

PLANNING AND COMMUNITY  
DEVELOPMENT DEPARTMENT

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DEVELOPMENT SERVICES AGENCY

Ted James, AICP, DSA DIRECTOR

Administrative Operations  
Engineering, Surveying and Permit Services  
Planning and Community Development  
Roads

September 14, 2010

Board of Supervisors  
Kern County Administrative Office  
1115 Truxtun Avenue  
Bakersfield, CA 93301

California Energy Commission

**DOCKETED**

**08-AFC-8A**

TN # 65959

JUN 25 2012

**Proposed Request for California Energy Commission (CEC) for public services  
impact mitigation conditions and payments for the Hydrogen Energy California  
(HECA) project by Hydrogen Energy International LLC  
(Fiscal Impact: None) SD # 4**

This matter is a request for a determination by your Board on the amount and term of public services impact mitigation conditions and payments for the Hydrogen Energy California (HECA) project by Hydrogen Energy International LLC (Docket No. 08-AFC-8) being processed by the California Energy Commission. This matter has been coordinated with the County Administrative Office who requested assistance in coordination from Planning and Community Development.

Hydrogen Energy International LLC is jointly owned by BP Alternative Energy North America, Inc. and Rio Tinto Hydrogen Energy LLC. The project is located on 473 acres 7 miles west of Bakersfield and 1.5 miles northwest of Tupman in Western Kern County. The HECA project is a proposed 250 MW Integrated Gasification Combined Cycle power generating facility using petroleum coke or blends of petcock and coal to produce hydrogen to feed a combustion turbine operating in combined cycle mode. The Gasification Block will also capture approximately 90 percent of the carbon dioxide and be transported to the Elk Hills Oil Field for enhanced oil recovery and storage (sequestrations). In addition approximately 100 MW of natural gas generated peaking power will be available from the project. While on private property, Kern County is preempted from land use control on power plants over 50 MW. The power will be distributed through interconnection with the Pacific Gas and Electric Company's Midway Substation.

The process used by the California Energy Commission has been certified by the California Resources Agency as meeting all requirements of a certified regulatory program. The CEC is the CEQA lead agency for all thermal electric power plants 50MW or larger. Once an application for certification is submitted, the CEC prepares a Preliminary Staff Assessment (PSA) and presents it to the applicant, interveners, organizations, agencies and other interested parties.

Comments from these groups are incorporated into the PSA. Once all issues identified in the PSA are resolved, the CEC prepares a Final Staff Assessment (FSA). The FSA is passed along to the CEC Commissioners assigned to this project who use the information to reach a recommended decision. The full Energy Commission then considers the recommendation. The CEC staff has worked closely with the Kern County Planning Department, with costs reimbursed by the applicant to address citizen and agency concerns and ensure that mitigation measures and conditions are effective for local control.

The project has been reviewed by all County Departments and the County Administrative Office for impacts on public services and roads. Specific details of the comments have been attached for your review. The following are the recommended comments and proposed mitigation:

1. Roads Department

- a. Improvements to Dairy Road and Adohr Road, obtain all encroachment permits and necessary permits for oversized or overweight loads

2. Fire Department

- a. Purchase and deliver of a fully equipped industrial Foam pumper tender  
Cost - \$500,000
- b. Purchase 5,000 gallon cache of foam  
Cost - \$100,000  
Total - \$600,000

Provide a qualified Fire Protection Specialist during plan review process.

3. Waste Management

The waste product produced by the gasification process is a residual material (fly ash/slag) that will affect the landfill capacity of the County and attainment of diversion goals. If the material is diverted to County landfills, rather than private landfills such as Clean Harbors or H.M. Holloway, then it will significantly affect both operations (mixing of the material with municipal waste) and capacity life resulting in more cost. The estimated amount for the first two years is 800 TPD (tons per day) with an 70 – 100 TPD during the remainder of operations, although depending on fuel mix it may be as high as 350 TPD. The first two years are higher due to the Department of Energy funded component of the project for the CO2 storage which requires that only coal be used for the first two years. Use of coal results in a higher amount of residual flyash/slag product for disposal. Even if the material is placed in a private landfill rather than a County landfill, as it is produced here, it will affect County diversion goals. If no product is recycled or reused the proposed amount of material could eliminate 17% of the diversion we have already attained and we would be out of compliance.

The applicant is proposing recycling and reuse of the fly ash/slag. Potential uses include road base and sub-base, use in cement, sandblasting and construction. Staff notes, however, that Kern County Environmental Health Division has numerous fly ash material operations that have been unable to find uses for their products. The applicant is proposing to study the potential sources for such reuse, but such a study may not identify sufficient cost effective industries for the material over the next years, particularly during this economic recovery. Waste Management Department notes that if the material is taken out of state it will not affect our division goals.

To ensure that the impacts to the landfill are mitigated, staff is proposing the following mitigation:

- a. Prior to acceptance of residual materials at a Kern County public landfill applicant will need to supply characterization of waste and secure written approval from the Director of Waste Management Department to ensure compatibility with landfill operations and fee schedules.
- b. HECA shall conduct a market analysis of potential beneficial uses of the waste.
- c. If the residual materials are subject to Jurisdictional Reporting and credited to Kern County unincorporated area as disposal, then HECA shall compensate Kern County \$75/ton for implementation of additional recycling facilities and programs to maintain compliance with State diversion mandates. This is in addition to any gate/tipping fees for disposal.

Staff has reviewed these requests with the project applicant. This project, while providing significant economic benefits for the county in jobs, sales tax and property taxes, has the potential to impact county services and general fund costs.

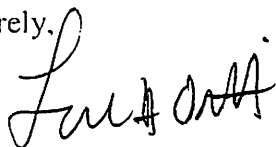
Staff recommends your Board approve the staff recommendations which will be transmitted to the California Energy Commission by staff letter with the summary of proceedings.

September 14, 2010

Page 4

Therefore, IT IS RECOMMENDED that your Board approve the sending written comment to California Energy Commission for public services impact mitigation and conditions for roads, fire department and waste management under the terms and conditions as recommended by staff.

Sincerely,



LORELEI H. OVIATT, AICP, Director  
Kern County Planning and Community Development Department

LHO:jb

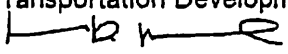
Attachments

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cc      County Administrative Office  
         County Counsel  
         Roads Department  
         Fire Department  
         Waste Management Department  
         Hydrogen Energy International LLC  
         California Energy Commission  
         Development Services Agency  
         Grand Jury

**COUNTY OF KERN  
RESOURCE MANAGEMENT AGENCY  
ROADS DEPARTMENT**  
*Office Memorandum*

To: Ted James, Director  
Planning Department  
Attn: Christopher Mynk, Planner III  
December 1, 2009

From: Warren D. Maxwell, Transportation Development Engineer  
Roads Department 

Subject: Hydrogen Energy of California Project, Hydrogen Energy International, LLC, Map 120-10.

This Department has reviewed the Project Description, Traffic and Transportation chapters for the above-referenced project and is recommending the following:

1. Due to heavy vehicles, a future roadway analysis by the Roads Department is required to identify any roadway improvements along Dairy Road and Adohr Road, to mitigate construction and operational traffic to less than significant. This mitigation, possibly an asphalt overlay, shall be completed prior to issuance of a Certificate of Occupancy.
2. The conversion for Passenger Car Equivalent (PCE) is not an accurate assumption. Use the actual truck traffic (% Heavy Vehicles) in your analysis and revise accordingly.
3. As outlined in Figure 5.12-2, State Route 119 and Tupman Road were not reflected as primary or alternative routes, so why were they included in the analysis? Vehicular traffic shall be limited to designated access roads, as outlined on page 5.12-24 of the Environmental Information Section, unless revised. If not, revise the trip distribution and the analysis to reflect to proposed route along Interstate Route 5, Stockdale Highway, Dairy Road, and Adohr Road.
4. If the route is revised to utilize State Route 119 and Tupman Road, it should be included with this concern addressed. Table 5.10-7, Page 5.10-17, The PM Peak hour Average Delay (sec/veh) for intersection #8 (State Route 119 and Tupman Road) appears to be too high, which may be directly related to the concern expressed in Item #2. Please revise.
5. Project Applicant shall reconstruct the intersection of Dairy Road and Adohr Road to accommodate the turning radii needed by the large trucks accessing the site.
6. Project Applicant shall obtain all necessary Encroachment Permits for any proposed work within the County road right of way. These permits may be obtained from the Roads Department Permits Office.
7. Project Applicant shall obtain all necessary Transportation Permits for any oversized or overweight (heavy) loads that will utilize County maintained roads, which may require California Highway Patrol escort. These permits may be obtained from the Roads Department Permits Office.

Thank you for the opportunity to comment on this project, if you have any questions or comments please contact Steven Young at 862-8860.

Nick Dunn  
Fire Chief & Director of Emergency Services

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Fire Department Headquarters

5642 Victor Street • Bakersfield, CA 93308 • [www.kerncountyfire.org](http://www.kerncountyfire.org)  
Telephone 661-391-7000 • FAX 661-399-2915 • TTY Relay 800-735-2929



August 9, 2010

John Nilon, County Administrative Officer  
Kern County Administrative Center  
1115 Truxtun Avenue  
Bakersfield, California, 93301

RE: Hydrogen Energy California Plant

John,

The Kern County Fire Department (Department) has performed an exhaustive review of the proposed 473 acre Hydrogen Energy California (HECA) plant that is to be constructed 1.5 miles northwest of the unincorporated community of Tupman. The HECA plant will gasify petroleum coke (petcoke) (or blends of petcoke and coal) to produce hydrogen to fuel a combustion turbine operating in a combined cycle mode. The Gasification Block feeds a 390-megawatt combined cycle plant generating approximately 250 MW of low-carbon baseload power to the electrical grid.

HECA will be served by fire stations located in Taft, Fellows, McKittrick, and Buttonwillow. Specialized firefighting and rescue resources are located in Metropolitan Bakersfield, approximately 30 miles away.

Using information provided by HECA and commonly available information including MSDS sheets, the Department has determined that Petcoke (15,000 tons of active storage and at least 30 days inactive emergency storage), Molten Sulfur (150,000 gallons), and Methanol (550,000 gallons) provide the greatest hazards due to their hazard characteristics and flammability.

Petcoke is a hydrocarbon based by-product from refineries primary fuel source for HECA. The active petcoke is stored in three 5,000-ton silos and the inactive storage will be stored in a storage pile, covered with a stabilizer. Petcoke is subject to spontaneous heating and combustion. The suitable extinguishing media is large volumes of water or foam. Firefighting may expose firefighters to high heat, smoke, or toxic by-products. A petcoke fire will produce large quantities of dense black smoke containing toxic and hazardous products that will spread out over large areas.

Molten Sulfur is a flammable solid that has a flash point of 404.6° F and a wide flammable limit of 4% to 44%. The molten sulfur is a by-product of the gasification process and will be trucked off site. Approximately 5 trucks per day will be used to remove the molten sulfur. Molten sulfur is highly toxic to the respiratory tract and direct contact will cause severe thermal burns. If large trucks or tank cars become involved in fire, the recommended course of action is to let the fire burn and evacuate ½ mile in all directions.

Methanol is used in the cold startup process. Methanol is a Poison-Class B that has a flash point of 520° F and a flammable range of 6.0% to 36%. Ingestion of as little as one ounce can cause irreversible injury to the nervous system, blindness, or death. Methanol is extremely flammable and may explode in confined space conditions. Water is ineffective in extinguishing fires. The suitable extinguishing media is large volumes of alcohol resistant foam. If large trucks or tank cars become

involved in fire, the recommended course of actions is to let the fire burn and evacuate ½ mile in all directions.

HECA presents significant challenges to the Department due to confined space hazards, hazardous material use and storage, large population of workers, tall structures, and large machinery. Additionally, increased truck and train traffic to deliver the required amount of feedstock presents increased emergency activity throughout the County particularly on Highway 99, Interstate 5, and the major railroads.

It is the professional opinion of the Department that HECA will have a negative effect on the Department's ability to continue to provide a high level of service to not only this project, but also the surrounding property owners. Furthermore, the mitigation measures provided to the Department by HECA are not adequate to mitigate the risk of an uncontrolled fire. In the expert experience of the Department, the appropriate mitigation is the purchase and delivery to the Department, a fully equipped Industrial Foam pumper/tender and a 5,000 gallon cache of Class B foam. The Industrial Foam pumper/tender and the 5,000 gallon cache of Class B foam will allow the Department to have the specialized capabilities and equipment necessary to control and contain a fire or product leak emergency that occurs at the HECA plant.

Therefore, in order to mitigate the significant impact that this project creates, HECA is required to purchase and deliver to the County a fully equipped Industrial Foam pumper/tender and 5,000 gallon cache of foam with the following conditions:

- 1) The Industrial Foam pumper/tender shall be manufactured to the Department's standards with no substitutions.
- 2) The Industrial Foam pumper/tender must be purchased, constructed, and delivered (construction and delivery time is estimated to be nine months) to the Department 30 days prior to the start-up of the project. Additional time may be required in order to place the Industrial Foam pumper/tender in service and to allow for training personnel assigned to operate the pumper.
- 3) The Industrial Foam pumper/tender shall be fully equipped to Department specifications.
- 4) The final authority on the specifications for the Industrial Foam Pumper/Tender shall rest with the Department.
- 5) The Title for the Industrial Foam Pumper/Tender shall be transferred to the County upon delivery.
- 6) The cache of foam shall meet the Department's standards.
- 7) If the Department responds to an emergency at HECA and uses the cache of foam to control or contain the emergency, HECA will be required to replace the amount used within 30 days of the incident.

The estimated cost for the Industrial Foam Pumper/Tender is \$500,000 and the 5,000 gallon cache is \$100,000.

Additionally, due to the scope and complexity of the project, HECA shall provide a Fire Protection Specialist to the Department during the plan review process. HECA will be allowed to select the Specialist from a list of qualified specialist provided by the Department. Furthermore, HECA shall develop a comprehensive *Fire and Life Safety* plan that describes the methods to reduce the potential of an uncontrolled fire thus reducing the threat to life and property. These plans must be submitted and approved by the Department prior to building permit approval.

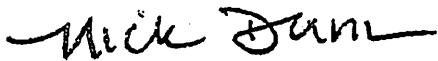
The Department has determined that the risk of an uncontrolled fire at the HECA plant is a significant environmental impact and must be mitigated. This letter outlines the minimum mitigation requested by the Department.

The Department looks forward to working with the management and sub-contractors of HECA during the construction phase of the project. In addition, the Department recognizes the need for HECA and the Department to have a good working relationship during the day-to-day activities at the plant and during any future expansion projects that may occur at the plant.

If additional information is required, please contact Deputy Chief Brian Marshall by phone at (661) 391-7016, by fax at (661) 391-7028, or send an e-mail to [bmarshall@co.kern.ca.us](mailto:bmarshall@co.kern.ca.us).

Respectfully Submitted,

Brian S. Marshall, Deputy Fire Chief



NICK DUNN,  
Fire Chief & Director of Emergency Services  
Kern County Fire Department

Cc: Nick Dunn, Fire Chief  
Dave Goodell, Fire Marshal  
Lorelei Oviatt, Kern County Planning Department  
Greg Fenton, Engineering and Survey Services