

California Energy Commission

STAFF REPORT



LOCALIZED HEALTH IMPACTS REPORT

For Selected Infrastructure Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-09-006 including the Alameda-Contra Costa Transit District project (Contract 600-10-013)

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ADDENDUM

The *Localized Health Impacts Report for Infrastructure Projects awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program under Solicitation PON-09-006* was originally posted May 28, 2010, and the 30-day public comment period ended June 28, 2010. On January 11, 2011, the California Energy Commission posted a Revised Notice of Proposed Awards (NOPA) for this solicitation, PON-09-006.

Eighteen projects were funded under this solicitation. Since the revised NOPA was posted, two projects have changed locations of their natural gas fueling stations. For the Waste Management project, the original project proposed to install a LNG/LCNG fueling station in Sun Valley located near the Simi Valley landfill. However, based on recent developments and further assessment, funding will be redirected to two stations in different communities. The South Coast Air Quality Management District (SCAQMD) project included 10 stations. The project sites have changed for six of the ten stations.

This addendum also assesses a hydrogen fueling infrastructure project that has been awarded funding under the Alternative and Renewable Fuels and Vehicle Technology Program through a separate contract between the Energy Commission and the Alameda Contra Costa Transit District (ACT), a public agency. This project was proposed through an interagency agreement rather than through the solicitation described above. However, it is evaluated in this report since the project shares the same goals of the solicitation, which is to install alternative fuel infrastructure to support advanced vehicle technologies.

This addendum to the localized health impacts report assesses and reports on the potential localized health impacts of these three additional infrastructure projects recommended for funding in the 2010-2011 funding cycle.

The projects assessed in this addendum are:

1. Waste Management's, "LNG/LCNG Refueling Stations for the USA Waste Project"
 - a. Corona Station
 - b. Baldwin Park Station
2. South Coast Air Quality Management District's, "Alternative and Renewable Fuel and Vehicle Technology Program"
 - a. Corona Station
 - b. Huntington Beach Station
 - c. Lake Arrowhead Station
 - d. Montebello Station
 - e. Otay-Mesa Station
 - f. Palm Springs Station
3. AC Transit's, "AC Transit Hydrogen Transit Bus Fueling Station Oakland"

These projects were assessed on a station-by-station basis because the communities in which the stations will be located vary in terms of socioeconomic and environmental health.

Each of the projects includes stations that require a full assessment for potential health impacts on low-income communities highly affected by air pollution. Table 1 summarizes the stations and their surrounding communities.

Table 1: Community Status and Project Overview

Project	At Risk Community	CEQA Completed	Air District Permit Status	Attainment Status for Ozone, PM (2.5), PM(10)
Waste Management LNG/LCNG Refueling Stations				
Corona Station	X		In Progress	Non-Attainment (All)
Baldwin Park Station	X		In Progress	Non-Attainment (All)
South Coast Air Quality Management District Refueling Stations				
Corona Station	X	Exempt	In Progress	Non-Attainment (All)
Huntington Beach Station		X	In Progress	Non-Attainment (All)
Lake Arrowhead Station		X	In Progress	Non-Attainment (All)
Montebello Station	X	Exempt	In Progress	Non-Attainment (All)
Otay-Mesa Station		X	In Progress	Non-Attainment (All)
Palm Springs		X	In Progress	Non-Attainment (All)
AC Transit Station				
Oakland Station	X		In Progress	Non-Attainment (All)

Source: Energy Commission staff analysis

The following overview includes project description, information on the existing stations, and discussion of the potential health impacts related to air pollutants explicitly identified in the project proposal. In addition, demographic data for the planned project locations are provided in Table 3.

Staff reviewed results from the Environmental Justice Screening Method (EJSM) to identify projects that are in areas with social vulnerability indicators (for example, race/ethnicity, income, proximity to sensitive land use, and exposure to air pollution) and the greatest exposure to air pollution and associated health risks. For communities not yet assessed in the EJSM, the Energy Commission identified high-risk areas as those in non-attainment air basins for ozone, particulate matter (PM) (2.5) and PM (10) that have high poverty and high minority rates, as well as a high percentage of sensitive populations.

Project Name

Waste Management's, "LNG/LCNG Refueling Stations"

Project Description

Waste Management and project partners will upgrade two of their liquefied natural gas (LNG)/liquefied to compressed natural gas (LCNG) refueling stations to support their growing natural gas refuse collection fleets. The proposed upgrades to the existing LNG stations will provide expanded LNG storage and the addition of LCNG fueling options. There will be fast fuel accommodations for CNG refueling. The stations are being designed with the long-term intention to utilize renewable LNG. The proposed expansion to each station will consist of one (1) additional bulk storage tank, four (4) CNG storage spheres, two (2) LCNG pumps rated at 15 gallons per minute (GPM) at 5000 psi, one fan assisted LCNG vaporizer, one odorant injection system, and an upgrade existing PLC control system to allow the interface of the new equipment. This project will provide a convenient and affordable source of low carbon fuel for the approximate 550 heavy-duty Waste Management refuse trucks that will make daily trips to these stations. Waste Management will upgrade the stations at their Corona and San Gabriel facilities to allow for increased throughput at both facilities to support their growing natural gas fleets.

Project Impacts and Benefits

The upgrades to the natural gas stations and new hydrogen station will not result in adverse health impacts to sensitive populations at the project sites or in the cities where the stations will be located. The stations are primarily surrounded by industrial areas and some residential areas. It is a pre-existing natural gas fueling facility that fuels hundreds of trucks per day. The compressors are mainly powered by electricity, which will not result in direct criteria emissions. The additional equipment, including the pumps, the fan assisted vaporizer and the odorant injection systems are not expected to produce significant amounts of emissions and will use best available control technologies (BACT) to minimize their potential impact. Additionally, according to U.S. Department of Energy, natural gas produces significantly fewer harmful tailpipe emissions than gasoline and diesel when used in vehicles.¹

The stations where the LNG/LCNG new compressors will be installed already exist, so the project does not include new construction. Aside from load-bearing capacity requirements, these LNG stations will have no soil, groundwater, or other environmental impacts because the stations' modifications are minimal and there will not be additional construction at the site.

For the hydrogen station, small amounts of indirect carbon dioxide and direct water emissions may occur through onsite compression, storage, and dispensing of the hydrogen. Hydrogen can

¹ Alternative Fuel Data Center: Natural Gas Emissions. US Department of Energy http://www.afdc.energy.gov/afdc/fuels/natural_gas.html

escape in small amounts through the vents required for the dispensing equipment. However, when the hydrogen comes in contact with oxygen, water is formed, and no additional emissions are generated.

Outreach Efforts

Waste Management is working to complete the permitting process to upgrade both stations. Given the familiarity of the project team and the local permitting officials with LNG and LCNG fuel station design, codes, and construction requirements, it is anticipated that the permits for this project can and will be quickly secured. Based on Waste Management's extensive experience with these stations, they anticipate that there will not be any significant environmental permits, licenses or other issues that must be considered in the development of the projects.

The stations that will be modified through this project are located in the South Coast Air Quality Management District. Each station must adhere to federal safety standards and ensure that the station is safe for the community and station users. The South Coast Air Quality Management District has experience in issuing permits for natural gas stations, and will ensure that Waste Management and the stations comply with all federal, state, and air district standards to guarantee the safety and health of all surrounding communities.

The air district will evaluate the station emissions during the permitting evaluation process and will adhere to federal and state regulations to notice residents within 1,000 feet of the site if the project will result in an increase in emissions above the threshold. The South Coast Air Quality Management District will also post notices to the Air Resources Board and Environmental Protection Agency websites and in local newspapers if the project is using emission offsets or emission reduction credits.

Stations

1. Baldwin Park Station

Project Site

The equipment will be installed at 13940 East Live Oak Avenue, Baldwin Park, CA 91706, at an existing natural gas station. The station is located at Waste Management's San Gabriel Facility where the vehicles are fueled onsite. This facility is adjacent to residential area, light industrial zones, and close to open mines and freeways.

The station is located in the South Coast Air Basin, a non-attainment area for ozone, particulate matter (10 micron), and particulate matter (2.5 micron) pollutants. There are no schools, daycares, or health care facilities within a one-mile radius of the project site.

Project Impacts and Benefits

This existing station will be upgraded with two LCNG compressors to increase natural gas throughput. Each compressor is rated at 15 GPM at 5,000 psi. These compressors compress the liquid natural gas before it is vaporized into CNG. These electric compressors will increase the fuel available at this station. The electric-powered compressors are not considered a source of emissions. A net increase in emissions is not expected from the installation of the compressors.

The additional equipment being installed, including the pumps, the fan assisted vaporizer and the odorant injection systems are not expected to produce significant amounts of emissions and will use best available control technologies to minimize their potential impact.

Current throughput at San Gabriel is approximately 403,000 diesel gallon equivalents (DGE) per year. With these upgrades to the station, throughput is expected to double, increasing to approximately 823,000 DGE annually. While the throughput for this station will increase, there will not be a net increase in emissions associated with refueling the vehicles, as the natural gas will replace the use of diesel in the fleet.

Currently, there are 54 natural gas vehicles (NGVs) that are using the San Gabriel facility for refueling. With these upgrades, Waste Management plans to add 56 vehicles to their San Gabriel facility fleet through 2014, making the total NGV count 110. While there is expected to be an increased natural gas fleet, the total number of vehicles using the facility will not increase as these natural gas vehicles will replace existing diesel vehicles. Because these vehicles are replacing existing vehicles, there will not be an increase in traffic into the facility, nor there a net increase in criteria emissions resulting from increased traffic. Rather, the replacement of diesel vehicles with natural gas vehicles will likely result in a decrease in criteria pollutants at this facility and in the communities where the vehicles travel.

2. Corona Station

Project Site

The equipment will be installed at 800 South Temescal Street, Corona, CA 92870, at an existing natural gas station. The station is located at Waste Management's San Gabriel Facility where vehicles are fueled onsite. This facility is mainly surrounded by industrial sites.

The station is located in the South Coast Air Basin, a non-attainment area for ozone, particulate matter (10 micron), and particulate matter (2.5 micron) pollutants. There are two schools, no daycares, and no health care facilities within a one-mile radius of the project site.

Project Impacts and Benefits

This existing station will be upgraded to increase natural gas throughput and be outfitted with two LCNG compressors. Each compressor is rated at 15 GPM at 5,000 psi. These compressors compress the liquid natural gas before it is vaporized into CNG. The electric compressors will increase the fuel available at this station. Because the compressors are electric powered, they are not considered a source of emissions. A net increase in emissions will not occur from the installation of the compressors. The additional equipment, including the pumps, the fan assisted vaporizer and the odorant injection systems are not expected to produce significant amounts of emissions and will use best available control technologies (BACT) to minimize their potential impact.

Current throughput at the Corona facility is approximately 606,000 DGE per year. With these upgrades to the station, throughput is expected to increase by one third to 902,000 DGE annually; an increase of 296,000 DGE per year from the current natural gas throughput at the station. While the throughput for this station will increase, additional emissions are not

expected to result from the increased use of natural gas at this facility, as the natural gas will replace the use of diesel in the fleet.

Currently, there are 81 NGVs at the Corona facility. With these upgrades, Waste Management is planning to add 34 vehicles to their Corona facility fleet through 2014, making the total NGV count 115. The total number of vehicles using the facility will not increase, as these natural gas vehicles are expected to replace Waste Management's existing diesel vehicles. As a result, traffic into the facility is not expected to increase at this facility, nor will criteria emissions from these NGVs. Over time, the replacement of diesel vehicles with natural gas vehicles will likely result in a decrease in criteria pollutants at and surrounding this facility.

Project Name

South Coast Air Quality Management District's, "Alternative and Renewable Fuel and Vehicle Technology Program"

Project Description

The South Coast Air Quality Management District (SCAQMD) will partner with several entities in California to install and upgrade 11 CNG and LNG fueling stations throughout the South Coast Air Basin (with one station located in the San Diego Air Basin). Four of the originally proposed stations were assessed in the Localized Health Impacts Report for PON-09-006, originally posted on May 28, 2010. The newly proposed station upgrades and installations will replace six stations removed from the original project as a result of new developments in the project since the release of the original localized health impact report for the fueling infrastructure solicitation. This assessment includes the impacts for the new locations. Five of the six stations upgrades are existing CNG or LNG stations; one is a new CNG fueling facility at an existing diesel refueling station.

The estimated throughput for all stations being upgraded or built under this entire project is expected to reach 2 million GGEs in the first year alone, with the throughput total reaching approximately 20 million GGEs after just five years.

Potential Impacts and Benefits

This project will support existing light, medium, and heavy-duty natural gas fleets and may be influential to fleets considering natural gas for an alternative fuel. The heavy-duty vehicle sector represents a large portion of the total transportation emissions and fuel consumption. Natural gas results in criteria pollutant (volatile organic compounds, nitrogen oxides and particulate matter) emission reductions when compared to diesel. According to U.S. Department of Energy, natural gas produces significantly fewer harmful emissions than gasoline and diesel when used in vehicles.

This project is not expected to result in adverse health impacts to sensitive populations at the project sites or in the cities where the stations are located. Rather, the project is expected to alleviate air pollutant exposure in the region as CNG and LNG vehicles replace diesel vehicles.

Other than minimal construction and fuel dispensing emissions, no significant criteria emissions will result from the upgrade and construction of these stations.

Most fleet stations are located in geographically and social-economically diverse areas. An added benefit of this project is that it will reduce the cost of transportation for consumers and provide a greater supply of lower priced, clean burning fuel. Consumers who drive natural gas vehicles and who use public transportation, which is often fueled by natural gas, will therefore see both the economic and air quality improvement benefits from a public transit fleet that uses natural gas. Furthermore, it is anticipated that a total of 110 green jobs are expected to be created or sustained, providing a tangible and immediate economic stimulus in the state.

Outreach Efforts

The stations being upgraded through this project are located in the South Coast Air Quality Management District and San Diego Air Pollution Control District. Each station must adhere to federal safety standards and ensure that the station is safe for the community and station users. Both air districts have experience in issuing permits for natural gas station upgrades and installation, and will ensure that all stations comply with all federal, state, and air district standards to guarantee the safety and health of all surrounding communities. Furthermore, there is agreement between the air districts that SCAQMD will manage the project with cooperation in the permitting process from the SDAPCD.

The air districts will evaluate the station emissions during the permitting evaluation process and will adhere to federal and state regulations to notice residents within 1,000 feet of the site if the project will result in an increase in emissions above the threshold. The SCAQMD and SDAPCD will also post notices to the Air Resources Board and Environmental Protection Agency websites and in local newspapers if the project is using emission offsets or emission reduction credits.

Stations

1. Corona Station

Project Site

The equipment will be installed at the City of Corona's existing public access CNG fuel station at 430 N. Cota Street, Corona, CA, 92880. The station is located near commercial and residential areas, and several freeways in Corona.

The station is located in the South Coast Air Basin, a non-attainment area for ozone, particulate matter (10 micron), and particulate matter (2.5 micron) pollutants. There are six schools, no daycares, and one health care facility within a one-mile radius of the project site.

Project Impacts and Benefits

Corona's facility is the only publicly accessible CNG station within a twelve mile radius. The existing station is public access and is serviced by a single quick fill dispenser with two hoses and 30 time-fill connections. Corona's CNG station consists of two electrically run Greenfield C3U gas compressors delivering a maximum capacity of 764 cu. ft. per minute. The current storage capacity is 36,000 cu. ft. Last year, a total of 183,783 GGE was dispensed at this station.

The planned public CNG expansion project will be would add 36,000 cu. ft. of compressed gas storage and provide the public with an additional two-hose quick fill dispenser. This plan would double the throughput capacity and greatly enhance the public's local CNG infrastructure. The compressors will run on electricity, therefore, no additional emissions are expected from the installation of this additional compressor.

The station services several corporate fleets in the area including Waste Management, AT&T, Clean Sweep Environmental, Ware Disposal and Happy Taxi. The city is somewhat limited by the current 2-hose capacity and it is not uncommon to see several vehicles in a queue to re-fuel,

with wait times exceeding 45 minutes. The additional dispensers will decrease wait time and minimize emissions from idling vehicles that are waiting to fill up. No increased traffic is expected at the station as this upgrade will increase throughput to service the existing fleet. Therefore, additional emissions will not result from increased traffic.

The expansion of the existing CNG fueling station received a Notice of Exemption from the County of Riverside to move forward with this expansion. The Notice of Exemption states, "The City of Corona is committed to improving local and regional air quality, which is the purpose of the increased capacity. Therefore it can be seen with certainty that the project will not have a significant adverse effect on the environment and is therefore exempt from CEQA."

2. Huntington Beach Station

Station Location

The equipment being installed for the upgrade will be located at Rainbow Waste Disposal's existing CNG refueling station at 17121 Nichols Lane, Huntington Beach, CA 92647.

Rationale for Exclusion from Localized Health Impacts Report

Huntington Beach is not considered a low-income community highly impacted by air pollution and the station upgrade will not produce any significant criteria emissions. Therefore, the project is excluded from the assessment of localized health impacts and the corresponding 30-day public review period.

3. Lake Arrowhead Station

Station Location

The equipment being installed for the upgrade will be located at Rim of The World Unified School District's existing CNG refueling station at 27380 Highway 18, Lake Arrowhead, CA 92352.

Rationale for Exclusion from Localized Health Impacts Report

Lake Arrowhead is not considered a low-income community highly impacted by air pollution and the station upgrade will not produce any significant criteria emissions. Therefore, the project is excluded from the assessment of localized health impacts and the corresponding 30-day public review period.

4. Montebello Station

Project Site

The equipment will be installed at Montebello Transit's existing refueling station located at 400 S. Taylor Avenue, Montebello, CA 90640. This station is surrounded by both commercial and residential areas, and is located near the Highway 60 throughway.

The station is located in the South Coast Air Basin, a non-attainment area for ozone, particulate matter (10 micron), and particulate matter (2.5 micron) pollutants. There are seven schools, no daycares, and four health care facilities within a one-mile radius of the project site.

Potential Impacts and Benefits

This station will include the installation of a new compressed natural gas fueling facility at the City Yard for the city's bus line. The scope of work for this project includes the installation of a natural gas compression, dispensing and storage system, and improvements to the existing fueling building including lighting upgrades, a natural gas detection system and exhaust fans.

This station will service Montebello Transit's small fleet of new natural gas buses.

Approximately 45,000 GGE annually will be dispensed from this station in the first year, with throughput increasing to approximately 300,000 GGE/year as the natural gas fleet expands to replace the diesel fleet. The addition of the compressing, dispensing and storage system will not result in increased emissions from equipment use, as the compressors are electric-powered.

The numbers of natural gas vehicles in the fleet will increase over the next couple of years to approximately 20 vehicles. These natural gas vehicles will be replacing Montebello Transit's existing diesel buses, so there will not be an increase in emissions from the vehicles or increased traffic. It is anticipated that the replacement of the diesel buses with natural gas buses will result in improved air quality within the communities because of natural gases emission reduction benefit.

Minimal construction is expected from the installation of the natural gas station equipment. Overall, it is anticipated that the installation of this equipment will result in a net decrease in criteria and toxic air pollutants. The City of Montebello issued a Notice of Exemption for the installation of the natural gas fueling equipment. While minimal construction and fuel dispensing emissions are expected, the replacement of diesel transit buses with natural gas buses over the next four years will likely improve air quality and reduce exposure to criteria and toxic air pollutants for the surrounding communities.

5. Otay-Mesa Station

Station Location

The LNG fueling equipment will be installed at the Pilot Travel Center at 1497 Piper Road, San Diego, CA 92117; an existing gasoline retail fueling station.

Rationale for Exclusion From Localized Health Impacts Report

Otay-Mesa is not considered a low-income community highly impacted by air pollution and the station will not produce any significant criteria emissions. Therefore, the project is excluded from the assessment of localized health impacts and the corresponding 30-day public review period.

6. Palm Springs Station

Station Location

The quick response system (QRS) temporary fueling system will be installed at the site of a CNG station (under construction) at 510 West Garnet Avenue, Palm Springs, CA 92262.

Rationale for Exclusion From Localized Health Impacts Report

Palm Springs is not considered a low-income community highly impacted by air pollution; therefore, the project is excluded from the assessment of localized health impacts and the corresponding 30-day public review period.

Project Name

AC Transit's, "AC Transit Hydrogen Transit Bus Fueling Station Oakland"

Project Description

AC Transit (ACT) will partner with the San Francisco Bay Area's largest bus transit operators (San Francisco Muni, Samtrans in the Peninsula, Golden Gate Transit in Marin, and Valley Transportation Authority in San Jose) to deploy 12 next-generation fuel cell buses. Energy Commission funding will support the construction of the Oakland hydrogen station; one of the two, new, state-of-the-art hydrogen fueling stations being developed to support operating requirements for the expanding fuel cell bus fleets. These scalable systems will enable a quick and easy expansion of fuel supply to accommodate more vehicles, green technology to reduce the carbon footprint of fuel production, and more energy-efficient operating equipment.

The Oakland hydrogen station will be built so that it is fully integrated into ACT's normal fleet fueling system, with hydrogen dispensers located in direct line with diesel dispensers at the same fueling island. Station characteristics will enable ACT to fuel from 6 to 12 buses consecutively, each with 30 kilograms of gaseous hydrogen, and each within five to six minutes. The primary source of fuel will be trucked-in liquid hydrogen reformed with natural gas.

Project Site

The hydrogen fueling equipment will be installed at the AC Transit's existing diesel fueling station at 1100 Seminary Ave. Oakland, CA 94605. The station is located near industrial and residential areas, and a freeway in Oakland.

The station is located in the Bay Area Air Basin, a non-attainment area for ozone, particulate matter (10 micron), and particulate matter (2.5 micron) pollutants. There are XX schools, XX daycares, and XX health care facilities within a one-mile radius of the project site.

Potential Impacts and Benefits

According to the California Air Resources Board and the U.S. Department of Energy, hydrogen vehicles are considered zero emission vehicles and hence are not considered concerns for local air pollution.² Small amounts of indirect carbon dioxide and direct water emissions may occur through onsite compression, storage, and dispensing of the hydrogen. Hydrogen can escape in small amounts through the vents required for the dispensing equipment. However, when the hydrogen comes in contact with oxygen, water is formed, and no additional emissions are generated.

7 Alternative Fuel Data Center: Hydrogen Emissions. U.S. Department of Energy http://www.afdc.energy.gov/afdc/vehicles/emissions_hydrogen.html, California Air Resources Board http://www.arb.ca.gov/fuels/altfuels/electric_hydrogen/electric_hydrogen.htm

ACT will partner with Linde to build the hydrogen system components, including a 9,000-gallon liquid storage tank, vaporizers, a compression system to compress hydrogen gas to more than 500-bar pressure, dispensers, and a Polymer Electrolyte Membrane (PEM) electrolyzer. A third of the fuel supply will be derived from the electrolysis of water using a PEM electrolyzer powered by renewable electricity generated from biogas-fed, stationary 400-kW solid oxide fuel cells.

The stationary fuel cell system will provide ACT's largest operating division a fleet of more than 200 buses with a continuous supply of locally generated green power, reducing ACT's energy consumption by more than 9,000 MMBTU per year and carbon emissions by 1,445 tons per year. The Oakland station will also feature a photovoltaic system that is expected to meet the energy use requirements of the station.

Because a majority of the station will run on renewable electricity, and hydrogen use in vehicles does not emit criteria or toxic air pollutants, this station will not impact surrounding communities or result in adverse health effects. The installation of this station will likely improve air quality in the region by supporting a hydrogen bus fleet that will replace part of the existing diesel bus fleet.

Outreach Efforts

This station is located in the Bay Area Air Quality Management District (BAAQMD). The station must adhere to federal safety standards and ensure that the station is safe for the community and station users. The BAAQMD has experience in issuing permits for hydrogen station installation, and will ensure that all stations comply with all federal, state, and air district standards to guarantee the safety and health of all surrounding communities.

The air district will evaluate the station emissions during the permitting evaluation process and will adhere to federal and state regulations to notice residents within 1,000 feet of the site if the project will result in an increase in emissions above the threshold. The BAAQMD will also post notices to the Air Resources Board and Environmental Protection Agency websites and in local newspapers if the project is using emission offsets or emission reduction credits.

Aggregate Location Analysis and Community Impacts

An Air Resources Board fact sheet describes the health impacts of exposure to air pollutants. In particular, ozone and particulate matter exposure is the cause of approximately 210,000 cases of asthma and 8,800 premature deaths each year.

The proposed natural gas and hydrogen fuel infrastructure will increase the widespread use of alternative fuel vehicles in place of their diesel counterparts. As more heavy-duty natural gas and hydrogen vehicles enter the market and begin to displace gasoline and diesel vehicles, tailpipe pollutants will decrease significantly. Additionally, the compressors use electricity. The electricity generation occurs offsite; therefore, the associated emissions do not affect the communities in which the stations are located.

Based on the above assessments and CEQA analysis, and considered with the other projects funded under this solicitation, no communities are disproportionately affected by these projects. While Baldwin Park, Montebello, Oakland and Corona are considered to be low-income communities highly impacted by air pollution, the above analysis indicates that there will be no net increase in criteria and toxic and air pollutants as a result of the installation of the equipment and increased throughput at each facility.

The following table indicates that two or more environmental justice indicators¹⁰ exist in Baldwin Park, Lake Arrowhead, Montebello, Oakland and Palm Springs. Based on the above assessment and CEQA analysis, and considered with the other projects funded under this solicitation, these communities are not disproportionately affected by this project.

Table 2: Environmental Justice Indicators

City	Minority	Poverty Level	Unemployment Rate	Age
Baldwin Park	X	X	X	
Lake Arrowhead	X	X		
Montebello	X	X	X	
Oakland	X	X	X	
Palm Springs		X		X

Source: Energy Commission staff analysis

Some of the notable benefits from the installation and upgrades of the above stations include the increased conversion of fleets to use cleaner alternative fuels, which in turn will replace higher emitting vehicles like diesel vehicles. This project will provide fuel availability to growing alternative fuel fleets in the Southern California and the Bay Area, including those that travel along high-traffic, goods movement corridors. The projects funded through the infrastructure solicitation and agreement are anticipated to improve the environment and result in socioeconomic benefits by generating jobs and revenue for local communities that would otherwise not be available.

Overall, the projects proposed for funding will result in net criteria pollutant reductions, including those identified as the cause of asthma and premature deaths. As described in the assessment above, three of the stations being considered for funding are in communities that are highly impacted by air pollution with low-income neighborhoods, but it is not anticipated that there will be any adverse health effects in high-risk communities as a result of the upgrades and installation of these stations. While these stations are located close to, or in, low-income communities highly impacted by air pollution, the stations are not expected to result in any adverse health effects in the adjacent communities as a result of the installation and use of the equipment.

The last table in this addendum provides city-level data for the city project location to give additional insight on the community demographics where the project will be located.

Table 3: Demographic Data for Natural Gas Stations

(Percentage of total population)

City	Baldwin Park	Corona	Huntington Beach	Lake Arrowhead	Montebello	Oakland	Otay-Mesa	Palm Springs
Below poverty level	18.2	8.3	6.6	21.5	17.0	19.4	10.6	15.1
Ethnicity								
Black	1.6	6.4	0.8	12.1	0.9	35.7	4.6	3.9
American Indian or Alaskan Native	1.5	0.9	0.7	1.6	1.2	0.7	0.8	0.9
Asian or Pacific Islander	11.7	7.8	9.5	6.4	11.7	15.7	11.6	3.9
Hispanic	78.7	35.7	14.7	36.6	74.6	21.9	49.6	23.7
White	40.2	62.0	79.2	56.2	46.8	31.3	55.1	78.3
Age								
< 5 years	9.7	9.8	6.2	9.5	8.1	7.1	7.8	4.7
> 65 years	6.2	5.8	10.4	6.5	12.4	10.5	11.0	26.2
Unemployment rate	15.1	10.4	7.0	7.0	13.6	15.6	11.8	11.0

Source: Unemployment Information, EDD Labor Market Information Division; Age/ethnicity demographics, U.S. Census