PMC-EF2a
(2/04/02)

U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION

RECIPIENT: Air Products and Chemicals Inc. **STATE:** CA

PROJECT TITLE : California Hydrogen Infrastructure Project (Torrance Fueling Station)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
CDP	DE-FC36-05GO85026	GFO-07-044-002	GO85026

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:
Description:

B5.1 Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

Rational for determination:

Air Products and Chemicals Inc., in conjunction with Shell Hydrogen, is proposing to use DOE funding to plan, design, and install a temporary hydrogen fueling station at 2051 W. 190th Street in Torrance, California. The station will be located along the existing 17 mile long hydrogen pipeline that runs through the Torrance and Wilmington areas of metropolitan Los Angeles. The excess hydrogen currently available on this pipeline will be used to supply the hydrogen fueling station. Over the course of the one year operation period, the station will provide hydrogen for a variety of alternatively fueled vehicles and help develop a better understanding of emerging vehicle and fueling infrastructure requirements.

The tasks to be funded as part of this project are as follows:
Task 1 – Equipment Design and Selection
Task 2 - Site Development, Permitting, and Safety Plan
Task 3 – Procurement, Construction, and Installation
Task 4 – Commissioning and Start-Up
Task 5 – Operation and Maintenance
Task 6 – Station Date Acquisition and Analysis

Location and Traffic:
The proposed fueling station will be located at 2051 W. 190th Street in Torrance, CA, along an existing hydrogen pipeline. The area is zoned for light industrial use and the proposed fueling station site would be surrounded by Toyota's corporate headquarters, parking lots, and a residential neighborhood. The proposed site is also roughly 800 feet from Interstate 405, a major north – south interstate highway in Southern California. The closest residential property is approximately 330 feet from the proposed site.

There will be an estimated 20 cars a day (100 cars a week) visiting the fueling station. The station is designed for passenger cars and will be open to all OEM approved vehicles. Hydrogen will be supplied by the existing hydrogen pipeline and there will therefore be no need for any deliveries of hydrogen. The fueling station is located in a corporate park near a major interstate, and any additional traffic created by this project is not expected to have a significant impact on the traffic flow in the area.

Public Outreach and Involvement:
Air Products held an informational open house on 8/6/2008 and sent invitations to every residence within a 500-foot radius of the proposed facility. The Mayor, City Council members, and approximately 50 residents attended this open house. Additionally, the project was discussed at length on 6/17/2009 in a Torrance Planning Commission meeting, in which the commission voted unanimously to approve the project's application for a conditional use permit. These

meetings are open to all residents of the city of Torrance.

Construction and Installation:
The construction will have two parts: the hydrogen pipeline extension and the construction of the hydrogen fueling station. The construction will last approximately 3 -4 months and will involve the use of cranes and forklifts to install the equipment.

The pipeline extension will consist of a new 2" branch that will be welded on to an existing 10" pipeline which runs East-West underneath 190th St. The length of the new extension is 80 feet and it will run North-South, or perpendicular to the existing line. Forty feet of the new extension are on the property of the City of Los Angeles and the remaining 40 feet will be on private, Shell-leased property in the jurisdiction of Los Angeles County. All trenching and excavation will be backfilled after construction.
Each component of the station will be placed on modular skids, allowing for easy installation and removal.

All construction will take place during normal work hours, and any construction on major roadways or through major signalized intersections would not be conducted during peak periods. Aside from temporary dust that may be generated during the construction, no other air emissions or pollutants are expected to be generated during construction. Additionally, due to the project location in a corporate park with close proximity to a major interstate, the temporary use of the construction equipment is not expected to have a significant impact on surrounding noise or traffic patterns.

Equipment:
The hydrogen storage system is comprised of two tank systems, one capable of holding 120 kg of Hydrogen gas at 6,800 psig and the other 20 kg at 13,200 psig max. All hydrogen storage tanks will be designed in accordance with American Society of Mechanical Engineers (ASME) standards.

Two Air Products compressors will support the fueling station. One H35 compressor will service a 350 bar dispenser and one H70 compressor will service the 700 bar dispenser. The storage and compression equipment will be located east of the dispensing equipment and will be surrounded by a secure fence and wall protected by bollards.

A standalone outdoor dual hose H35/H70 dispenser will be installed and will dispense roughly 48kg a day of hydrogen. The dispensing equipment is equipped with overpressure and temperature sensors to prevent the storage tanks on the vehicle from over-pressurizing or overheating (in accordance with SAEJ2601). The dispensing equipment would be located curbside for vehicles to access, west of the storage and compression equipment.

Permits:
This project was granted an exemption by the California Environmental Quality Act (CEQA). Additionally, a CEQA Environmental Impact Report (EIR) was conducted for the 7.3 mile pipeline transporting the Hydrogen to the site. The report identified four areas of concern for that project and corresponding mitigation measures which Air Products will also apply to this project.

The project was granted a Conditional Use Permit by the City of Torrance for the storage and use of hydrogen.

Shell Hydrogen received a letter from South Coast Air Quality Management District (SCAQMD) on 10/21/2009 indicating that the project was exempt from permit requirements pursuant to Section 42303 of the Health and Safety Code.

Station design, equipment, and infrastructure will comply with the latest editions of ASME, NFPA, CGA, UBC, SAE, NEC, and California codes and Air Products internal standards and specifications.

Air Products and the Shell Hydrogen will work with local authorities to obtain any additional construction and operating permits.

Waste Stream/Emissions:
During the fueling, a few cubic centimeters of gaseous hydrogen will be vented when releasing the H35 nozzle from the vehicle. Under normal station operation, no other hydrogen venting is expected. Aside from this very small amount of hydrogen emitted during normal fueling operations and some temporary dust likely to be created during the construction of the station, the fueling station project would not result in any adverse impacts to air quality. All site construction will be conducted using a Storm Water Pollution Prevention Plan including Best Management Practices (BMP's) mandated under California water quality laws. This project is not expected to have an adverse impact to water quality. No hazardous materials will be used as part of this project.

Noise:
The hydrogen fueling station will be located in a corporate park, adjacent to a number of parking lots and a major interstate. The noise generated by the highway traffic and normal operational noise from day to day activities in the corporate park is likely to offset any additional noise created by the fueling station equipment.

Safety:
Environment: The station is designed so that, under normal operation and utilization, hydrogen is captive. The facility will be engineered for automated operation in a fail-safe manner but personnel from local Air Products offices will also be available should any need for unscheduled maintenance arise. Air Products will also perform frequent inspections and maintenance to ensure correct operation.
Public Safety: Although the dispensers are open to public access, they will be located on private property monitored by cameras. All storage and compression equipment would be located behind a secure fence. Equipment has been designed and would be installed per applicable codes and a safety review has been completed. Access to the station will be limited to those trained and approved to use the station.
Employee Safety: Only Air Products personnel will maintain or perform work on the station. Those who will be performing fuelings will be trained on hydrogen, fueling operation, and basic emergency response. Those who have been trained will be issued unique ID cards and PIN numbers that grant access to fuel from the station.
Equipment Safety:
• Sited outdoors in accordance with NFPA 55.
• Incorporation of all HAZOP and FMEA recommendations from previous projects as well as any identified for this project. Air Products has performed extensive analysis on dispensing safety.
• User-friendly controls: Clear instructions are on the front of the dispenser. The dispenser has an electronic interface that provides step-by-step instructions similar to commercial gasoline dispensers.
• Utilization of nozzles that meet the geometry requirements of SAE J2600. These nozzles have undergone an extensive third party testing and approval process.
• Hose overpressure detection system with multiple levels of protection, including automatic shutdown and alarm. This overpressure protection is to prevent overfilling of the vehicle tank.
• Utilization of a breakaway device to prevent the release of hydrogen if a vehicle pulls away from the dispenser during filling.
• Redundant automatic shutoff valves that will close and stop the filling process in an emergency. A hydrogen gas relief venting system will also be integrated and employed in the event of an emergency.
• Local and remote Emergency Stop switches (red palm buttons) that can be operated by the vehicle driver or others to stop the filling process.
• Hose Leak detection system with automatic shutdown and alarm.
• Pressure and temperature compensation so fills do not exceed pressure and temperature limits of the vehicle tank, per SAE J2601.
• Personal Identification Number capability to ensure only qualified operators can fill vehicles, and to act as user identification for tracking station usage.
• Excess flow programming to interrupt the fill process if parameters leave established norms for fast fills or measured flow exceeds set amounts.
• Piping and valve components designed using an ~ 6:1 safety factor.
• The dispenser will meet or exceed applicable US Codes and Standards.
• Control panels are UL listed.
• Storage vessels are ASME coded.

This project is classified as a small scale renewable energy research and development project and is therefore categorically excluded from further NEPA review under CX B5.1

NEPA PROVISION
DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:
Incorporate the same mitigation measures, established by the 2000 CEQA EIR for the original hydrogen pipeline, in the construction of the 80 foot pipeline extension, when applicable.

Note to Specialist :

Caroline Mann 6/3/10

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 6/3/10

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

☐ Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

☐ Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.

☐ Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____ Date: _____

Field Office Manager