STATE OF CALIFORNIA – THE RESOURCES AGENCY

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DOCKET
08-AFC-8
DATE AUG 14 2008
RECD. AUG 15 2008

August 14, 2008

TO: AGENCY DISTRIBUTION LIST (STATE AND FEDERAL)

REQUEST FOR AGENCY PARTICIPATION IN THE REVIEW OF THE HYDROGEN ENERGY CALIFORNIA PROJECT, APPLICATION FOR CERTIFICATION (08-AFC-8)

On July 31, 2008, Hydrogen Energy International (HEI) submitted an Application for Certification (AFC) to the California Energy Commission to construct and operate an Integrated Gasification Combined Cycle (IGCC) power generating facility called Hydrogen Energy California (HECA). HEI is jointly owned by BP Alternative Energy North America Incorporated and Rio Tinto Hydrogen Energy, LLC. The proposed project would be located on a 315-acre site in an oil producing area (Elk Hills) approximately 2 miles northwest of the unincorporated community of Tupman in western Kern County, California.

The proposed HECA project would gasify petroleum coke (or blends of petroleum coke and coal, as needed) to produce hydrogen to fuel a combustion turbine operating in combined cycle mode. The gasification component would produce 180 million standard cubic feet per day (MMSCFD) of hydrogen to feed a 390 megawatt (MW) gross/250 MW net combined cycle power plant providing California with a baseload power output to the grid. Due to the complex gasification and sequestration process, there is a larger than usual parasitic load.

In addition, the project would include a 100 MW net natural gas-fired peaking combustion generator that would provide power for plant startup, powering the gasifier when the plant does not generate and providing peaking power to the grid. Essentially 350 MW (250 MW baseload capacity plus 100 MW peaking performance) of power output would be available to the grid during high demand periods (e.g., summer months, etc.).

The gasification component would also capture approximately 130 MMSCFD of carbon dioxide (or approximately 90 percent at steady-state operation) which would be compressed and transported via a pipeline off-site for injection into deep underground oil-bearing formations, and used for enhanced oil recovery and sequestration in the existing Elk Hills Oil Field Unit operated by Occidental Petroleum Corporation (Oxy).

Project Location

The proposed project would be located on an undeveloped 315-acre site (once used for grazing, storage, and bee keeping), located adjacent to the Elk Hills Oil Field Unit, with existing surface elevations that vary from about 445 feet in the southwest corner to about 310 feet in the northeast corner above the mean sea level (msl). The proposed project site is further described as assessor's parcel number (APN) #159-180-12, located in Section 22 Township 30 South, Range 24 East, on the United States Geological State Survey quadrangle map. Agricultural and related operations occur north, northeast, and northwest of the site. According to Kern County Planning

Department, the majority of the crop types within the affected environment and surrounding areas consist of cotton and alfalfa. One rural residence is located approximately 2800 feet north of the proposed project site along Tupman Road. Oil fields are located to the south, southeast, and southwest of the proposed project site. The California State Water Project (aqueduct) extends along the northeast boundary of the adjacent parcel.

Project Description
Highlights of the Project are as follows:

- The proposed HECA project would be designed to operate with 100 percent petroleum coke from California refineries, and would have the flexibility to operate with up to 60 percent western bituminous coal as needed.

- The feedstock 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. A portion of the product (hydrogen-rich gas) would also be used to supplementally fire 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 will be captured in a high-purity carbon dioxide stream during steady-state operation, which would be compressed and transported by pipeline off-site for injection into deep underground oil reservoirs for oil enhanced oil recovery and sequestration.

- Project greenhouse gas emissions (e.g., CO_2) and sulfur emissions would be reduced through state-of-the art emission-control technology and carbon dioxide sequestration.

- The net electrical output from the project would provide approximately 250 MW of baseload power to the grid (PG&E), feeding major load sources to the north and to the south, plus power output from a 100 MW net natural gas-fired peaking combustion generator.

- The water source of the project would be brackish groundwater supplied by the Buena Vista Water Storage District and treated on site. Potable water would be supplied by West Kern Water District for sanitary purposes.

- There would be no direct surface water discharge of industrial wastewater or storm water. Process wastewater would be treated on site and recycled within the gasification and power plant systems. Other wastewaters from cooling tower blowdown and raw water treatment would be collected and directed to on-site underground injection wells.

- The proposed project gasification process would feature near zero sulfur emissions during steady-state operation, and incorporate technology to minimize flaring during startup and shutdown operations.

Major–on-site project components would include:

- Solids handling, gasification, and gas treatment;
- Feedstock delivery, handling, and storage;
- Sour shift/low temperature gas cooling (for producing syngas as part of the gasification process);
- Mercury removal;
- Acid gas removal;
- Combined-cycle power generation;
- Auxiliary combustion turbine generator;
- Electrical switching facilities;
- Natural gas fuel systems;
- Air separation unit;
- Sulfur recovery unit;
- Tail gas treating unit;
- Zero liquid discharge system for wastewater;
- Carbon dioxide compression;
- Wastewater injection wells;
- Raw water treatment plant; and
- Other plant systems.

Major off-site facilities:

- Electrical transmission line - A new electrical transmission line would interconnect the project to PG&E's (Pacific Gas and Electric) existing Midway Substation by utilizing a 230 kilovolt (kV) transmission line. The project may also include two alternative transmission routes, both of which would extend from the western edge of the proposed project site to the north, and west to the north side of the substation. Transmission Alternative 1 is approximately 9 miles long and transmission Alternative 2 would be 9.5 miles long.

- Natural gas supply - A natural gas interconnection would be made with either PG&E or Southern California Gas Company natural gas pipelines, both which would be located southeast of the proposed project site. The proposed new natural gas line would be approximately 7 miles long. The interconnect would consist of one tap off of an existing natural gas line, one meter set, one service pipeline service connection, and a pressure limiting station located on the proposed project site.

- Water supply pipelines - The project would utilize brackish groundwater supplied from the Buena Vista Water Storage District located to the northwest. The proposed new raw water supply pipeline for cooling and process needs would be

approximately 18 miles in length. Potable water for drinking and sanitary use would be supplied by the West Kern Water District located near the State Route 119 (SR 119)/Tupman Road intersection (southeast of the project site). The potable water supply pipeline would be approximately 5.5 miles in length.

- Carbon dioxide pipeline - The proposed new carbon dioxide pipeline would transfer the carbon dioxide captured during gasification from the project site southwest to the custody transfer point for enhanced oil recovery and sequestration. The project may utilize two alternative pipeline routes. Alternative 1 is approximately 2 miles in length, while Alternative 2 is approximately 2.5 miles in length.

- All temporary construction equipment laydown and parking, including construction parking, offices, and construction laydown areas, will be located on the proposed project site.

If approved, construction of the project would begin in March 2011 with commissioning and initial startup occurring January 2014 through October 2014, with full scale operation by December of 2014.

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 is the lead agency under the California Environmental Quality Act (CEQA), but through its certification regulatory program, produces several environmental and decision documents rather than an Environmental Impact Report.

The first step in the review process is for Energy Commission staff to determine whether or not the AFC contains all the information required by our regulations. When the AFC is deemed data adequate, we will begin the data discovery and issue analysis phases. At that time, a detailed examination of the issues will occur.

Over the coming months, the Energy Commission will conduct a number of public workshops and hearings on the proposal to determine whether the proposed project should be approved for construction and operation and under what set of conditions. These workshops will provide the public as well as local, state and federal agencies the opportunity to ask questions about, and provide input on, the proposed project. The Energy Commission will issue notices for these workshops and hearings at least ten days prior to the meeting.

Agency Participation
We request that you provide any written comments you may have regarding potential issues of concern by **September 5, 2008.** Please address your comments to Rod Jones, Project Manager, 1516 9th Street, MS-15, Sacramento, CA 95814, or by email to rjones@energy.state.ca.us. Your agency may also present its comments and recommendations in person at the Energy Commission's **September 10, 2008** Business Meeting. The limited purposes of that meeting will be to determine whether the AFC is data adequate in accordance with our regulations and to assign a committee of two Commissioners to oversee the proceeding.

When the AFC is accepted as data adequate, your participation in the proceeding will continue to be valuable and encouraged and will allow you to identify and try to resolve issues of concern to your agency. There may be specific requests for agency review and comment during the proceedings after the AFC has been determined to be data adequate. Local agencies may seek reimbursement for costs incurred in responding to these requests. However, comments provided in response to this request during data adequacy are not reimbursable under Energy Commission regulations.

Assuming that the proposed project is found to be data adequate on September 10, 2008, your agency's preliminary and final determinations and opinions (such as those contained in a Determination of Compliance, wastewater discharge requirements, biological opinions, and land use decisions) would be due by **January 7, 2009** (120 days) and **March 7, 2009** (180 days), respectively.

Enclosed is a copy of the AFC in electronic format (CD). If you would like to have a hard copy of the AFC sent to you, if you have questions, or if you would like additional information about reimbursement or how to participate in the Energy Commission's review of the proposed project, please contact Rod Jones, Project Manager, at (916) 654-5191, or by email at rjones@energy.state.ca.us. The status of the proposed project, copies of notices, an electronic version of the AFC, and other relevant documents are also available on the Energy Commission internet website at http://www.energy.ca.gov/sitingcases/hydrogenenergy/index.html. By being on the mailing list, you will receive notices of all project related activities and documents related to the proposed project's evaluation and review. You can also subscribe to receive email notification of all notices at http://www.energy.ca.gov/listservers.

Sincerely,

Eileen Allen, Manager
Energy Facilities Siting and Compliance Office

Enclosure