

California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

For Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation GFO-15-604 – Freight Transportation Projects at California Seaports



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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to “develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.” Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (ARB) to develop guidelines to ensure air quality improvements. The ARB Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The *AQIP Guidelines* require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this *Localized Health Impacts Report* is required to be available for public comment for 30 days prior to the approval of projects.

This *Localized Health Impacts Report* analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both, and including, but not limited to, communities of minority populations or low-income populations, as declared by the freight transportation at California seaports proposers or as determined by Energy Commission staff. Appendix A, *Localized Health Impact Report Assessment Method*, describes the analysis used for this *Localized Health Impacts Report*.

Keywords: Air pollution, air quality, Air Quality Improvement Program (AQIP), California Air Resources Board (ARB), alternative fuel, Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), criteria emissions, demographics, environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), greenhouse gas emissions (GHG), localized health impact (LHI)

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343)*, this *Localized Health Impacts Report* describes demonstration projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include projects that require only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This *Localized Health Impacts Report* focuses on the potential impacts projects may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The projects in this *Localized Health Impacts Report* are assessed for potential health impacts for the communities in which they will be located. Based on this analysis, it is not anticipated that implementing these projects will have negative impacts because there will not be a net increase in criteria and toxic emissions, specifically in those communities that are considered most vulnerable. Potentially, the projects stand to provide improved quality of life through cleaner air.

CHAPTER 1: Projects Proposed for Funding

On January 7, 2016, the California Energy Commission released Grant Solicitation GFO-15-604, titled “Freight Transportation Projects at California Seaports,” under the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This grant solicitation was an offer to cost-share the development of projects that: 1) demonstrate freight transportation projects for medium- and heavy-duty (MHD) vehicle technologies; 2) demonstrate intelligent transportation systems and technologies (ITS); and 3) deploy natural gas vehicles (NGVs).

This *Localized Health Impact Report* assesses and reports on the potential localized health impacts for both proposed projects with public review and comment for a 30-day period.

This chapter summarizes the projects proposed for Energy Commission funding. Table 1 provides the company, project name, project address, and environmental justice (EJ) indicators. (See Appendix A.)

Table 1: Proposed Freight Transportation Projects at California Seaports With Environmental Justice Indicators

Applicant	Project Name	Project Address	EJ Indicator(s)
City of Los Angeles Harbor Department (Port of LA)	Port of LA Advanced yard Tractor Deployment and Eco-FRATIS Truck Efficiency Project	MHD Demonstration 389 Terminal Island Way Terminal Island, CA 90731	Poverty and Minority
San Diego Port Tenants Association (SDPTA)	San Diego Port Sustainable Freight Demonstration Project	Site 1 - Doyle Food Company 850 Water Street San Diego CA 92101	Minority
		Site 2 - Continental Maritime 1995 Bay Front Street San Diego, CA 92113	Minority
		Site 3 - Harborside Refrigerated Services 802 Terminal Street San Diego, CA 92101	Minority
		Site 4 - TERMINALIFT 623 Switzer Street San Diego, CA 92101	Minority
		Site 5 - CEMEX 1155 Terminal Street San Diego, CA 92101	Minority

Applicant	Project Name	Project Address	EJ Indicator(s)
		Site 6 - Pasha Automotive Services 1309 Bay Marina Drive National City, CA 91950	Poverty, Unemployment, and Minority
		Site 7 - Harborside Refrigerated Services 1240 W 28 th Street National City, CA 91950	Poverty, Unemployment, and Minority
		Site 8 - Marine Group 1313 Bay Marina Drive National City, CA 91950	Poverty, Unemployment, and Minority
		Site 9 - Marine Group 997 G Street Chula Vista, CA 91910	Unemployment and Minority
		Site 10 - TERMINALIFT 7144 Otay Mesa Road San Diego, CA 92154	Minority
		Site 11 - CEMEX 2499 Qualcomm Way San Diego, CA 92103	Minority

Source: California Energy Commission staff analysis

City of Los Angeles Harbor Department (Port of Los Angeles)

Project Name: Port of Los Angeles Advanced Yard Tractor Deployment and Eco-FRATIS Drayage Truck Efficiency Project

MHD Demonstration

The project equipment will be demonstrated at Everport Terminal Services, 389 Terminal Island Way, Terminal Island, CA 90731. Work at this location will be limited to minor modifications to support equipment charging and a temporary liquefied natural gas fueling skid. The proposer has instructed the Energy Commission that work will be conducted in a manner consistent with all applicable zoning restrictions, port requirements, and other constraints applicable to port tenants. No homes, day care centers, elder care facilities, medical centers or schools within a quarter-mile of any building will be modified. Equipment to be deployed will perform identical duties to diesel equipment already routinely used at Everport’s terminal.

ITS Demonstration

The ITS technologies will be used in 100 Class 8 trucks (a gross vehicle weight rating exceeding 33,000 lbs.) that will operate in the port, as well as surrounding areas. There is no fixed project site for this aspect of the proposed project.

The in-service demonstration of both the MHD and ITS projects will provide a long-term operating experience with zero- and near-zero-emission engine technologies in yard tractors and advanced freight information system applications for drayage trucks.

San Diego Port Tenants Association (SDPTA)

Project Name: San Diego Port Sustainable Freight Demonstration Project

This project proposes to demonstrate 10 MHD precommercial zero-emission vehicles and a proven ITS system to reduce freight traffic impacts and improve air quality in the Port of San Diego and surrounding communities. Specifically, the project proposes to plan, design, and build 10 new or repowered precommercial electric vehicles for demonstration in and around the port by tenants CEMEX, Continental Maritime, Dole Food Company, Harborside Refrigerated Services and Cold Storage, Marine Group Boat Works, Pasha Group, and TERMINALIFT.

North Port Sites

All the North Port Sites (Sites 1 – 5) are existing industrial facilities featuring warehouse space, ship-loading docks, freight storage, internal office space, and equipment on site such as forklifts, reach stackers, yard trucks, loaders, cranes, and other heavy machinery.

The North Port Sites are all within one mile of each other in the Port of San Diego. Monarch School and Perkins Elementary School are less than half a mile away, just across Harbor Drive. Burbank Elementary School, Logan K-8, King Chavez Academy of Excellence, Sherman Elementary School, and the Thomas Jefferson School of Law are also close by, within two miles of the North Port Sites. The Sharp Coronado Hospital is the closest healthcare facility, about one mile away across San Diego Bay. Barrio Logan, the closest residential neighborhood is less than half a mile away, just across Harbor Drive.

South Port Sites

All the South Port Sites (Sites 6-9) are existing industrial facilities featuring warehouse space, ship-loading docks, freight storage, internal office space, and equipment on site such as forklifts, reach stackers, yard trucks, loaders, cranes, and other heavy machinery.

The three South Port demonstration sites north of Highway 54 – Pasha Automotive Services, Harborside Refrigerated Services, and the National City Marine Group location – are within just a few city blocks of each other. Kimball Elementary School is more than a half- mile away. National City Middle School, Olivewood School, Sweetwater Union High School, John A Otis Elementary School, South Region Community School, Central School, Las Palmas Elementary School, and Feaster Charter School are all less than three miles away. US Healthworks Medical Group is the closest healthcare facility, about a quarter- mile away. The South Coast Medical Clinic and several private physician offices are less than two miles away. The closest residential neighborhoods are about a mile and a half from the South Port sites.

The Chula Vista Marine Group location is very close to Vista Square Elementary School, Mueller Charter School, Chula Vista Learning Community Charter Elementary School, Chula Vista High School, and Feaster Charter School, all of which are less than two miles away. Scripps Mercy Hospital Chula Vista, Coast Surgical Group, Sharp Rees-Stealy Chula Vista Medical Center and Urgent Care and several private physician offices are also less than two miles from the site. The closest residential neighborhoods are less than one mile away.

Off-Port Sites

The TERMINALIFT drayage trucks will travel between the port and an inland site about 20 miles away on Otay Mesa Road. This site is an industrial freight yard and transfer site offering short- and long-term storage for building supplies, marine vehicles, and cargo containers. Heavy machinery such as loaders, forklifts, and so forth are on site. Charging infrastructure will be installed at this site.

Kenjitsu School is roughly one mile from the site, while Alta School and Southwestern Community College are just three miles away. The closest medical facilities are My Doctor in Baja and Global Medical Partners LLC, both a little more than one mile away. The closest residential neighborhood is in Mexico, about one and a half miles away.

CEMEX vehicles will travel between the port location and an inland raw material transfer station 2499 Qualcomm Way, San Diego. Trucks loaded at the CEMEX Port site will travel to this site, deliver the materials, and return to the port. The Qualcomm Way site is a storage yard for cement mixing materials such as sand, gravel, fly ash, and aggregates.

San Diego Cooperative Charter School and Longfellow Elementary School are within three miles of the site. Sharp Memorial Hospital, Kindred Hospital San Diego, and Rady Children's Urgent Care are also within three miles. The closest residential neighborhood is just across Via Alta Way and can be seen on the aerial view that follows.

CHAPTER 2: Approach

The *Localized Health Impact Report (LHI Report)* Assessment Method in Appendix A assesses communities potentially impacted by air pollution and possibly benefitted by the freight transportation projects at California seaports. The California Air Resources Board's (ARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution¹. Other resources used in this assessment are the *California Infrastructure State Implementation Plans*,² which contain publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*³.

For this *LHI Report*, the Energy Commission interprets "permits" to mean discretionary and conditional use permits because they require a review of potential impacts to a community and the environment before issuance. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, the Energy Commission staff does not assess projects requiring only ministerial-level permits in this report.

The cities where the projects will be located are all in nonattainment zones for ozone, PM⁴ 2.5, and PM 10. Table 1 shows the EJ indicators for the two projects in four cities, that is, minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age). Table 2 shows the demographics. Chula Vista, National City, and Terminal Island have more than one EJ and are therefore classified as high-risk communities, according to the Environmental Justice Screening Method (EJSM).

Staff collected information about predicted emissions from the project proposals. Activities conducted are expected to have negligible impact on emissions. Demonstrations proposed will enhance market acceptance of advanced vehicle technologies that will lead to vehicle production and commercialization, reduced greenhouse gas emissions, and reduced petroleum use.

The proposed projects are expected to have a positive health impact by helping to reduce harmful diesel emissions at the ports as well as throughout the South Coast and San Diego air basins.

1 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution*, 2010 (Sacramento, California).

2 <http://www.arb.ca.gov/planning/sip/sip.htm>.

3 <http://www.epa.gov/oaqps001/greenbk>.

4 "Particulate matter" is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled, and a chief component of exhaust emissions from heavy-duty diesel engines.

CHAPTER 3: Summary

If funded, freight transportation projects at California seaports would result in developing cutting-edge technologies that achieve both energy and climate change goals. The sites will increase the use of zero-emission equipment. As more zero-emission equipment is used at California seaports, the more likely they will displace gasoline and/or diesel vehicles. Therefore, tailpipe pollutants will decrease significantly, especially in critical areas of the state such as the South Coast and San Diego air basins. Developing the advanced vehicle technologies will lead to sustainable methods of moving freight, goods, and people. Benefits include meeting the state's freight infrastructure, public health, air quality, and climate goals.

As indicated in Table 1, with further detail in Table 2, Chula Vista, National City, and Terminal Island are high-risk communities, as identified in Appendix A. The anticipated benefit from the proposed projects for the people in these communities, especially the disadvantaged communities, is highly likely, if not certain, to be positive.

CHAPTER 4:

Acronyms

Air Quality Improvement Program (AQIP)

Air Resources Board (ARB)

Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Assembly Bill (AB)

California Code of Regulations (CCR)

California Environmental Quality Act (CEQA)

Environmental justice (EJ)

Environmental Justice Screening Method (EJSM)

Grant funding opportunity (GFO)

Greenhouse gas (GHG)

Intelligent Transportation Systems (ITS)

Localized health impact (LHI)

Medium- and heavy-duty (MHD)

Natural gas vehicles (NGV)

Notice of proposed awards (NOPA)

Particulate matter (PM)

San Diego Port Tenants Association (SDPTA)

State Implementation Plan (SIP)

Table 2: Environmental Justice (EJ) Indicators Compared With California
 Yellow highlighted areas indicate numbers (percentages) that meet the definition for EJ indicators.

	Number of EJ Indicators	Below Poverty Level (2009-2013)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (March 2016)
California		15.3%	6.2%	1.0%	13.0%	37.6%	6.8%	11.4%	5.4%
		>15.3%	>30%	>30%	>30%	>30%	>8.16%	>13.8%	>5.4%
Chula Vista	2	12.1%	4.6%	0.8%	14.4%	58.2%	7.2%	10.0%	5.9%
National City	3	24.5%	5.2%	1.1%	18.3%	63.0%	6.9%	10.6%	6.0%
San Diego	1	14.7%	5.1%	0.9%	10.9%	32.0%	6.6%	11.4%	4.7%
Terminal Island (Los Angeles County)	2	18.7%	8.7%	0.7%	13.7%	47.7%	6.6%	10.9%	5.0%

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: <http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133> and [Age / ethnicity demographics, U.S. Census Bureau: http://quickfacts.census.gov](http://www.census.gov)

APPENDIX A:

Localized Health Impact Report Assessment Method

Based on the California Energy Commission's interpretation of the *California ARB AQIP Guidelines*, this *LHI Report* assesses the potential impacts to communities as a result of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

“(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting.”

This *LHI Report* is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review. This *LHI Report* includes staff application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks⁵.

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

⁵ California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making, 2010*. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

To determine high risk communities, environmental justice (EJ) indicators for locations of the freight transportation projects at California seaports are compared to data from the U.S. Census Bureau or other public agency. Staff identifies high-risk communities by using a two-part standard. For a community to be considered high- risk, for this assessment, it must meet both Parts 1 and 2 of this standard.

Part 1:

- Communities located in nonattainment air basins for ozone, PM 10 or PM 2.5

Part 2:

- Communities having more than one of the following EJ indicators: (1) minority, (2) poverty, (3) unemployment and (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:
 - A minority subset represents more than 30 percent of a given city's population.
 - A city's poverty level exceeds California's poverty level.
 - A city's unemployment rate exceeds California's unemployment rate.
 - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California.