1. Communicate that hearing protectors are to be worn at all times when the noise exposure is greater than or equal to 85 dBA,
    2. Ensure employee is trained or retrained in the use and care of hearing protectors, and
    3. Will supply hearing protectors offering greater attenuation if necessary to those already wearing hearing protection.

XII. RECORDING WORK RELATED INJURIES

- Basic recording criterion: Employers must record work-related "Standard Threshold Shift", or STS (an average change of 10 dB at 2000, 3000, and 4000 Hz in either ear, compared to baseline; age-adjustments allowed) provided that the employee's average hearing level at the same frequencies in the same ear is 25 dB HL or greater (an average hearing level of 25 dB or more, regardless of employee's age, i.e., no age adjustment allowed).

- Baseline/reference audiogram: To determine whether a STS has occurred, the employer must compare the current hearing test results to the employee's baseline audiogram. The baseline audiogram is the employee's original audiogram or revised audiogram as defined under OSHA's noise standard 29 CFR 1910.95.

- Reconfirmation of STS: If the annual audiogram shows a STS, a hearing retest may be performed within 30 days. If the retest does not confirm the STS, then the case need not be recorded. However, if the retest confirms the STS, then the

STS if work-related, must be recorded within 7 calendar days of retest. If a retest is not performed, then the case (again, if work-related) must be recorded within 37 days of test.

- Results of subsequent testing: If later testing performed as part of the hearing conservation program indicates that the STS is not persistent, then the employer may erase or line-out the recorded entry.

- Determination of work-relatedness: Work-relatedness must be determined according to specifications of section 1904.5 of the general recordkeeping rule. If an event/exposure in the workplace caused or contributed to the shift in hearing or "significantly aggravated" a previously existing hearing loss, then the STS is recordable.

- Forms: Use OSHA record keeping Form 300. Beginning January 1, 2004, employers have been required to record hearing loss cases in a separate column. In 2003, employers should record cases of occupational hearing loss as an "injury" (single event acoustic trauma) or "other illness" (long term noise exposure), as appropriate.

- Applicable industries: Certain industries are not covered under the general hearing conservation amendment 1910.95 (construction, agriculture, oil and gas drilling, etc.), but are included under 1904. If such employers choose to conduct audiometric testing programs, then the hearing loss recordability provisions of the rule will apply.

TABLE OF CONTENTS

I. PURPOSE 2

II. SCOPE 2

III. REFERENCE 2

IV. DEFINITIONS 2

V. INTRODUCTION 3

VI. GENERAL REQUIREMENTS 3

VII. FORMS OF HYDROGEN SULFIDE EXPOSURE 5

VIII. HEALTH EFFECTS OF HYDROGEN SULFIDE OVEREXPOSURE 5

IX. REPORTING OF PROBLEMS 6

X. EXPOSURE ASSESSMENT 6

XI. PREVENTING EXPOSURE 7

XII. RESPIRATORY PROTECTION 7

XIII. EMPLOYEE INFORMATION & TRAINING 8

XIV. RECORD KEEPING 8

DRAFT

I. PURPOSE

This standard establishes necessary precautions to be taken when employees may be exposed to Hydrogen Sulfide (H2S) gas. Compliance with this program is mandatory and is applicable to all company employees who work in an environment where Hydrogen Sulfide may be present.

II. SCOPE

Extreme hazards can be encountered when exposure to Hydrogen Sulfide is possible. All employees that work in areas that have, or could have Hydrogen Sulfide exposure must be educated in its hazards, trained to detect Hydrogen Sulfide and utilize appropriate personal protective equipment to minimize their exposure.

III. REFERENCE

- 29 CFR 1910.1000, Subpart Z, *Toxic and Hazardous Substances*
- API RP-55, *Oil and Gas Producing and Processing Plant Operations Involving Hydrogen Sulfide*
- Title 8 CCR, Chapter 4, Subchapter 14, *Toxic and Hazardous Substances*

IV. DEFINITIONS

Hydrogen Sulfide (H2S): Colorless gas or liquid, with the odor of rotten eggs (sulfer smell).

Permissible Exposure Limit (PEL): means the dermal or inhalation exposure limit. It is based on a time-weighted average concentration for an eight-hour work day, or forty-hour work week. **For Hydrogen Sulfide the PEL is 10 PPM.**

Self Contained Breathing Apparatus (SCBA): Each time "SCBA" is used within this plan it refers to the 30-minute positive pressure self contained breathing apparatus units.

Short Term Exposure Limit (STEL): means the dermal or inhalation exposure limit. It is based on a time-weighted average concentration for fifteen minutes. **For Hydrogen Sulfide the STEL is 15 PPM.**

Immediately Dangerous to Life and Health (IDLH): **The IDLH for Hydrogen Sulfide is 100 PPM.**

V. INTRODUCTION

Exposure to Hydrogen Sulfide occurs in many industries, however most exposures center around the oil and natural gas industries. Hydrogen sulfide is an extremely toxic, flammable gas that may be encountered in the production of oil and gas with high-sulfide content. Hydrogen sulfide may also be encountered in associated processes and/or produce and potable water.

Hydrogen sulfide is heavier than air, and can collect in low places. As an employee of the company, potential exposure to various forms and amounts of Hydrogen Sulfide may occur during certain job activities. However, any exposure should be avoided. If an exposure cannot be avoided through ventilation, etc., proper personnel protective equipment must be used.

VI. GENERAL REQUIREMENTS

1. Locations where you may encounter Hydrogen Sulfide:
   - Drilling Operations,
   - Recycled Drilling Mud,
   - Water from sour crude wells,
   - During Blowouts
   - Tank Gauging (tanks at producing, pipeline & refining operations)
   - Field Maintenance, and
   - Tank batteries and wells,
   - Others.

2. Hydrogen Sulfide Characteristics:
   - Highly toxic, invisible and colorless
   - Smells like rotten Eggs (low concentrations)
   - At higher concentrations will paralyze your sense of smell
   - Heavier than air, so collects in low-lying areas
   - Can spontaneously combust between 43,000 and 460,000 ppm
   - Flammable
   - When burned it produces SO2, a toxic byproduct, also a deadly gas
   - Soluble in water, oils and most organics
   - Creates an acidic solution and can severely irritate your skin
   - Reacts violently to strong oxidizers, metal oxides, peroxides, and strong alkalis,
   - active metals, and some plastics and rubbers
   - Corrosive, forms spontaneously ignitable by-product "iron sulfide"

3. Health effects due to the exposure of hydrogen sulfide include: eye irritations and effects to the nerve centers of the brain which control breathing.

   Below100 ppm you will experience:
   - Rotten egg smell
   - Burning eyes
   - Respiratory tract irritation

   Prolonged exposure up to 100 ppm will cause:
   - Loss of smell
   - Headache
   - Dizziness
   - Coughing

   From 100-300 ppm, in addition to previous, side effects will include:
   - Drowsiness
   - Severe eye and throat irritation
   - Effects nerve centers of the brain which control breathing
   - Possible pulmonary edema (respiratory difficulty due to fluid in lungs)

   Exposure of up to 600 ppm will cause:
   - Loss of reasoning and balance
   - Eventual unconsciousness
   - Possible death

4. Methods of Detecting Hydrogen Sulfide:
   - By smell (odor) only momentarily because higher concentrations deaden your sense of smell.
   - By chemically treated paper or detector tubes that change color when exposed to hydrogen sulfide
   - By electronic monitoring devices (fixed or portable monitors)

   Alarms will go off when concentrations exceed 10 PPM.

5. Only approved positive-pressure self-contained breathing apparatus or airline respirators with escape SCBA may be used in hydrogen sulfide environments.

6. Employees must be aware of site specific contingency/emergency plans and the provision therein. Any facility that generates more than 20 ppm hydrogen sulfide in the breathing atmosphere must have a site specific contingency plan.

VII. FORMS OF HYDROGEN SULFIDE EXPOSURE

Hydrogen Sulfide exposures are almost exclusively through inhalation. However, other exposures such as eye and skin exposures should not be overlooked. Inhalation of Hydrogen Sulfide at high concentrations will certainly cause injury or death.

VIII. HEALTH EFFECTS OF HYDROGEN SULFIDE OVEREXPOSURE

If steps are not taken to control exposure, inhalation of Hydrogen Sulfide will result in serious injury or death. Hydrogen sulfide is extremely toxic. It may cause death instantaneously in high airborne concentrations. Low levels are extremely irritating to the lungs, nose, throat and eyes.

Low concentration exposures (under 10 PPM)

In low concentrations, Hydrogen Sulfide may be detectable by its odor; however, the smell cannot be relied upon to forewarn of dangerous concentrations because it rapidly paralyzes the sense of smell. A prolonged exposure to the lower concentrations will result in the loss of the sense of smell.

Symptoms from repeated exposure to low concentrations usually disappear after being removed from the exposure for a period of time.

Higher concentration exposures (10 PPM and above)

Concentrations that are prolonged or of high levels may lead to death. It should be well understood that the sense of smell will be rendered ineffective by Hydrogen Sulfide, which can result in an individual failing to recognize the presence of dangerously high concentrations. Exposure to Hydrogen Sulfide causes death by poisoning the respiratory system.

Physiological Effects of Hydrogen Sulfide

H_2S CONCENTRATION		EFFECTS OF EXPOSURE
0.001	10	Safe for 8 hours without respirator. Obvious and unpleasant odor. Threshold Limit Value (TLV).
0.0015	15	Safe for 15 minutes without respirator. Current OSHA Short Term Exposure Limit (STEL).
0.01	100	Kills sense of smell in 3 to 15 minutes: may sting eyes and throat. Immediately dangerous to life health (IDLH). This concentration represents a maximum level from which one could escape without any irreversible health effects.
0.05	500	Dizziness: breathing stops in a few minutes: need prompt artificial respiration.
0.07	700	Unconscious quickly: death will result if not rescued promptly.
0.10	1000	Unconscious at once: followed by death within minutes.

Note: Irreparable brain damage begins in about the fifth minute of no breathing.

IX. REPORTING OF PROBLEMS

Immediately notify your supervisor if you develop potential signs or symptoms associated with Hydrogen Sulfide exposure. You should also notify your supervisor if you have difficulty breathing while wearing a respirator or suspect problems with other personal protective equipment.

X. EXPOSURE ASSESSMENT

Site supervisors must determine if employees are exposed to concentrations of Hydrogen Sulfide. The exposure determination shall be based on the following:

Personal exposure monitoring

If the initial exposure determination reveals employee exposure to be below the STEL, continuous monitoring may be warranted. In addition, continuous ventilation may be needed, if personnel need access to the area. Appropriate personnel protective equipment will be worn by all employees with the potential to be exposed to Hydrogen Sulfide in excess of permissible exposure limits.

XI. PREVENTING EXPOSURE

Proper control of exposure to Hydrogen Sulfide is the responsibility of both the employer and the employee. All of the control methods discussed below are essential to minimize additional sources of Hydrogen Sulfide absorption from inhalation. Strict compliance with these provisions can virtually eliminate exposures to Hydrogen Sulfide gas.

- Review the site specific safety programs as well as the site emergency action plan.
- Ventilation systems may provide for venting of the Hydrogen Sulfide vapor prior to entrance into the area.
- Confined Space Entry Procedures will greatly reduce the hazards to employees and must be followed whenever entry into a confined space is required. For further details, review the Company Confined Space Entry program.
- Respiratory Protection shall be used in combination with continuous monitoring when warranted by the conditions of the area.

XII. RESPIRATORY PROTECTION

Exposure to hazardous materials requires special precautions against absorption of toxic compounds. While engineering controls (e.g. ventilation systems) are the primary means of controlling materials such as Hydrogen Sulfide vapors, it is often necessary to rely on respiratory protection.

All personnel who could reasonably be expected to wear a respirator must comply with the Company facial hair policy which states that no facial hair is allowed that would obstruct the facial seal of a respiratory protection device.

- Only use a NIOSH certified positive-pressure air supplying respirator in a Hydrogen Sulfide environment.
- Never use a cartridge type respirator in a Hydrogen Sulfide environment, nor atmosphere containing less than 19.5% oxygen or an atmosphere immediately dangerous to life and health (IDLH).
- If a Self-Contained Breathing Apparatus (SCBA) is to be worn, all provisions applicable to the use of respirators apply as well as the provisions of the Company Respiratory protection program.
- Gas detection equipment shall be used whenever an entry into an area which may contain Hydrogen Sulfide gas is necessary.
- Equipment shall be operated per the manufacturer's instructions.
- Detection equipment shall be calibrated prior to use and on a schedule per the manufacturer's instructions.
- Continuous monitoring shall be used when Hydrogen Sulfide has been detected.

XIII. EMPLOYEE INFORMATION & TRAINING

Annual training, per API RP 55, must be conducted per the Company safety training plan. Information and training will be given to all employees who may be exposed to Hydrogen Sulfide.

The training program will inform employees of the following:

- The characteristics, possible sources, and hazards of Hydrogen Sulfide
- Proper use of the Hydrogen Sulfide detection methods
- Recognition of, and proper response to, Hydrogen Sulfide warnings
- Symptoms of Hydrogen Sulfide exposure
- Proper rescue techniques and first-aid procedures to be used in a Hydrogen Sulfide exposure
- Proper use and maintenance of personal protective equipment. Demonstrated proficiency in using PPE should be required
- Wind direction awareness
- Use of safety equipment
- Use and operation of all Hydrogen Sulfide monitoring systems
- corrective action

Information and training will be given to all employees Company and Contractors who may be exposed to Hydrogen Sulfide. The training program will inform employees of the following:

- Emergency response procedures and shutdown procedures
- Locations of safety equipment
- Confined space and enclosed facility entry procedures
- Routes of egress
- Worker awareness and understanding of workplace practices and maintenance procedures to protect personnel from exposure to Hydrogen Sulfide
- Potential sources of Hydrogen Sulfide
- Documentation of employee information and training is kept on file at the main office

XIV. RECORD KEEPING

The following records will be kept on file at the main office, if applicable:

- Exposure monitoring for airborne Hydrogen Sulfide
- Name and job classification of employees measured
- Details of the sampling and analytic techniques
- Results of the sampling
- Type of respiratory equipment worn

TABLE OF CONTENTS

I. SCOPE 2

II. RESPONSIBILITIES 2

III. WHERE IS NORM FOUND? 2

IV. HEALTH HAZARDS OF NORM 3

V. WHAT YOU CAN DO TO PROTECT YOURSELF FROM NORM MONITORING... 5

VI. NORM CONTAMINATED WASTES 6

VII. TRAINING 7

VIII. METHODS FOR PROTECTION 7

IX. METHODS FOR TESTING 7

DRAFT

I. SCOPE

This policy defines NORM, briefly outlines how it can occur in oilfield production, gas processing, and in the delivery and transport of propane. It further discusses health hazards and how they can be minimized through monitoring, safe work guidelines, and handling of contaminated wasters.

Low level radioactive scale can by produced in the course of some oil and gas operations. The production of oil and gas moves NORM to the surface where it may accumulate at low levels in processing and transport equipment. Some of the possible locations are wellheads, piping, vessels, tubing, filters and pipe cleaning and storage yards.

II. RESPONSIBILITIES

Our Compliance director, has primary authority and responsibility to ensure company implementation of the NORM management system and to ensure the health and safety of company personnel, subcontractors and customers. This is accomplished by communicating the company's emphasis on health and safety, verifying work locations are free of NORM and analyzing safe work practices to ensure procedures are followed to eliminate potential exposure.

III. WHERE IS NORM FOUND?

NORM is found throughout the natural environment, in man-made materials such as building materials and fertilizer and in the following crude oil and natural gas operations:

Oil and Gas Production

NORM originating in geological oil and gas formations is usually brought to the surface in produced water. As the water approaches the surface, temperature changes cause radioactive elements to precipitate. Resulting scales and sludge may collect in water separation systems. Radium is usually found in this type of NORM contamination.

Gas Processing

Radon gas brought to the surface will enter the gas production stream. As it decays, thin radioactive lead films may form on the inner surfaces of gas processing equipment. In sales gas, the radon concentrations are identical in the inlet and outlet gas and are generally low. It has been found that the propane and LPG production process generally concentrates radon and this is where the NORM hazard potential may be the greatest.

Transport and Delivery of Propane and LPG

Propane transport equipment may be contaminated with NORM. This includes pipelines, rail cars and truck tanks. Even if the production site does not concentrate significant amounts of radon, loading contaminated transport tanks that vent into the facility may contaminate the loading facilities. NORM is not usually present in refining operations as oil production removes NORM contaminated water before delivery to the refinery. Propane produced at refineries is usually from NORM-free crude oil so the hazard from NORM is very slight.

IV. HEALTH HAZARDS OF NORM

Radium, radon, and their decay products are radioactive elements of concern in petroleum production and gas processing. Human exposure may occur when contaminated dusts and sludge are inhaled or ingested (internal exposure) or when gamma radiation from surrounding equipment strikes the body (external exposure). The amount of gamma radiation able to penetrate processing equipment is generally not large enough to present a health risk to employees although exceptions have been found.

Radium is found in most oil and gas fields in the world in varying concentrations. There is a potential to find radium in significant amounts in almost all types of equipment.

Radon is found in most natural gas deposits in the world. Radon is an inert, colorless and odorless gas. Radon itself does not present a health hazard because it is not easily absorbed into the body and is quickly cleared when absorbed.

Radon's radioactive breakdown products, called radon daughters, may be hazardous. Radon naturally breaks down into radioactive metals before nonradioactive lead. Radon daughters may be inhaled or ingested when attached to scale or dust generated during equipment inspection and repair. Radon daughter exposure has been associated with an increased risk of lung cancer.

TYPES OF IONIZING RADIATION

Ionizing radiation is any radiation capable of displacing electrons from atoms or molecules, thereby producing ions. Some examples are alpha, beta, gamma, x-rays, neutrons, and ultraviolet light. High doses of ionizing radiation may produce severe skin or tissue damage. The specific type of ionizing radiation includes:

Alpha

Alpha particles can be shielded by a sheet of paper or by human skin. If alpha emitters are inhaled, ingested, or enter the body through a cut, they can cause cancer.

Beta
Beta radiation can be stopped by a shield like aluminum foil or wood. If beta emitters are inhaled, ingested, or enter the body through a cut, they can cause cancer.

Gamma
Gamma rays (and x-rays) are a very penetrating type of radiation. Protection from gamma rays requires heavy shielding [e.g., lead, steel, depleted uranium (DU)]. This type of radiation can cause cancer and, in high doses, Acute Radiation Syndrome (ARS) even if the source is outside the body.

Neutrons
Neutron radiation can be shielded by water, plastic, borated metals, and concrete. Neutrons are subatomic particles emitted during the spontaneous fission of uranium and plutonium and from nuclear reactors. Neutron radiation like gamma radiation is highly penetrating and carcinogenic; however, it has a relative biological effectiveness (RBE) twice that of gamma radiation.

Short Term Health Effects
Unprotected overexposure to excessive amounts of radium may result in skin burns. Radon and its daughters do not cause any short term health effects.

Long Term Health Effects
Unprotected overexposure to radium and radium daughter contaminated dusts has been associated with an increased risk of lung cancer and leukemia. Most NORM material taken into the body is deposited in bones where it will reside for a long time. Radium will not clear from the body significantly over time. For this reason, all exposures should be kept below recognized exposure standards for the general public and unnecessary exposure to radiation should be minimized.

Excessive radiation exposure to the fetus may increase the risk of cancer after birth. The fetus is more sensitive to radiation than an adult so a woman who is, or is planning to become pregnant should work with her employer to ensure her radiation exposure from NORM is minimized.

Occupational Exposures
Because the gamma radiation emitted by radium can penetrate vessels and pipes, its presence can be detected from the outside of process equipment. Radon is difficult to detect as only two of its decay products emit gamma rays. Both of these daughters have half-lives of less than 30 minutes, and are only detectable when facilities have been operating for at least two hours.

Previous studies show that, in most cases, worker annual exposures due to gamma radiation levels from process equipment are zero or far below legal exposure limits. In a few cases, gamma radiation has been detected in individual

equipment that has the potential to expose workers in excess of the prescribed exposure limits. In these rare cases, exposures can be reduced by restricting areas or by instituting operating procedures.

Equipment contaminated with NORM may also be hazardous when opened for inspection and /or repair. Exposure may occur by inhaling or ingesting radioactive dust generated during grinding, cutting or polishing operations. Until the inhalation/ingestion hazard has been fully evaluated at the worksite, precautions must be taken.

NORM contaminated work clothing may carry NORM scale and dust home, exposing family members.

V. WHAT YOU CAN DO TO PROTECT YOURSELF FROM NORM MONITORING

Outside surfaces of equipment suspected to be NORM contaminated must be surveyed for the presence of gamma radiation. A gamma radiation instrument equipped with a properly calibrated one or two-inch sodium iodide scintillation detector and a slow/fast response switch should be used. It is important that the process equipment be running at least two hours before any gamma measurement is made.

If the dose rate at the surface is greater than two times background, the equipment may be contaminated with NORM and precautions outlined in the following Safe Work Guidelines should be followed before any inspection or maintenance work is performed. Any equipment emitting a gamma dose rate greater than 10 micro-Roentgens/hr may be hazardous and access should be restricted until evaluated by a radiation expert.

Safe Work Guidelines

Work procedures are recommended when maintaining NORM contaminated equipment such as pipelines, filters, pumps, lines, sludge or wellhead equipment. The exposure risk is highest when grinding, cutting, polishing or performing other work that may generate dust. Get good technical advice if you suspect a NORM problem. If there is NORM contamination, all employees should attend a NORM training course.

The work procedures include provisions for:

- Equipment hazard evaluation when the equipment is opened. The evaluation should include the use of gamma detectors, pancake probe measurements and lab analysis for activity and identification of the isotope.
- Protection of workers from external gamma radiation, if necessary.
- Protection of workers from NORM contaminated dust.
- Controlling the spread of contamination.

- Waste classification to ensure NORM is controlled while minimizing waste volume.

VI. NORM CONTAMINATED WASTES

Norm contaminated materials exceeding 70 Becquerels per gram (70 Bq/gm) are subject to TDG requirements.

NORM contaminated materials with activities above 0.3 Bq/gm may be a hazardous radioactive waste. A competent radiation expert must perform a risk analysis before disposal can occur. Waste containing more than 0.3 Bq/gm may be disposed in a regular fashion depending on the total amount of waste, the radioactive isotope, isotope concentrations and the disposal location. A reputable laboratory equipped with proper equipment must determine activities.

NORM contaminated wastes may include filters from contaminated process streams, storage and transport tank scale or sludge, water separation tank sludge; well bore scale and sludge from pigging operations.

Production tubing contaminated with NORM scale should be capped, labeled and stored. Tubulars should not be rattled at the rig unless you are certain they are NORM free. Other wastes should be barreled – preferably plastic to prevent corrosion – labeled and stored.

NORM storage areas should be separated from other materials and entry should be restricted. The storage area requires periodic radiation surveys to ensure gamma levels are not increasing above hazardous levels and/or site contamination is not occurring from leaking containers.

All equipment, tubular and property should be evaluated for NORM contamination before:

- Transferring to another facility.
- Equipment sale to industry, farmers, cities, schools, etc.
- Descaling.
- Reuse of equipment.
- Donating equipment to farmers, cities, schools, etc.
- Offsite repair by third parties.

Proper protective equipment including respiratory or breathing air should be worn when entering contaminated vessels.

1. Direct skin contact with radioactive scale and solids should be avoided to the extent reasonably possible.
2. Eating, drinking, smoking and chewing should not be allowed in the work area.

3. Personnel should thoroughly wash their hands and face following any skin contact that occurs, prior to eating, drinking or smoking, and at the end of the work.
4. Surface contamination should be handled in the wet state.
5. Contaminated equipment, pipe, etc., should be disposed of in accordance with approved waste and surplus equipment disposal procedures.
6. Methods for protection against radiation are time, distance and shielding.

VII. TRAINING

Employees exposed to NORM shall be trained annually and before exposure in the hazards, location, methods to identify the hazards and methods used to protect themselves (HEPA filters on respirators and limitations).

VIII. METHODS FOR PROTECTION

Methods for protection against radiation are time, distance and shielding. PPE and personal hygiene shall be provided at no cost to employees.

IX. METHODS FOR TESTING

Radiation levels can be tested utilizing a wide range of instruments including pocket dosimeters, count rate instruments, and probe efficiencies (alpha, beta, and gamma). Testing and calibration procedures must follow the National Institute of Standards and Technology and conform to the requirements of ANSI N323-1978 and MIL-STD 45662A. Appropriate methods for testing and specific radionuclides that are tested may vary, but shall include Technology Enhanced Naturally Occurring Radioactive Materials (TENORM) used and described exposures, and shall be approved by the program administer i.e. (Safety Manger).

Measurements shall be made on all suspect material by line Supervisors, i.e. (old drilling / tubing strings, downhole equipment, etc.). Anytime the presence of NORM scale is detected, immediately isolate the area and contact your local Compliance director. The Compliance director will identify and determine appropriate disposal mechanism in accordance with federal, state and local regulations.

It is Company policy not to accept onto its premises, or to work on equipment (piping or material) which give a NORM reading of **greater than 10 micro-Roentgens**. In the event a piece of equipment exceeds this threshold level prior to returning the equipment, the owner must survey using an approved NORM detection device, and submit the results to our company. If the readings are found acceptable, the equipment can be shipped to us. Upon arrival of the equipment at company location, the equipment will again be checked for the presence of NORM, and will be returned to the owner if the above limit is exceeded.

TABLE OF CONTENTS

I. PURPOSE 2

II. ADMINISTRATIVE DUTIES 2

III. GENERAL REQUIREMENTS 2

IV. RESPIRATOR SELECTION 4

V. MEDICAL EVALUATIONS 6

VI. FIT TESTING PROCEDURES 7

VII. PROPER USE PROCEDURES 8

VIII. MAINTENANCE AND CARE PROCEDURES 10

IX. AIR QUALITY PROCEDURES 12

X. TRAINING 15

XI. PROGRAM EVALUATION 16

APPENDICES

APPENDIX A USER SEAL CHECK PROCEDURES 15-16

APPENDIX B RESPIRATORY CLEANING PROCEDURES 17-18

APPENDIX C REFERENCES 19

RESPIRATORY PROTECTION PROGRAM

I. PURPOSE

This respiratory protective equipment program initiates standard operating procedures to ensure the protection of all employees from respiratory hazards through proper selection and use of respirators. Respiratory protective equipment is to be used only where engineering control of respiratory hazards is not feasible, while engineering controls are being installed, or in emergencies. This program is in accordance with the requirements of OSHA 29 CFR 1910.134.

II. ADMINISTRATIVE DUTIES

The designated Respiratory Protection Program Administrator is the Compliance director. This person is solely responsible for all facets of the program and has full authority to make necessary decisions to ensure success of this program. The Program Administrator will develop written detailed instructions covering each of the basic elements in this program, and is the sole person authorized to amend these instructions.

He is also qualified by appropriate training and experience that is commensurate with the complexity of the program to administer or oversee our Respiratory Protection Program and conduct the required evaluations of program effectiveness.

Employees may review a copy of our Respiratory Protection Program in the Safety Manual. The Program Administrator reviews this program periodically to ensure its effectiveness. The Program Administrator may also amend the written program.

III. GENERAL REQUIREMENTS

1. Respiratory protection training must be completed initially and annually thereafter. The training program must address employee knowledge of respirators, fit, use, limitations, emergency situations, wearing, fit checks, maintenance and storage, medical signs and symptoms of effective use, and general requirements of the OSHA standard. The training must be provided before requiring the employee to use the respirator.

2. Respiratory equipment will be provided to all employees that may be exposed to harmful vapors and oxygen deficient atmospheres. Respirators are to be used when engineering control measures are not feasible or during emergency situations with high exposure. Respirators shall be provided that are applicable and suitable for purpose intended.

3. The respiratory program administrator is the Safety Manager. This person is the individual who is knowledgeable of the complexity of the program, able to conduct evaluations and has the proper training.

4. Respiratory protection equipment is provided by the company to all affected employees at no cost.

5. Respiratory Hazards must be identified and NIOSH certified respirators must be selected and provided based on those hazards and factors affecting performance.

6. Medical evaluations shall be completed prior to fit-testing and be confidential, held during normal working hours, convenient, understandable, and the employee given a chance to discuss the results with the physician or other licensed health care professional (PLHCP).

7. Fit-testing of tight-fitting face pieces must be done by either qualitative or quantitative methods. Employees are required to pass qualitative fit test (QLFT) or quantitative fit test (QNFT) before initial use, if a different respirator is used, and annually.

8. If an employee cannot wear tight-fitting face pieces, if the seal is broken. Anything that can affect the seal is prohibited. This includes facial hair, glasses, etc. Respirators with tight-fitting facepieces shall not be worn by employees who have facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function.

9. Employees must leave the area to wash, change cartridges, or if they detect break-through or resistance The program administrator must address appropriate surveillance, and ensure employees leave the area to wash, change cartridges, or if they detect break-through or resistance.

10. If employees need to work in IDLH environments work will commence following the IDLH selection criteria shown on page 5. Additionally, outside standby persons must be provided, maintaining communication, proper training and equipment, notification procedures, and necessary action to take in an emergency. Mandatory equipment must include SCBA or SAR with auxiliary air supply and appropriate retrieval equipment or equivalent rescue means.

11. Respirators must be maintained and cared for to ensure they are clean and sanitary. Respirators are required to be provided in a clean and sanitary manner using procedures in Appendix B of the regulation or equally effective manufacturer's procedures. Our Safety Representative is responsible for ensuring employees are maintaining and caring for respirators.

12. Respiratory protective equipment must be properly stored and inspected They It must be protection from damage, contamination, etc. For emergency use respirators must be stored accessible, clearly marked. Respirators must be inspected on a routine basis - before use and during cleaning; emergency -

monthly, and before and after each use; escape-only - before being carried into workplace.

IV. RESPIRATOR SELECTION

Respirators are selected on the basis of respiratory hazards to which the worker is exposed and workplace and user factors that affect respirator performance and reliability. All selections are made by the Foreman, Compliance director, or designee. Respirators, training and medical evaluations are provided at no cost to employees. The Program Administrator will develop detailed written standard operating procedures governing the selection of respirators using the NIOSH Respirator Decision Logic and/or OSHA standards. Outside consultation, manufacturer's assistance, and other recognized authorities will be consulted if there is any doubt regarding proper selection.

Selection Procedure Checklist

When selecting any respirator in general:
Select and provide respirators based on respiratory hazard(s) to which a worker is exposed and workplace and user factors that affect respirator performance and reliability.

Select a National Institute for Occupational Safety and Health (NIOSH) certified respirator.

Identify and evaluate the respiratory hazard(s) in the workplace, including a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Consider the atmosphere to be immediately dangerous to life or health (IDLH) if you cannot identify or reasonably estimate employee exposure.

Select respirators that provide protection to the employee, and correctly fits, the user.
When selecting respirators for IDLH atmospheres

Provide these respirators:

A full face piece pressure demand Self-contained, positive pressure, breathing apparatus (SCBA) certified by NIOSH for a minimum service life of thirty minutes, or

- A combination full-face piece pressure demand supplied-air respirator Self-contained breathing apparatus (SAR) with auxiliary self-contained air supply.

- Provide a NIOSH-certified 5-minute escape bottle to be used in conjunction with the above respiratory protective equipment in IDLH conditions, or when using a atmosphere-supplying respirator.

- Consider all oxygen-deficient atmospheres to be IDLH. Exception: If the program administrator, or designee, can demonstrate that, under all foreseeable conditions,

the oxygen concentration can be maintained within the ranges specified in Table II of 29 CFR 1910.134 (i.e., for the altitudes set out in the table), then atmosphere-purifying respirators may be used.

When selecting respirators for atmospheres that is not IDLH

- Provide a respirator that is adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations.
- Select respirators appropriate for the chemical state and physical form of the contaminant.
- For protection against gases and vapors, provide:
  - An atmosphere-supplying respirator, or
  - An air-purifying respirator, provided that: (1) The respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or (2) If there is no ESLI appropriate for conditions in our workplace, implement a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life.
  - For protection against particulates, provide:
  - An atmosphere-supplying respirator; or
  - An air-purifying respirator equipped with a filter certified by NIOSH as a high efficiency particulate air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH; or
  - For contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped with any filter certified for particulates by NIOSH.

Respirator Types and Uses

The following types of respirators are in use in this facility:

Types:	Situation used:
30 Minute SCBA	Emergency escape and Confined Space Entry
15 Minute SCBA	Confined Space Entry (Escape Only)
Supplied Air Respirator (SAR), or airline	Confined Space Entry
Air Purifying Respirator (APR)	Blasting/Painting/and some Chemical Loading

Only NIOSH-certified respirators are selected and used. Where practicable, the respirators will be assigned to individual workers for their exclusive use.

V. MEDICAL EVALUATIONS

A medical evaluation to determine whether an employee is able to use respiratory protective equipment is an important element of an effective Respiratory Protection Program and is necessary to prevent injuries, illnesses, and even, in rare cases, death from the physiological burden imposed by respiratory protection equipment use.

Persons will not be assigned to tasks requiring the use of respirators nor fit tested unless it has been determined that they are physically able to perform the work and use the respirator.

An approved physician, licensed health care professional (PLHCP) and/or designee will perform medical evaluations using a medical questionnaire found in Sections 1 and 2, Part A of Appendix C of 29 CFR 1910.134.

All medical questionnaires and examinations are confidential and handled during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire is administered so that the employee understands its content. All employees are provided an opportunity to discuss the questionnaire and examination results with their physician or other licensed health care professional (PLHCP).

Before any initial examination or questionnaire is given, we supply the PLHCP with the following information so that he/she can make the best recommendation concerning an employee's ability to use a respirator:

- Type and weight of the respiratory protection equipment to be used by the employee;
- Duration and frequency of respirator use (including use for rescue and escape);
- Expected physical work effort;
- Additional protective clothing and equipment to be worn;
- Temperature and humidity extremes that may be encountered.

Once the PLHCP determines whether the employee has the ability to use or not use respiratory Protective equipment, he/she sends the a written recommendation containing only the following information:

- Limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;
- The need, if any, for follow-up medical evaluations; and
- A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation.

Follow-up medical examination

A follow-up medical examination will be provided if a positive response is given to any

question among questions 1 through 8 in Section 2, Part A of Appendix C of 29 CFR 1910.134 or if an employee's initial medical examination demonstrates the need for a follow-up medical examination. Our follow-up medical examination includes tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

If the respirator is a negative pressure respirator and the PLHCP finds a medical condition that may place the employee's health at increased risk if the respirator is used, our company shall provide a powered air-purifying respirator (PAPR), if the PLHCP's medical evaluation finds that the employee can use such a respirator. In the above case the company may choose to transfer an employee to a position that does not require a respirator. If a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the company is no longer required to provide a PAPR.

Additional medical examinations

Our company provides additional medical evaluations if:

- An employee reports medical signs or symptoms that are related to ability to use a respirator;
- A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be re-evaluated;
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee re-evaluation; or
- A change occurs in workplace conditions (e.g., physical work effort, protective clothing, and temperature) that may result in a substantial increase in the physiological burden placed on an employee. Contact the approved physician/licensed health care professional (PLHCP) for a copy of your confidential medical evaluation or questionnaire.

VI. FIT TESTING PROCEDURES

Respiratory protective equipment must fit properly to provide protection to users. If a tight seal is not maintained between the facepiece and the employee's face, contaminated air can be drawn into the facepiece and be breathed by the employee. Fit testing seeks to protect the employee against breathing contaminated ambient air and is one of the core provisions of our respirator program.

In general, fit testing may be either qualitative or quantitative. Qualitative fit testing (QLFT) involves the introduction of a gas, vapor, or aerosol test agent into an area around the head of the respirator user. If that user can detect the presence of the test agent through subjective means, such as odor, taste, or irritation, the respirator fit is inadequate.

In a quantitative respirator fit test (QNFT), the adequacy of respirator fit is assessed by

measuring the amount of leakage into the respirator. Appropriate instrumentation is required to quantify respirator fit in QNFT.

The Program Administer makes sure those employees are fit tested at the following times with the same make, model, style, and size of respirator that will be used:

- Before any of our employees are required to use any respirator with a negative or positive pressure tight-fitting facepiece;
- Whenever a different respirator facepiece (size, style, model, or make) is used;
- At least annually;
- Whenever the employee reports, or our company, PLHCP, supervisor, or Program Administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight; and
- When the employee, subsequently after passing a QLFT or QNFT, notifies the company, Program Administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable. That employee will be re-tested with a different respirator facepiece.

Employees must pass one of the following fit test types that follow the protocols and procedures contained in 29 CFR 1910.134 Appendix A:

- QLFT (May be used to test tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators if tested in the negative pressure mode); or
- QNFT (May be used to fit test a tight-fitting half facepiece respirator that must achieve a fit factor of 100 or greater OR a tight-fitting full facepiece respirator that must achieve a fit factor of 500 or greater OR tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators if tested in the negative pressure mode).

VII. PROPER USE PROCEDURES

Once the respirator has been properly selected and fitted, its protection efficiency must be maintained by proper use in accordance with 29 CFR 1910.134(g). Our company ensures with written procedures that respirators are used properly in the workplace.

Our company has used the following checklist to ensure that proper use procedures include coverage of OSHA requirements:

Facepiece Seal Protection

- Do not permit respirators with tight-fitting facepieces to be worn by employees who have:
  - Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function; or

- Any condition that interferes with the face-to-facepiece seal or valve function.

- If an employee wears corrective glasses or goggles or other personal protective equipment, ensure that such equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user.

- For all tight-fitting respirators, ensure that employees perform a user seal check each time they put on the respirator using the procedures in 29 CFR 1910.134 Appendix B-1 (User Seal Check Procedures) or procedures recommended by the respirator manufacturer that you can demonstrate are as effective as those in Appendix B-1.

Continuing Respirator Effectiveness

- Appropriate surveillance must be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, reevaluate the continued effectiveness of the respirator.

- Ensure that employees leave the respirator use area:

  - To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use; or
  - If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or
  - To replace the respirator or the filter, cartridge, or canister elements.

  - If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, replace or repair the respirator before allowing the employee to return to the work area.

Procedures for IDLH Atmospheres

Ensure that:

- One employee or, when needed, more than one employee is located outside the IDLH atmosphere;

- Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;

- The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue;

- The employer or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue;

- The employer or designee authorized to do so by the company, once notified, provides necessary assistance appropriate to the situation;

- Employee(s) located outside the IDLH atmospheres are equipped with:

  - Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either:
  - Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or

  - Equivalent means for rescue where retrieval equipment is not required under the bullet item above this one.

VIII. MAINTENANCE AND CARE PROCEDURES

In order to ensure continuing protection from respiratory protective devices, it is necessary to establish and implement proper maintenance and care procedures and schedules. A lax attitude toward maintenance and care will negate successful selection and fit because the devices will not deliver the assumed protection unless they are kept in good working order.

Cleaning & disinfecting

Our company provides each respirator user with a respirator that is clean, sanitary, and in good working order. We ensure that respirators are cleaned and disinfected using the procedures below:

In Appendix B-2 of 29 CFR 1910.134 (refer to appendix B).

- Recommended by the respirator manufacturer. These procedures are of equivalent effectiveness as Appendix B-2 of 29 CFR 1910.134.

The respirators are cleaned and disinfected at the following intervals:

Respirator type:	**Are cleaned and disinfected at the following interval:**
Issued for the exclusive use of an employee	As often as necessary to be maintained in a sanitary condition
Issued to more than one employee	Before being worn by different individuals
Maintained for emergency use	After each use
Used in fit testing and training	After each use

Storage

Storage of respirators must be done properly to ensure that the equipment is protected and not subject to environmental conditions that may cause deterioration. We ensure that respirators are stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they are packed or stored in a clean dry place to prevent deformation of the facepiece and exhalation valve. In addition, emergency respirators are kept accessible to the work area; stored in compartments that are clearly marked as containing emergency respirators; and stored in accordance with any applicable manufacturer instructions.

Inspection

In order to assure the continued reliability of respirator equipment, it must be inspected on a regular basis. The frequency of inspection is related to the frequency of use. Here are our frequencies for inspection:

Respirator type:	Inspected at the following frequencies:
All types used in routine situations	Before each use and during cleaning
Maintained for use in emergency situations	At least monthly and in accordance with the manufacturer's recommendations, and checked for proper function before and after each use
Emergency escape-only respirators	Before being carried into the workplace for use

Any one of our respirator inspections includes a check:

- For respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters; and
- Of elastomeric parts for pliability and signs of deterioration.
- For self-contained breathing apparatus, in addition to the above, monthly, we maintain air and oxygen cylinders in a fully charged state and recharge when the pressure falls to 90% of the manufacturer's recommended pressure level and determine that the regulator and warning devices function properly.

Also for respirators maintained for emergency use, we certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator. This information shall be maintained until replaced following a subsequent certification.

See the attached respirator inspection records.

Repairs

Respirators that fail an inspection or are otherwise found to be defective are removed from service, and are discarded or repaired or adjusted in accordance with the following

Cylinders Used to Supply Breathing Air to Respirators

- Cylinders must be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR 173 and 178), or acceptable manufacturer standards.

- Cylinders of purchased breathing air must have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air.

- The moisture content in the cylinder must not exceed a dew point of -50 deg. F (-45.6 deg. C) at 1 atmosphere pressure.

Compressors

- Ensure that compressors used to supply breathing air to respirators are constructed and situated so as to:

  - Prevent entry of contaminated air into the air-supply system;
  - Minimize moisture content so that the dew point at 1 atmosphere pressure is 10 degrees F (5.56 deg. C) below the ambient temperature;
  - Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beds and filters must be maintained and replaced or refurbished periodically following the manufacturer's instructions; and
  - Have a tag containing the most recent change date and the signature of the person certified to perform the change. The tag must be maintained at the compressor.

- For compressors that are not oil-lubricated, ensure that carbon monoxide levels in the breathing air do not exceed 10 ppm.

- For oil-lubricated compressors, use a high-temperature and carbon monoxide alarm, to monitor levels.

Breathing Air Couplings

- Ensure that breathing air couplings are incompatible with outlets for non-respirable worksite air or other gas systems. No asphyxiating substance must be introduced into breathing air lines.

Breathing Gas Containers

- Use breathing gas containers marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84, or other acceptable standard.

Filters, Cartridges, and Canisters Ensure that all filters, cartridges and canisters used in the workplace are labeled properly with the NIOSH approval label and that the label is not removed and remains legible.

procedures:

- Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and only with the respirator manufacturer's NIOSH-approved parts designed for the respirator;
- Repairs must be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and
- Reducing and admission valves, regulators, and alarms must be adjusted or repaired only by the manufacturer or a technician who is certified by the manufacturer.

Discarding of respirators

Respirators that fail an inspection or are otherwise not fit for use and cannot be repaired must be discarded in a manner to ensure they are not used again.

IX. AIR QUALITY PROCEDURES

When atmosphere-supplying respirators are being used to protect employees it is essential to ensure that the air being breathed is of sufficiently high quality. Our company's procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators include coverage of the following OSHA requirements:

Compressed Air, Compressed Oxygen, Liquid Air, and Liquid Oxygen Used for Respirators

- Compressed and liquid oxygen must meet the United States Pharmacopoeia requirements for medical or breathing oxygen.

- Compressed breathing air must meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:

  - Oxygen content (v/v) of 19.5-23.5%;
  - Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;
  - Carbon monoxide (CO) content of 10 ppm or less;
  - Carbon dioxide content of 1,000 ppm or less; and
  - Lack of noticeable odor.

- Documentation for the quality of compressed breathing air must be kept with each bottle and/or available at the location of intended use.

- Ensure that compressed oxygen is not used in atmosphere-supplying respirators that have previously used compressed air.

- Ensure that oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.

X. TRAINING

The most thorough respiratory protection program will not be effective if employees do not wear and maintain respiratory protective equipment properly. Simply put, employee training is an important part of the respiratory protection program and is essential for correct respirator use.

Our training program covers both the:

1. Respiratory hazards to which our employees are potentially exposed during routine and emergency situations, and

2. Proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance.

Both training parts are provided prior to requiring an employee to use a respirator in our workplace. However, if an employee has received training within 12 months addressing the seven basic elements of respiratory protection (see "Seven basic elements" below) and the Company and the employee can demonstrate that he/she has knowledge of those elements, then that employee is not required to repeat such training initially.

We require all employees that will be wearing respiratory protective equipment to be retrained annually and when the following situations occur:

- Any change in the workplace that requires a different type of respiratory protective equipment to be worn;

- Inadequacies in the employee's knowledge or use of the respiratory protective equipment indicate the employee has not retained the proper understanding or skill; or

- Any other situation arises in which retraining appears necessary to ensure safe respirator use.

Seven basic elements

Our employees are trained sufficiently to be able to demonstrate knowledge of at least these seven elements:

1. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.

2. What the limitations and capabilities of the respirator are.

3. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.

4. How to inspect, put on, remove, use, and check the seals of the respirator.

5. What the procedures are for maintenance and storage of the respirator.

6. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.

7. The general requirements of 29 CFR 1910.134.

The basic advisory information on respirators, as presented below is provided by our Program Administrator and /or designee in any written or oral format, to employees who wear respirators when such use is not required by the regulations or by our company:

Voluntary use of respirators

If in the event an employee feels like it is necessary to wear a respirator in an environment where hazardous substances are below OSHA limits they must contact their Compliance director and be entered into the respiratory protection program. Exception: Employees whose only use of respirators involves the voluntary use of filtering (non-sealing) facepieces (dust masks).

XI. PROGRAM EVALUATION

It is inherent in respirator use that problems with protection, irritation, breathing resistance, comfort, and other respirator-related factors occasionally arise in most respirator protection programs. Although it is not possible to eliminate all problems associated with respirator use, we try to eliminate as many problems as possible to improve respiratory protection and encourage employee acceptance and safe use of respirators. By having our program administrator thoroughly evaluate and, as necessary, revise our Respiratory Protection Program, we can eliminate problems effectively.

Program evaluation, performed by your Program Administrator, involves the following:

- Conducting evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

- Regularly consulting employees required to use respirators to assess their views on program effectiveness and to identify any problems. Any problems that are identified during this assessment must be corrected. Factors to assess include, but are not limited to:

  - Respirator fit (including the ability to use the respirator)
  - Appropriate respirator selection for the hazards to which the employee is exposed
  - Proper respirator use under the workplace conditions the employee encounters
  - Proper respirator maintenance

APPENDIX A USER SEAL CHECK PROCEDURES

RE-PRINT OF: APPENDIX B-1 TO §1910.134:
USER SEAL CHECK PROCEDURES (Mandatory)

The individual who uses a tight-fitting respirator must perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

I. Facepiece Positive and/or Negative Pressure Checks:

A Positive pressure check. Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

B. Negative pressure check. Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

II. Manufacturer's Recommended User Seal Check Procedures:
The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

APPENDIX B RESPIRATORY CLEANING PROCEDURES

RE-PRINT OF: APPENDIX B-2 TO §1910.134:
RESPIRATOR CLEANING PROCEDURES (Mandatory)

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here in Appendix B-2. Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth in Appendix B-2, i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

I. Procedures for Cleaning Respirators:

A. Remove filters, cartridges, or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.

B. Wash components in warm (43° C [110° F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.

C. Rinse components thoroughly in clean, warm (43° C [110° F] maximum), preferably running water. Drain.

D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:

1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43° C (110° F); or,
2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43° C (110° F); or,
3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.

E. Rinse components thoroughly in clean, warm (43° C [110° F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

F. Components should be hand-dried with a clean lint-free cloth or air-dried.

G. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.

H. Test the respirator to ensure that all components work properly.

APPENDIX C REFERENCES

American National Standards Institute
Respiratory Protection, ANSI Z88.2

Barclays Official California, Code of Regulations (CCR)
Respiratory Protective Equipment, Cal/OSHA Title 8 CCR §1531

Department of Labor
Respiratory Protection, and Appendices, OSHA 29 CFR 1910.134
Approval of Respiratory Protective Devices, 42 CFR 84

Government Institutes, Inc., Rockville, Maryland
OSHA's Respiratory Protection Standard 1996, Mark McGuire Moran

National Institute Occupational Health (NIOSH)
Guide to Industrial Respiratory Protection-1987,
Guide to the Selection and Use of Particulate Respirators Certified Under 42 CFR 84 (4/23/96).

RESPIRATOR FIT TEST RECORD

A. Employee:_____ Date:_____

Employee No: _____

Employee Job Title/Description: _____

B. Respirator:____Self-Contained_____Supplied Air ___ Chemical Cartridge w/Pre-Filter ___ Dust/Fume/Mist Filter

___ Powered Air ___ Cartridge ___Dust/Mist Filter ___HEPA Filter

Respirator Selected: _____

Manufacturer: _____

NIOSH Approval Number: _____

Model Number: _____

C. Conditions which could affect respirator fit:

_____ Beard _____Dentures _____Glasses

_____ Facial Scar _____Moustache_____None

Comments: _____

D. Fit Check:

Negative Pressure:_____Pass_____Fail _____Not Done

Positive Pressure:_____Pass_____Fail _____Not Done

Isoamyl Acetate:_____Pass_____Fail _____Not Done

Sweetner Test:_____Pass_____Fail _____Not Done

Irritant Smoke:_____Pass_____Fail _____Not Done

Comment: _____

E. Maintenance: Cleaning:____Daily_____Weekly Other _____ ___ Individual____None
Disposal:____Daily_____Weekly Other _____ ___ Plant

F. Employee acknowledgement of test results:

Employee Signature:_Date: _____ Test conducted by:

_____Date: _____

SPILL PREVENTION AND RESPONSE

EMERGENCY INCIDENT RESPONSE GUIDELINES

▶ OIL LEAK / RELEASE

INCIDENT HAZARD TYPE:

MAJOR INCIDENT:
Significant spill and fire potential involving a large area and/or entry of oil into navigable waterways – A sheen of oil on moving waters is a significant spill.

MINOR INCIDENT:
Spill that is contained in the general spill area not affecting navigable waterways or wildlife.

UNIVERSAL PRECAUTIONS / PROCEDURES:

- The order of tasks for each Incident is based on protecting 1st LIFE, 2nd the ENVIRONMENT and 3rd PROPERTY
- Initiate Incident Command System (ICS) Immediately
- Offensive Actions: STOP! Are you sure you have done all defensive actions possible? Base offensive actions on Risk vs. Gain analysis.

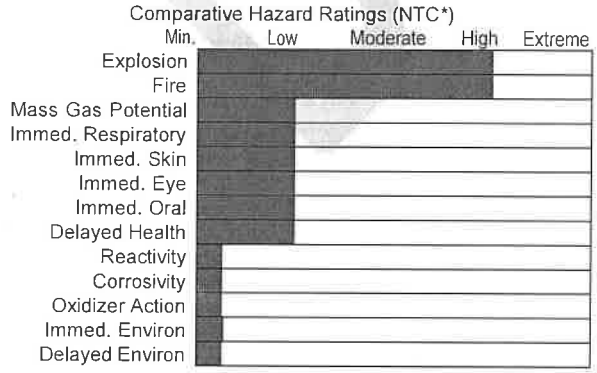
Isolating the incident, denying entry, and initiating protective action(s) will be your initial response. Area evacuation should be initiated when the situation cannot be contained.

HAZARD IDENTIFICATION/RECOGNITION

- Locate/identify/verify where leak is coming from, make sure you are in a safe position (i.e. upwind or use binoculars). Assess potential area of impact (i.e. downwind of leak or damage).
- Isolate Scene / Deny Entry - Initial isolation 300 feet in all directions. Platform configuration may restrict the isolation limits.
- Initiate response. If emergency services are called for, dispatch Company personnel to lead emergency services (MSRC, Fire Department, Ambulance, Sheriff, etc.) to the scene. Ensure a safe route and staging area has been identified prior to bringing emergency services to the scene.
- Refer to the accompanying EMERGENCY INCIDENT RESPONSE GUIDELINES, the DOT North American Emergency Response Guidebook, and/or the MSDS. **CAUTION**: Isolation distance may expand due to wind, size of release, or affected population.
- Facility maps with chemical, first aid, and emergency equipment locations are in the Hazardous Materials Business Plan.

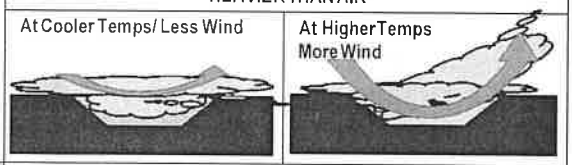
ASSESSMENT OF HAZARD

IDLH : 100 PPM TLV/STEL: 5 PPM
UEL: 44% LEL: 4.0% TLV/TWA: 1 PPM



Hazard Summary:

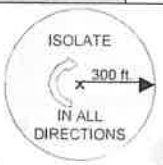
- Combustible liquid (Flash Point 200 Deg. F); toxic H_2S is present in oil at up to 50 ppm in closed stream/vessels; H_2S hazards can be in enclosed areas below grade locations where air is stagnant; crude oil and H_2S vapors/gas are heavier than air; irritant properties include skin and upper respiratory systems, Reduce prolonged or repeated skin contact; reacts with strong oxidizers; contains approximately 0.1% Benzene. NAERG '96 ID 9277, Guide No. 171. **Review physical and chemical properties to anticipate behavior and potential outcomes.**
- What is wind direction, speed and other weather conditions?
- What is the safest route for emergency response resources?



ZONE OF IMPACT / ZONING

Contact The O'Brien's Response Management (714-577-2100) for spill related issues.

Initial Isolation distances:
Isolate 300 feet in all directions then protect persons immediately downwind for 1 mile. Platform configuration may restrict isolation limits.



- Use the isolation distances as a guide to determine incident perimeter and barriers. Exclusion (hot) zone, Contamination Reduction (warm) zone, and Support (cold) zone will be established by emergency response personnel.

Potential Toxic Components of Crude Oil	(PEL) Permissible ** Exposure Limit	Other limits **
Hydrogen Sulfide	10 ppm	50 ppm (Ceiling); 100 (IDLH)
Benzene	0.1 ppm	50 ppm (Ceiling); 500 (IDLH)
Xylene	100 ppm	900 ppm (IDLH)
Toluene	100 ppm	500 ppm (IDLH)
Ethyl Benzene	100 ppm	800 ppm (IDLH)

**NIOSH Threshold Limit Values

ACTION PLANNING

Initiate Incident Command System (ICS); identify location of Command Post (CP) uphill and upwind of the incident.

SAFETY:

- Determine if all personnel at the site (of the emergency) have been accounted for.
- Rescue victims if it can be done safely (proper protective equipment).
- Do not move seriously injured individuals unless they are in immediate danger.
- Evacuate personnel/public to the site specific safe and open briefing area away from dangers.

PROTECTION:

-

STABILIZATION:

- Shut off flow if it can be done from a safe distance.
- **Containment and recovery:** Complete site assessment, identify operational zones and assign teams, identify containment and recovery opportunities, initial incident action plan, site sampling plan, waste management plan, wildlife rehabilitation plan and general plan.

TERMINATION:

- **Air:** Monitor situation, clear immediate area, let wind disperse.
- **Water:** Dispose in an appropriate facility, or use absorbents to separate product from water.
- **Soil:** Transport for disposal or let bacteria degrade product.

RESOURCES (RE-STAT)

RESPONSE PERSONNEL:

Initiate Incident Response Team(s)	General Alarm (Local)
Person In Charge (platforms)	562-606-5705
Health/Safety & Environmental	562-628-1526
Corporate IRT	562-628-1526
MSRC (Spill Co-op)	800-259-6772
Mercy Air Ambulance	800-222-3456

Reporting:

National Response Center	800-424-8802
Department of Transportation	202-366-4595
State Office of Emergency Services	800-852-7550
Minerals Management Service	805-389-7770

Refer to the Emergency Action Plan, Section 4.0 for other

Public Resources:

Long Beach Fire Department	562-218-8179
US Coast Guard LA	310-521-3800
US Coast Guard Long Beach	800-221-8724 (emer.)
La County Sheriff	310-830-1123
Orange County Sheriff	714-647-7000

Refer to the **Integrated Contingency Plan** or Emergency Incident Placard for detailed contact information.

reporting requirements.

Information Resources:

CHEMTREC	800-424-9300
Northridge Tox Center	800-682-9000
O'Brien's Response Management	714-577-2100

Contractors:

For post incident clean-up: See the EAP or ICP.

DECONTAMINATION / DISPOSAL / DOCUMENTATION

- Response personnel don SCBA , body protection (level B), and gloves.
- Begin flushing victim with water while removing all clothing. Note: Flush head and face first and protect airway; next flush damaged area. (Flush at least 2 minutes w/fire hose or emergency shower). Flush eyes for 20 minutes. Bag clothing for later disposal.
- When complete provide tyvek clothing to patient to ensure privacy and provide disposable blanket. (Once victim is stripped / flushed, there should be no risk of secondary contamination).
  - Walking victims should be instructed to the exclusion zone and decon themselves.
  - ERT Hazmat decon operations will follow the decontamination protocols in the **Integrated Contingency Plan.**
  - For Disposal: Neutralize liquid, for soil: Have contractor advise, see resource section.
- Post-incident critique must be conducted and documented. Any personnel exposed shall be medically evaluated and exposure documented.

SAFETY / ADDITIONAL CONCERNS

- For Large Spill Clean-up: a representative number of passive dosimeters (organic vapor) should be placed on response personnel to document potential: Benzene, Xylene, Toluene, Ethyl Benzene.
- Normal clean-up will be Level D personnel protective equipment utilizing Tyvek or similar full body disposable clothing with Nitrile or other impervious gloves. **Note:** EHS will survey area for contaminates prior to committing level D protected personnel.
- If response personnel are required to work in Level A, B or C protection, then all personnel assisting in decontamination will have to wear the appropriate level of protective clothing.

GENERAL REQUIREMENTS

1. Proper storage of chemicals to minimize the potential for a spill must be addressed. Chemical substances should be stored in proper containers to minimize the potential for a spill. Whenever possible, chemicals should be kept in closed containers and stored so they are not exposed to storm water.

2. Spill response materials or spill kits must be adequate for any anticipated spills. A proper spill kit must contain the appropriate supplies for materials that may be spilled. Supplies must be easily accessible when required, and considerations must be made for both the type and quantity of materials.

3. Employees must be trained on proper spill prevention and response procedures. Employees must be instructed on the proper response procedures for spilled materials. The training should include materials available for use, proper waste disposal, and communication procedures.

4. Areas where chemicals may be used or stored must be maintained using good housekeeping best management practices. This includes, but is not limited to, clean and organized storage, labeling, and secondary containment where necessary

5. Proper communication measures must be in place and initiated upon a spill or release of materials. The program should address proper communication measures for employees to initiate in the event of a spill. Communication procedures should be based on type and quantity of materials spilled.

TABLE OF CONTENTS

I. WASTE STORAGE AND HANDLING 2

II. WASTE STORAGE 2

III. CONTAINERS 2

IV. TIME LIMIT FOR STORAGE 2

V. STORAGE CONTAINER LABELS 3

VI. WASTE PROFILING AND DISPOSAL 4

VII. TRANSPORTATION OF WASTE 4

VIII. DOCUMENTATION AND RECORD KEEPING 5

IX. CONTINGENCY SPILL RESPONSE AND REPORTING 5

DRAFT

I. WASTE STORAGE AND HANDLING

Field personnel must be familiar with and implement the following health and safety procedures during waste management activities, especially during packaging, sampling, handling or similar activities where it is likely to be exposed.

- Review SDS for chemicals suspected to be in the waste.
- Refer to typical health and safety requirements specific to field operations and wear the proper personal protective equipment.
- Drums containing waste should never be lifted by hand; use proper waste handling equipment.
- Follow confined space entry standard in enclosed areas.
- If there are any unsafe conditions or items needing repair, contact immediate supervisor and take corrective action immediately.
- Review first aid and fire fighting protocols prior to initial exposure to material.
- Be sure to contact the EH&S contact if uncertainties exist.
- The facility does not accept any waste water contained in totes.
- Materials in totes shall never be pumped or transferred into a vacuum truck

II. WASTE STORAGE

Storage procedures begin when waste is generated and ends at removal and transportation of the waste for recycling, disposal or treatment. All wastes should be stored and handled in a manner that prevents the creation of nuisances (odor, spills, dust, etc.).

III. CONTAINERS

Containers used to store waste should be nonabsorbent, durable, watertight, and designed for safe handling. Containers should also be of sufficient size to prevent overflow (22 CCR 66262.30). Waste storage and handling may include the following list of storage containers:

- Bulk liquid storage tanks (Baker tanks)
- Roll-off bins/boxes [California Highway Patrol (CHP) or Department of Transportation (DOT) approved]
- DOT Drums

IV. TIME LIMIT FOR STORAGE

Per 22 CCR 66262.34, the time limit for hazardous waste storage is 90 days and requires the following:

- Appropriate containers.
- Proper storage area.

- Properly filled-out hazardous waste label affixed to all hazardous waste containers immediately.
- The date which each period of accumulation begins must be clearly marked on the storage container or entered on the label.
- Storage of hazardous waste for more than 90 days requires a special permit from the appropriate regulatory agencies.
- Weekly inspections and records must be completed by the Site Supervisor, or designee, weekly while waste is in storage. Copies should be forwarded to the Company environmental contact.

V. STORAGE CONTAINER LABELS

A properly completed label must be placed on all waste containers. Labels are available at the field office. Depending upon the hazardous characteristics of the waste stored in the container, the following types of labels should be used. All labels must be filled out completely using a waterproof pen:

- Waste Pending Analysis Labels–For wastes that are suspected to be hazardous but are awaiting laboratory analysis to determine the hazardous classification, a waste label indicating the laboratory analysis is pending must be affixed to the storage container.
- Hazardous Waste Labels–For wastes that are known to be hazardous or determined to be hazardous through laboratory analysis. A special label must be used, "hazardous waste".
- Non-hazardous Waste Labels–This type of label should be used for wastes that are known to be non-hazardous or determined to be non-hazardous through laboratory analysis, "non-hazardous waste".
- Non-regulated Waste Labels–This label should be used for wastes that are accumulated pending disposal that are not regulated as hazardous or universal wastes.
- Drained Used Oil Filter Labels–Used oil filters should be drained and placed in a closed drum exhibiting a "drained used oil filter" label.
- Empty Labels–Drums that are onsite and planned to be utilized for containing wastes may be marked with the "Empty' label. Additionally, drums that held a hazardous waste or hazardous material and are now empty may be marked as such.

Alternative methods of identification (such as temporary type signs) may be acceptable when storing waste in rented bins or tanks. Additional labels may be required for DOT, or other regulatory agency.

VI. WASTE PROFILING AND DISPOSAL

Each waste material must be identified as either hazardous or non-hazardous so it is properly disposed of. Once a waste stream has been identified as hazardous or non-hazardous, an application must be submitted to an approved disposal or recycling facility for acceptance of the waste. Most disposal and recycling facilities require a properly completed waste profile sheet, appropriate laboratory report and may also request a sample. The Company will coordinate the profiling function on a case by case basis. Please refer to the flow chart in Figure 1 for assistance in determining whether or not a material is hazardous and how to dispose of it. Please take note:

- EPA "Listed" waste can be found at http://www.epa.gov/osw/hazard/wastetypes/listed.htm
- "Universal Waste" consists of: electronic devices, batteries, mercury-containing equipment, cathode ray tubes and non-empty aerosol cans.

VII. TRANSPORTATION OF WASTE

All shipments of both hazardous and non-hazardous waste require documentation to track the material from the generating facility to the disposal or recycling facility (Title 22 CCR 66262.20). The type of documentation approved as shipping papers include:

- Uniform Hazardous Waste Manifest–The Company will coordinate the preparation of the hazardous waste shipping paperwork with help from field personnel on a case by case basis. Uniform hazardous waste manifests are obtained from EPA approved vendors. Every container of 119 gallons or less must be marked with the following words and information (See Figure 2 for sample label):

  HAZARDOUS WASTE-Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

  Generator's Name and Address_____.
  Generator's EPA Identification Number_____.
  Manifest Tracking Number_____.

- Non-hazardous Waste Manifest–For non-hazardous wastes, these forms are available from the transportation vendor at the time of shipment pickup.
- Bill of Lading–Used for ***non-hazardous wastes only***.

VIII. DOCUMENTATION AND RECORD KEEPING

Regulatory agencies require record retention from three up to five years. Documentation requests from the regulating agencies are routine, therefore, complete records are important. Duplicate files should be kept at the particular facility as backup copies.

IX. CONTINGENCY SPILL RESPONSE AND REPORTING

The Business Plan contains specific information regarding hazardous waste spills. Please follow the appropriate spill response and reporting procedure when required.

DRAFT

FIGURE 1 – Waste Classification and Disposal Flow Chart

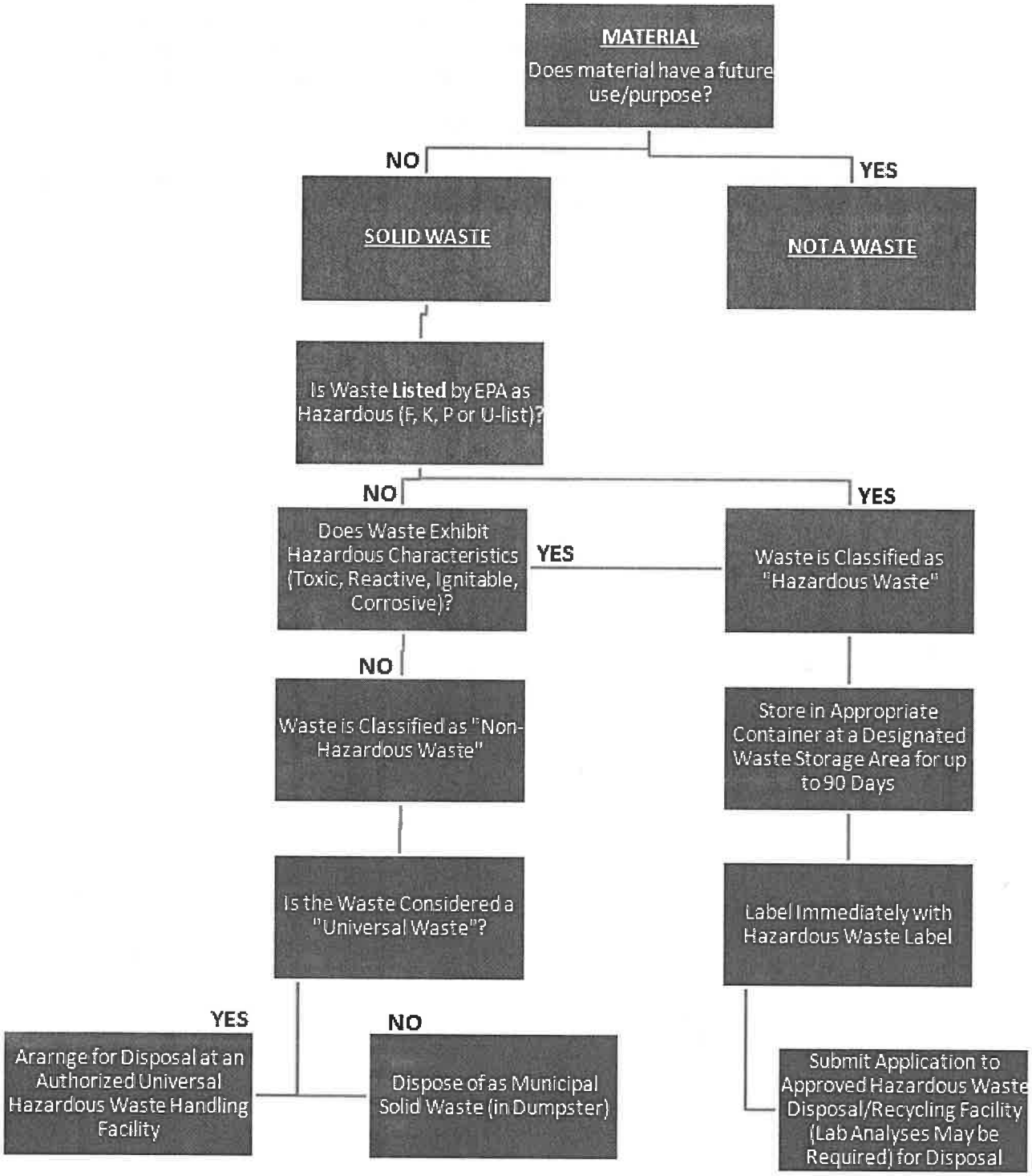
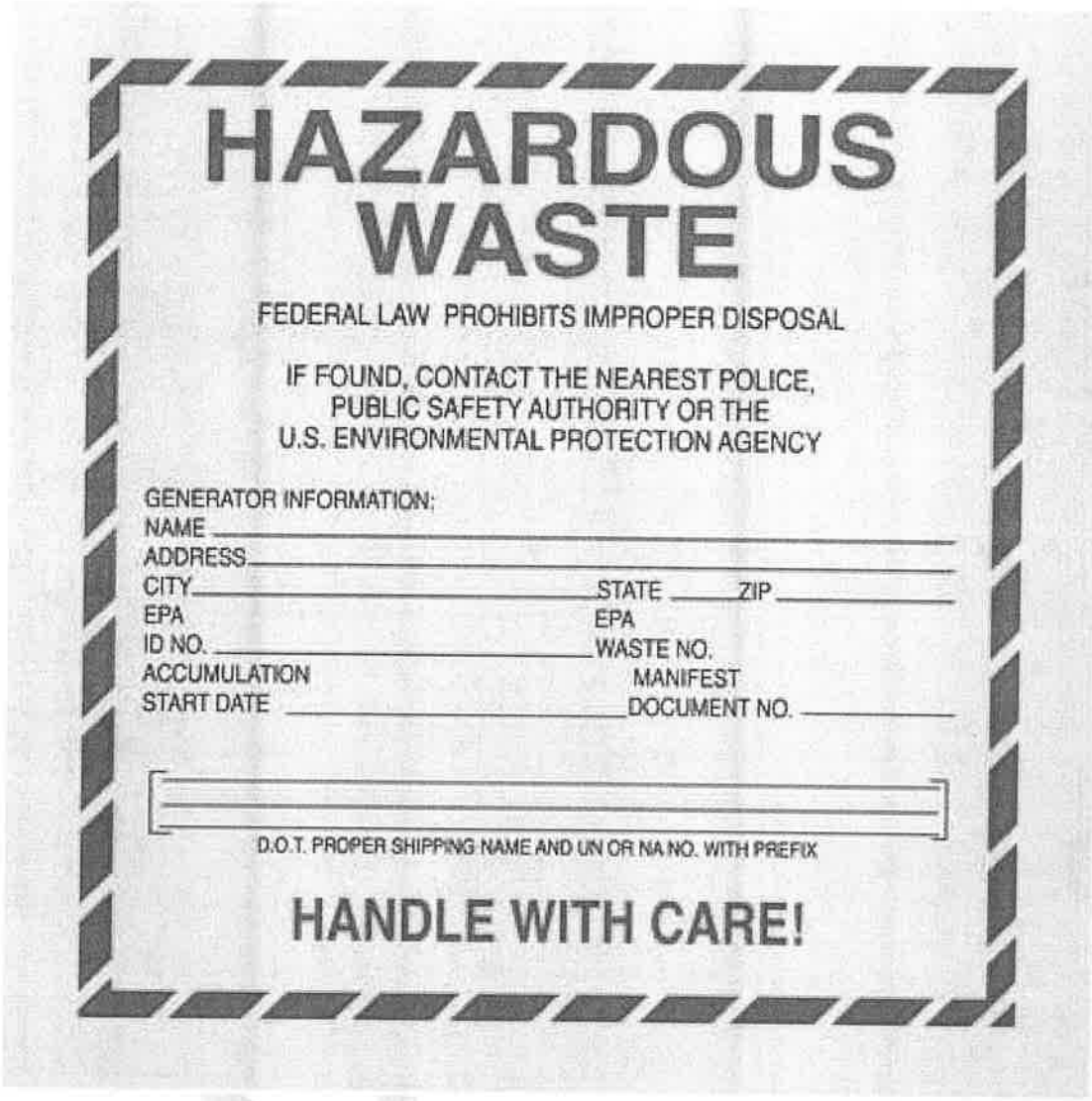


FIGURE 2 – Hazardous Waste Label



SUBCONTRACTOR MANAGEMENT PROGRAM

Purpose

This Subcontractor Management Program establishes and implements safe work practices designed to minimize the risks associated with subcontract operations.

This Subcontractor Management Program also requires a detailed contractor selection criteria. When selecting a contractor, site supervisors must obtain and evaluate information regarding the contractor's safety and environmental performance.

Management must also ensure that contractors have their own written safe work practices. Agreement must be documented on appropriate contractor safety and environmental policies and practices before the contractor begins work at any company run facilities (refer to the company Master Service Agreement (MSA) required of all field contractors).

Contracted employees must be knowledgeable and experienced in the work practices necessary to perform their job in a safe and environmentally sound manner. Documentation of each contracted employee's expertise to perform his/her job and a copy of the contractor's safety policies, procedures and training records must be made evaluated prior to awarding any contract.

Contractor Selection Criteria

A major step in achieving acceptable subcontractor performance is selecting a safe and environmentally responsible contractor. Therefore, it is appropriate for management to request that contractors submit specific performance information in their contract response proposals.

Management must:

1. Perform periodic evaluations of the performance of contract employees that verifies they are fulfilling their obligations, i.e. (site evaluation, incident tracking and/or BBS observation), and
2. maintain a subcontractor employee injury and illness log for all applicable subcontract work.

Site supervisors must inform subcontractors of any known hazards at the facility they are working on including, but not limited to potential for fires, explosions, slips, trips, falls, other injuries, and hazards associated with lifting operations.

Site supervisors must also develop and implement safe work practices to control the presence, entrance, and exit of subcontract employees in operation areas.

General Requirements

Safe work practices should meet the most current provisions of any applicable federal, state, or local regulations. Company safety manuals clearly illustrate applicable safe work practices required at each location. The company safety manual (or equivalent) must be kept up to date and made readily available at each work site.

1. Subcontractors will be pre-qualified by reviewing their safety programs, safety training documents, and safety statistics prior to issuing a Master Service Agreement (MSA).

2. A series of safety metrics such as, Total Recordable Incident Rate (TRIR), Experience Modifier Rating (EMR), Lost Time Incident Rate (LTIR), and Fatality Rate shall be used as a criteria for selecting subcontractors.

   Any subcontractor failing to meet the following minimum safety metric criteria shall not be considered for work:

   - Failing to maintain proper insurance coverage, MSA documentation, and/or applicable contractor license.
   - Being cited by OSHA or other agency for a significant violation within the last three (3) years.
   - Experience modification rating (EMR) in excess of 1.0 for the previous three (3) year average.
   - Total Recordable Incident Rate (TRIR) or Lost Time Incident Rate (LTIR) for a contractor is in excess of 4.0.

   The contractor safety questionnaire attached to the appendix of this document shall be utilized for this purpose.

3. Subcontractors shall be included in pre-job meetings or kick-off meetings, and safety orientations. Subcontractors must check in with the Company site supervisor daily to ensure all applicable personnel are included in pre-job safety orientations and pre-job meetings.

4. Subcontractors will be included in tailgate safety meetings, job safety analysis or hazard assessments, and on the job safety inspections. Subcontractors must check in with the Company site supervisor daily to ensure all applicable personnel are included in regular job safety inspections and participate in job hazard analysis.

5. Post-job safety performance reviews are required of all subcontractors. At a minimum a rehash of the subcontractors performance with regard to the safety metrics stated above shall be completed by site supervisors upon completion of job.

DRAFT

DRAFT

ACKNOWLEDGEMENT AND RECEIPT OF SAFETY HANDBOOK

I CERTIFY THAT

- I HAVE RECEIVED MY OWN COPY OF THE COMPANY SAFETY HANDBOOK;
- I HAVE READ AND UNDERSTAND THE REQUIREMENTS IN THE HANDBOOK, INCLUDING THE CODE OF SAFE PRACTICES; AND
- I HAVE BEEN INFORMED ABOUT AND UNDERSTAND THE CONDITIONS WHERE I WILL BE WORKING.

NAME (PLEASE PRINT)

SIGNATURE DATE

DRAFT

SESPE
CONSULTING, INC.

374 Poli Street, Suite 200 • Ventura, CA 93001

DUST CONTROL PLAN
For Centralized Waste Treatment Facility

RI-NU Services, LLC
815 Mission Rock Road
Santa Paula, CA 93060

August 2018
Updated November 2020

Prepared for:
RI-NU Services, LLC
15218 Summit Avenue, Suite 300 #601
Fontana, CA 92336

Prepared by:
Sespe Consulting, Inc.
374 Poli Street, Suite 200
Ventura, CA 93001
(805) 275-1515

County of Ventura
Initial Study
PL15-0106
Attachment 19 - Proposed Dust Control Plan

This page left blank intentionally

SESPE CONSULTING, INC.

374 Poli Street, Suite 200 • Ventura, CA 93001

DUST CONTROL PLAN
For Centralized Waste Treatment Facility

RI-NU Services, LLC
Santa Paula, California

August 2018
Updated November 2020

TABLE OF CONTENTS

TABLE OF CONTENTS i

1.0 INTRODUCTION AND SUMMARY 1

2.0 GENERAL REGULATORY REQUIREMENTS APPLICABLE TO THIS FACILITY 2

3.0 DUST GENERATING SOURCES 3

4.0 FUGITIVE DUST CONTROL MEASURES 4

4.1 Standard Dust Control Measures: 4
4.2 High Wind Dust Control Measures: 4

5.0 RECORDKEEPING 5

APPENDICES

A. Site Plan
B. Copy of VCAPD Rule 55 – Fugitive Dust

DUST CONTROL PLAN

RI-NU Services, LLC
Santa Paula, California

November 2020

1.0 INTRODUCTION AND SUMMARY

Facility Name:	RI-NU Services, LLC
Facility Address:	815 Mission Rock Road Santa Paula, California 93060
Site Contact:	Timothy J. Koziol, (915) 323-7200
Type of Material Processed:	Non-Hazardous Centralized Waste Treatment Facility
Scale of Operation:	Approximately 6.6 acres

The proposed operations at the RI-NU Services, LLC (RI-NU) Facility (Facility) include: accepting, treating, and off-site disposal by truck of various types of non-hazardous wastewater. The primary expected sources of dust generation from this Facility include a solids mixing operation and windblown dust from unpaved surfaces. A water truck and street sweeper will be the main methods used to minimize fugitive dust emissions from the facility:

- For mixing operations, water from the water truck will be sprayed as needed on the stockpiles of solidification material (i.e. saw dust, compost, etc.) that will be located on the northeast end of the two (2) Mixing Areas (see attached Site Plan). Water will also be sprayed as needed to control loosened material that may fall on paved surfaces while being transported from one end of the Mixing Areas to the other. The post-mixed material stored on the southwest end of the Mixing Area will not typically need to be sprayed by the watering truck because this material will be stored underneath a cover.

- The water truck will also be used as needed to control fugitive dust emissions from unpaved surfaces on the north and south-central areas of the facility. The truck may also be used to spray paved surfaces. A non-toxic chemical stabilization dust suppressant may also be applied as needed to unpaved surfaces to minimize fugitive dust emissions. This chemical suppressant will comply with all applicable air and water quality government standards.

- Sweeping will be conducted as needed on paved surfaces where dust or loose, dry material has accumulated.

- Lastly, a Facility-wide speed limit of 15 Miles Per Hour (MPH) or less will be enforced on both unpaved and paved surfaces.

Table 1-1 presents personnel responsible for Plan implementation:

Table 1-1 Plan Implementation Responsibility

Role	Contact and Telephone Number	Responsibility
Environmental Manager	Timothy Koziol (915) 323-7200	- Ensure implementation of this Plan - Maintain and update this Plan
Site Monitor 1	Mike Legan (805) 407-2366	- Monitor the Facility for dust related issues. - Ensure compliance with the provisions of this Plan.
Site Monitor 2	To Be Determined	

2.0 GENERAL REGULATORY REQUIREMENTS APPLICABLE TO THIS FACILITY

Ventura County Air Pollution Control District (VCAPCD) Rule 55 regulates fugitive dust emissions associated with this Facility. General Rule 55 requirements are:

- No visible dust beyond the property line either:
    - Beyond the midpoint (width) of a public street or road adjacent to the property line, or
    - 50 feet from the property line if there is not an adjacent public street or road.
- No emissions of fugitive dust of 20 percent opacity or greater for a cumulative 3 minutes or more in any one (1) hour.
- No track-out from Facility 25 feet or more in length unless at least one of the following three control measures is utilized:
    - *Track-Out Area Improvement:* Pave or apply chemical stabilization to maintain a stabilized surface from the point of intersection with public paved surface and extend for a centerline distance of at least 100 feet.
    - *Track-Out Prevention:* Check and clean the undercarriage and wheels on all vehicles before leaving unpaved surface or install a properly functioning and well-maintained track-out control device(s).
    - Track-Out Removal: Remove track-out from pavement as soon as possible but no later than one hour after it has been deposited on the paved road.

  All track-out shall be removed at the conclusion of each workday or evening shift.
- No person (including facility or site operator) shall load or allow the loading of bulk materials or soil onto outbound trucks unless at least one of the following dust prevention techniques is utilized:
    - Use properly secured tarps or cargo covering that covers the entire surface area of the load or use a container-type enclosure.
    - Maintain a minimum of 6 inches of freeboard below the rim of the truck bed where the load touches the sides of the cargo area and ensure that the peak of the load does not extend above any part of the upper edge of the cargo area.

- Water or otherwise treat the bulk material to minimize loss of material to wind or spillage.
- Other effective dust prevention control measures.

A copy of the Ventura County Air Pollution Control District (VCAPD) Rule 55 is provided for reference in Appendix B.

3.0 DUST GENERATING SOURCES

The Mixing Areas and Facility-wide unpaved surfaces are the primary expected sources of dust generation. Potential sources of dust include:

- **Mixing Areas:** Solids generated by the waste treatment processes are transferred to Mixing Area #2. These solids tend to be very wet and should not generate dust. Solidification materials (sawdust) are mixed with the wet solids to solidify and prepare them for off-site transport and disposal. The mixing occurs in Mixing Area #2. After mixing, the solids are moved to Mixing Area #1 for temporary storage. Mixed solids will normally be transported off site within one hour of being mixed. If mixed solids are left overnight, they will be covered. No unmixed solids will be left overnight.

  Within the Mixing Areas, dust maybe also be generated from the stockpiles of dry solidification materials (saw dust) located near the northeast end of the two (2) Mixing Areas.

- **Unpaved Surfaces:** Fugitive dust from unpaved surfaces may be generated during windy conditions and blow onto paved areas of the site. Off-road vehicles (e.g. forklifts) may also travel on unpaved surfaces and track dust onto paved surfaces. On-road vehicles will not travel over unpaved areas.

- **Stationary Equipment:** Stationary equipment will be used to treat the influent waste water. Equipment following the six (6) Mixing Tanks, such as the Shaker or the Centrifuge, may produce fugitive dust emissions if wet, loose material were to dry-out and fall out of and / or off of the equipment.

- **Material Transport**: Dust may also be generated during the transportation of mixed waste material from one end of the Mixing Areas to the other end for loading into disposal trucks. Off-site transportation of waste materials may also generate dust if waste materials drop from hauling trucks while being loaded. For bulk loading of waste materials onto outbound trucks, the waste materials are expected to be very wet such that loss of material to wind should be minimal.

None of the above listed potential dust generating sources are expected to generate excessive levels of dust, so track-out is not expected to be an issue at this site.

4.0 FUGITIVE DUST CONTROL MEASURES

During normal wind conditions, typical control and mitigation measures (listed below in Section 4.1) are sufficient to control dust emissions. During high wind conditions, extra steps may be required to control dust generation.

Employees will be trained to identify when the requirements of VCAPD Rule 55 are not being met and to notify the site monitor.

4.1 Standard Dust Control Measures:

The fugitive dust control measures listed below will be used by the Facility to control dust generation:

- As a standard practice, fugitive dust throughout the site will be controlled by the use of a water truck (except during and / or immediately after rainfall). Only as needed, water will be applied to the Mixing Area and Mixing Area stockpiles, to the actively traveled region between northeast and southwest ends of the Mixing Areas, to paved surfaces throughout the facility and to unpaved surfaces.

- Paved surfaces will be swept, as needed.

- Post-mix material gathered at the southwest end of the Mixing Areas will also be covered while awaiting off-site disposal.

- Non-toxic chemical stabilization dust suppressants may be used on unpaved surfaces in lieu of regular watering with a water truck.

- RI-NU will enforce a 15 MPH or less Facility-wide vehicle speed limit. Signs shall be posted on-site limiting traffic to 15 MPH or less.

- Although material loss due to wind is not expected for outbound haul trucks due to the wet nature of the hauled waste materials, outbound haul trucks may utilize at least one of the following dust prevention techniques if dust generation becomes an issue

    - Use of a properly secured tarp or cargo covering that covers the entire surface area of the load.
    - Use of a container-type enclosure.
    - Maintain a minimum of 6 inches of freeboard below the rim of the truck bed where the load touches the sides of the cargo area and ensure that the peak of the loads does not extend above any part of the upper edge of the cargo area.
    - Water or otherwise treat the bulk material to minimize loss of material to wind or spillage.

4.2 High Wind Dust Control Measures:

High wind dust control measures are not expected to be necessary because excavation and other significant dust producing activities will not be carried out within this Facility. Regardless, if wind were to exceed 25 MPH over a one-hour period or during other “high wind events” (wind of such velocity as to

cause fugitive dust to be blown from the Facility to off-site areas) dust producing activities will cease and additional watering will be initiated.

5.0 RECORDKEEPING

A current copy of this Fugitive Dust Control Plan shall be held and maintained onsite. If dust suppressants are used at the facility, the following records will be kept (VCAPD Rule 55.E.6):

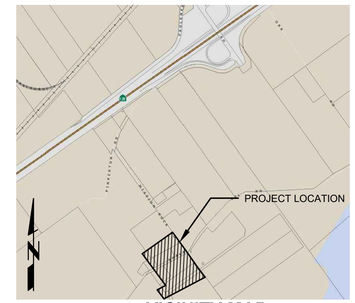
- Dust Suppressant Records: Any person using dust suppressants shall keep the following records:
    - Description of dust control measure;
    - Location and extent of coverage;
    - Date, amount, and frequency of application of dust suppressant; and
    - Manufacturer's dust suppressant product information sheets.

Any documentation related to this Plan shall be retained for a minimum of 2 years (VCAPD Rule 55.E.7).

APPENDIX A

SITE PLAN

NCZ0 ZONE: M3 10,000 SQ. FT.
GENERAL PLAN: EXISTING COMMUNITY



VICINITY MAP
N.T.S.

LEGEND

- CUP BOUNDARY 6.3 ACRE ±
- LOT LINE
- PARCEL LINE
- 6 FT HIGH CHAINLINK FENCE
- 6 FT HIGH CORRUGATED METAL FENCE
- EASEMENTS
- EXISTING AC./CONCRETE
- PROPOSED AC./CONCRETE
- LANDSCAPE AREA
- GRAVEL SURFACE
- TP-1 LOCATION OF BACKHOE EXPLORATION TEST PIT
  - N = NEW
  - E = EXISTING
- TRAFFIC ARROW
- FIRE HYDRANT (FH)
- EDISON POWER POLE
- BERM
- "DAY TANK" IN USE CHEMICAL ON CONTAINMENT
- COMPRESSED GAS CYLINDER
- ABANDONED OIL WELL
- ACTIVE OIL WELL
- DRAINAGE DIRECTION
- SS SAFETY SHOWER/EYEWASH
- SEWER LINE TO OXNARD
- TP-2 LOCATION OF BACKHOE PERCOLATION TEST PIT

ID	2010 Approved CUP Equipment	ID	2017 Proposed Equipment	N/E
A	Receiving Bays (4)	A	Receiving Bays (4)	E
B	Trash/Grit Removal Unit	B	Trash/Grit Removal Unit	E
		CL1-5	Clarifier Units (5)	E
		D	Mixing Tanks (6+)	N
D1	Centrifuge Unit	D1	Centrifuge Unit	E
D2	Centrifuge Unit	D2	Centrifuge Unit	E
D3	Centrifuge Unit	D3	Centrifuge Unit	E
D4	Belt Press			
E	Electro-Coagulation Unit	E	Electro-Coagulation Unit or other Metal Removal Unit	N
F1	Ozone Unit #1	F1	Ozone Unit	N
F2	Ozone Unit #2			
G	UV/Oxidation Unit	G	GEM Unit	N
H	Double Wide Office Trailer	H	1056 sq. ft. portable trailer (office)	N
I	Temporary Office Trailer			
J	Laboratory/Receiving Office	J	648 sq. ft. portable trailer (lab)	N
K	Maintenance Shed	K	Maintenance Shed	E
L	Employee Changing Room	L	864 sq. ft. portable trailer (employee changing room)	N
M	Break Room (old receiving office)			
N1	Sea Container (records storage)	N1	Sea Container (records storage)	E
N2	Sea Container (parts storage)	N2	Sea Container (parts storage)	E
N3	Sea Container (parts storage)	N3	Sea Container (parts storage)	E
N4	Sea Container (parts storage)			
N5	Sea Container (parts storage)			
N6	Sea Container (parts storage)			
N7	Sea Container (parts storage)			
O	Sea Container (chemical storage trailer)			
P	Auger			
Q	CKD Silo			
AA	3 – concrete pads	AA	3 – concrete pads	E
BB	2-Plate Presses on concrete Blocks	BB	2-Shaker Units (screens)	N
CC	Old Office (removed)			
DD	Old Air Stripper Unit (removed)			
EE	Old Tool Shed			
FF	Old Carbon Filters			
GG	Old Frac Tank			
HH	Old Skim Tanks (2) w/ concrete secondary containment	HH	Skim Tanks (2)	N
II	4 – Old Frac Tanks			
1	10 – 5000 gallon process tanks	1	10 – 20,000 gallon waste receiving tanks	E
2	7 – 5000 gallon process tanks	2	10 – 20,000 gallon process tanks	E
3	20 – 5000 gallon process tanks	3	5 – 20,000 gallon process tanks	E
4	40 – 5000 gallons process tanks	4	10 – 20,000 gallon waste receiving tanks	N
5	Pond #1 (surface impoundment) (filled in)			
6	20 – 5000 gallon process tanks	5	14 – 20,000 gallon process tanks	E
7	Pond #2 (surface impoundment			
8	10,000 gallons process tank	6	6 - 6,000 gallon poly process tanks	N
9	10,000 gallons process tank			
10	10,000 gallons process tank			
11	Offloading pump			
12	Sand Filters (6)	12	Sand Filters (6 to 8)	N
13	Sand Filters (6)	13	Portable Water Tanks	N
14	Shipping Pit	14	Shipping Pit (Not Used)	E
15	10,000 gallons process tank			
16	Carbon Filters (2)	16	Carbon Filters	N
17	Micron Filtration Pods	17	Filter Units (organo-clay)	N
18	Diesel Fuel Tank (w/secondary containment)	18	Diesel Fuel Tank (w/secondary containment)	E
19	5 – 5000 gallon process tanks	19	pH Adjustment Tanks	N
TBD	Five Receiving Bays: Bay-3, Industrial Bay, Domestic Bay, and (2) Screening Bays			
TBD	Stockpile storage and recycle area;	20	Stockpile storage and recycle area;	E
TBD	Two reverse Osmosis Units;	21	Two reverse osmosis units (or equivalent technology)	N
TBD	One Control Device;	22	One VCAPCD Control Device;	E
TBD	30- Water Processing Tanks			
TBD	All Awnings and concrete pads	23	New 4,852 square foot concrete pad	N
TBD	Three foot deep grass storm water holding basin;			
		25	610 sq. ft. hazardous materials storage building	N
		26	oil/water separator	N
	Total Approved Process Tanks = 143		Total Proposed Process Tanks = 95	

N/E – New or Existing on Site

PROJECT SITE ADDRESS: 815 MISSION ROCK RD, SANTA PAULA, CA

NOTE:
FACILITY IS WITHIN 100-YEAR FLOODPLAIN PER FEMA REVISED PRELIMINARY FIRM 06111C0778F (12/22/15) EXCEPT FOR AREA NOTED.

SCALE OF FEET: 30 0 30 60

APPLICANT:
RI-NU SERVICES LLC.
15218 SUMMIT AVE., SUITE 300
#601 FONTANA, CA 92336
P:(951)-323-7200

PROPERTY OWNER:
SANTA CLARA WASTE WATER CO.
2775 NORTH VENTURA RD.
SUITE 209
OXNARD, CA 93036
P:(909)-641-4418

APN: 099-0-060-565 :	ACRE 6.97
TOTAL:	6.97

ENGINEER:
SESPE CONSULTING INC.
ROB DAL FARRA
374 POLI ST.
SUITE 200
VENTURA, CA 93001
P:805-275-1515

TOTAL PARCEL AREA	= 303,613 SQF
CUP AREA	= 274,655 SQF
NET STRUCTURE COVERAGE	= 27,211 SQF OR 9.0%
PERVIOUS AREA WITHIN CUP	= 138,902 SQF OR 50.6%
IMPERVIOUS AREA WITHIN CUP	= 135,753 SQF OR 49.4%
LANDSCAPE AREA WITHIN CUP	= 26,862 SQF OR 9.8%

SESPE CONSULTING, INC.
374 Poli Street, Ste. 200 • Ventura, CA 93001
(805) 275-1515 • www.sespeconsulting.com

RI-NU WASTE WATER TREATMENT FACILITY
PROPOSED SITE PLAN - SEPTIC

SCALE: HORIZ. AS SHOWN; VERT. AS SHOWN
DRAWN BY: G.CAMUS
DATE: 11/11/2020

ri→nu Services, LLC.

FIGURE NUMBER 1

S:\GR10 – Green Compass\CUP Application 2016 – SCWW\CAD\Site Plan\GR10 –RI–NU–Site–Plan–11–4–20 (septic).dwg Nov 11, 2020, 11:55am GJC

APPENDIX B

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT
RULE 55 – FUGITIVE DUST

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 55 – FUGITIVE DUST
(Adopted 6/10/08)

A. Applicability

The provisions of this rule shall apply to any operation, disturbed surface area, or man-made condition capable of generating fugitive dust, including bulk material handling, earth-moving, construction, demolition, storage piles, unpaved roads, track-out, or off-field agricultural operations.

B. General Requirements – All Fugitive Dust Sources

1. Visible Dust Beyond the Property Line: No person shall cause or allow the emissions of fugitive dust from any applicable source such that the dust remains visible beyond the midpoint (width) of a public street or road adjacent to the property line of the emission source or beyond 50 feet from the property line if there is not an adjacent public street or road.

2. Opacity: No person shall cause or allow the emissions of fugitive dust from any applicable source such that the dust causes 20 percent opacity or greater during each observation and the total duration of such observations (not necessarily consecutive) is a cumulative 3 minutes or more in any one (1) hour. Only opacity readings from a single source shall be included in the cumulative total used to determine compliance.

3. Track-Out
   a. No person shall allow track-out to extend 25 feet or more in length unless at least one of the following three control measures is utilized:

      i. Track-Out Area Improvement: Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with public paved surface, and extend for a centerline distance of at least 100 feet with an acceptable width to accommodate traffic ingress and egress from the site.

      ii. Track-Out Prevention: Check and clean the undercarriage and wheels on all vehicles before leaving unpaved surface or install a properly functioning and well-maintained track-out control device(s) that prevents track-out of soil onto paved public roads.

      iii. Track-Out Removal: Remove track-out from pavement as soon as possible but no later than one hour after it has been deposited on the paved road. If a street sweeper is used to remove any track-out, only

PM10-efficient street sweepers certified to meet South Coast AQMD Rule 1186 requirements shall be used. The make and model information and certification documentation of any sweeper used shall be made available upon request.

b. Notwithstanding the preceding, all track-out shall be removed at the conclusion of each workday or evening shift subject to the same condition regarding PM-10 efficient street sweepers as outlined in Subsection B.3.a.iii. The use of blowers for removal of track-out is expressly prohibited under any circumstances.

C. Specific Activity Requirements

1. Earth-Moving: No person shall engage in earth-moving activities in a manner that creates visible dust emissions over 100 feet in length.

2. Bulk Material Handling Facilities Track-Out Prevention: No person shall conduct an active operation with a monthly import or export of 2,150 cubic yards or more of bulk material without utilizing at least one of the following measures at each vehicle egress from the site to a public paved road:

a. Install a pad consisting of washed gravel (minimum size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

b. Pave the surface at least 100 feet long and at least 20 feet wide.

c. Utilize a wheel shaker/wheel spreading device, also known as a rumble grate, consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and sufficient width to allow all wheels of vehicle traffic to travel over grate to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

d. Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

e. Any other control measure or device that prevents track-out onto public paved roads.

3. Truck Hauling: No person (including facility or site operator) shall load or allow the loading of bulk materials or soil onto outbound trucks unless at least one of the following dust prevention techniques is utilized:

a. Use properly secured tarps or cargo covering that covers the entire surface area of the load or use a container-type enclosure.

b. Maintain a minimum of 6 inches of freeboard below the rim of the truck bed where the load touches the sides of the cargo area and insure that the peak of the load does not extend above any part of the upper edge of the cargo area.

c. Water or otherwise treat the bulk material to minimize loss of material to wind or spillage.

d. Other effective dust prevention control measures.

D. Exemptions

1. This rule shall not apply to:

a. On-field agricultural operations.

b. Off-field agricultural operations necessary to minimize adverse effects on agricultural or horticultural commodities caused during officially declared disasters or states of emergency.

c. Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

d. Active operations conducted by essential service utilities to provide electricity, natural gas, telecommunication, water or sewer during periods of service outages or emergency disruptions.

e. Weed abatement operations provided that:

i. Mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil, or

ii. Any disking or similar operation where effective dust emission prevention control measures are used.

f. Abrasive blasting operations meeting the requirements of Rule 74.1.

g. Unpaved service roads having traffic volume of 20 vehicle trips or fewer per day used by one or more public agencies for inspection of infrastructure and not used for construction or maintenance-related activity.

h. Motion picture, television, or video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the APCO must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

i. Temporary earth coverings of public paved roadways where such coverings are approved by a local government agency for protection of the roadway, and where such roadway is closed to through traffic and visible roadway dust is removed within one day following cessation of activities.

j. Any paved road unless it has track-out or any publicly-owned unpaved road.

k. Demolition operations using blasting explosives, which have been permitted by the California Division of Industrial Safety.

l. The disturbance (i.e., disking, ripping, or scraping) of spreading ground lands in preparation for percolative groundwater recharge. Spreading ground lands are ponds, a system of ponds, or basins into which surface water is introduced for the purpose of allowing or enhancing the infiltration of water into underlying aquifers.

2. Frequently Traveled Private Unpaved Road Conditional Exemption: The requirements in Subsections B.1 (Visible Dust Beyond the Property Line) and B.2 (Opacity) shall not apply to fugitive dust from frequently traveled (more than 20 vehicles per day passing in either direction) unpaved private roads if the operator has covered them with a low silt content material such as recycled road base or gravel to a minimum of four inches; or has implemented all of the following control measures:

a. Control Speed: Control speed to 15 miles per hour or less on unpaved roads through worker notification, signage, and any other necessary means.

b. Restrict Access: Restrict access to private unpaved roads currently used by the public either through signage or physical access restrictions.

c. Road Treatments: Treat unpaved and uncovered frequently traveled roads with water, mulch, or a non-toxic chemical dust suppressant that complies with all applicable air and water quality government standards. If treated, roads shall be treated in a manner that will avoid the sticking of mud to tires that will be carried onto paved public roads.

3. Lightly Traveled Unpaved Private Road Conditional Exemption: The requirements in Subsections B.1 (Visible Dust Beyond the Property Line) and B.2 (Opacity) shall not

apply to fugitive dust from lightly traveled unpaved private roads if the operator has implemented both of the following control measures:

a. Control Speed: Control speed to 15 miles per hour or less on unpaved roads through worker notification, signage, and any other necessary means.

b. Restrict Access: Restrict access to private unpaved roads currently used by the public either through signage or physical access restrictions.

4. Storage Pile Conditional Exemption: The requirements in Subsections B.1 (Visible Dust Beyond the Property Line) and B.2 (Opacity) shall not apply to fugitive dust from storage piles if the operator has implemented at least one of the following control measures:

a. Wind Sheltering: Enclose material in a three or four sided barrier equal to the height of the material.

b. Watering: Apply water at a sufficient quantity and frequency to prevent wind driven dust.

c. Chemical Stabilization: Apply a non-toxic dust suppressant that complies with all applicable air and water quality government standards at a sufficient quantity and frequency to prevent wind driven dust.

d. Covering: Install and anchor tarps, plastic, or other material to prevent wind driven dust.

5. High Wind Exemption: The requirements in Subsections B.1 (Visible Dust Beyond the Property Line). B.2 (Opacity), and C.1 (Earth-Moving) shall not apply to fugitive dust when on-site wind speed exceeds 25 miles per hour (mph) for at least 5 minutes in any one hour period as measured by an anemometer with a minimum resolution of 1.0 mph provided:

a. Applicable control measures outlined in Table 1 have been implemented, and

b. Daily records of specific dust control measures have been maintained.

6. Track-out Exemption: The provisions of Subsection B.3 (Track-Out) shall not apply to on-road vehicles (trucks and passenger vehicles) associated with agricultural operations that have caused track-out due to excessively muddy conditions resulting from rainfall.

E. Recordkeeping Requirements

1. Bulk Material Handling Records: Any operator handling bulk materials and having an APCD Permit to Operate shall keep a monthly log, available upon request, containing or referencing the following information:

    a. Operator name, location of operation, and dates of operation.

    b. Amount (in yards) of bulk material imported or exported per month.

    c. Diagram or map of all egress sites to a public paved road and description of corresponding track-out control measure, if required by this rule.

2. Frequently Traveled Unpaved Road Exemption Records: Any operator or owner of an private unpaved road claiming exemption from the requirements in Subsection B.1 (Visible Dust Beyond the Property Line) and Subsection B.2 (Opacity) shall keep the following records:

    a. Operator name, location of operation, dates when road is open to travel.

    b. List and diagram of unpaved private roads that have more than 20 vehicle trips per day with corresponding method and description of fugitive dust control. If an unpaved private road is being treated, then describe the method used to control speed and restrict access.

3. Storage Pile Exemption Records: Any owner or operator of a storage pile claiming the exemption from the requirements in Subsection B.1 (Visible Dust Beyond the Property Line) and Subsection B.2 (Opacity) shall keep the following records:

    a. Operator name, location of operation, dates of operation

    b. Description of control measure used to minimize fugitive dust including amount of material applied and frequency of application if watering or chemical suppressants are used.

4. High Wind Exemption Records: Any operator claiming the high wind exemption in Subsection D.5 shall keep daily records of specific dust control actions taken.

5. Track-Out Area Exemption Records: Any operator claiming an exemption from track-out area requirements in Subsection B.3.a shall keep the following records:

    a. Operator name, location of operation, and dates of operations.

    b. Description of control measure used in the improvement of the track-out area or control measure used to prevent track-out.

6. Dust Suppressant Records: Any person using dust suppressants shall keep the following records: Description of dust control measure; Location and extent of coverage; Date, amount, and frequency of application of dust suppressant; and Manufacturer's dust suppressant product information sheets.

7. Any recordkeeping required by this rule shall be made available to APCD compliance personnel upon request. Records shall be retained for a minimum of two years.

F. Test Methods

Compliance with the opacity limit in Subsection B.2 shall be determined using EPA Method 9 with the following modifications:

1. Position: Stand at least 16.5 feet from the plume(s) with the sun oriented in the 140^{o} sector to your back. If feasible, make opacity observations so your line of sight is approximately perpendicular to the direction of plume travel. To the extent possible, position yourself to make opacity observations using a contrasting background.

2. Field Records: Note the following on a record sheet:

   a. Description and location of activity generating emissions, and method of control used, if any.

   b. Observer's name, certification data, and affiliation, and a sketch of the observer's position relative to the dust generating activity and the sun, including estimated distances and direction to the plume.

   c. Time that reading began, approximate wind speed and direction, description of the sky condition (presence and color of clouds), color of the plume, and type of background.

3. Observations: For each reading, make the observation at the highest opacity in the dust plume starting at an elevation line 5 feet above the emission source. Do not look continuously at the source, but make momentary observations once every 15 seconds. Record each observation to the nearest 5 percent. Each reading represents a 15 second period. If multiple plumes exist, do not include more than one plume in the line of sight at one time.

4. Compliance Determination: If the observer records twelve (12) readings of 20 percent or greater during a one-hour period, the source is not in compliance and observations may stop. The 20 percent or greater opacity readings are not required to be consecutive.

5. Only observers certified by the California Air Resources Board, or the U.S. Environmental Protection Agency may determine compliance with opacity limits.

G. Violations

Failure to comply with any provision of this rule is a violation of this rule.

H. Definitions

1. "Active Operation": Any source capable of generating fugitive dust, including, but not limited to, bulk material handling, earth-moving activities, construction or demolition activities, or vehicular movement on unpaved surfaces.

2. "Bulk Material": Sand, gravel, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

3. "Construction/Demolition Activities": Any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition, or improvement of property, including, but not limited to, grading, excavating, loading, crushing, cutting, planing, or ground breaking.

4. "Disturbed Surface Area": This means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

   a. Been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

   b. Been paved or otherwise covered by a permanent structure.

5. "Earth-Moving Activities": This means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading and unloading of dirt, adding to or removing from open storage piles, landfill operations, mining operations, and weed abatement operations.

6. "Frequently-Traveled Unpaved Private Road": For the purpose of defining the conditional exemption in Subsection D.2 , any private unpaved road where the count of vehicles traveling in either direction on the road exceeds 20 in any 24 hour period.

7. "Fugitive Dust": Any solid particulate matter that becomes airborne, other than emitted from an exhaust stack, directly or indirectly as a result of the activities of any person(s).

8. "Lightly-Traveled Unpaved Private Road": For the purpose of defining the conditional exemption in Subsection D.3, any private unpaved road where the count of vehicles traveling in either direction on the road is 20 or less in any 24 hour period.

9. "Off-field Agricultural Operations": Any activities excluding those considered by this rule to be on-field agricultural operations.

10. "On-field Agricultural Operations": Activities, excluding travel on field access roads, conducted solely for the purpose of preparing land for the growing of agricultural or horticultural commodities, tree fruits, or raising of fowl or animals, such as:

    a. Brush or timber clearing, grubbing, scraping, ground excavation, land leveling, grading, turning under stalks, disking or tilling.

    b. Drying, pre-cleaning, handling, or storing of agricultural commodity material on the field where it was harvested.

    c. Handling of fowl, or animal feed materials at sites where animals or fowl are raised.

    d. Disturbing of cultivated land as a result of fallowing, seeding, planting, plowing, disking, fertilizing the soil, cultivating, irrigating, controlling weeds, thinning, heating, pruning, fumigating, spraying, dusting, or harvesting.

11. "Paved Road": A public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials including, but not limited to, asphalt paving or concrete. For this purpose of this rule, roads covered with recycled road base or gravel are not considered to be paved.

12. "PM-10 Efficient Street Sweeper": Any street sweeper certified by the South Coast AQMD to meet their Particulate Matter (10 microns and less) capture efficiency criteria outlined in SCAQMD Rule 1186 Appendix A.

13. "Source": A source includes all activities and operations that are located on contiguous property under common ownership or control, and includes associated facility-access and haul roads.

14. "Stabilized Surface": Any surface that has been treated, worked, or modified to increase soil stability in order to limit fugitive dust emissions. Methods used to stabilize surface include but are not limited to the following: watering, dust palliatives, vegetation, aggregates, and paving.

15. "Storage Pile": Any accumulation of bulk material or soil, which attains a height of three feet or more and a total surface area of 150 or more square feet.

16. "Track-Out": Any material that adheres to and agglomerates on the exterior surface or tires of motor vehicles, haul trucks, or mobile equipment that have been released onto a named, numbered, or lettered public paved road and can be removed by a PM-10 efficient street sweeper under normal operating conditions.

I. Compliance Schedule:

The requirements of this rule shall become effective on October 8, 2008.

J. Compliance Status

Compliance with this rule shall not guarantee that a person will be in compliance with any other district rule or state regulation, including but not limited to, Rule 50 (Opacity), Rule 51 (Nuisance), Health and Safety Code Section 41700 (Nuisance), or Health and Safety Code Section 41701 (Opacity).

Table 1
Control Measures Needed to Qualify for High Wind Exemption in Subsection D.5

FUGITIVE DUST SOURCE CATEGORGY	CONTROL MEASURES
Earth-Moving	1. Cease all active operations; OR 2. Apply water to soil not more than 15 minutes prior to earth-moving activities.
Disturbed Surface Area	1. On the last day of active operations prior to any Sunday, 1-day holiday, or any other period when active operations will not occur for at least four consecutive days, apply water with a mixture of chemical stabilizer diluted to not less than 5 percent by volume of the chemical stabilizer or to chemical stabilizer manufacturer specifications; OR 2. Apply chemical stabilizers at least 30 minutes prior to the wind event; OR 3. Apply water to all unstabilized disturbed areas at least every 4 hours during the wind event. If there is any evidence of wind-driven dust, water frequency is increased until wind-driven dust is minimized; OR 4. Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter.
Unpaved Roads	1. Apply chemical stabilizers prior to allowing traffic; OR 2. Apply water at least twice per hour during active operations;OR 3. Stop all vehicular traffic.
Open Storage Piles	1. Apply water at least twice per hour during the wind event; OR 2. Install temporary coverings.

Ventura County
Air Pollution
Control District

COMPLIANCE ASSISTANCE ADVISORY

Ventura County APCD
Rule 55, Fugitive Dust

On June 8, 2008, the Ventura County Air Pollution Control Board adopted Rule 55, Fugitive Dust. Rule 55 was adopted to comply with a state law that requires local air districts with air quality levels exceeding the state's particulate matter (PM) standards to adopt control measures to reduce PM air pollution. Ventura County exceeds the state's air quality standards for PM. The adverse health impacts from PM air pollution include asthma and other lung diseases, heart disease, and premature death. Ventura County APCD staff estimates that Rule 55 will reduce PM air pollution by 6 tons per day. Rule 55 becomes effective on October 8, 2008.

Rule 55 applies to any disturbed surface area, or man-made condition capable of generating fugitive dust, including bulk material handling, earth-moving, construction, demolition, storage piles, unpaved roads, track-out, or off-field agricultural operations.

In summary, the key provisions of Rule 55 are as follows:

1) Visible dust from an applicable source is prohibited or limited;
2) Measures must be taken to reduce or prevent track-out onto paved public roadways from an applicable source;
3) Track-out must be removed from roadways;
4) Visible dust exceeding 100 feet in length from earth-moving activities is prohibited;
5) Bulk material handling facilities with a monthly import or export of 2,150 cubic yards or more of bulk material must take measures to reduce or prevent track-out onto a paved public road, and;
6) Outbound trucks with bulk materials or soil must either be tarpped, have a 6 inch freeboard below the rim of the truck bed or be wetted or treated to minimize the loss of material to wind or spillage.

A more detailed summary of Rule 55 is attached. Copies of Rule 55 may be obtained at www.vcapcd.org under Rule Development (Current Rules and Regulations).

For additional information on Rule 55, contact air pollution engineer Stan Cowen at 805/645-1408.

Ventura County APCD Rule 55, Fugitive Dust
Summary of Rule Requirements[1]
Effective October 8, 2008

General Requirements – All Fugitive Dust Sources

Visible Dust Beyond the Property Line: No one shall cause or allow fugitive dust from any applicable source beyond the midpoint (width) of a public street or road adjacent to the property line of the emission source or beyond 50 feet from the property line if there is not an adjacent public street or road.

Opacity: No one shall cause or allow fugitive dust from any applicable source that equals or exceeds 20 percent opacity for 3 minutes or more in any one hour.

Track-Out:
No person shall allow track-out to extend 25 feet or more in length unless one of the following control measures is used:

- ✓ Track-Out Area Improvement: Pave or apply chemical stabilization to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extend for a distance of at least 100 feet with a width to accommodate traffic ingress and egress from the site.

- ✓ Track-Out Prevention: Check and clean the undercarriage and wheels on all vehicles before leaving unpaved surface or install a track-out control device(s) that prevents track-out of soil onto paved public roads.

- ✓ Track-Out Removal: Remove track-out from pavement as soon as possible but no later than one hour after it has been deposited on the road. If a street sweeper is used to remove any track-out, only "PM10-efficient" street sweepers certified to meet South Coast AQMD Rule 1186 requirements shall be used. The make, model information and certification documentation of any sweeper used shall be made available to APCD personnel upon request.

All track-out shall be removed at the conclusion of each workday or evening shift. The use of blowers for removal of track-out is prohibited.

Specific Activity Requirements

Earth-Moving: No person shall engage in earth-moving activities in a manner that creates visible dust emissions over 100 feet in length.

Bulk Material Handling Facilities Track-Out Prevention: No person shall conduct an operation with a monthly import or export of 2,150 cubic yards or more of bulk material without

[1] This is a summary of the Rule requirements. Refer to Rule 55, Fugitive Dust, for specific requirements.

utilizing at least one of the following measures at each vehicle egress from the site to a public paved road:

- ✓ Install a pad consisting of washed gravel (one inch minimum size) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

- ✓ Pave the surface at least 100 feet long and at least 20 feet wide.

- ✓ Utilize a wheel shaker/wheel spreading device, also known as a rumble grate, consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and sufficient width to allow all wheels of vehicle traffic to travel over grate to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

- ✓ Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

- ✓ Any other control measure or device that prevents track-out onto public paved roads.

Truck Hauling: No person, including the facility or site operator, shall load or allow the loading of bulk materials or soil onto outbound trucks unless at least one of the following dust prevention measures is used:

- ✓ Use properly secured tarps or covering that covers the entire surface area of the load or use a container-type enclosure.

- ✓ Maintain a minimum of 6 inches of freeboard below the rim of the truck bed where the load touches the sides of the cargo area and insure that the peak of the load does not extend above any part of the upper edge of the cargo area.

- ✓ Water or treat the bulk material to minimize the loss of material to wind or spillage.

- ✓ Any other effective dust prevention control measures.

Exemptions

Rule 55 does not apply to the following (this is a partial list - refer to Rule 55, Section D):

- ✓ On-field agricultural operations.

- ✓ Weed abatement operations provided that: (1) Mowing, cutting or other process is used which maintains weed stubble at least three inches above the soil, or (2) Any disking or similar operation where effective dust control measures are used.

- ✓ Unpaved service roads, with a daily traffic volume of 20 vehicle trips or fewer, used by public agencies for inspection of infrastructure.

- ✓ Motion picture, television, or video production activities when dust emissions are required for visual effects. The APCD must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

- ✓ Any paved road unless it has track-out or any publicly-owned unpaved road.

- ✓ The disturbance (i.e., disking, ripping, or scraping) of spreading ground lands in preparation for percolative groundwater recharge.

Frequently Traveled Private Unpaved Roads: The Visible Dust and Opacity requirements do not apply to dust from frequently traveled (more than 20 vehicles per day passing in either direction) unpaved roads if the road is covered with a low silt content material such as recycled road base or gravel to a minimum of four inches or implements all of the following control measures:

- ✓ Control Speed: Control speed to 15 miles per hour (mph) or less on unpaved roads through worker notification, signage, and any other necessary means.

- ✓ Restrict Access: Restrict access to private unpaved roads used by the public either through signage or physical access restrictions.

- ✓ Road Treatments: Treat unpaved and uncovered frequently traveled roads with water, mulch, or a non-toxic chemical dust suppressant that complies with all applicable air and water quality government standards. If treated, roads shall be treated in a manner that will avoid the sticking of mud to tires that will be carried onto paved public roads.

Lightly Traveled Unpaved Private Road Conditional Exemption: The Visible Dust and Opacity requirements do not apply to dust from lightly traveled unpaved roads if the operator implements both of the following control measures:

- ✓ Control Speed: Control speed to 15 mph or less on unpaved roads through worker notification, signage, and any other necessary means.

- ✓ Restrict Access: Restrict access to private unpaved roads currently used by the public either through signage or physical access restrictions.

Storage Pile Conditional Exemption: The Visible Dust and Opacity requirements do not apply to dust from storage piles if the operator has implemented at least one of the following control measures:

- ✓ Wind Sheltering: Enclose material in a three or four sided barrier equal to the height of the material.

- ✓ Watering: Apply water at a sufficient quantity and frequency to prevent dust.

- ✓ Chemical Stabilization: Apply a non-toxic dust suppressant at a sufficiently to prevent wind driven dust.

- ✓ Covering: Install and anchor tarps, plastic, or other material to prevent wind driven dust.

High Wind Exemption: The Visible Dust, Opacity and Earth-Moving requirements do not apply to dust when on-site wind speed exceeds 25 mph for at least 5 minutes in any one hour provided:

- ✓ Applicable control measures outlined in Table 1 (of the Rule) have been implemented, and

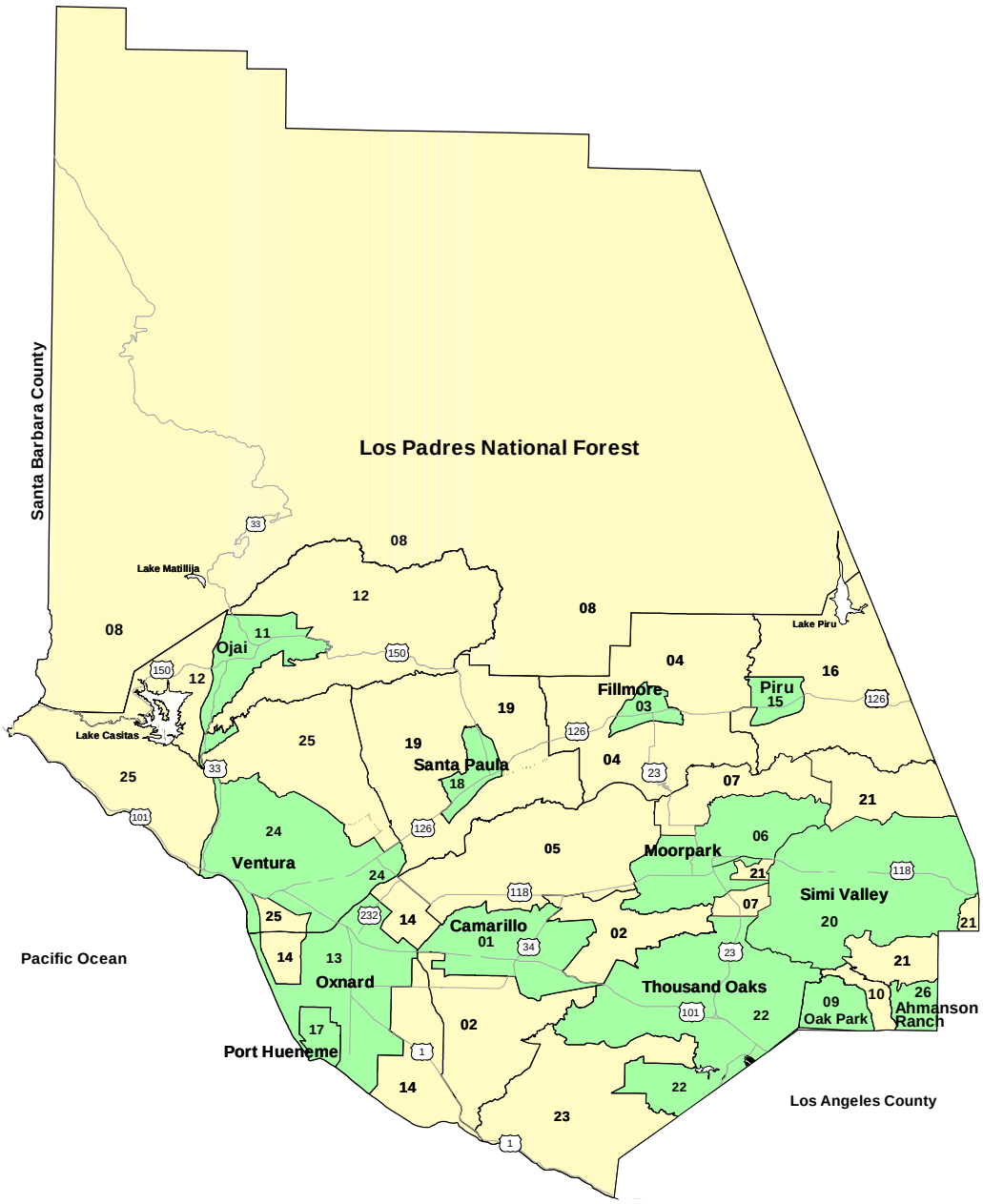
- ✓ Daily records of specific dust control measures have been maintained.

Track-out Exemption: The Track-Out requirements do not apply to on-road vehicles (trucks and passenger vehicles) associated with agricultural operations that have caused track-out due to excessively muddy conditions resulting from rainfall.

Recordkeeping Requirements

Consult Rule 55 for specific recordkeeping requirements

FIGURE 4-1
VENTURA COUNTY GROWTH AND NON-GROWTH AREAS



GROWTH AREAS

01 Camarillo GA
03 Fillmore GA
06 Moorpark GA
09 Oak Park GA
11 Ojai GA
13 Oxnard GA
15 Piru GA
17 Port Hueneme GA
18 Santa Paula GA
20 Simi Valley GA
22 Thousand Oaks GA
24 Ventura GA
26 Ahmanson Ranch GA

NON-GROWTH AREAS

02 Camarillo NGA
04 Fillmore NGA
05 Las Posas NGA
07 Moorpark NGA
08 North Half NGA
10 Oak Park NGA
12 Ojai NGA
14 Oxnard NGA
16 Piru NGA
19 Santa Paula NGA
21 Simi Valley NGA
23 Thousand Oaks NGA
25 Ventura NGA

PL15-0106 Ri-Nu Facility Increase in Truck/Employee Trips & New Buildings GHG

Ventura County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.06	1000sqft	0.02	1,056.00	0
Medical Office Building	0.65	1000sqft	0.01	648.00	0
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking Structure	0.61	1000sqft	0.01	610.00	0
Enclosed Parking Structure	0.86	1000sqft	0.02	864.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PL15-0106 Ri-Nu Facility Increase in Truck/Employee Trips & New Buildings GHG - Ventura County APCD Air District, Annual

Project Characteristics -

Land Use - 1 unit= 1 one-way trip
commercial buildings=office w/restroom, lab w/restroom
parking enclosures= haz storage and breakroom buildings to calculate lighting/energy emissions

Construction Phase - no grading on existing lot
no building construction (modular units)
coating done off-site prior to assembly
paving emissions calc in separate model/section in IS

Vehicle Trips - ADTs above baseline see Trip Summary in IS-AQ
99 ADT total, 43 new from trucks 56 from 28 new employees
no trips w/building entries: calc for purposes of energy emissions
no proposed truck deliveries on Sun

Road Dust - unpaved/paved will have 15 MPH speed limits

Area Coating - no area operational ems for coatings (modular buildings)

Fleet Mix - no trips added to land uses for building energy emissions
fleet mix trucks are HHD, employee commutes assumed LDT
43/99= .43; 56/99= .57

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_EF_Nonresidential_Interior	250	0
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	75	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	100.00	0.00
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	5.00	0.00
tblFleetMix	HHD	0.02	0.00

tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.43
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDT1	0.04	1.00
tblFleetMix	LDT1	0.04	1.00
tblFleetMix	LDT1	0.04	1.00
tblFleetMix	LDT1	0.04	0.57
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.2040e-003	0.00
tblFleetMix	LHD2	6.2040e-003	0.00
tblFleetMix	LHD2	6.2040e-003	0.00
tblFleetMix	LHD2	6.2040e-003	0.00
tblFleetMix	MCY	3.8570e-003	0.00
tblFleetMix	MCY	3.8570e-003	0.00
tblFleetMix	MCY	3.8570e-003	0.00
tblFleetMix	MCY	3.8570e-003	0.00

tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	1.3860e-003	0.00
tblFleetMix	MH	1.3860e-003	0.00
tblFleetMix	MH	1.3860e-003	0.00
tblFleetMix	MH	1.3860e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.1760e-003	0.00
tblFleetMix	OBUS	1.1760e-003	0.00
tblFleetMix	OBUS	1.1760e-003	0.00
tblFleetMix	OBUS	1.1760e-003	0.00
tblFleetMix	SBUS	3.8400e-004	0.00
tblFleetMix	SBUS	3.8400e-004	0.00
tblFleetMix	SBUS	3.8400e-004	0.00
tblFleetMix	SBUS	3.8400e-004	0.00
tblFleetMix	UBUS	1.0260e-003	0.00
tblFleetMix	UBUS	1.0260e-003	0.00
tblFleetMix	UBUS	1.0260e-003	0.00
tblFleetMix	UBUS	1.0260e-003	0.00
tblGrading	AcresOfGrading	0.00	0.50
tblLandUse	LandUseSquareFeet	1,060.00	1,056.00
tblLandUse	LandUseSquareFeet	650.00	648.00

tblLandUse	LandUseSquareFeet	860.00	864.00
tblRoadDust	MeanVehicleSpeed	40	15
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	0.00	43.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	0.00	57.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	ST_TR	0.00	99.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	SU_TR	0.00	56.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	36.13	0.00
tblVehicleTrips	WD_TR	0.00	99.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022																0.0000
Maximum																**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022																0.0000
Maximum																**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																8.0000e-005
Energy																11.1313
Mobile																303.5767
Waste																4.0282
Water																1.9569
Total																**320.6931**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																8.0000e-005
Energy																11.1313
Mobile																303.5767
Waste																4.0282
Water																1.9569
Total																**320.6931**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	12/31/2021	5	0	
2	Site Preparation	Site Preparation	1/15/2022	1/14/2022	5	0	
3	Grading	Grading	1/18/2022	1/17/2022	5	0	
4	Building Construction	Building Construction	1/20/2022	1/19/2022	5	0	
5	Paving	Paving	6/9/2022	6/8/2022	5	0	
6	Architectural Coating	Architectural Coating	6/16/2022	6/15/2022	5	0	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,556; Non-Residential Outdoor: 852; Striped Parking Area: 88 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	1.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																303.5767
Unmitigated																303.5767

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Medical Office Building	0.00	0.00	0.00		
User Defined Industrial	99.00	99.00	56.00	289,125	289,125
Total	99.00	99.00	56.00	289,125	289,125

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	77	19	4
Medical Office Building	0.00	0.00	0.00	29.60	51.40	19.00	60	30	10
User Defined Industrial	9.50	7.30	7.30	57.00	0.00	43.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
General Office Building	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Medical Office Building	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
User Defined Industrial	0.000000	0.570000	0.000000	0.000000	0.000000	0.000000	0.000000	0.430000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated																10.2952
Electricity Unmitigated																10.2952
NaturalGas Mitigated																0.8361
NaturalGas Unmitigated																0.8361

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking Structure	0																0.0000
General Office Building	9651.84																0.5181
Medical Office Building	5922.72																0.3179
User Defined Industrial	0																0.0000
Total																	**0.8361**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking Structure	0																0.0000
General Office Building	9651.84																0.5181
Medical Office Building	5922.72																0.3179
User Defined Industrial	0																0.0000
Total																	**0.8361**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	3458.7				1.1060
Enclosed Parking Structure	4898.88				1.5665
General Office Building	14773.4				4.7240
Medical Office Building	9065.52				2.8988
User Defined Industrial	0				0.0000
Total					**10.2952**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	3458.7				1.1060
Enclosed Parking Structure	4898.88				1.5665
General Office Building	14773.4				4.7240
Medical Office Building	9065.52				2.8988
User Defined Industrial	0				0.0000
Total					**10.2952**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																8.0000e-005
Unmitigated																8.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Landscaping																8.0000e-005
Total																**8.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Landscaping																8.0000e-005
Total																**8.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				1.9569
Unmitigated				1.9569

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0				0.0000
General Office Building	0.188398 / 0.11547				1.4511
Medical Office Building	0.0815624 / 0.0155357				0.5058
User Defined Industrial	0 / 0				0.0000
Total					**1.9569**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0				0.0000
General Office Building	0.188398 / 0.11547				1.4511
Medical Office Building	0.0815624 / 0.0155357				0.5058
User Defined Industrial	0 / 0				0.0000
Total					**1.9569**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				4.0282
Unmitigated				4.0282

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0				0.0000
General Office Building	0.99				0.4979
Medical Office Building	7.02				3.5304
User Defined Industrial	0				0.0000
Total					**4.0282**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0				0.0000
General Office Building	0.99				0.4979
Medical Office Building	7.02				3.5304
User Defined Industrial	0				0.0000
Total					**4.0282**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PL15-0106 Ri-Nu Facility Increase in Truck/Employee Trips & New Buildings ROG/NOx Emissions

Ventura County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.06	1000sqft	0.02	1,056.00	0
Medical Office Building	0.65	1000sqft	0.01	648.00	0
User Defined Industrial	1.00	User Defined Unit	0.00	0.00	0
Enclosed Parking Structure	0.61	1000sqft	0.01	610.00	0
Enclosed Parking Structure	0.86	1000sqft	0.02	864.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PL15-0106 Ri-Nu Facility Increase in Truck/Employee Trips & New Buildings ROG/NOx Emissions - Ventura County APCD Air District, Summer

Project Characteristics -

Land Use - 1 unit= 1 one-way trip
commercial buildings=office w/restroom, lab w/restroom
parking enclosures= haz storage and breakroom buildings to calculate lighting/energy emissions

Construction Phase - no grading on existing lot
no building construction (modular units)
coating done off-site prior to assembly
paving emissions calc in separate model/section in IS

Vehicle Trips - ADTs above baseline see Trip Summary in IS-AQ
99 ADT total, 43 new from trucks 56 from 28 new employees
no trips w/building entries: calc for purposes of energy emissions
no proposed truck deliveries on Sun

Road Dust - unpaved/paved will have 15 MPH speed limits

Area Coating - no area operational ems for coatings (modular buildings)

Fleet Mix - no trips added to land uses for building energy emissions
fleet mix trucks are HHD, employee commutes assumed LDT
43/99= .43; 56/99= .57

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_EF_Nonresidential_Interior	250	0
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_EF_Residential_Exterior	100	0
tblAreaCoating	Area_EF_Residential_Interior	75	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	100.00	0.00
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	5.00	0.00
tblFleetMix	HHD	0.02	0.00

tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.43
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDT1	0.04	1.00
tblFleetMix	LDT1	0.04	1.00
tblFleetMix	LDT1	0.04	1.00
tblFleetMix	LDT1	0.04	0.57
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.2040e-003	0.00
tblFleetMix	LHD2	6.2040e-003	0.00
tblFleetMix	LHD2	6.2040e-003	0.00
tblFleetMix	LHD2	6.2040e-003	0.00
tblFleetMix	MCY	3.8570e-003	0.00
tblFleetMix	MCY	3.8570e-003	0.00
tblFleetMix	MCY	3.8570e-003	0.00
tblFleetMix	MCY	3.8570e-003	0.00

tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	1.3860e-003	0.00
tblFleetMix	MH	1.3860e-003	0.00
tblFleetMix	MH	1.3860e-003	0.00
tblFleetMix	MH	1.3860e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.1760e-003	0.00
tblFleetMix	OBUS	1.1760e-003	0.00
tblFleetMix	OBUS	1.1760e-003	0.00
tblFleetMix	OBUS	1.1760e-003	0.00
tblFleetMix	SBUS	3.8400e-004	0.00
tblFleetMix	SBUS	3.8400e-004	0.00
tblFleetMix	SBUS	3.8400e-004	0.00
tblFleetMix	SBUS	3.8400e-004	0.00
tblFleetMix	UBUS	1.0260e-003	0.00
tblFleetMix	UBUS	1.0260e-003	0.00
tblFleetMix	UBUS	1.0260e-003	0.00
tblFleetMix	UBUS	1.0260e-003	0.00
tblGrading	AcresOfGrading	0.00	0.50
tblLandUse	LandUseSquareFeet	1,060.00	1,056.00
tblLandUse	LandUseSquareFeet	650.00	648.00

tblLandUse	LandUseSquareFeet	860.00	864.00
tblRoadDust	MeanVehicleSpeed	40	15
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	0.00	43.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	0.00	57.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	ST_TR	0.00	99.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	SU_TR	0.00	56.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	36.13	0.00
tblVehicleTrips	WD_TR	0.00	99.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000														
Maximum	**0.0000**	**0.0000**														

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000														
Maximum	**0.0000**	**0.0000**														

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0370	0.0000														
Energy	4.6000e-004	4.1800e-003														
Mobile	0.2535	4.6472														
Total	**0.2910**	**4.6514**														

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0370	0.0000														
Energy	4.6000e-004	4.1800e-003														
Mobile	0.2535	4.6472														
Total	**0.2910**	**4.6514**														

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	12/31/2021	5	0	
2	Site Preparation	Site Preparation	1/15/2022	1/14/2022	5	0	
3	Grading	Grading	1/18/2022	1/17/2022	5	0	
4	Building Construction	Building Construction	1/20/2022	1/19/2022	5	0	
5	Paving	Paving	6/9/2022	6/8/2022	5	0	
6	Architectural Coating	Architectural Coating	6/16/2022	6/15/2022	5	0	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,556; Non-Residential Outdoor: 852; Striped Parking Area: 88 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	1.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2535	4.6472														
Unmitigated	0.2535	4.6472														

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Medical Office Building	0.00	0.00	0.00		
User Defined Industrial	99.00	99.00	56.00	289,125	289,125
Total	99.00	99.00	56.00	289,125	289,125

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	77	19	4
Medical Office Building	0.00	0.00	0.00	29.60	51.40	19.00	60	30	10
User Defined Industrial	9.50	7.30	7.30	57.00	0.00	43.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
General Office Building	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Medical Office Building	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
User Defined Industrial	0.000000	0.570000	0.000000	0.000000	0.000000	0.000000	0.000000	0.430000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.6000e-004	4.1800e-003														
NaturalGas Unmitigated	4.6000e-004	4.1800e-003														

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking Structure	0	0.0000	0.0000														
General Office Building	26.4434	2.9000e-004	2.5900e-003														
Medical Office Building	16.2266	1.7000e-004	1.5900e-003														
User Defined Industrial	0	0.0000	0.0000														
Total		**4.6000e-004**	**4.1800e-003**														

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking Structure	0	0.0000	0.0000														
General Office Building	0.0264434	2.9000e-004	2.5900e-003														
Medical Office Building	0.0162266	1.7000e-004	1.5900e-003														
User Defined Industrial	0	0.0000	0.0000														
Total		**4.6000e-004**	**4.1800e-003**														

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0370	0.0000														
Unmitigated	0.0370	0.0000														

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000															
Consumer Products	0.0370															
Landscaping	4.0000e-005	0.0000														
Total	**0.0370**	**0.0000**														

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000															
Consumer Products	0.0370															
Landscaping	4.0000e-005	0.0000														
Total	**0.0370**	**0.0000**														

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Concrete Paving at RI-NU facility

Ventura County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.85	1000sqft	0.11	4,852.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - per applicant

Architectural Coating - per applicant

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	100.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	PhaseEndDate	6/19/2020	6/12/2020
tblConstructionPhase	PhaseEndDate	6/5/2020	1/17/2020
tblConstructionPhase	PhaseEndDate	1/14/2020	12/31/2019
tblConstructionPhase	PhaseEndDate	1/17/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	1/15/2020	1/14/2020
tblGrading	AcresOfGrading	0.00	0.50

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.8373	7.2661														
Maximum	**0.8373**	**7.2661**														

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.8373	7.2661														
Maximum	**0.8373**	**7.2661**														

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6900e-003	0.0000														
Energy	0.0000	0.0000														
Mobile	0.0000	0.0000														
Total	**2.6900e-003**	**0.0000**														

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6900e-003	0.0000														
Energy	0.0000	0.0000														
Mobile	0.0000	0.0000														
Total	**2.6900e-003**	**0.0000**														

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	12/31/2019	5	0	
2	Site Preparation	Site Preparation	1/15/2020	1/14/2020	5	0	
3	Grading	Grading	1/16/2020	1/15/2020	5	0	
4	Building Construction	Building Construction	1/18/2020	1/17/2020	5	0	
5	Paving	Paving	6/6/2020	6/12/2020	5	5	
6	Architectural Coating	Architectural Coating	6/13/2020	6/12/2020	5	0	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 291 (Architectural Coating – sqft)

OffRoad Equipment

Concrete Paving at RI-NU facility - Ventura County APCD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266														
Paving	0.0000															
Total	**0.7716**	**7.2266**														

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0658	0.0395														
Total	**0.0658**	**0.0395**														

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266														
Paving	0.0000															
Total	**0.7716**	**7.2266**														

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000														
Vendor	0.0000	0.0000														
Worker	0.0658	0.0395														
Total	**0.0658**	**0.0395**														

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000														
Unmitigated	0.0000	0.0000														

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000														
NaturalGas Unmitigated	0.0000	0.0000														

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000														
Total		**0.0000**	**0.0000**														

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000														
Total		**0.0000**	**0.0000**														

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.6900e-003	0.0000														
Unmitigated	2.6900e-003	0.0000														

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.2000e-004															
Consumer Products	1.7200e-003															
Landscaping	5.0000e-005	0.0000														
Total	**2.6900e-003**	**0.0000**														

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.2000e-004															
Consumer Products	1.7200e-003															
Landscaping	5.0000e-005	0.0000														
Total	**2.6900e-003**	**0.0000**														

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Concrete Paving at RI-NU facility GHG

Ventura County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.85	1000sqft	0.11	4,852.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - per applicant

Architectural Coating - per applicant

Concrete Paving at RI-NU facility GHG - Ventura County APCD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	NumDays	100.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	2.00	0.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	PhaseEndDate	6/19/2020	6/12/2020
tblConstructionPhase	PhaseEndDate	6/5/2020	1/17/2020
tblConstructionPhase	PhaseEndDate	1/14/2020	12/31/2019
tblConstructionPhase	PhaseEndDate	1/17/2020	1/15/2020
tblConstructionPhase	PhaseEndDate	1/15/2020	1/14/2020
tblGrading	AcresOfGrading	0.00	0.50
tblLandUse	LandUseSquareFeet	4,850.00	4,852.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020																2.6764
Maximum																**2.6764**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020																2.6764
Maximum																**2.6764**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																9.0000e-005
Energy																0.0000
Mobile																0.0000
Waste																0.0000
Water																0.0000
Total																**9.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																9.0000e-005
Energy																0.0000
Mobile																0.0000
Waste																0.0000
Water																0.0000
Total																**9.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Concrete Paving at RI-NU facility GHG - Ventura County APCD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	12/31/2019	5	0	
2	Site Preparation	Site Preparation	1/15/2020	1/14/2020	5	0	
3	Grading	Grading	1/16/2020	1/15/2020	5	0	
4	Building Construction	Building Construction	1/18/2020	1/17/2020	5	0	
5	Paving	Paving	6/6/2020	6/12/2020	5	5	
6	Architectural Coating	Architectural Coating	6/13/2020	6/12/2020	5	0	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.11

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 291 (Architectural Coating – sqft)

OffRoad Equipment

Concrete Paving at RI-NU facility GHG - Ventura County APCD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																2.3653
Paving																0.0000
Total																**2.3653**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.3111
Total																**0.3111**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																2.3653
Paving																0.0000
Total																**2.3653**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.3111
Total																**0.3111**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																0.0000
Unmitigated																0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.577012	0.042942	0.189872	0.117495	0.021422	0.006664	0.019052	0.017336	0.001134	0.000976	0.004002	0.000371	0.001721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated																0.0000
Electricity Unmitigated																0.0000
NaturalGas Mitigated																0.0000
NaturalGas Unmitigated																0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0																0.0000
Total																	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0																0.0000
Total																	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0				0.0000
Total					**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0				0.0000
Total					**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																9.0000e-005
Unmitigated																9.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Landscaping																9.0000e-005
Total																**9.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Landscaping																9.0000e-005
Total																**9.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				0.0000
Unmitigated				0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0				0.0000
Total					**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0				0.0000
Total					**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				0.0000
Unmitigated				0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0				0.0000
Total					**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0				0.0000
Total					**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Sent to APCD on 4/9/2019

Trip Type	Weekly Trucks
All Delivery Trucks (incoming and outgoing wastes, supplies, etc.)	500
Proposed CUP weekly total:	500
Average trucks/day:	83.3
Average daily trips (ADT):	166.6
Daily maximum truck limit:	100
Daily maximum trips (ADT):	200

Weekly waste trucks:	480
Annual waste trucks:	24,960
% oil & gas waste:	50%
Oil & gas waste trucks:	12,480
Max. volume per truck (gal)	5,000
Max. annual oil & gas waste (gal):	62,400,000
Tank bottom % of oil & gas waste:	10%
Annual tank bottom waste (gal):	**6,240,000**

Recalculated on 8/31/21 based on 50% back haul scenario in Initial Study

Trip Type	Weekly Trucks
All Delivery Trucks (incoming and outgoing wastes, supplies, etc.)	500
Proposed CUP weekly total:	500
Average trucks/day:	83.3
Average daily trips (ADT):	166.6
Daily maximum truck limit:	100
Daily maximum trips (ADT):	200

Weekly waste trucks in and out:	480	
Weekly waste trucks in (50% backhaul scenario):	347	(57.9 trucks/day x 6 days/week)
Annual waste trucks:	18,065	
% oil & gas waste:	50%	
Oil & gas waste trucks:	9,032	
Max. volume per truck (gal)	5,000	
Max. annual oil & gas waste (gal):	45,162,000	
Tank bottom % of oil & gas waste:	10%	
Annual tank bottom waste (gal):	**4,516,200**	
Annual tank bottom waste (bbl):	**107,529**	

Using Values from Table 6 in Initial Study (50% backhaul scenario):

Incoming oil & gas sludges (gal/day)	104,000
Incoming oily wastewater (gal/day)	41,000
Total per day (gal):	145,000
Days per year (6 days per week):	312
Total annual oil & gas waste (gallons):	45,240,000
Tank bottom % of oil & gas waste:	10%
Annual tank bottom waste (gal):	**4,524,000**
Annual tank bottom waste (bbl):	**107,714**