



TETRA TECH EC, INC.

<b>DOCKET</b>	
<b>11-AFC-3</b>	
DATE	<u>JUN 11 2012</u>
RECD.	<u>JUN 11 2012</u>

June 11, 2012

Siting Committee  
Raoul Renaud, Hearing Officer  
Eric Solorio, Project Manager  
California Energy Commission  
Docket No. 11-AFC-3  
1516 9<sup>th</sup> St.  
Sacramento, CA 95814

**Cogentrix Quail Brush Generation Project - Docket Number 11-AFC-3, Response to Kevin Brewster's Intervenor Data Requests, 6, 14, 24, and 25 through 31**

Docket Clerk:

Pursuant to the provisions of Title 20, California Code of Regulations, and on behalf of Quail Brush Genco, LLC, a wholly owned subsidiary of Cogentrix Energy, LLC, Tetra Tech hereby submits the Response to Kevin Brewster's Intervenor Data Requests, 6, 14, 24, and 25 through 31. The remaining data requests were addressed in our 20-day initial response to these data requests docketed on May 31, 2012. The Quail Brush generation Project is a 100 megawatt natural gas fired electric generation peaking facility to be located in the City of San Diego, California.

The topics addressed in this letter include the following:

- Noise
- Alternatives
- Cultural Resources
- Worker Health and Safety

If you have any questions regarding this submittal, please contact Rick Neff at (704) 525-3800 or me at (303) 980.3653.

Sincerely,

Constance E. Farmer  
Project Manager/Tetra Tech

cc: Lori Ziebart, Cogentrix  
John Collins, Cogentrix  
Rick Neff, Cogentrix  
Proof of Service List

TETRA TECH EC, INC.



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 *QUAIL BRUSH GENERATION PROJECT***

DOCKET NO. 11-AFC-03

PROOF OF SERVICE  
(Revised 6/6/2012)

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## DECLARATION OF SERVICE

I, Constance Farmer, declare that on June 11, 2012, I served and filed a copy of the Quail Brush Generation Project (11-AFC-03) Response to Kevin Brewster's Intervenor Data Requests, 6, 14, 24, and 25 through 31. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: [<http://www.energy.ca.gov/sitingcases/quailbrush/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:**

- Served electronically to all e-mail addresses on the Proof of Service list;
- 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:**

- by sending an 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. 11-AFC-3  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512 [docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

***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  
[mlevy@energy.state.ca.us](mailto:mlevy@energy.state.ca.us)

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.



## Noise

6. Data Request: Please indicate if the noise models of section 4.3.3.3 include emitted through the air inlet and the engine exhaust system, and auxiliary systems (such as cooler fans etc.). If they do not please update the modeling to include the mentioned sources.

**Response:**

The acoustic modeling for operational noise in section 4.3.3.3 included the engine exhaust system, air inlets, and auxiliary systems. These systems were assumed to be operating concurrently in the acoustic assessment. As stated in the AFC, the acoustic modeling for the “baseline” plant incorporated “no special noise control measures ...and no enhanced stack (exhaust) silencing or silencing of the air inlets.” (AFC 4.3-17). The acoustic modeling for the “attenuated” plant incorporated the mitigation measures discussed in section 4.3.3.3.

## Analysis of Alternatives

14. Data Request: Please provide demand curves over time by day for the proposed Quail Brush Power plant.

**Response:**

Daily demand curves are publicly available at: <http://www.caiso.com/outlook/SystemStatus.html>. We note that there are no project-specific demand curves. SDG&E issued a Request for Offers (RFO) solicitation in 2009 seeking, among other products, peaking or intermediate-class projects to support the baseload. Although the RFO and Quail Brush’s Power Purchase and Tolling Agreement with SFG&E include requirements for total station output rather than real-time demand response, Quail Brush will be serving part of the demand depicted on the daily demand curves.

## Worker Health Safety

24. Data Request: Please provide details of the chemical composition both components and amounts of the coolant itself or any additives.

**Response:**

The cooling system capacity per engine is about 1,100 gallons. The cooling system contains water, approximately 10% antifreeze, and approximately 0.15% corrosion control chemical. Details on the chemical additives are included in the AFC Application in Section 4.9. Storage and usage of these materials are included in Tables 4.9-3 and 4.9-5 of the AFC; Quail Brush proposes to use Texaco Extended Life Corrosion Inhibitor (AFC 4.9-6), and will not use hexavalent chromium, the coolant referenced in the background section to this data request.

25. Data Request: Please provide an analysis of Burn patterns under specific weather conditions. Historical and expected fuel loads at climax conditions should be disclosed and analyzed. Methods expected to be utilized to protect the power plant from a fire head and ember storm under 60 mph winds should be disclosed and analyzed.

**Response:**

The City of San Diego has over 900 linear miles of wildland-urban interface. This land, in combination with the semi-arid environment, can give rise to dangerous wildfires, especially during certain times of year. The City has promulgated several regulations, guidelines and ordinances designed to protect against wildfires. The City updates these regulations, guidelines, and ordinances based upon reports and studies of actual fires in the City and County of San Diego. The design of the Quail Brush Generation Project will comply with applicable California and City of San Diego fire and building codes, including requirements under California Government Code Section 51182 which deals with wild fire zones. The Project design team will also work with the San Diego Fire-Rescue Department as well as SDG&E to identify issues and protect the power plant from wildfires. Based upon its historical experience and expectations, the Fire-Rescue Department will provide input concerning the nature of the protection required for fire events and will be involved in reviewing the project plan details.

26. Data Request: If ember protection is needed, identify how the facility will be protected from an ember storm.

**Response:**

Due to the semi-arid environment of the City of San Diego and the physical conditions of the Project site and surrounding area, the Project will be designed to protect the facility from an ember storm. The design features that minimize the threat to the facility from embers may include some or all of the following measures:

- Reduce of the quantities of combustible materials exposed within the power plant that might be ignited by windblown embers;
- Use of protective, fire and heat resistant construction materials for exposed surfaces such as walls, doors, windows, vents, air filters, screens and similar devices;
- Roof, wall and door designs that eliminate access of embers or burning materials inside the building;
- Use of automatic control valves and devices to isolate plant equipment, provide pressure relief or similar protection to under various emergency conditions;
- Minimize locations where vegetative debris and brush can collect around the power plant and access roads to the extent possible.

Operationally, the power plant will have standard operating procedures that also minimize the threat from embers such as:

- Maintenance and clearing of vegetation adjacent to the plant, cleaning;
- Removal of any vegetation that grows or is blown into the power plant area;
- Maintenance of external building materials and equipment, automatic controls, vents, air intakes, and similar items.

27. Data Request: What materials will the plant be constructed from and of these, which ones are combustible and at what temperatures?

**Response:**

The materials of construction will be determined during the detailed design of the power plant and will comply with the applicable California Fire and Building Codes. Typical materials include, but are not limited to iron, steel, stainless steel, copper/brass, fiberglass insulation, and various thermoplastic components. Building elements will be of noncombustible components, except as permitted by the California Fire and Building Codes. Thermoplastics used in the construction of the facility will generally be underground applications such as plumbing and fire protection. All thermoplastic elements will be designed and installed as permitted by California Fire and Building Codes. Thermoplastics are combustible and typically have a flash ignition temperature between 644 to 734 degrees Fahrenheit.

28. Data Request: How will natural gas fuels be protected from conditions that we know will eventually occur in a worst-case firestorm scenario?

**Response:**

Although we don't know what conditions will eventually occur onsite, Quail Brush is developing emergency response procedures to cover worst-case scenarios. These emergency response procedures that will be developed as part of the design process for the power plant will identify how and when the natural gas supply will be shut off and any venting or purging of piping and equipment initiated.

In the event of wildfires in the vicinity of the power plant, plant personnel will be in close communication with SDG&E operations and the fire-rescue department. The shutdown and de-energizing of the power plant will be a coordinated effort to protect human health, the electrical grid and the environment. Depending on the nature and severity of an incident, natural gas contained in piping and equipment may be vented through safety systems to reduce the pressure in the piping to safe conditions.

29. Data Request: What are the power plant's vulnerabilities under worst case firestorm conditions with no fire suppression resources available?

**Response:**

As stated in the AFC, the Project will include fire protection systems including a water system, CO<sub>2</sub> fire suppression systems for the natural gas-fired reciprocating engines, and portable fire extinguishers. The plant's fire protection water system will be supplied from a 600,000 gallon dedicated fire water tank located on the plant site that services the sprinkler system in the operations building and at each of the generating unit transformers. Upon detection and automated confirmation of the existence of a fire, the control system will automatically shut down the combustion engine, turn of ventilation fans, close ventilation openings and release CO<sub>2</sub> (AFC 4.10-14).

Consistent with the facility's emergency response procedures, under worst case conditions that assume no fire suppression resources are readily available, the power plant would be completely shut down and the power plant isolated from the electrical grid and de-energized, and pipeline and equipment purging would occur. All of the staff would be evacuated and the facility would be locked up. Access to the overall project site would be available, if requested by the fire department, for any fire department personnel present in the vicinity for general area fire suppression.

With implementation of the appropriate protective measures as described above in the response to data request 26, the quantity of fuel for a wildfire would be limited. In worst

case situations, damage to the power plant may include ash buildup around structures and equipment, overheated electrical wiring in motors and other external equipment, thermal damage to aboveground conduits and damage to fencing. Additional external damage to the facility structure, to things such as paint or surface treatments, insulation, drains, and downspouts, may require repair and/or replacement.

30. Data Request: Are employees expected to evacuate a firestorm, join in suppression efforts, or seek shelter inside the facility?

**Response:**

During operations, the facility is expected to employ up to 11 full-time employees of whom 1 plant manager and 2 plant technicians would generally be working during any given shift. The emergency response procedures that will be developed as part of the design process for the power plant and included in the Fire Emergency Plan (a draft of which is anticipated to be docketed on July 9, 2012 as stated in Quail Brush's initial response to CEC Data Request 74 docketed on June 4, 2012) will identify how and when the operations staff will respond to an emergency.

All staff will be trained on emergency responses and will follow the emergency response plan for the conditions encountered. As discussed below in response to Data Request SG31, employees will be trained for power plant evacuation. It is not anticipated that the plant staff will join in any area suppression efforts. However, they may conduct localized suppression efforts within the power plant area under certain conditions and consistent with the emergency response procedures, such as during system shutdown and lockout, prior to evacuation. An employee shelter-in-place response procedure will be developed in conjunction with the San Diego Fire-Rescue Department. A shelter-in-place Class 3 safe room (or as otherwise required by the AHJ) will be designed in accordance with OSHA and San Diego Fire-Rescue Department requirements.

31. Data Request: How would the plant or plant evacuation requirements impact landfill employees and residential neighborhood evacuation routes?

**Response:**

Evacuation routes will be identified during the development of the emergency response plans, and unless directed by emergency personnel at the time of an incident, no evacuation routes through residential neighborhoods would be expected. Pursuant to the Fire Emergency Plan, the evacuation of the plant staff will be coordinated in advance with the landfill emergency coordinator, SDG&E operations and local authorities. During an emergency, plant staff will communicate with the landfill emergency coordinator, SDG&E operations and local authorities to ensure the safe evacuation of the plant.

The normal operations staff will generally consist of approximately 3 employees working during any one shift. Therefore, even including visitors, the likely maximum number of persons who would be evacuating would be minimal, and therefore would have no impact on the residential neighborhood evacuation routes.