KERN COUNTY WASTE MANAGEMENT DEPARTMENT
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California Energy Commission
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Mr. Rod Jones, Project Manager
Systems Assessment & Facility Siting Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Dear Mr. Jones:

SUBJECT: Hydrogen Energy California - Revised Application for Certification

Thank you for the opportunity to comment on the Revised Application for Certification of the Hydrogen Energy California plant. The Project will gasify petroleum coke (petcoke) (or blends of petcoke and coal, as needed) to produce hydrogen to fuel a low carbon combustion turbine operating a 390 gross megawatt (MW) plant with a net electrical generation output of 250 MW. The Gasification Block will also capture approximately 90 percent of the carbon from the raw syngas at steady-state operation, which will be transported to the Elk Hills Field for CO_2 Enhanced Oil Recovery and Sequestration. In addition, approximately 100 MW of natural gas generated peaking power will be available from the Project.

The Project is located on a 473 acre site approximately seven miles west of the City of Bakersfield in the unincorporated area of Kern County.

The Kern County Waste Management Department (KCWMD) operates the County owned public solid waste facilities, and is the Responsible Agency for maintaining the unincorporated Kern County jurisdiction's compliance with the Integrated Waste Management Plan (IWMP). The IWMP includes elements dealing with source reduction and recycling of waste, disposal facility siting criteria and non-disposal facility identification.

The KCWMD has reviewed the proposed Project. The KCWMD focuses on, but is not limited to, two questions identified in the CEQA checklist related to solid waste for which every project is to be evaluated. These questions include:

1. Would the Project be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?
2. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain performance objectives for public facilities?

This comment letter will address each question in order.

Would the Project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Sufficient permitted capacity involves three components: (1) daily tonnage, (2) daily traffic, and (3) permitted volume. The KCWMD must also evaluate operational concerns primarily due to the physical characteristics of the waste. The closest public solid waste facility in the vicinity of the HECA Project is the Taft Recycling and Sanitary Landfill.

The HECA Project will consist of three phases: construction, start-up and ongoing operation. The existing Project Description does not describe the construction phase or the quantity of waste generated during the construction phase. The 2008 California Green Building Standards Code requires all construction projects to develop a recycling plan to divert and/or recycle at least 50 percent of waste generated during construction. Please refer to the 2008 California Green Building Standards Code Section 708 Construction Waste Reduction, Disposal and Recycling for specific details. **The KCWMD requests that HECA Project quantify the volume of waste to be generated during construction and briefly describe how these waste materials will be handled to meet State requirements.**

The second phase of the HECA Project includes a pilot phase in which the facility will be entirely fueled by coal. This phase of the Project is projected to generate approximately 300-350 tons per day (tpd) of gasification solids in the form of slag, a pea-sized granular material. The Project is anticipated to produce an additional 57 tpd of waste that could be classified as either hazardous or non-hazardous. Phase 1 is projected to generate up to 357-427 tpd of waste material that could be disposed in a Class III solid waste facility.

The third phase of the HECA Project is the ongoing operation in which the facility will be fueled by a combination of petcoke and coal. This phase of the Project is projected to generate approximately 70-100 tpd of gasification solids in the form of slag, a pea-sized granular material. The Project is anticipated to produce an additional 57 tpd of waste that could be classified as either hazardous or non-hazardous. Phase 2 is projected to generate up to 127-157 tpd of waste material that could be disposed in a Class III solid waste facility.

HECA Non-Hazardous Waste Stream
Impact to Disposal/Diversion Accounting

HECA Non-Hazardous Waste Streams	Construction	Phase I Disposal Impact	Phase II Disposal Impact
Gasification Solids (Slag) (Tons/Yr)		127,750	36,500
Non-hazardous Misc. (Tons/Yr)	Unknown	100	100
ZLD Solids (Tons/Yr) (Inorganic & Organic Salts)		20,300	20,300
Total Tonnage (Tons/Yr)		148,150	56,900
Average Tonnage (Tons/Day)	Unknown	**406**	**156**

Taft Recycling and Sanitary Landfill
Permit/Operational Conditions

	Permit	Current Operation	HECA Project
Daily Tonnage (tpd)	419	94	156 - 405
Daily Traffic (vpd)	338	54	
Capacity (yd^3)			

During the first half of 2010, the Taft Recycling and Sanitary Landfill (RSLF) accepted an average of 94 tons per day. A 156 tpd to 405 tpd increase at the facility would significantly impact the permitted capacity and the operational conditions at the facility. As stated above however, the KCWMD operates the County owned public solid waste facilities. **The KCWMD requests that the HECA waste stream be subdivided between several facilities to reduce the potential impacts to any one facility. Facilities to be considered include the Bakersfield Metropolitan (Bena) RSLF, the Shafter-Wasco RSLF and the Taft RSLF.** The HECA Project may also consider several private facilities, including but not limited to, Clean Harbors, H. M. Holloway or McKittrick Disposal.

Additionally, prior to the acceptance of residual material from the proposed Project at any Kern County public landfill, the applicant shall supply the KCWMD a characterization of the waste for chemical and physical characteristics, and secure written approval from the Director of the KCWMD to ensure compatibility with landfill operations and fee schedules. A special handling fee may be assessed pending results of the characterization and impacts on landfill operations.

Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain performance objectives for public facilities?

The HECA Project is described as a gasification process. The Project Description projects that the facility will generate between 156 tpd and 405 tpd of non-hazardous industrial waste that could be disposed in a Class III solid waste facility. The California Integrated Waste Management Act (AB 939) required all California cities, counties and approved regional solid waste management agencies responsible for enacting plans and implementing programs to divert 25 percent of their solid waste by 1995 and 50 percent by year 2000.

In 2008, the California State Senate passed Senate Bill 1016 (SB 1016) to make the process of goal measurement (obtaining and maintaining a 50 percent diversion rate) established by AB 939 simpler, more timely, and more accurate. SB 1016 accomplishes this by changing to a disposal-based indicator, the per capita disposal rate, which uses only two factors: a jurisdiction's population (or in some cases employment) and its disposal as reported by disposal facilities. The Kern County unincorporated jurisdiction's per capita disposal equivalent to a 50 percent diversion rate was set at 7.6 lbs/person/day.

The proposed Project is located within the unincorporated area of Kern County; the disposal rate for this area is currently 6.2 lbs/person/day. In order to remain in compliance with SB 1016 and AB 939, the unincorporated area cannot exceed a disposal rate of 7.6 lbs/person/day. The HECA Project is anticipated to dispose of 148,150 tons/year (tpy) in Phase I, which equates to 2.72 lbs/person/day; this would exceed Kern County's disposal cap of 7.6 lbs/person/day. The HECA Project is a significant impact and will place Kern County in jeopardy of non-compliance with mandated recycling goals. The following strategies may be used to negate this impact:

1. Recycle or reuse residual waste as a beneficial use.
2. Receive confirmation from CalRecycle that waste material cannot be recycled because of particular constituents (i.e., heavy metals, etc). This strategy allows the waste to be disposed but provides for the tonnage to be adjusted out of jurisdictional reporting as disposal.
3. Seek/receive legislative or regulatory exemption.

The HECA Project Description indicates that the gasification solids, slag, may be recycled. The KCWMD acknowledges that there are limited local markets for slag; however, existing markets appear to be saturated as significant volumes of slag are disposed locally. Additionally, the chemical and physical characteristics of slag are variable and highly dependant on the feedstock and method of processing. Suitability of the HECA slag for beneficial use or disposal cannot be accurately evaluated until the material has been characterized. **Therefore, the KCWMD requests that HECA evaluate the characteristics of the gasification solids, based on a similar representative facility and then conduct a market analysis of potential uses based on the gasification solid characterization.**

If the Project cannot negate the impact of disposal on Kern County's diversion/recycling mandates, the KCWMD requests the following mitigation. If residual gasification solids, or other waste products, are subject to Jurisdictional Reporting and credited to the Kern County unincorporated area as disposal, 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.

Recommended Mitigation Measures:

The Waste Management Department recommends the following mitigation measure to decrease the Project's potential impacts to the Taft RSLF or other Department facilities and programs to less than significant:

1. Prior to the acceptance of residual material from the proposed Project at a Kern County public landfill, the applicant shall supply the KCWMD a characterization of the waste for chemical and physical characteristics, and secure written approval from the Director of the KCWMD to ensure compatibility with our landfill operations and fee schedules.

2. Based on the characteristics of the gasification solid, HECA shall conduct a market analysis of potential beneficial uses of the waste.

3. If residual gasification solids or other waste products, are subject to Jurisdictional Reporting and credited to the Kern County unincorporated area as disposal, 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.

With the inclusion of the above mitigation measures, the Kern County Waste Management System may be able to accept the residual gasification solids and other waste materials generated by the HECA Project. However, the Project will still result in a significant impact to the unincorporated area of Kern County to comply with SB 1016 and AB 939 by resulting in a significant increase in per capita disposal, and reducing the diversion and recycling rate below the 50 percent mandate achieved by the County.

The KCWMD reserves the right to refuse to accept any load that it deems to be unacceptable based on its potential impact to the health or safety of the customers, employees and/or environment. The KCWMD may provide additional comments if necessary.

If you have any further questions, please contact Donn Fergerson at (661)-862-8765.

Sincerely,

Nancy L. Ewert, P.E.
Senior Engineering Manager

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