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Governor's Office of Planning & Research

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STATE CLEARINGHOUSE

Sent via email

Dear Genesis Crank:

Thank you for providing the California Air Resources Board (CARB) with the opportunity to comment on the Notice of Preparation (NOP) for the Barstow General Plan Update (GPU) and Barstow International Gateway Specific Plan (BIG Specific Plan) Draft Environmental Impact Report (DEIR), State Clearinghouse No. 2024020501. The GPU and BIG Specific Plan are proposed within the City of Barstow (City), California, which is the lead agency for California Environmental Quality Act (CEQA) purposes.

As an initial matter, we note that CARB did not receive notification after the NOP was released for public review on February 15, 2024. To ensure CARB is able to submit meaningful and timely comments on the DEIR, CARB requests the City and BNSF to notify CARB staff when the Notice of Completion for the DEIR is released.

The City and BNSF have a unique opportunity to construct and operate a state-of-the-art zero-emission rail facility that would not diminish the air quality nearby residences breathe while still creating new jobs. The GPU covers the period from 2023 - 2048. During this period, CARB analyses indicate that zero-emission freight and switch locomotives will reach full commercial scale. Currently, zero-emission switch locomotives are commercially available and zero-emission freight locomotive pilot and demonstration projects are taking place.

CARB's 2022 Technology Feasibility Assessment analyzes currently available technologies and the state of cleaner locomotive technologies commercially available or under development.¹ CARB's 2023 Technical Support Document: Zero Emission Locomotive Conversion examines a related question: conversion of existing (non-new) diesel-electric locomotives to zero emission locomotives and zero-emission capable locomotives.² The

¹ CARB, September 20, 2022. Technical Feasibility Assessment for the Proposed In-Use Locomotive Regulation. Available at: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/locomotive22/appf.pdf>

² CARB, March 1, 2023. Technical Support Document: Zero Emission Locomotive Conversion. Accessible at: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/locomotive22/15dayappc.pdf>

information in CARB's technical support documents is meant to help locomotive operators prepare for the requirements of the In-Use Locomotives Regulation, under which switch, industrial, and passenger locomotives built in 2030 or after will be required to operate in zero-emissions configurations while in California and freight line haul locomotives built in 2035 or after will be required to operate in zero-emissions configurations while in California.

Although the project design features proposed in the NOP include zero-emission electric hostlers and an on-site solar farm that would partially reduce the BIG Specific Plan's air quality and greenhouse gas (GHG) impacts, CARB remains concerned that the BIG Specific Plan lacks several key sustainable design features that would make the proposed rail facility as clean as possible. These key sustainable design features include the use of zero-emission line-haul and switch locomotives, trucks, and zero-emission transport refrigeration units (TRU) detailed in this letter.

The comments provided in this letter are consistent with CARB's existing regulations such as the In-Use Locomotive Regulation, and with CARB's overall goals of expeditiously moving to zero-emission technologies and reducing the public health impacts from railroads. The City and BNSF have a tremendous opportunity to influence the path of future zero-emission freight projects. With the construction of a new rail facility, the City and BNSF could create a state-of-the-art zero-emission rail facility that would serve as a model for future rail facilities.

California has established clear requirements and goals to combat climate change and adverse health outcomes from criteria and toxics pollution. For example, CARB's Scoping Plan, Sustainable Freight Strategy, and State Implementation Plan Strategy collectively chart a course to meet the state's climate goals and State Implementation Plan commitments.^{3,4,5} Additionally, Governor Gavin Newsom has taken action to help meet the state's air pollution and climate challenges, including the signing of Executive Order N-79-20 on September 23, 2020.⁶ The Executive Order states: "It shall be a goal of the State that 100% of in-state sales of new passenger cars and trucks will be zero-emission by 2035. It shall be a further goal of the State that 100% of medium- and heavy-duty vehicles in the State zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks. It shall be a further goal of the State to transition to 100% zero-emission off-road vehicles and equipment by 2035 where feasible." The Executive Order further directs the development

³ CARB, November 16, 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. Accessible at: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf

⁴ CARB and the California State Transportation Agency, March 2020, California Freight Mobility Plan. Accessible at: dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/freight-planning/cfmp-2020-final/final-cfmp-2020-chapters-1-to-6-remediated-a11y.pdf

⁵ CARB, September 22, 2022. 2022 State Strategy for the State Implementation Plan. Accessible at: https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf

⁶ Executive Department, State of California, September 23, 2020. EXECUTIVE ORDER N-79-20. Accessible at: <https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf>

of regulations to help meet these goals. Local agencies like the City are essential partners in achieving these goals.

To ensure that lead agencies, like the City, stay in step with evolving scientific knowledge to protect public health from adverse air quality and GHG impacts from the transportation sector, which serves as the basis of the Governor's Executive Order N-79-20, CARB staff urges the City and BNSF to incorporate the zero-emission technologies recommended in this letter into the BIG Specific Plan.

Project Description

The City proposes a comprehensive update to the City's existing General Plan and the BIG Specific Plan. The GPU includes a proposed annexation of unincorporated San Bernardino County lands immediately west of the City. Based on CARB's review of Table 1 (General Plan Update Buildout) of the NOP, the City's 25-year planning horizon could potentially result in a growth of 6,920 dwelling units, and 14,054,400 square feet of non-residential uses (e.g., commercial uses, industrial uses, etc.).

The BIG Specific Plan proposes the development of a railyard, transload warehouse center, and solar farm on approximately 5,000 acres of land. The railyard would include a block swap yard, ancillary rail areas, and an integrated rail facility that would allow for the direct transfer of containers from ships at the Ports of Los Angeles and Long Beach to trains for transport through the Alameda Corridor onto the BNSF mainline to the proposed BIG facility. The development of the transload warehouse facility would result in approximately nine million square feet of warehouse space where containers would be processed within an onsite "closed loop" operation between BNSF rail operations and transload warehouse users. To serve the proposed railyard and transload warehouse center, the City proposes approximately 600 acres of various offsite rail and non-rail improvements (e.g., lead track extensions, drainage, utilities, and roadways). Zero-emission electric hostlers would transfer containers between rail cars and the onsite transload warehouse center. The proposed solar farm would function as a private utility.

The BIG Specific Plan Will Increase Exposure to Air Pollution for Residences Located in Disadvantaged Communities

The proposed BIG Specific Plan will be located near the existing 600-acre BNSF Barstow Railyard, which is the largest classification railyard west of the Rocky Mountains.⁷ Implementation of the BIG Specific Plan will expose nearby communities to elevated levels of air pollution, including Diesel PM and oxides of nitrogen (NOx). Diesel PM is a carcinogen and is linked to cancer and respiratory health effects such as asthma and premature

⁷ Pan ethos. Working List: North America's Largest Rail Yards. December 12, 2022. Accessible at: <https://panethos.wordpress.com/2022/12/12/working-list-north-americas-largest-rail-yards/>

mortality due to heart attacks and cardiopulmonary illnesses. Similar to Diesel PM, exposure to NOx can cause damage to the human respiratory tract and increase a person's vulnerability to, and the severity of, respiratory infections and asthma. Long-term exposure to high levels of nitrogen dioxide can cause chronic lung disease. Although it is not specified in the NOP, the proposed railyard would significantly increase locomotive and truck traffic in the City, further adding to the Diesel PM and NOx emissions in the surrounding communities. The operation of the proposed rail facility would likely require the extensive use of switcher locomotives to assemble and disassemble onsite trains, another source of Diesel PM and NOx emissions for surrounding communities.

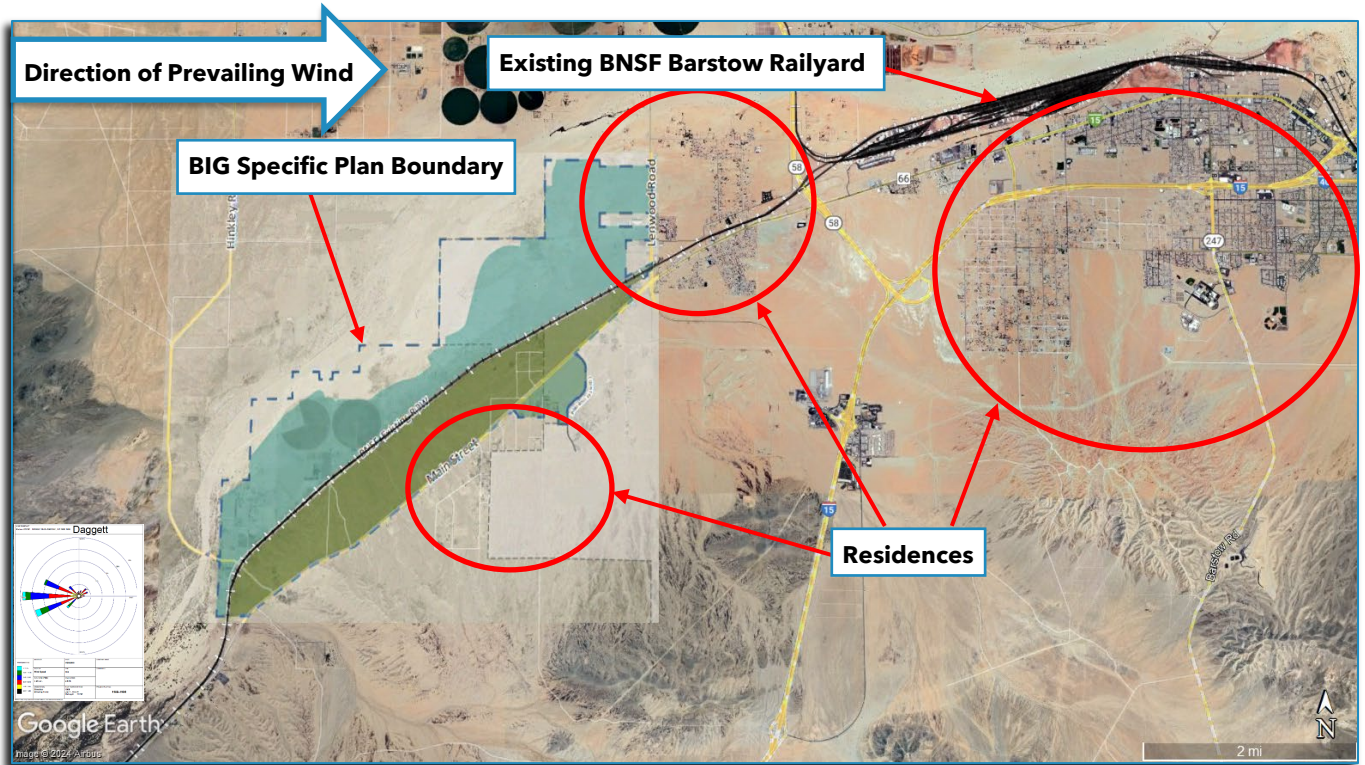
According to the Health Risk Assessment for the BNSF Railway Barstow Railyard published in 2008, the railyard has been a source of Diesel PM emissions from the operation of locomotives, offroad equipment, stationary sources, on-road trucks, and cargo handling equipment.⁸ California is making significant strides toward reducing Diesel PM and NOx in other sectors through existing regulations, such as heavy-duty trucks, cargo-handling equipment, and TRUs. Although these measures will bring substantial emission reductions, the reductions do not address the health effects from Diesel PM and NOx emissions created by locomotives. To support the 2023 In-Use Locomotive Regulation, CARB staff analyzed health effects from locomotive emissions; through this analysis, CARB staff found that communities statewide, particularly those surrounding railyards, are exposed to substantial Diesel PM emissions and high levels of health risk.⁹

As shown in Figure 1 below, many residences are located downwind of the proposed BIG Specific Plan. Residences are located south and east of the rail facilities proposed under the BIG Specific Plan, with the closest residences situated approximately 175 feet from the BIG Specific Plan's eastern boundary. In addition to residences, Lenwood Elementary School is located within 2,860 feet of the BIG Specific Plan's eastern boundary. These communities are surrounded by existing toxic Diesel PM and NOx emission sources, which include locomotive traffic along BNSF rail lines, the existing BNSF Barstow Railyard, and vehicular traffic along Interstate 15 (I-15) and State Route 58 (SR-58). Due to the BIG Specific Plan's proximity to residences and schools already burdened by multiple sources of air pollution, CARB is concerned with the potential cumulative health impacts associated with the construction and operation of the BIG Specific Plan.

⁸ CARB. Health Risk Assessment for the BNSF Railway Barstow Railyard. June 9, 2008. Accessible at: https://ww2.arb.ca.gov/sites/default/files/classic/railyard/hra/bnsf_barstow_final.pdf

⁹ CARB. Public Hearing to consider the Proposed In-Use Locomotive Regulation Staff Report: Initial Statement of Reasons. Appendix H. Accessible at: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/locomotive22/appf.pdf>

Figure 1: BIG Specific Plan Location Relative to Residences

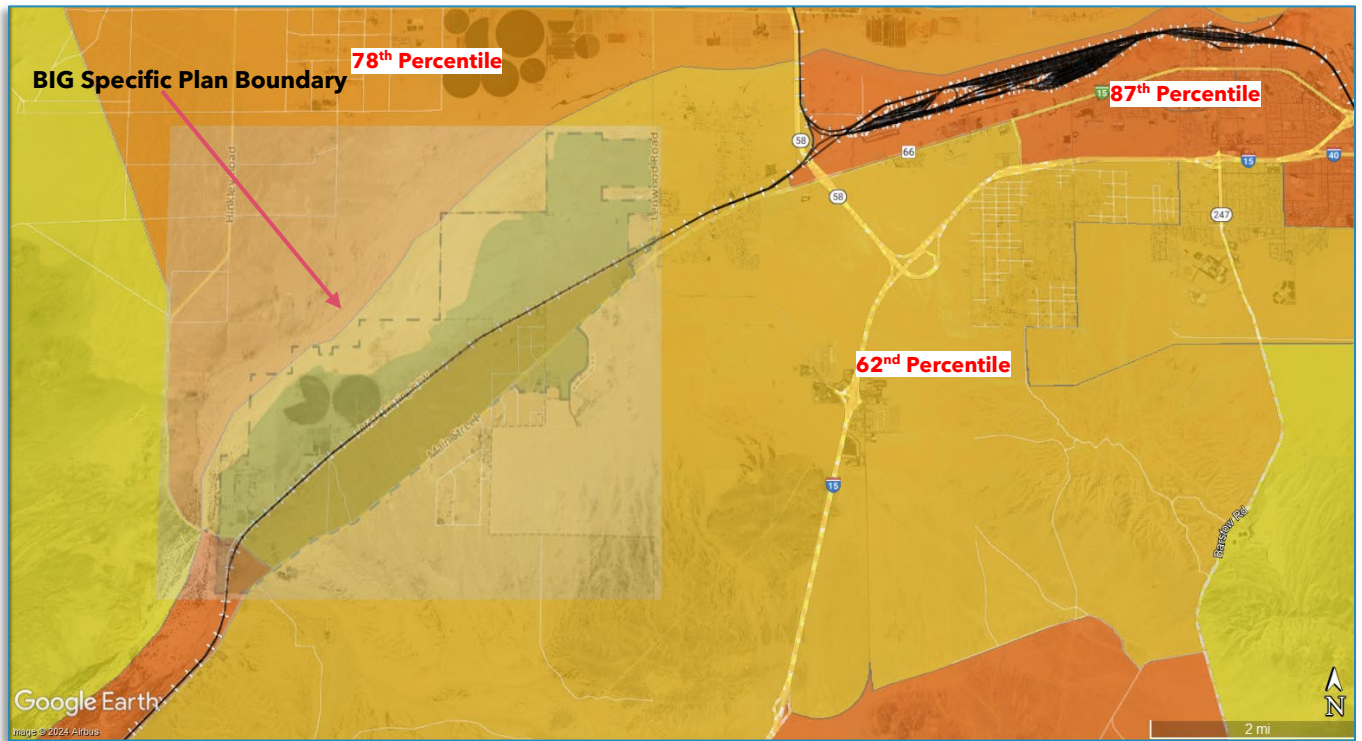


The State of California has placed additional emphasis on protecting local communities from the harmful effects of air pollution through the passage of Assembly Bill 617 (AB 617) (Garcia, Chapter 136, Statutes of 2017). AB 617 is a significant piece of air quality legislation that highlights the need for further emission reductions in communities with high exposure burdens, like those in which the Project is located.

Through its authority under Health and Safety Code section 39711, the California Environmental Protection Agency (CalEPA) is tasked with identifying disadvantaged communities. CalEPA bases its identification of these communities on geographic, socioeconomic, public health, and environmental hazard criteria (Health and Safety Code, section 39711, subsection (a)). In this capacity, CalEPA currently defines a disadvantaged community, from an environmental hazard and socioeconomic standpoint, as a community that scores within the top 25% of the census tracts, as analyzed by the California Communities Environmental Health Screening Tool Version 4.0 (CalEnviroScreen). CalEnviroScreen uses a screening methodology to help identify California communities currently disproportionately burdened by multiple sources of pollution. Figure 2 illustrates the CalEnviroScreen scores of the census tracts closest to the proposed BIG Specific Plan. As shown in Figure 2, census tracts 6071011900 and 6071009500 have an CalEnviroScreen

score that places them within the top 25% for Pollution Burden.¹⁰ Although the 20,000 plus jobs created by the BIG Specific Plan may reduce some socioeconomic stressors experienced within the City, this benefit should not come at the cost of the health and lives of local community members due to increased air pollution from additional locomotive and heavy-duty truck traffic from the proposed project.

Figure 2: CalEnviroScreen Score of Census Tracts Near the BIG Specific Plan



The City and BNSF Must Fully Evaluate the Proposed GPU and BIG Specific Plan's Air Quality and Health Risk Impacts in the DEIR

CARB is concerned that the proposed BIG Specific Plan and associated rail improvements would result in increased rail traffic along the Alameda Corridor and BNSF mainline, along with increased truck traffic, all of which would negatively impact nearby residents. CEQA requires the lead agency to “determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record.” (See Title 14, Cal. Code of Regs., § 21082.2, subd. (a)). To fully evaluate the proposed BIG Specific Plan’s air quality and health risk impacts, the City and BNSF must analyze all direct and reasonably foreseeable short- and long-term air quality and health risk impacts associated with the

¹⁰ Pollution Burden represents the potential exposure to pollutants and the adverse environmental conditions caused by pollution.

Project, including construction, operation (and overlapping construction and operation), and any growth in operational capacity on the BNSF's rail network.

The NOP states that the environmental impacts associated with the uses proposed under the GPU will be evaluated at a program level pursuant to CEQA Guidelines Section 15168. To fully disclose to decision makers the environmental impacts associated with the GPU, the DEIR must evaluate the air quality and health risk impacts associated with the construction and operation of the proposed nine million square feet of non-residential development in the GPU area. The City must also fully disclose the final uses of the proposed non-residential development. Lastly, as required under CEQA, "[i]f a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration." (See Title 14, Cal. Code of Regs., § 15168, subd. (c)(1)).

CEQA also requires lead agencies to consider whether the incremental effects of a proposed project are cumulatively considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (See Title 14, Cal. Code of Regs., § 15064, subd. (h)(1)). The City and BNSF must consider the combined air quality and health risk impacts of the proposed GPU and BIG Specific Plan, existing rail facilities such as the BNSF Barstow Railyard in the City, and other reasonably foreseeable projects that may arise because of the proposed GPU and BIG Specific Plan. Should the DEIR find that the GPU or BIG Specific Plan would result in a cumulatively significant impact, CEQA requires that the City and BNSF implement all feasible mitigation measures to reduce those impacts to a less-than-significant level.

The health risk assessment (HRA) prepared for the DEIR should be based on the latest Office of Environmental Health Hazard Assessment's (OEHHA) guidance (2015 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments).¹¹ The on- and off-road Diesel PM emissions used to estimate the proposed GPU and BIG Specific Plan's cancer risk impacts should be based on CARB's latest 2021 Emission Factors model (EMFAC2021) and OFFROAD2021, respectively.^{12,13}

In addition to the health risks associated with operational Diesel PM emissions, health risks associated with construction Diesel PM emissions should also be included in the air quality section of the DEIR and HRA. Construction of the GPU and BIG Specific Plan would result in short-term Diesel PM emissions from the use of both on-road and off-road diesel equipment. The OEHHA guidance recommends assessing cancer risks for construction

¹¹ Office of Environmental Health Hazard Assessment (OEHHA). Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February 2015. Accessed at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>.

¹² CARB. Emission Factors model Web Platform. Accessible at: <https://arb.ca.gov/emfac/emissions-inventory/7fbbb7c961d621ffc05eb5e5f8dfd175c8cff0fc>

¹³ CARB. OFFROAD2021 Web Platform. Accessible at: <https://arb.ca.gov/emfac/offroad/>

projects lasting longer than two months.¹⁴ Since construction would very likely occur over a period lasting longer than two months, the HRA prepared for the UPG and BIG Specific Plan should include health risks for existing residences near the project-site during construction. The HRA should account for all Diesel PM emission sources related to construction, including, but not limited to, off-road mobile equipment, diesel generators, and on-road heavy-duty trucks.

The DEIR Should Include a Mitigation Measure that Ensures the BIG Specific Plan Uses the Cleanest Switcher and Line-Haul Locomotives Available

To reduce the BIG Specific Plan's air quality and health risk impacts and make the proposed rail facility a model for sustainable freight development, CARB urges the City and BNSF to plan for the use of zero-emission switchers and line-haul locomotives within the BIG Specific Plan, consistent with Executive Order N-79-20 and to address the BIG Specific Plan's impact on air quality and public health. Due to BNSF's ground-breaking partnership which demonstrated the capabilities of battery-electric locomotives in freight applications, BNSF is well-positioned to carry out plans that include zero-emission rail operation.¹⁵ By using the cleanest available locomotives, the BIG project could boost its freight business while also protecting the communities where it operates and while preparing to meet the requirements of coming regulations in California.

On April 27, 2023, CARB approved the In-Use Locomotive Regulation to reduce air pollutant emissions, toxic air contaminants, and GHG emissions from locomotives operating throughout California. Under the In-Use Locomotive Regulation, operators will now be required to pay into a spending account; the required funding amount correlates directly to the monetized premature mortalities and illnesses created by the release of emissions from diesel locomotive operation in California. Companies can use their spending account funds to upgrade to cleaner locomotive technologies and to install related zero-emission infrastructure; the BIG Specific Plan appears to offer many opportunities for use of BNSF Spending Account funds. Under the In-Use Locomotive Regulation, locomotives also will have a 30-minute idling limit. Additionally, switch, industrial, and passenger locomotives built in 2030 or after will be required to operate in zero-emissions configurations while in California and freight line haul locomotives built in 2035 or after will be required to operate in zero-emissions configurations while in California. More information about the proposed In-Use Locomotive Regulation can be obtained from CARB's website:

¹⁴ OEHHA. Air Toxics Hot Spots Program Guidance Manual. February 2015. Accessible at: <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>

¹⁵ BNSF Railway, January 4, 2021. Accessible at: [BNSF and Wabtec commence battery-electric locomotive pilot test in California](#)

<https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california/locomotive-fact-sheets>.

To understand the environmental impacts associated with the operation of trains traveling near California communities, CARB staff conducted an analysis comparing the environmental impact of trucks and trains in the transportation sector.¹⁶ The analysis considered particulate matter 2.5 micrograms in diameter (PM2.5) and NOx emissions from moving 260 cargo containers using trucks or a train from the Ports to a distance of 280 miles. The analysis assumed each truck transports one container, and one train consists of four locomotives and transports 260 containers. Based on this analysis, CARB staff found that by 2030, trains would emit 12.7 pounds of PM2.5 and 606 pounds of NOx while transporting 260 containers and 260 trucks transporting 260 containers would emit 2.9 pounds of PM2.5 and 606 pounds of NOx. The analysis found that one train can emit as much as 4 times the quantity of PM2.5 and 2 times the quantity of NOx emissions when compared with trucks transporting the same number of containers; this is attributed to CARB's regulations aimed at reducing air pollutant emissions from trucks, such as the Advanced Clean Trucks Regulation and the Advanced Clean Fleets Regulation, which will accelerate the adoption of zero-emission trucks. Although trains have previously had lower GHG emissions when compared with trucks, CARB's Truck vs. Train Emissions Analysis found that trucks would emit less GHG emissions as increasing numbers of trucks operate without emissions in California under CARB regulations.¹⁷ Given the requirement under Executive Order N-79-20 for trucks to be zero-emission by 2045, trucks will continue to progress toward fewer and fewer emissions. Without the use of zero-emission locomotive technologies by BNSF, locomotives will continue to be a dirtier mode of transportation than trucks.

Based on emerging technologies in batteries and hydrogen fuel cells, zero-emission locomotive operation could be used to meet the needs of the BIG Specific Plan. CARB estimates that zero-emission technology will be commercially available by 2030 for passenger, switcher, and industrial locomotives and by 2035 for freight line haul locomotives.¹⁸ CARB has sponsored, and continues to sponsor, demonstration projects to accelerate the adoption of clean freight technologies and reduce air pollution caused by the movement of goods throughout the State. CARB's Zero and Near Zero-emission Freight Facilities Program successfully demonstrated batteries in locomotives that could be

¹⁶ CARB. Truck vs. Train Emissions Analysis. September 23, 2020. Accessible at:
<https://ww2.arb.ca.gov/resources/fact-sheets/truck-vs-train-emissions-analysis>

¹⁷ CARB. Truck vs. Train Emissions Analysis FAQ. November 12, 2021. Accessible at:
<https://ww2.arb.ca.gov/resources/fact-sheets/truck-vs-train-emissions-analysis-faq>

¹⁸ CARB. Public Hearing to consider the Proposed In-Use Locomotive Regulation Staff Report: Initial Statement of Reasons. Appendix F. Page 52, 57. Accessible at:
<https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/locomotive22/appf.pdf>

developed further and applied to the BIG Specific Plan.¹⁹ The one-way distance from the Ports of Los Angeles and Long Beach to proposed BIG Specific Plan is approximately 130 miles. Trains pulled entirely with battery electric locomotives could make this one way trip.²⁰ With advanced planning and rapid development of battery technology, the entire proposed railyard could be served with zero-emission locomotives. To facilitate zero-emission locomotive operation, BNSF could electrify key parts or even the entire rail line between the ports and Barstow.

Since most of the air quality and health risk impacts would be attributed to the switchers and line-haul locomotives serving the proposed BIG Specific Plan, CARB urges the City and BNSF to include a project design feature or mitigation measure in the DEIR that requires the use of zero-emission switchers and line-haul locomotives to serve the BIG Specific Plan.

The DEIR Should Require All Heavy-Duty Trucks Serving the BIG Specific Plan To Be Zero-Emission

The proposed railyard and intermodal warehouse center will require the use of heavy-duty trucks to transport freight to its final destinations. Although the NOP does not specify the number of heavy-duty truck trips, it does state that a small number of containers would arrive and depart the proposed railyard via heavy-duty trucks. To reduce the BIG Specific Plan's potential air quality and health risk impacts, CARB urges the City and BNSF to include either a project design feature or mitigation measure that require all heavy-duty trucks to be zero-emission and to install on-site infrastructure to support those zero-emission trucks.

As presented below, CARB has many regulations that promote and eventually require the use of zero-emission trucks at freight facilities, such as the proposed BIG Specific Plan. Specifically, the Advanced Clean Fleet Regulation would require all drayage trucks in California to be zero-emission by 2035. To support trucks serving the BIG Specific Plan that are already complying with the Advanced Clean Fleets regulation, CARB urges the City and BNSF to require the infrastructure to support on-site zero-emission trucks at the start of operations. A list of commercially-available zero-emission trucks can be obtained from the Hybrid and Zero-emission Truck and Bus Voucher Incentive Project (HVIP).²¹ The HVIP is a part of California Climate Investments to incentivize the purchase of zero-emission trucks. Based on CARB's review of the zero-emission trucks listed in the HVIP, there are commercially available electric trucks that can meet the cargo transportation needs of

¹⁹ California Air Resources Board (CARB), 2020. CARB's Zero and Near Zero-emission Freight Facility Program. Accessible at <https://ww2.arb.ca.gov/news/carb-announces-more-200-million-new-funding-clean-freight-transportation#:~:text=The%20goal%20of%20CARB's%20Zero,commercialization%20of%20these%20technologies%20statewide>

²⁰ Nature Energy. Economic, Environmental and Grid Resilience Benefits of Converting Diesel Trains to Battery-Electric. November 11, 2021. Accessible at: <https://www.nature.com/articles/s41560-021-00915-5>

²¹ Zero-Emission Truck and Bus Voucher Incentive Project. Accessible at: <https://californiahvip.org/>

individual industrial uses proposed in the City today. While CARB has implemented or is developing regulations that will eventually require the use of zero-emission trucks (as noted above), CARB urges the City to incorporate all zero-emission trucks from the Big Specific Plan's inception to ensure the needed reductions occur as soon as the potential impacts from the BIG Specific Plan begin.

The list below details the CARB regulations that will result in the reduction of Diesel PM and NOx emissions from trucks within California:

- **Drayage Truck Regulation:** The existing Drayage Truck Regulation requires all drayage trucks to operate with an engine that is a 2007 model year or newer.
- **Truck and Bus Regulation:** The Truck and Bus Regulation requires all trucks, including drayage, to have 2010 or newer model year engines by January 1, 2023.
- **Heavy-Duty Low-NOx Omnibus Rule:** The Heavy-Duty Low-NOx Omnibus Rule requires truck emission standards to be reduced from 0.20 to 0.05 grams per brake horsepower-hour (g/bhp-hr) from 2024 to 2026, and to 0.02 g/bhp-hr in 2027.
- **Advanced Clean Trucks Regulation:** The Advanced Clean Trucks Regulation, approved by CARB on June 25, 2020, requires manufacturers to start manufacturing zero-emission trucks and vans beginning in 2024. The rule is expected to result in about 100,000 zero-emission trucks in California by the end of 2030 and about 300,000 by 2035. The Advanced Clean Trucks regulation is part of CARB's overall approach to accelerate use of zero-emission medium- and heavy-duty vehicles. CARB approved amendments to the Advanced Clean Trucks regulation in March 2021; the amendments help ensure that more zero-emission vehicles are brought to market. CARB directed staff to ensure that fleets, businesses, and public entities that own or direct the operation of medium- and heavy-duty vehicles in California purchase and operate ZEVs in anticipation of fully ZEV fleets by 2045 everywhere feasible, and specifically to reach:
 - 100% zero-emission drayage trucks, last mile delivery, and government fleets by 2035
 - 100% zero-emission refuse trucks and local buses by 2040
 - 100% zero-emission capable utility fleets by 2040
- **Advanced Clean Fleets Regulation:** The Advanced Clean Fleets Regulation is part of CARB's overall strategy to accelerate use of zero-emission medium- and heavy-duty vehicles. This regulation works in conjunction with the Advanced Clean Trucks regulation. The regulation applies to trucks performing drayage operations at seaports and railyards, fleets owned by State, local, and federal government agencies, and high priority fleets. High priority fleets are those entities that own, operate, or direct at least one vehicle in California, and that have either \$50 million or more in gross annual revenue, or that own, operate, or have common ownership or control of a total of 50 or more vehicles. The regulation affects medium- and heavy-duty on-road vehicles with a gross vehicle weight rating greater

than 8,500 pounds, off-road yard tractors, and light-duty mail and package delivery vehicles. All drayage trucks entering seaports and intermodal railyards would be required to be zero-emission by 2035.

With the implementation of the regulations listed above, specifically the Advanced Clean Trucks Regulation, BNSF will be required to stop using diesel trucks and vans and begin using zero-emission trucks. To protect the air quality of the residences near the BIG Specific Plan site, CARB urges the City and BNSF to include either a project design feature or mitigation measure in the DEIR that would require, from the beginning of the BIG Specific Plan railyard's operations, the use of exclusively zero-emission trucks.

The DEIR Should Require All Cargo Handling Equipment to be Zero-Emission

The operation of the rail facilities proposed under the BIG Specific Plan would require cargo handling equipment (CHE) to handle movement of onsite cargo/freight. Based on CARB's review of the NOP's project description, the proposed rail facility will include the use of zero-emission electric hostlers to transfer containers between rail cars and the onsite transload warehouse center. However, the NOP does not provide a list of other CHE that may be used during the operation of the proposed railyard. The CHE that may be required during the operation of the proposed BIG Specific Plan may include, but is not limited to, yard trucks, top handlers, side handlers, forklifts, and rubber-tired gantry cranes. Operation of these types of CHE would expose nearby communities and onsite works to Diesel PM emissions that could significantly impact health.

To reduce the proposed BIG Specific Plan's air quality and health risk impacts, CARB urges the City and BNSF to include a project design feature or mitigation measure in the DEIR that would require all CHE operating with the proposed railyard to be zero-emission. Zero-emission CHE is commercially available and can be purchased using incentive funding from CARB's Clean Off-Road Equipment Voucher Incentive Project (CORE) administered by CALSTART or the HVIP.^{22,23}

The DEIR Should Require All Transport Refrigeration Units to be Zero-Emission

Since the description provided in the NOP does not explicitly state that the proposed intermodal warehouse center and the non-residential development under BIG Specific Plan and GPU, respectively, would not include cold storage, there is a possibility that trucks, trailers, and rail cars visiting the proposed warehouse developments would be equipped

²² Clean Off-Road Equipment Voucher Incentive Project. Accessible at: <https://californiacore.org/how-to-participate/>

²³ Zero-Emission Truck and Bus Voucher Incentive Project. Accessible at: <https://californiahvip.org/>

with TRUs.²⁴ TRUs on trucks and trailers, and on rail cars can emit large quantities of diesel exhaust while operating within the BIG Specific Plan and GPU. Residences and other sensitive receptors (e.g., daycare facilities, senior care facilities, and schools) located near where these TRUs could be operating, would be exposed to Diesel PM emissions that would result in a significant cancer risk impact to the nearby community.

On February 24, 2022, CARB approved amendments to the Transportation Refrigeration Unit Airborne Toxic Control Measure (2022 TRU ATCM Amendments).²⁵ The TRU ATCM is a significant initiative aimed at reducing air pollutant and greenhouse gas emissions and improving air quality in the transportation sector. The 2022 TRU ATCM Amendments require newly manufactured truck TRUs, trailer TRUs, and domestic shipping container TRUs to use refrigerant with a global warming potential less than or equal to 2,200, or no refrigerant at all, beginning December 31, 2022. Beginning December 31, 2023, TRU owners will be required to turn over at least 15% of their truck TRU fleet operating in California to zero-emission technology each year for seven years, and all truck TRUs operating in California are required to be zero-emission by December 31, 2029. CARB staff are developing concepts for new requirements to use zero-emission non-truck TRUs (trailer TRUs, domestic shipping container TRUs, railcar TRUs, and TRU generator sets).

If any part of the warehouse developments proposed under the GPU and BIG Specific Plan will be used for cold storage, CARB urges the City and BNSF to require all TRUs on trucks and trailers to be zero-emission to protect the health of communities and to stay in step with current and upcoming CARB regulations and with Executive Order N-79-20. All rail cars with plug-in-capable TRUs entering the proposed railyard should be plugged into electric power until they are ready to be transported directly out of the facility. Lastly, the City and BNSF should require all loading/unloading docks and trailer spaces be equipped with electrical hookups for trucks with plug-in-capable TRU or auxiliary power units. This requirement will substantially decrease the amount of time that a TRU powered by a diesel engine can operate at the project site. Use of zero-emission all-electric plug-in TRUs, hydrogen fuel cell transport refrigeration, and cryogenic transport refrigeration are encouraged and can also be included in lease agreements.

If the warehouse developments proposed under the GPU and BIG Specific Plan will not be used for cold storage, CARB urges the City and BNSF to include one of the following design measures in the DEIR:

- A project design measure requiring contractual language in tenant lease agreements that prohibits tenants from operating diesel-powered TRUs within the project site; or

²⁴ TRUs are refrigeration systems powered by integral diesel engines that protect perishable goods during transport in an insulated truck and trailer vans, rail cars, and domestic shipping containers.

²⁵ CARB. Transportation Refrigeration Unit (TRU or Reefer) Regulation. Accessible at: <https://ww2.arb.ca.gov/our-work/programs/truckstop-resources/truckstop/regulations/transport-refrigeration-unit-tru-or#:~:text=Regulation%20Background,risk%20from%20diesel%2Dpowered%20TRUs>.

- A condition requiring a restrictive covenant over the parcel that prohibits the applicant's use of diesel-powered TRUs on the property unless the applicant seeks and receives an amendment to its conditional use permit allowing such use.

Conclusion

With the construction of a new rail facility, the City and BNSF have a unique opportunity to create jobs for Californians and to showcase a state-of-the-art zero-emission rail facility that could be used as a model for future rail facilities in the State. As a large freight project, the proposed BIG Specific Plan has a tremendous opportunity to influence the path of future freight projects. By demonstrating the feasibility of operating a completely zero-emission rail facility, the City and BNSF can show that it is possible to develop a freight facility (e.g., port, warehouse, railyard, etc.) that can result in economic growth without diminishing public health within nearby communities or exacerbating climate change. To this end, CARB urges the City and BNSF to incorporate all zero-emission switcher and line-haul locomotives, trucks, and on-site CHE within the proposed BIG Specific Plan. Information about incentive funding is available through CARB's locomotive incentives website.²⁶ Finally, on April 24, 2024, the federal government announced \$1.5 billion in freight funding, with the goal of supporting the transition to zero-emission freight movement.²⁷

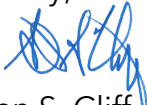
Given the breadth and scope of projects subject to CEQA review throughout California that have air quality and GHG impacts, coupled with CARB's limited staff resources to substantively respond to all issues associated with a project, CARB must prioritize its substantive comments here based on staff time, resources, and its assessment of impacts. Please note that CARB's deliberate decision to substantively comment on some issues does not constitute an admission or concession that it substantively agrees with the lead agency's findings and conclusions on any issues on which CARB does not substantively submit comments.

²⁶ CARB, Incentives for Locomotives. Available at: <https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california/incentives-locomotives>

²⁷ Fact Sheet: Biden-Harris Administration Sets First-Ever National Goal of Zero-Emissions Freight Sector, Announces Nearly \$1.5 Billion to Support Transition to Zero-Emission Heavy-duty Vehicles April 24, 2024. Available at: <https://www.whitehouse.gov/briefing-room/statements-releases/2024/04/24/fact-sheet-biden-harris-administration-sets-first-ever-national-goal-of-zero-emissions-freight-sector-announces-nearly-1-5-billion-to-support-transition-to-zero-emission-heavy-duty-vehicles/>

CARB staff would be happy to provide assistance with zero-emission technologies and emission reduction strategies, as needed. Please include CARB on your list of selected State agencies that will receive the DEIR. If you have questions, please contact Stanley Armstrong, Air Pollution Specialist via email at stanley.armstrong@arb.ca.gov.

Sincerely,



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