

**California Energy Commission**  
**STAFF REPORT**

**LOCALIZED HEALTH IMPACTS  
REPORT**

Addendum 2 for a Selected Project With Location Changes  
Awarded Funding Through the Alternative and Renewable  
Fuel and Vehicle Technology Program Under Solicitation  
PON-11-602 – Alternative Fuels Infrastructure: Electric,  
Natural Gas, Propane, E85, and Diesel Substitutes  
Terminals

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# CALIFORNIA ENERGY COMMISSION

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# ADDENDUM

The *Localized Health Impacts Report Addendum for Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-11-602 – Alternative Fuels Infrastructure: Electric, Natural Gas, Propane, E85, and Diesel Substitutes Terminals* was originally posted September 21, 2012, and the public comment period ended October 31, 2012. The September Addendum addressed the projects recommended for funding under the Notice of Proposed Awards (NOPA) – Round 2.

Sixty-four projects were funded under Round 2, and 24 projects were funded under Round 1 of this solicitation. Since the revised NOPA was posted, one project has changed several of its locations for ethanol (E85) fueling stations. The original project proposed to install 24 E85 fueling stations in various locations; however, based on recent developments and further assessment, five stations were eliminated, and seven stations will be located in different communities.

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

The changes to the locations proposed, in relation to RTC Fuels, LLC DBA Pearson Fuels, “Pearson Fuels E85 Stations” are:

<b>Proposal #</b>	<b>Proposer/project location</b>	<b>Project Status</b>
14	<del>Pearson Fuels/ Station #1 391 West A St., Hayward, CA 95441</del>	Removed
11	Pearson Fuels/ Station #2 934 S. Grand Ave., Glendora, CA 91740	Continuing
11	Pearson Fuels/ Station #3 6305 Morro Rd., Atascadero, CA 93446	Continuing
11	Pearson Fuels/ Station #4 2401 Golden Hill Rd., Paso Robles, CA 93446	Continuing
11	Pearson Fuels/ Station #5 14804 Powers St., Lost Hills, CA 93249	Continuing
11	Pearson Fuels/ Station #6 830 Leong Dr., Mountain View, CA 94043	Continuing
11	Pearson Fuels/ Station #7 376 Castro St., San Francisco, CA 94114	Continuing
11	Pearson Fuels/ Station #8 175 Main St., Watsonville, CA 95076	Continuing

11	<b>Pearson Fuels/ Station #9</b> 5045 Madison Ave., Sacramento, CA 95841	Continuing
44	<b>Pearson Fuels/ Station #10</b> 46990 Beach Blvd., Huntington Beach, CA 92647	Removed
44	<b>Pearson Fuels/ Station #11</b> 3774 Main St., San Diego, CA 92113	Removed
44	<b>Pearson Fuels/ Station #12</b> 501 Inland Center Dr., San Bernardino, CA 92408	Removed
44	<b>Pearson Fuels/ Station #13</b> 401 North Grand Ave., Santa Ana, CA 92701	Removed
44	<b>Pearson Fuels/ Station #14</b> 48421 Imperial Hwy., Yorba Linda, CA 92886	Removed
44	<b>Pearson Fuels/ Station #15</b> 41770 Washington Blvd., Santa Fe Springs, CA 90670	Removed
44	<b>Pearson Fuels/ Station #16</b> 40916 Rosecrans Ave., Norwalk, CA 90650	Removed
44	<b>Pearson Fuels/ Station #17</b> 9851 Imperial Hwy., Downey, CA 90242	Removed
44	<b>Pearson Fuels/ Station #18</b> 4498 Melrose Ave., Chula Vista, CA 91914	Removed
44	<b>Pearson Fuels/ Station #19</b> 7737 Balboa Ave., San Diego, CA 92114	Removed
11	<b>Pearson Fuels/ Station #20</b> 15051 Rogers Rd., Patterson, CA 94538	Continuing
44	<b>Pearson Fuels/ Station #21</b> 4090 W. Main St., El Cajon, CA 92020	Removed
11	<b>Pearson Fuels/ Station #22</b> 12931 Garden Grove Blvd., Garden Grove, CA 92843	Continuing
11	<b>Pearson Fuels/ Station #23</b> 17520 Brookhurst St., Fountain Valley, CA 92708	Continuing
11	<b>Pearson Fuels/ Station #24</b> 350 Encinitas Blvd., Encinitas, CA 92024	Continuing
added	<b>Pearson Fuels/ Station # 25</b> Lytton & Rosecrans, San Diego, CA 92110	New
added	<b>Pearson Fuels/ Station #26</b> 3651 Lake Tahoe Blvd, South Lake Tahoe, CA 96150	New
added	<b>Pearson Fuels/ Station #27</b> 890 Alma Real Dr., Pacific Palisades, CA 90272	New

<b>added</b>	<b>Pearson Fuels/ Station #28</b> 4200 Firestone Blvd., Southgate, CA 90280	New
<b>added</b>	<b>Pearson Fuels/ Station #29</b> 1602 East Valley Parkway, Escondido, CA 91941	New
<b>added</b>	<b>Pearson Fuels/ Station #30</b> 3810 Massachusetts Ave., La Mesa, CA 91941	New
<b>added</b>	<b>Pearson Fuels/ Station #31</b> 16500 Los Gatos Blvd., Los Gatos, CA 95032	New

Source: California Energy Commission staff analysis

Twelve locations were eliminated and seven new locations were added, a net reduction of five stations, necessary because the proposed funding award included less funding than the proposal requested.

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 project 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**

<b>Project</b>	<b>At-Risk Community</b>	<b>CEQA Completed</b>	<b>Air District Permit Status</b>	<b>Attainment Status for Ozone, PM (2.5), PM (10)</b>
<b>Pearson Fuels E85 Stations</b>				
San Diego	Yes	In Process	In Progress	Non-Attainment (All)
South Lake Tahoe	Yes	In Process	In Progress	Non-Attainment (Transitional)
South Gate	Yes	In Process	In Progress	Non-Attainment (All)
Escondido	Yes	In Process	In Progress	Non-Attainment (All)
La Mesa	Yes	In Process	In Progress	Non-Attainment (All)
Los Gatos	No	In Process	In Progress	Non-Attainment (All)
Los Angeles	Yes	In Process	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**

Pearson LLC's (Pearson's) "Pearson Fuels E85 Stations" (this addendum addresses the 7 locations that have changed).

## **Project Description**

Pearson is installing E85 into seven existing gasoline stations. All seven stations are open and dispensing fuel to the public. All stations are legally operating under their local jurisdiction regulations including those from the local air district, fire department, and Certified Unified Program Agency. For all of the seven stations, Pearson has received or will shortly receive an official exemption or negative declaration from the California Environmental Quality Act (CEQA) because they are already zoned and permitted to be a fuel station and the addition of E85 is a ministerial action therefore exempt.

## **Project Impacts and Benefits**

The project has been evaluated using Appendix A of the August 2007 *Full Fuel Cycle Assessment: Well-to-Wheels Energy Inputs, Emissions, and Water Impacts*, [CEC-600-2007-004-REV](#) (referred to as FFCA) and the December 2007 *State Alternative Fuels Plan*, [CEC-600-2007-011-CMF](#). It is verified in the FFCA that even corn-based E85 shows at least a 70 percent reduction in petroleum use and a reduction in carbon intensity (CI) ranging between 15 percent and 36 percent as compared to the CI of California Reformulated gasoline.

The majority of the E85 that is dispensed from the completed stations will be displacing California RFG gasoline that would otherwise be transported and burned within the same localized air shed, that is, the air supply of a given region. Therefore, the addition of the E85 to the station will decrease the area criteria pollutants and toxic air contaminants in an amount directly related to the difference between the fuel cycle emissions of those fuels.

Using Appendix A of FFCA, fuel cycle emissions for both the E85 and the baseline fuel have been determined using scenario year 2012 for greenhouse gases (GHGs) for total weighted toxic air contaminants. This has been evaluated using both the 2010 and newer vehicles, and the 2009 and older vehicles. Given that the funding agency must use the average toxic air contaminants of the fuel pathways, which is the description of where the fuel comes from, through how it is processed, and on into the type of vehicle it is used for, available for the project if multiple fuel pathways are applicable, the baseline fuel pathways, which is the fuel pathway that represents the most common type of vehicle in a group, must be determined using the appropriate fuel and vehicle/equipment combination set forth in Table 1, and fuel projects must use the baseline fuel pathway for the baseline fuel.

Appendix A of FFCA, pages A-3 and A-7, RFG Marginal, ICEV, indicates a baseline value of 473 and 431 gram per mile (g/mi), respectively, an average of 452. Since the funding agency must use the average, Pearson has calculated the average of the fuel pathways for E85 from pages A-19, A-20, A-23, and A-24, and the average of all 32 pathways is 275 g/mi of total weighted GHGs. The total full fuel cycle GHG emissions of the E85 fuel pathway are less than or equal to those of the baseline gasoline fuel pathway by an average of  $(452-275) = 177$  g/mi.

The benefits to the environment are substantial. Pearson has quantified the environmental benefits in some detail above. Furthermore, the company is always looking for ways to reduce the greenhouse gas impact of its fuel. The company has always used 90.1 CI ethanol-to-blend E85, even though money could be saved by using ethanol with a higher score. E85 in California is nominally 83 percent ethanol and 17 percent California reformulated gasoline blendstock for oxygenate blending (CARBOB), which has a CI score of 90.1 (for Pearson) and 95.86 respectively. In performing the calculation, the company's E85 has an implied CI score of  $((.83 \times 90.1) + (.17 \times 95.86)) = 91.08$ , a very substantial improvement over CARBOB.

## **Outreach Efforts**

Once Pearson has a station open, the company makes a forthright effort to get it on the map, both literally and figuratively. It always holds a grand opening event where it will sell fuel at \$1.85 per gallon or sometimes just give it away for free for a few hours to garner press coverage and local community support. Once the word is out, the company continues to leverage the national marketing of E85 stations that has been going on for years through several national organizations. There are at least 12 on-line California E85 station locator tools operated by many organizations. These tools communicate to the public the availability of E85 in their area. Pearson works closely with all of the locator tool providers to keep them up to date and can readily share this station information for the Energy Commission's DRIVE website.

Pearson has informational brochures located on brochure holders at the dispensers. Pearson will also have Web links on the front page of its website as new stations come on-line. New stations will be added with direction services being available as they are now for Pearson's other stations. As the infrastructure develops and E85 ceases to be news each time a station opens, Pearson may offer its station partners the opportunity for a co-op program where 1 cent per gallon will go into an advertising, outreach, and education program to promote the fuel at all of its stations statewide, providing significant economies of scale.

## 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 cause about 210,000 cases of asthma and 8,800 premature deaths each year.

The proposed E85 fuel infrastructure will increase the widespread use of alternative fuel vehicles in place of their gasoline counterparts. As more flex-fuel vehicles using E85 enter the market and begin to displace gasoline and diesel vehicles, tailpipe pollutants will decrease significantly.

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 all cities have at least one Environmental Justice (EJ) indicator, and five 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 air pollutants as a result of the installation of the equipment and increased throughput at each facility.

The following table indicates that one city has four EJ indicators, two cities have three EJ indicators, three cities have two EJ indicators, and one city has one EJ indicator. 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
Escondido	X	X		X
La Mesa	X			X
Los Angeles	X	X	X	
Los Gatos				X
San Diego	X	X		
South Lake Tahoe		X	X	
South Gate	X	X	X	X

Source: Energy Commission staff analysis

Some of the notable benefits from the installation and upgrades of the above project include the increased use of cleaner alternative fuels, which, in turn, will replace higher emitting vehicles like gasoline vehicles. This project will provide fuel availability to growing alternative fuel demand in various areas in California, including those that travel along high-traffic corridors. The projects funded through the infrastructure solicitation and agreements 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 E85 Stations**

(Percentage of total population)

City	Escondido	La Mesa	Los Angeles	Los Gatos	San Diego	South Lake Tahoe	South Gate
<b>Below poverty level</b>	15.6	11.7	19.5	3.5	14.1	17.7	18.5
<b>Ethnicity</b>							
<b>Black</b>	2.5	7.7	9.6	0.9	6.7	0.9	0.9
<b>American Indian or Alaskan Native</b>	1	0.8	0.7	0.6	0.6	1.1	0.9
<b>Asian or Pacific Islander</b>	6.1	5.8	11.3	10.9	15.9	5.5	0.8
<b>Hispanic</b>	48.9	20.5	48.5	7.2	28.8	31.1	94.8
<b>White</b>	40.4	61.9	28.7	77.0	45.1	59.9	3.4
<b>Age</b>							
<b>&lt; 5 years</b>	8.1	6.3	6.6	4.7	6.2	6.3	8.4
<b>&gt; 65 years</b>	10.5	14.2	10.5	17.9	10.7	9.8	7.0
<b>Unemployment rate</b>	9.7	8.0	11.2	5.2	9.5	12.3	13.0

Source: Unemployment Information, EDD Labor Market Information Division; Age/ethnicity demographics, U.S. Census <http://quickfacts.census.gov/qfd/index.html> and <http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133>