

CALIFORNIA ENERGY COMMISSION

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



**NOTICE OF RECEIPT
FOR THE AMENDED APPLICATION FOR CERTIFICATION
HYDROGEN ENERGY CALIFORNIA (08-AFC-8A)**

DOCKET**08-AFC-8A**DATE MAY 15 2012RECD. MAY 15 2012**Project History**

On July 31, 2008, Hydrogen Energy California, LLC (HECA) submitted an Application for Certification (08-AFC-8) to the California Energy Commission. A Revised AFC was submitted to reflect a change of the project site to an alternative location. In 2011, Hydrogen Energy California LLC, was acquired by SCS Energy California, LLC. On May 2, 2012, SCS Energy, LLC, submitted an Amended Application for Certification (08-AFC-8A) reflecting several changes to the original project design.

The new Amended Application for Certification (AFC) has been assigned a separate distinguishing docket number, 08-AFC-8A. The Amended AFC for the project supersedes and replaces all previous submissions, and incorporates all relevant information from the previous versions of the HECA proceedings. All previous applicant documents can be disposed and replaced with the Amended AFC.

The applicant intends to construct and operate an Integrated Gasification Combined Cycle (IGCC) power generating facility called Hydrogen Energy California (HECA).

The proposed HECA project would gasify blends of 75 percent western coal and 25 percent petroleum coke from California refineries to produce hydrogen to fuel a combustion turbine operating in combined cycle mode. The amended project incorporates a proposed manufacturing complex that would produce urea in both liquid and pellet form, and other byproducts for agricultural and manufacturing uses. For power generation, a Mitsubishi Heavy Industries MHI 501GAC[®] CT combustion turbine has been selected. The combined cycle power block would generate approximately 405 MW of gross power and would provide a nominal 300-megawatts of electricity to the grid. The gasification block would also capture approximately 90 percent of the carbon from the raw syngas (the direct end of the gasification process) at steady-state operation, which will be transported to a custody transfer point at Elk Hills Oil Field for CO₂ enhanced oil recovery (EOR) and sequestration. Due to the complex gasification and sequestration (storage) process, there is a larger than usual parasitic electrical load.

Project Location

The proposed project would be located on a 453-acre site (currently used for agricultural production of alfalfa, cotton, and onions), and comprises of two parcels (Part of Assessor's Parcel # 159-040-16 and 159-040-18, respectively). HECA, LLC also has an option on 653 acres adjacent to the project site, a controlled area, allowing for controlled access and land use. The project site would be located in western unincorporated Kern County, Section 10 of Township 30 South, Range 24 East, approximately 7 miles west of the outermost edge of

PROOF OF SERVICE (REVISED 5/14/12) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 5/15/12

EKS

the city of Bakersfield. It is 1.5 miles northwest of the unincorporated community of Tupman, and approximately 4 miles southeast of the unincorporated community of Buttonwillow, is bounded by Adohr Road on the north, Tupman Road to the east, an irrigation canal (California State Water Project aqueduct) to the south, and Dairy Road to the west. Elk Hills Oil Field is located approximately 1 mile south of the project site.

The project site is currently subject to a Williamson Act agricultural land preservation contract. The applicant is currently pursuing a contract cancellation process with Kern County. The project site represents approximately 0.03 percent of the 1,649,780 acres of Williamson Act contracted lands in Kern County (Kern County, 2007b). The western border of the Tule Elk State Natural Reserve (California state park) is located approximately 1,700 feet to the east of the project site. The nearest single-family dwellings are located approximately 370 feet to the northwest, 1,400 feet to the east, 3,300 feet to the southeast of the proposed project site, and 4,000 feet to the north.

Project Description

Highlights of the project include:

- The Amended HECA facility proposes to operate with 25 percent petroleum coke from California refineries blended with 75 percent western bituminous coal. Transportation of petcoke and coal to the project would be by either a truck route, or via an alternative rail spur to be built and owned by the applicant.
- The feedstock (coal and petroleum coke) would be gasified to produce a synthesis gas (syngas) that would be processed and purified to produce a hydrogen-rich gas, which would be used to fuel the combustion turbine for electric power generation and burners that provide supplemental fire to the heat recovery steam generator (HRSG) that produces steam from the combustion turbine exhaust heat.
- At least 90 percent of the carbon in the raw syngas would be captured in a high-purity carbon dioxide stream during steady-state operation, which would be compressed and transported by pipeline off-site to the nearby Elk Hills Oil Field for injection into deep underground oil reservoirs for enhanced oil recovery (EOR) and sequestration.
- Project greenhouse gas emissions (e.g., carbon dioxide) are proposed to be reduced through the use of the EOR CO₂ sequestration process.
- Brackish groundwater will be supplied by the Buena Vista Water Storage District and treated on site for process use. Potable water would be supplied by West Kern Water District for drinking and sanitary purposes.

Several basic Project components remain unchanged, including the following:

- The project continues to use IGCC technology.
- State-of-the-art emission controls are included in the design.
- Zero Liquid Discharge technology is used in the project design for process and waste water.

- Liquid oxygen and nitrogen are produced in the Air Separation Unit, and supplied to the Gasification Unit, the combustion turbine, Sulfur Recovery Unit and other process components of HECA.

Some notable project changes are proposed in this Amended AFC, including the following:

- Mitsubishi Heavy Industries (MHI) oxygen-blown dry feed gasification technology has been selected.
- A MHI 501GAC[®] Combustion Turbine and Steam Turbine has been selected.
- A new, integrated manufacturing complex (IMC) will produce approximately 1 million tons per year of low-carbon nitrogen-based products, including urea ammonium nitrate and anhydrous ammonia, to be used in agricultural and industrial applications.
- Coal transportation. HECA proposes to use two alternatives for transferring coal to the project site:
 - Alternative 1, rail transportation. An approximately 5-mile new industrial railroad spur that would connect the project site to the existing San Joaquin Valley Railroad Buttonwillow railroad line, north of the project site. This railroad spur would also be used to transport some IMC products to customers.
 - Alternative 2, truck transportation. Truck transport would be via existing roads from an existing coal transloading facility northeast of the project site. The truck route distance is approximately 27 miles.
- The routes of the natural gas pipeline, potable water pipeline, and electrical transmission have been refined as follows:
 - An approximately 13-mile new natural gas pipeline will interconnect with an existing Pacific Gas and Electric Company (PG&E) natural gas pipeline located north of the Project Site.
 - Potable water will be delivered via an approximately 1-mile pipeline from a new West Kern Water District potable water production site east of the project site.
 - An approximately 2-mile electrical transmission line will interconnect with a future PG&E switching station east of the project site.

If approved, construction of the project is proposed to begin in June of 2013, with completion of construction in February of 2017, and commencement of commercial operation by September of 2017.

Energy Commission's Facility Certification Process

The Energy Commission is responsible for reviewing and ultimately approving or denying all applications to construct and operate thermal electric power plants, 50 MW and greater, 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's permit is in lieu of any local, state or federal permit (to the extent permitted by federal law). The Energy Commission is the Lead Agency under the California Environmental Quality Act (CEQA), but through its certified regulatory program produces several environmental and decision documents rather than an environmental impact report.

The Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) has the permitting authority for the Elk Hills Oil Field, and will be providing all permits associated with the water and CO₂ injection wells and the oil and gas production wells to be used for the enhanced oil recovery (EOR) process. The Energy Commission will be working closely with DOGGR to analyze this critical area of the HECA project.

The U.S. Department of Energy (DOE) has committed development funds to HECA based upon the Department's interest in the integrated gasification and combined cycle (IGCC) technology proposed, and the potential for the capture and storage of CO₂ from the gasification and power production process proposed by HECA. DOE will be preparing an environmental analysis under provisions of the National Environmental Policy Act (NEPA), and will be working closely with the Energy Commission and DOGGR to understand and analyze the project.

HECA is under the Energy Commission's siting authority. Over the coming months, the Energy Commission will conduct a number of public workshops and hearings to determine whether the proposed project should be approved for construction and operation and, if so, under what set of conditions. The workshops will provide the public as well as local, state and federal agencies the opportunity to participate in reviewing the proposed project. The Energy Commission will issue notices for these workshops and hearings at least ten days prior to the meeting.

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 Energy Commission has sent copies of the Amended AFC to libraries in the project area, and to libraries in Eureka, San Francisco, Sacramento, Fresno, Los Angeles, and San Diego.

Public Participation

Please direct your technical or project schedule questions to Robert Worl, Energy Commission Project Manager, at (916) 651-8853, or by email at robert.worl@energy.ca.gov. If you desire information on participating in the Energy Commission's review of the proposed project, please contact Jennifer Jennings, the Energy Commission's Public Adviser, at (916) 654-4489, or toll free in California at (800) 822-6228, or by email at pao@energy.ca.gov. If you require special accommodations, please contact Lourdes Quiroz at (916) 651-9106.

News media inquiries should be directed to (916) 654-4989, or by email at mediaoffice@energy.ca.gov. The status of the proposed project, copies of notices, an electronic version of the Amended AFC, and other relevant documents are also available on the Energy Commission's Internet web site at:

http://www.energy.ca.gov/sitingcases/hydrogen_energy/index.html You can also subscribe to receive email notification of all notices at <http://www.energy.ca.gov/listservers>.

May 15, 2012

Page 5 of 5

This notice of receipt has been mailed to all parties that requested placement on the mailing list and to property owners located within 1000 feet of the proposed project site or 500 feet of any linear facilities. By being on the mailing list, you will receive notices of all project-related activities and notices when documents related to the proposed project's evaluation are available for review. If you want your name removed from the mailing list, please contact Elizabeth Stuart, Project Assistant, at (916) 653-1640, or by email at elizabeth.stewart@energy.ca.gov.

Availability of the Amended AFC Document

Copies of the Amended AFC are available for public inspection at the following Kern County public libraries:

Taft Branch
27 Emmons Park Drive
Taft, CA 93268

Tehachapi Branch
1001 West Tehachapi Boulevard, Suite A-400
Tehachapi, CA 93561

Boron Branch
26967 20 Mule Team Road
Boron, CA 93516

Beale Memorial Library	Buttonwillow Library
701 Truxtun Avenue	116 Buttonwillow Drive
Bakersfield, CA 93301	Buttonwillow, CA 93206

Copies are also available at the Energy Commission's Library in Sacramento, the California State Library in Sacramento, and at public libraries in Eureka, San Francisco, Fresno, Los Angeles, and San Diego. In addition, copies will be distributed to those public agencies that would normally have jurisdiction except for the Energy Commission's exclusive authority to certify sites and related facilities.

Sincerely,

Original signed by
Chris Davis, Manager
Siting Office

Date: _____



**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**

**APPLICATION FOR CERTIFICATION
FOR THE *HYDROGEN ENERGY*
CALIFORNIA, LLC PROJECT**

Docket No. 08-AFC-08A

**PROOF OF SERVICE
(Revised 5/14/12)**

APPLICANT

SCS Energy LLC
Marisa Mascaro
30 Monument Square, Suite 235
Concord, MA 01742
mmascaro@scsenergyllc.com

APPLICANT'S CONSULTANT

Dale Shileikis, Vice President
Energy Services Manager
Major Environmental Programs
URS Corporation
One Montgomery Street, Suite 900
San Francisco, CA 94104-4538
dale_shileikis@urscorp.com

COUNSEL FOR APPLICANT

Michael J. Carroll
Latham & Watkins, LLP
650 Town Center Drive, 20th Fl.
Costa Mesa, CA 92626-1925
michael.carroll@lw.com

INTERESTED AGENCIES

California ISO
e-recipient@caiso.com

Marni Weber
Department of Conservation, Office
of Governmental and Environmental
Relations
(Department of Oil, Gas &
Geothermal Resources)
801 K Street MS 2402
Sacramento, CA 95814-3530
marni.weber@conservation.ca.gov

INTERVENORS

California Unions for Reliable Energy
Thomas A. Enslow
Marc D. Joseph
Adams Broadwell Joseph & Cardozo
520 Capitol Mall, Suite 350
Sacramento, CA 95814
tenslow@adamsbroadwell.com

Tom Frantz
Association of Irrigated Residents
30100 Orange Street
Shafter, CA 93263
tfrantz@bak.rr.com

Kern-Kaweah Chapter
Of the Sierra Club
Andrea Issod
Matthew Vespa
85 Second St, Second Floor
San Francisco, California 94105
andrea.issod@sierraclub.org
matt.vespa@sierraclub.org

Environmental Defense Fund (EDF)
Timothy O'Connor, Esq.
1107 Ninth St., Suite 540
Sacramento, CA 95814
toconnor@edf.org

Natural Resources Defense Council
George Peridas
111 Sutter Street, 20th Fl.
San Francisco, CA 94104
gperidas@nrdc.org

**ENERGY COMMISSION –
DECISIONMAKERS**

Raoul Renaud
Hearing Adviser
raoul.renaud@energy.ca.gov

**ENERGY COMMISSION –
STAFF**

Robert Worl
Project Manager
robert.worl@energy.ca.gov

Lisa DeCarlo
Staff Counsel
lisa.decarlo@energy.ca.gov

Eileen Allen
Commissioners' Technical
Advisor for Facility Siting
e-mail service preferred
eileen.allen@energy.ca.gov

**ENERGY COMMISSION –
PUBLIC ADVISER**

Jennifer Jennings
Public Adviser's Office
e-mail service preferred
publicadviser@energy.state.ca.us

DECLARATION OF SERVICE

I, Elizabeth Stewart, declare that on May 15, 2012, I served and filed a copy of the attached Notice Of Receipt For The Amended Application For Certification Hydrogen Energy California (08-AFC-8A) dated May 15, 2012. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at:

www.energy.ca.gov/sitingcases/hydrogen_energy/index.html

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

(Check all that Apply)

For service to all other parties:

- X Served electronically to all e-mail addresses on the Proof of Service list;
- X Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "e-mail preferred."

AND

For filing with the Docket Unit at the Energy Commission:

- X by sending one electronic copy to the e-mail address below (preferred method); **OR**
- _____ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT

Attn: Docket No. 08-AFC-8A
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.ca.gov

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

- _____ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
Sacramento, CA 95814
michael.levy@energy.ca.gov

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Original signed by
Elizabeth Stewart
Project Assistant