



TETRA TECH EC, INC.

California Energy Commission

DOCKETED
11-AFC-03

TN # 69104

JAN. 11 2013

January 11, 2013

Eric Solorio, Project Manager
California Energy Commission
Docket No. 11-AFC-3
1516 9th St.
Sacramento, CA 95814

Cogentrix Quail Brush Generation Project - Docket Number 11-AFC-3, Response to CEC Data Requests 94 and 95

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 CEC Data Requests 94 and 95. 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

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 12/28/2012)**

SERVICE LIST:

APPLICANT

Cogentrix Energy, LLC
C. Richard "Rick" Neff, Vice President
Environmental, Health & Safety
John Collins, VP Development
Lori Ziebart, Project Manager
Quail Brush Generation Project
9405 Arrowpoint Boulevard
Charlotte, NC 28273
rickneff@cogentrix.com
johncollins@cogentrix.com
loriziebart@cogentrix.com

CONSULTANTS FOR APPLICANT

Tetra Tech EC, Inc.
Connie Farmer
Sr. Environmental Project Manager
Sarah McCall
Sr. Environmental Planner
143 Union Boulevard, Suite 1010
Lakewood, CO 80228
connie.farmer@tetrattech.com
sarah.mccall@tetrattech.com

Tetra Tech EC, Inc.
Barry McDonald
VP Solar Energy Development
17885 Von Karman Avenue, Ste. 500
Irvine, CA 92614-6213
barry.mcdonald@tetrattech.com

COUNSEL FOR APPLICANT

Bingham McCutchen LLP
Ella Foley Gannon
Camarin Madigan
Three Embarcadero Center
San Francisco, CA 94111-4067
ella.gannon@bingham.com
camarin.madigan@bingham.com

INTERVENORS

Roslind Varghese
9360 Leticia Drive
Santee, CA 92071
roslindv@gmail.com

Rudy Reyes
8655 Graves Avenue, #117
Santee, CA 92071
rreyes2777@hotmail.com

Dorian S. Houser
7951 Shantung Drive
Santee, CA 92071
dhouser@cox.net

Kevin Brewster
8502 Mesa Heights Road
Santee, CA 92071
lzpup@yahoo.com

Mr. Rob Simpson, CEO
Helping Hand Tools
1901 First Avenue, Suite 219
San Diego, CA 92101
rob@redwoodrob.com

Sierra Club, San Diego Chapter
c/o Law Office of Robert W. Wright
Robert W. Wright
716 Castro Street
Solana Beach, CA 92075
bob.wright@mac.com

Sunset Greens
Homeowners Association
c/o Briggs Law Corporation
Cory J. Briggs
Isabel E. O'Donnell
99 East "C" Street, Suite 111
Upland, CA 91786
cory@briggslawcorp.com
isabel@briggslawcorp.com

INTERVENORS (cont'd.)

HomeFed Fanita Rancho, LLC
c/o Allen Matkins Leck Gamble
Mallory & Natsis LLP
Jeffrey A. Chine
Heather S. Riley
501 West Broadway, 15th Floor
San Diego, CA 92101
jchine@allenmatkins.com
hriley@allenmatkins.com
jkaup@allenmatkins.com
vhoy@allenmatkins.com

Preserve Wild Santee
Van Collinsworth
9222 Lake Canyon Road
Santee, CA 92071
savefanita@cox.net

Center for Biological Diversity
John Buse
Aruna Prabhala
351 California Street, Suite 600
San Francisco, CA 94104
jbuse@biologicaldiversity.org
aprabhala@biologicaldiversity.org

***California Pilots Association**

**Andy Wilson
31438 Greenbrier Lane
Hayward, CA 94544
andy.wilson@calpilots.org**

INTERESTED AGENCIES

California ISO
e-recipient@caiso.com

City of Santee
Department of Development Services
Melanie Kush
Director of Planning
10601 Magnolia Avenue, Bldg. 4
Santee, CA 92071
mkush@ci.santee.ca.us

City of San Diego
Morris E. Dye
Development Services Dept.
1222 First Avenue, MS 501
San Diego, CA 92101
mdye@sandiego.gov

County of San Diego
Mindy Fogg
Land Use Environmental Planner
Advance Planning
Department of Planning & Land Use
5510 Overland Avenue, Suite 310
San Diego, CA 92123
mindy.fogg@sdcounty.ca.gov

**ENERGY COMMISSION –
PUBLIC ADVISER**

Jennifer Jennings
Public Adviser's Office
publicadviser@energy.ca.gov

COMMISSION DOCKET UNIT

California Energy Commission –
Docket Unit
Attn: Docket No. 11-AFC-03
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.ca.gov

**OTHER ENERGY COMMISSION
PARTICIPANTS (LISTED FOR
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

Eileen Allen
Commissioners' Technical
Adviser for Facility Siting

Galen Lemei
Adviser to Commissioner Douglas

Jennifer Nelson
Adviser to Commissioner Douglas

David Hungerford
Adviser to Commissioner McAllister

Patrick Saxton
Adviser to Commissioner McAllister

Eric Solorio
Project Manager

Stephen Adams
Staff Counsel

DECLARATION OF SERVICE

I, Constance E. Farmer, declare that on January 11, 2013, I served and filed copies of the attached CEC Data Request #94 and #95 Responses, dated January 10, 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/quailbrush/index.html>.

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service) and to the Commission's Docket Unit, as appropriate, 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 US mail with first class postage to those parties noted above as "hard copy required"; **OR**
- Instead of e-mailing the document, I personally delivered it or deposited it in the US 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: January 11, 2013

Constance E. Farmer

To: Project File

From: Tetra Tech

Date: Thursday, January 10, 2013

Subject: Data Request #94 and #95 Responses - Ambient Sound Level Monitoring at the Kumeyaay Campground and Compliance Assessment

The California Energy Commission (CEC) requested on October 31, 2012 via Data Request #94 that the Quail Brush Generation Project (Project) conduct additional ambient sound level monitoring at the Kumeyaay Campground (campground) and analyze Project sound levels at that same location. CEC also requested via Data Request #95 an assessment of modeled Project noise levels at the campground:

“94. Provide noise measurements of the existing ambient noise levels at Kumeyaay Campground. Please include in these measurements, a one-hour measurement during each of the following daytime periods: mid-morning, mid-afternoon, and evening. Please also measure the existing nighttime ambient noise levels at this location, continuously from 10:00 pm to 7:00 am. The measurements should be taken on a Saturday and a weekday from an available campsite that is closest to the proposed project. Please provide the results of these measurements in terms of L_{eq} , L_{10} , L_{50} , L_{90} , L_{min} , and L_{max} .”

95. Provide the project’s modeled noise levels at this location during construction, operation, and nighttime plant activities, in decibels.”

In response to the CEC requests, Tetra Tech has completed ambient sound level monitoring and an assessment of modeled Project noise levels at the campground. Measurements were conducted during one weekday and weeknight and on one weekend day and weekend night. This memo describes the methods employed, the results of the ambient sound level measurements and a comparison of ambient to future sound levels generated by the proposed Project at the campground.

Methods

Long-term and short term ambient sound measurements were collected for a weekday and weekend time period to document the existing acoustic environment. The ambient measurements captured nighttime noise levels continuously from 10:00 p.m. to 7:00 a.m., and one-hour measurements during mid-morning, mid-afternoon and evening periods. Measurements were collected in the CEC requested sound metrics of L_{eq} , L_{10} , L_{50} , L_{90} , L_{min} and L_{max} . Measurements were conducted January 3rd to 4th, 2013 for the weekday samples, and from January 5th to 6th, 2013 for the weekend samples. Larson Davis 831 real-time sound level analyzers were used to collect sound data. Additional details on instrumentation are provided in the Project AFC.

The CEC was specific with the placement of the sound level meter at the campground, requesting that the meter be located at the campsite closest to the Project. Through discussions with the Mission Trails Regional Park ranger, Matt Sanford (Senior Park Ranger), it was determined that campsite #10 represented the closest campsite to the Project.

Atmospheric conditions during the survey period were conducive for the collection of accurate sound measurements. Temperatures ranged from 30°F to 71°F and the average relative humidity ranged from 68% to 91%. The wind conditions were calm with almost no wind at ground level and there was no precipitation during the monitoring period.

Existing sound sources contributing to the ambient acoustic environment were documented during the measurements, and are summarized in Table 1. Traffic noise on State Route 52 (SR-52) was the main contributor to the acoustic environment. Secondary sound sources include the sound of aircraft (propeller planes, jet aircraft, helicopters, etc.) flying overhead, hikers, bicyclists, birds, leaves rustling in light winds, and the barely audible sound of trickling water in a creek located approximately 200 feet north of the campsite. Table 1 also includes the dates and times that correspond to the 1-hour and overnight monitoring efforts.

Table 1 – Observed Sound Sources

Monitoring Period/Date/Time		Observations	
Weekday	Mid-Morning	1/3/2013 - 10:14 AM to 11:14 AM	Traffic noise SR-52, aircraft over flights including military helicopters, birds, leaves rustling, trickle of water in creek
	Mid-Afternoon	1/3/2013 - 12:47 PM to 1:47 PM	Traffic noise SR-52, aircraft over flights, frogs, leaves rustling, trickle of water in creek, street construction noise.
	Evening	1/3/2013 - 6:20 PM to 7:20 PM	Traffic noise SR-52, aircraft over flights including military helicopters, leaves rustling, trickle of water in creek
	Overnight	1/3/2013 - 10:00 PM to 1/4/2013 - 7:00 AM	Traffic noise SR-52, aircraft over flights, coyotes in evening (10PM to 12AM), leaves rustling, trickle of water in creek, birds (6AM to 7AM)
Weekend	Mid-Morning	1/5/2013 - 9:43 AM to 10:43 AM	Traffic noise SR-52, aircraft over flights, birds, leaves rustling, trickle of water in creek
	Mid-Afternoon	1/5/2013 - 12:37 PM to 1:37 PM	Traffic noise SR-52, aircraft over flights, leaves rustling, trickle of water in creek
	Evening	1/5/2013 - 5:23 PM to 6:23 PM	Traffic noise SR-52, aircraft over flights, leaves rustling, trickle of water in creek
	Overnight	1/5/2013 - 10:00 PM to 1/6/2013 - 7:00 AM	Traffic noise SR-52, aircraft over flights, coyotes in evening (10PM to 12AM), leaves rustling, trickle of water in creek, birds (6AM to 7AM)

Results

The results of the monitoring program show that roadway traffic on SR-52 was the dominant sound source at the campground during all time periods. Observed sound levels of SR-52 traffic noise when sounds from other sources were minimal ranged from 36 dBA L₉₀ under low traffic conditions at 2:00 A.M. during the weekend measurement, to 52 dBA L₉₀ under high traffic conditions at 7:00 A.M. during

the weekday measurement. Table 2 provides a summary of the lowest monitored 1-hour L_{eq} , and statistical metrics for both weekday and weekend time periods. Table 3 and Table 4 provide the 1-hour time history of sound levels over the weekday and weekend overnight measurements respectively, and Table 5 provides 1-hour monitored sound levels for mid-morning, afternoon and evening measurements.

Table 2 – Lowest 1-Hour Monitored Sound Levels

Receptor	Daytime Period				Nighttime Period			
	L_{eq}	L_{10}	L_{50}	L_{90}	L_{eq}	L_{10}	L_{50}	L_{90}
Weekday Monitoring - January 3rd-4th, 2013								
Campground	49	47	44	42	43	46	43	39
Weekend Monitoring - January 5th-6th, 2013								
Campground	46	47	42	41	40	43	40	36

Table 3 – Weekday Overnight 1-Hour Monitored Sound Levels

Date	Start Time (PST)	L_{eq} [dB]	L_{10} [dB]	L_{50} [dB]	L_{90} [dB]
1/3/2013	10:00:00 PM	51	50	47	45
1/3/2013	11:00:00 PM	50	50	47	44
1/4/2013	12:00:00 AM	46	49	45	42
1/4/2013	1:00:00 AM	43	46	43	40
1/4/2013	2:00:00 AM	44	47	43	39
1/4/2013	3:00:00 AM	45	47	44	41
1/4/2013	4:00:00 AM	48	49	47	45
1/4/2013	5:00:00 AM	53	55	52	50
1/4/2013	6:00:00 AM	53	54	52	51
1/4/2013	7:00:00 AM	52	53	52	52

Table 4 – Weekend Overnight 1-Hour Monitored Sound Levels

Date	Start Time (PST)	L _{eq} [dB]	L ₁₀ [dB]	L ₅₀ [dB]	L ₉₀ [dB]
1/5/2013	10:00:00 PM	48	49	47	46
1/5/2013	11:00:00 PM	46	48	46	44
1/6/2013	12:00:00 AM	45	48	45	41
1/6/2013	1:00:00 AM	43	44	42	39
1/6/2013	2:00:00 AM	41	44	40	36
1/6/2013	3:00:00 AM	40	43	40	37
1/6/2013	4:00:00 AM	42	44	41	37
1/6/2013	5:00:00 AM	44	47	43	40
1/6/2013	6:00:00 AM	44	46	44	41
1/6/2013	7:00:00 AM	47	47	47	46

Table 5 – Mid-Morning, Afternoon and Evening 1-Hour Monitored Sound Levels

Monitoring Period/Date/Time			L _{eq} [dB]	L ₁₀ [dB]	L ₅₀ [dB]	L ₉₀ [dB]
Weekday	Mid-Morning	1/3/2013 - 10:14 AM to 11:14 AM	48	48	43	42
	Mid-Afternoon	1/3/2013 - 12:47 PM to 1:47 PM	41	42	39	37
	Evening	1/3/2013 - 6:20 PM to 7:20 PM	52	52	49	48
Weekend	Mid-Morning	1/5/2013 - 9:43 AM to 10:43 AM	45	47	42	40
	Mid-Afternoon	1/5/2013 - 12:37 PM to 1:37 PM	48	47	41	39
	Evening	1/5/2013 - 5:23 PM to 6:23 PM	45	46	44	43

The lowest monitored L₉₀ sound level is used to assess compliance with the anti-degradation standard required for the Project. The L₉₀ sound level is commonly referred to as the residual sound level, representing the sound level that is exceeded 90% of the time over a given monitoring period. According to CEC guidelines a 5 dBA increase over the ambient sound level, in this case the L₉₀, is considered the threshold for onset of a potential adverse impact. Since the campground covers a relatively large area a range of received sound levels based on noise contours is used to assess compliance. Table 6 lists the range of received and cumulative sound levels under Project operation. The cumulative sound level is obtained by adding the project operational sound level to the monitored ambient sound level.

Table 6 – Summary of Operational Noise Levels at the Campground

Receptor	Ambient Sound Level, dBA*	Attenuated Plant, dBA	Cumulative Level, dBA	Cumulative Increase, dBA
Campground Weekday	39	30-35	40-41	0-1
Campground Weekend	36	30-35	37-39	1-2

*Lowest 1-hour L₉₀

With mitigation measures utilized, as described in Section 4.3 of the AFC (August 25, 2011), the cumulative noise level will not cause the background level to be increased by more than 3 dBA during any time period. These results demonstrate that the Project has been adequately designed to operate within the applicable limits prescribed CEC guidelines and statutory limits.

Table 7 provides a comparative analysis of horizontal directional drilling (HDD) that may be required during Project construction. Except for emergency work, according the San Diego Code, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceeds an average sound level of 75 decibels for an eight-hour period, between 7 a.m. and 7 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received. Candidate mitigation measures include temporary noise barriers, enhanced mufflers, or engine enclosures, which can reasonably achieve a 10 dBA reduction. HDD activity received sound levels at the campground are predicted to be well below 75 decibels for an eight-hour period and net increases at or below 3 dBA during weekday time periods.

Table 7 – Summary of HDD Noise Levels at the Campground

Receptor	Ambient Sound Level, dBA*	HDD Construction, dBA	Cumulative Level, dBA	Cumulative Increase, dBA
Campground Weekday	39	35-40	41-43	1-3
Campground Weekend	36	35-40	39-42	2-5

*Lowest 1-hour L₉₀

With mitigation measures utilized, as described in Section 4.3 of the AFC (August 25, 2011), the cumulative noise level will not cause the background level to be increased by more than 5 dBA during any time period. These results demonstrate that the Project has been adequately designed to operate within the applicable limits prescribed CEC guidelines and statutory limits.