



October 14, 2022

Ms. Jocelyn Swain
City of Lancaster
Development Services Department
Community Development Division
44933 Fern Avenue
Lancaster, CA 93534



Subject: SCH No. 2022080669 – Lancaster Waste to Renewable Hydrogen Project,
Conditional Use Permit (CUP) No. 21-06 – Los Angeles County

Dear Ms. Swain:

Thank you for allowing the Department of Resources Recycling and Recovery (CalRecycle) staff to provide comments on the proposed project and for your agency's consideration of these comments as part of the California Environmental Quality Act (CEQA) process.

Project Description

The City of Lancaster Development Services Department, Community Development Division, acting as Lead Agency, has prepared and circulated a Notice of Completion (NOC) of a Draft Mitigated Negative Declaration (MND) in order to comply with CEQA and to provide information to, and solicit consultation with, Responsible Agencies in the approval of the proposed project.

The proposed Lancaster Waste to Renewable Hydrogen (WTRH2) Project, Conditional Use Permit (CUP) No. 21-06 (proposed project) is located north of Avenue M, between 5th and 6th Streets East in Lancaster, California. The proposed project site is located on three parcels (Assessor's Parcel Numbers [APNs] 3126-017-028, 3126-017-040, and 3126-017-039). The parcels include vacant, undeveloped land designated as Heavy Industrial. Adjacent and surrounding areas are also zoned as Heavy Industrial and include vacant land, industrial uses, and three single-family residences. North of the site is a cement mixing plant, charter bus rental company, and automobile towing and recovery facility, zoned as Heavy Industrial; east is vacant undeveloped land and a single-family residence; south are four water storage tanks on a property owned by the Los Angeles County Waterworks District; and vacant, undeveloped land located to the southeast and southwest in the City of Palmdale, which are zoned Public Facility; and west is vacant undeveloped land, two single-family residences, and a transmission and automobile repair center, zoned as Heavy Industrial. The project site is approximately

two miles east of the Antelope Valley Freeway (State Route 14) in the southern portion of the City of Lancaster, just north of the City of Palmdale.

The proposed project consists of the construction and operation of a facility that would produce hydrogen (H_2) from unrecyclable mixed waste paper feedstock. The feedstock would be gasified (i.e., converted from a solid into a gas) to produce a H_2 -rich gas that would be further processed to reach 99.97 mole percent pure renewable H_2 . The H_2 gas would be transported off-site in pressurized tube-trailer containers for use by Shell Hydrogen and Iwatani Corporation of America (Iwatani) at H_2 refueling stations (HRS) located throughout California.

The WTRH2 facility would convert 42,000 metric tons per year of pre-landfilled, unrecyclable mixed waste paper provided by the City of Lancaster. The City has submitted a Letter of Interest to supply the feedstock for the project at a quantity of 120 metric tons per day for 10 years. A long-term feedstock supply agreement has also been secured with the Allan Company. The feedstock would consist of recycled waste paper that has been rejected from further recycling and would otherwise be disposed of in a landfill; any paper that is able to be recycled would not be used at the facility and would be sent to a recycling facility instead. The project would therefore divert the unrecyclable mixed waste paper from landfills and convert the feedstock into 4,570 metric tons of H_2 per year, with a full production capacity of 13.1 metric tons of H_2 per day.

The project site is approximately 15 acres. The WTRH2 facility would operate for a period of approximately 25 years. The facility is designed to operate 24 hours a day, 7 days a week for 350 days a year, or 8,400 hours per year. The facility is expected to employ approximately 43 individuals. During business hours, a total of 25 administrative, technical, and support staff would be at the facility. The operations personnel would be organized into four shifts of 6 people with each shift working 12 hours per day (two shifts per day with the other two shifts off). This does not include other support personnel that are anticipated to be contractually engaged through 3rd parties, such as security personnel.

Operational truck trips would be required to deliver feed items to the facility and to export products and waste from the facility. Operational truck trips for feed delivery: biomass (mixed waste paper) trucks approximately 6 trucks per day; biochar trucks approximately 1 truck every other day; lime trucks approximately 1 truck every 5 days; and catalyst/chemical trucks would be as-needed basis. Operational truck trips for product and waste export: H_2 (product) approximately 40 trucks per day; liquid CO_2 (product) approximately 20 trucks per day; slag (waste) 1 truck per day; and brine (waste) 3 trucks per day.

Comments

CalRecycle staff's comments on the proposed project are listed below. Where a specific location in the document is noted for the comment, please ensure the comment is addressed throughout all sections of the Draft MND, in addition to the specific location noted.

Comments for the Draft MND are summarized below:

1. Description of Project, PDF page 3, third paragraph – “The City has submitted a Letter of Interest to supply the feedstock for the project at a quantity of 120 metric tons per day for 10 years. A long-term feedstock supply agreement has been secured with the Allan Company.” What is the maximum amount (in tons) of solid waste feedstock that will be received per day from all sources?
2. Description of Project, PDF page 3, third paragraph – “...any paper that is able to be recycled would not be used at the facility and would be sent to a recycling facility instead.” One of the minimum requirements of gasification per Public Resources Code (PRC) 40117(e) - To the maximum extent feasible, the technology removes all recyclable materials and marketable green waste compostable materials from the solid waste stream prior to the conversion process and the owner or operator of the facility certifies that those materials will be recycled or composted. It is stated that the recyclable materials will be sent to a recycling facility, however there's no owner/operator certification. How will the recyclable materials be recovered? Describe the process and any potential impacts related to this processing.
3. Description of Project, PDF page 3, fifth paragraph – “The facility is designed to operate 24 hours a day, 7 days a week for 350 days a year, or 8,400 hours per year. The facility is expected to employ approximately 43 individuals. During business hours, a total of 25 administrative, technical, and support staff would be at the facility. The operations personnel would be organized into four shifts of 6 people with each shift working 12 hours per day (two shifts per day with the other two shifts off).” The hours described are operational hours. Are the business hours and hours of receipt of solid waste also 24 hours a day, 7 days a week? If not, what are they?
4. Gasification Process, PDF pages 3-4, first paragraph & Step 1: Feedstock Conversion to Hydrogen. – “The gasifier would operate under limited oxygen and atmospheric pressure conditions.” “Step 1: Feedstock Conversion to Hydrogen. During the first step of the gasification process, an air separation unit (ASU) would produce oxygen and nitrogen from ambient air; the oxygen would be used in the plasma gasification unit, which would convert the feedstock to syngas (CO and H₂) and produce slag as a waste product.” Per PRC 40117(a) - The technology does not use air or oxygen in the conversion process, except ambient air to maintain temperature control. Per PRC 40117(d) – The technology produces no hazardous waste. It is not clear if the

technology only uses ambient air to maintain temperature control. Please clarify. Is the slag a hazardous waste (any sampling results)? Are there any other types of waste products and if so, are they hazardous?

5. Per PRC 40117 “Gasification” means a technology that uses a non-combustion thermal process to convert solid waste to a clean burning fuel for the purpose of generating electricity, and that, at minimum, meets all of the following criteria:

- (a) The technology does not use air or oxygen in the conversion process, except ambient air to maintain temperature control.
- (b) The technology produces no discharges of air contaminants or emissions, including greenhouse gases, as defined in subdivision (g) of Section 38505 of the Health and Safety Code.
- (c) The technology produces no discharges to surface or groundwaters of the state.
- (d) The technology produces no hazardous waste.
- (e) To the maximum extent feasible, the technology removes all recyclable materials and marketable green waste compostable materials from the solid waste stream prior to the conversion process and the owner or operator of the facility certifies that those materials will be recycled or composted.
- (f) The facility where the technology is used is in compliance with all applicable laws, regulations, and ordinances.
- (g) The facility certifies to the board that any local agency sending solid waste to the facility is in compliance with this division and has reduced, recycled, or composted solid waste to the maximum extent feasible, and the board makes a finding that the local agency has diverted at least 30 percent of all solid waste through source reduction, recycling, and composting.

How are the aspects of PRC 40117 met (also see comments 2. and 4.)? If all of the requirements of PRC 40117 are not met, the technology may be considered “Transformation” as defined in PRC 40201, or other type of conversion technology. “Transformation” means incineration, pyrolysis, distillation, or biological conversion other than composting. “Transformation” does not include composting, gasification, EMSW conversion, or biomass conversion.

6. Operational Truck Trips, PDF pages 9-10 – What would be the maximum number of vehicles per day for the traffic volume of the operation?

Solid Waste Regulatory Oversight

The Los Angeles County Department of Public Health, Environmental Health is the Local Enforcement Agency (LEA) for Los Angeles County and is responsible for providing regulatory oversight, including inspections and permitting, of solid waste handling and disposal activities. Please contact the LEA, Dorcas Hanson-Lugo, at

626.430.5540 or dlugo@ph.lacounty.gov to discuss the regulatory requirements for the proposed project.

Conclusion

CalRecycle staff thanks the Lead Agency for the opportunity to review and comment on the environmental document and hopes that this comment letter will be useful to the Lead Agency preparing the Final MND and in carrying out their responsibilities in the CEQA process.

CalRecycle staff requests copies of any subsequent environmental documents, copies of public notices and any Notices of Determination for this proposed project.

If the environmental document is adopted during a public hearing, CalRecycle staff requests 10 days advance notice of this hearing. If the document is adopted without a public hearing, CalRecycle staff requests 10 days advance notification of the date of the adoption and proposed project approval by the decision-making body.

If you have any questions regarding these comments, please contact me at 916.323.1799 or by e-mail at nai.teurn@calrecycle.ca.gov.

Sincerely,



Nai Teurn, Environmental Scientist
Permitting & Assistance Branch – South Unit
Waste Permitting, Compliance & Mitigation Division
CalRecycle

cc: Benjamin Escotto, Supervisor
Permitting & Assistance Branch – South Unit

Dorcas Hanson-Lugo, Chief
Los Angeles County Department of Public Health, LEA