

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov**08-AFC-8A**

TN 71450

JUN. 28 2013



June 28, 2013

**DOCUMENT HANDLING FOR THE PRELIMINARY STAFF ASSESSMENT/
DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE HYDROGEN ENERGY
CALIFORNIA PROJECT (HECA), APPLICATION FOR CERTIFICATION (08-AFC-8A)
and POSTING OF PUBLIC NOTICE**

Dear Librarian:

The enclosed Preliminary Staff Assessment/Draft Environmental Impact Statement (PSA/DEIS) contains the California Energy Commission (Energy Commission) staff's and the US Department of Energy's (DOE) independent evaluation of the proposed Hydrogen Energy California project (HECA).

Please make this PSA/DEIS available for those who may wish to be informed about the project. We request that you not allow the PSA/DEIS or any of its contents to be removed from the library. To increase accessibility of the document, we ask, if possible, that you cross reference it as a general reference work under the title and author categories, as well as under such subjects as "Energy Commission," "electricity energy/generation," "power plant siting," or any other relevant subject such as "renewable energy" projects. Please retain the enclosed letter to the public behind the front cover of the PSA/DEIS.

The Energy Commission's siting process is open to the public and incorporates the input of the public as well as local, state and federal agencies. To facilitate public participation in our review process, the Commission distributes copies of staff documents such as the PSA/DEIS to public libraries in communities near the proposed project, and in major cities throughout the state. As such, please retain a copy of the enclosed Notice of Availability behind the front cover of the PSA/DEIS and also post a copy of the Public Notice in a place conspicuous and accessible to those members of the general public who visit the library.

Thank you for your cooperation. If you have any questions, please contact John Heiser, Project Manager, at (916) 653-8236, or by e-mail at jheiser@energy.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chris Davis".

CHRIS DAVIS
Siting Office Manager

Enclosure: Preliminary Staff Assessment/Draft Environmental Impact Statement, and
Public Notice

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov



June 28, 2013

**NOTICE OF AVAILABILITY OF THE PRELIMINARY STAFF ASSESSMENT/
DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR THE HYDROGEN ENERGY CALIFORNIA (HECA),
APPLICATION FOR CERTIFICATION (08-AFC-8A)**

TO: MEMBERS OF THE PUBLIC

This notice is to inform you that the California Energy Commission (Energy Commission) staff and the US Department of Energy (DOE) have prepared a Preliminary Staff Assessment and Draft Environmental Impact Statement (PSA/DEIS). The PSA/DEIS contains the Energy Commission staff's and the US Department of Energy's (DOE) independent evaluation of the proposed Hydrogen Energy California project (HECA). The PSA/DEIS is now available for public review and comment.

Under its certified regulatory program, Energy Commission staff has completed an independent assessment of the HECA Application for Certification (08-AFC-8A) and has revealed significant, and for the most part, unresolved issues. The Energy Commission staff's preliminary conclusions are summarized in this notice. DOE has completed its assessment pursuant to the National Environmental Policy Act.

The Energy Commission encourages public participation in the review of the HECA Application for Certification (08-AFC-8A). The public comment period for this PSA/DEIS begins now and will continue for 45-days after the U.S. Environmental Protection Agency (EPA) publishes a notice of availability in the *Federal Register*. All public comments submitted prior to the expiration of the DOE's 45-day comment period will be considered for incorporation into the Final Staff Assessment/Final Environmental Impact Statement (FSA/FEIS).

With respect to the Energy Commission's CEQA review, the public and agencies may continue to comment on the PSA/DEIS or any aspect of the proposed HECA project, after the expiration of the DOE's 45-day comment period. The Energy Commission will accept and consider comments until the close of evidentiary hearings that will be noticed and held by the Energy Commission. Comments received after the close of DOE's comment period, will be addressed by the Energy Commission's Committee in the Presiding Member's Proposed Decision (PMPD). The PMPD will be published after conclusion of the Energy Commission's evidentiary hearings.

The Energy Commission staff and DOE are planning to hold public workshops during August 2013, near the proposed project location. The workshops will be a forum to discuss

the PSA/DEIS with all stakeholders who are interested. In the near future, the Energy Commission and the DOE will each issue separate public notices of the workshop date(s), time and location.

If you wish to provide written comments on the project, please submit comments to the Energy Commission Dockets Unit. Please include the docket number 08-AFC-8A for the HECA project in the subject line or first paragraph of your comments. If you wish to submit comments electronically, please provide them in either Microsoft Word format or as a Portable Document Format (PDF) to docket@energy.ca.gov. Please include your name or organization's name in the file name. If you are preparing non-electronic written comments, please mail or hand deliver them to:

California Energy Commission
Dockets Unit, MS-14
Docket No. 8-AFC-8A
1516 Ninth Street
Sacramento, CA 95814-5512

All written comments and materials filed with the Dockets Unit will become a part of the public record of the proceeding. Additionally, comments may be posted on the project website.

You can also subscribe to receive e-mail notification of all notices and announcements at: <http://www.energy.ca.gov/listservers>. By being on this email list, you will receive all project related notices and documents pertaining to the project's evaluation and review.

For additional information contact John Heiser, Energy Commission Project Manager, at (916) 653-8236 or email at jheiser@energy.ca.gov.

Energy Commission Licensing Authority

The Energy Commission is responsible for reviewing and ultimately approving or denying all applications for construction and operation of thermal electric power plants, 50 megawatts (MW) and greater, proposed for construction in California. The Energy Commission's facility certification process carefully examines public health and safety, environmental impacts and engineering aspects of proposed power plants and all related facilities, such as electric transmission lines and natural gas and water pipelines. The Energy Commission is the lead agency under the California Environmental Quality Act (CEQA) and through its certified regulatory program produces Preliminary and Final Staff Assessments rather than Draft and Final Environmental Impact Reports.

The San Joaquin Valley Air Pollution Control District has completed the Preliminary Determination of Compliance (PDOC) for HECA, and the District's analysis concluded that the HECA facility as proposed would comply with all applicable laws, ordinances, regulations and standards and would not create a health risk to the residents of the Valley. The PDOC contains upwards of 1,000 conditions applicable to the project. The District has approved two mitigation agreements with HECA to receive funds in the amount of

\$8,747,160 for the purpose of mitigating air quality impacts of the facility. Energy Commission staff has analyzed the PDOC and incorporated it into the PSA/DEIS.

Summary of the Proposed Hydrogen Energy California Project (HECA)

The proposed project would be located on a 453 acre site (currently used for agricultural production of alfalfa, cotton, and onions). The project site would be located in an unincorporated portion of Kern County, approximately 7 miles west of the western border of the city of Bakersfield. The proposed site is 1.5 miles northwest of the unincorporated community of Tupman, and approximately 4 miles southeast of the unincorporated community of Buttonwillow. The project would have a 13-mile long natural gas pipeline, 1-mile long potable water pipeline, 2-mile long transmission line interconnecting to a new Pacific Gas and Electric (PG&E) switching station east of the project site, approximately 3-mile long CO₂ pipeline, a 15-mile long process water pipeline and possibly a 5-mile long rail spur for coal deliveries.

HECA would use an integrated gasification, combined-cycle power system to produce and sell electricity, carbon dioxide, and fertilizer. Coal and petroleum coke (a refinery byproduct), would be gasified with oxygen (obtained from an air separation unit) to produce synthesis gas (syngas). The ratio of coal and petroleum coke used would be approximately 75 percent and 25 percent, respectively. The syngas would be cleaned via scrubbers and absorbers to filter out chlorides, sulfur, mercury, particulates, and impurities. Lastly, the syngas would be stripped of carbon dioxide, leaving a hydrogen-rich gas.

The hydrogen rich gas would either be combined with air and used as fuel in a combustion turbine combined-cycle facility to produce electricity (similar to a natural gas-fired combined cycle) or sent to an integrated manufacturing complex to produce approximately 1,000,000 tons per year of nitrogen-based fertilizer. The manufacturing complex would manufacture anhydrous ammonia and nitric acid to produce urea ammonium nitrate (UAN) and urea pastilles. The anhydrous ammonia and nitric acid would only be intermediate products used to produce fertilizers and would not be sold as stand-alone products.

The proposed project would use an average of 7,500 acre-feet per year (AF/y) of groundwater with an estimated total dissolved solids (TDS) concentration ranging from 945 to 2,730 mg/L. The Buena Vista Water Storage District (BVWSD) would supply the water as detailed in their will-serve letter. All of the proposed industrial supply water would be supplied by the BVWSD and treated as necessary by HECA.

The project would capture up to 90 percent of the carbon dioxide in the syngas stream, which would then be piped approximately 3 miles to the Elk Hills Oil Field, where it would be used by Occidental of Elk Hills, Inc. (OEHI) for enhanced oil recovery (EOR). This use of captured CO₂ could result in the eventual sequestration of approximately 2.6 million tons of CO₂ per year. Some of the captured CO₂ and nitrogen from the air separation unit would be used to manufacture urea fertilizer and other nitrogenous compounds. While OEHI has stated that it can use as much carbon dioxide as HECA can produce, the stated lifespan of the OEHI operation (20 years) is shorter than the length of time HECA proposes to operate (25 years).

The project proposes to generate between 405 and 431 MW gross or an average of 416 MW gross electrical power and between 151 to 266 MW net after accounting for onsite auxiliary power loads.

The coal would be transported from New Mexico via rail. The applicant has requested certification of two options for final transport to the project site. One option would be to construct a 5-mile long rail spur so that trains could go directly to the project site. The other option would be to offload the coal at the Wasco Transloading Facility into trucks for 400 round trips each day for the final 27 miles to the project site. In either case, the petroleum coke would be trucked in from the Santa Maria refinery or other refineries located in Southern California.

Summary of the California Energy Commission Staff's Preliminary Conclusions

Based upon the information provided, discovery achieved and analyses completed to date, Summary Table-1 on the following page illustrates the Energy Commission staff's preliminary assessment of the proposed HECA project and also identifies the areas where staff has requested additional information. Please review the PSA/DEIS for a detailed discussion of the significance of staff's conclusions. These preliminary conclusions are subject to change in the FSA/FEIS depending upon additional information and comments received.

**SUMMARY TABLE 1
ENERGY COMMISSION STAFF'S PRELIMINARY CONCLUSIONS**

Technical Area	Complies with Laws, Ordinances, Regulations, and Standards	Impacts Mitigated	Additional Information Requested
Air Quality	Yes	Yes	Yes
Biological Resources	Undetermined	Undetermined	Yes
Carbon Sequestration and Greenhouse Gases Emissions	Undetermined	Undetermined	Yes
Cultural Resources	Undetermined	Undetermined	Yes
Hazardous Materials	Yes	Yes	No
Land Use	Undetermined	Undetermined	Yes
Noise and Vibration	Yes	Yes	Yes
Public Health	Yes	Yes	No
Socioeconomics	Yes	Yes	No
Soil and Surface Water Resources	Yes	Yes	Yes
Traffic & Transportation	Undetermined	Undetermined	Yes
Transmission Line Safety/Nuisance	Yes	Yes	No
Visual Resources	No	No	No
Waste Management	Undetermined	Undetermined	Yes
Water Supply	Undetermined	Undetermined	No
Worker Safety and Fire Protection	Yes	Yes	No
Facility Design	Yes	N/A	No
Geology & Paleontology	Yes	Yes	Yes
Power Plant Efficiency	N/A	N/A	Yes
Power Plant Reliability	N/A	N/A	Yes
Transmission System Engineering	Yes	Yes	Yes
Alternatives	N/A	N/A	No

Based upon staff's analysis, the No Project Alternative would eliminate potentially significant environmental impacts associated with HECA, while the No Fertilizer Manufacturing Complex Alternative (Reduced Project Alternative) would lessen impacts in a number of environmental issue areas.

The identification of a CEQA environmentally superior alternative (Cal. Code Regs., tit. 14, §15126.6[e][2]) and NEPA environmentally preferred alternative (CEQ §1505.2[b]) will be identified in the Final Staff Assessment/Final Environmental Impact Statement (FSA/FEIS). At this time, Dry Cooling or Wet-Dry Hybrid Cooling Alternative, Natural Gas Combined Cycle with Carbon Capture and Storage Alternative, and Additional Alternative Sites remain under consideration. Staff will analyze these alternatives in the FSA/FEIS.



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV**

**AMENDED APPLICATION FOR CERTIFICATION
FOR THE HYDROGEN ENERGY
CALIFORNIA PROJECT**

**Docket No. 08-AFC-08A
PROOF OF SERVICE
(Revised 06/19/2013)**

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California Energy Commission –
Docket Unit

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1516 Ninth Street, MS-4
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docket@energy.ca.gov

**OTHER ENERGY COMMISSION
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CONVENIENCE ONLY):**

***After docketing, the Docket Unit
will provide a copy to the persons
listed below. Do not send copies
of documents to these persons
unless specifically directed to do
so.***

KAREN DOUGLAS
Commissioner and Presiding
Member

ANDREW McALLISTER
Commissioner and Associate
Member

Raoul Renaud
Hearing Adviser

Galen Lemei
Adviser to Presiding Member

Jennifer Nelson
Adviser to Presiding Member

Hazel Miranda
Adviser to Associate Member

David Hungerford
Adviser to Associate Member

Patrick Saxton
Adviser to Associate Member

Eileen Allen
Commissioners' Technical
Adviser for Facility Siting

DECLARATION OF SERVICE

I, Diane L. Scott, declare that on June 28, 2013, I served and filed copies of the attached **DOCUMENT HANDLING FOR THE PRELIMINARY STAFF ASSESSMENT/DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE HYDROGEN ENERGY CALIFORNIA (HECA), APPLICATION FOR CERTIFICATION (08-AFC-8A) and POSTING OF PUBLIC NOTICE**, dated June 28, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/hydrogen_energy/.

The document has been sent to the other persons on the Service List above in the following manner:

(Check one)

For service to all other parties and filing with the Docket Unit at the Energy Commission:

I e-mailed the document to all e-mail addresses on the Service List above and personally delivered it or deposited it in the U.S. mail with first class postage to those persons noted above as "hard copy required";
OR

Instead of e-mailing the document, I personally delivered it or deposited it in the U.S. mail with first class postage to all of the persons on the Service List for whom a mailing address is given.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that I am over the age of 18 years.

Dated: June 28, 2013



Diane L. Scott, *Project Assistant*
Siting, Transmission and Environmental Protection Division