RESPONSES TO DATA REQUESTS (#1-5)
STARWOOD POWER-MIDWAY, LLC PEAKING PROJECT
(06-AFC-10)
AMENDMENT NO. 1

SUBMITTED TO THE
CALIFORNIA ENERGY COMMISSION
JUNE 2008

SUBMITTED BY
STARWOOD POWER-MIDWAY, LLC

WITH SUPPORT FROM

URS

1615 MURRAY CANYON ROAD, SUITE 1000
SAN DIEGO, CA 92108
TEL: 619.294.9400
FAX: 619.293.7920

URS

June 6, 2008

Chris Davis
Compliance Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Starwood Power-Midway, LLC Peaking Project (06-AFC-10)
Data Request Responses to Amendment No. 1
URS Project No. 27656131.00700

Dear Mr. Davis:

On behalf of Starwood Power-Midway, LLC, URS Corporation (URS) hereby submits responses to Data Requests (#1-5) for Starwood Power-Midway Project Amendment No. 1.

I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge. I also certify that I am authorized to submit responses to Data Requests (#1-5) for Starwood Power-Midway Project Amendment No. 1 on the behalf of Starwood Power-Midway, LLC.

Sincerely,

URS CORPORATION

Angela Leiba
Project Manager

URS Corporation
1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108
Tel: 619.294.9400
Fax: 619.293.7920

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TECHNICAL AREA: AIR QUALITY

Data 1: Please provide a copy of a spreadsheet with the well drilling emission calculations including the assumed emission factors for each piece of construction equipment.

Response:

- A copy of the spreadsheets with the well drilling emission calculations including the assumed emission factors for each piece of construction equipment is provided as an attachment to this sheet.

Water Well Installation - Diesel Fired Equipment

Activity occurs in month 1 only.

Equipment	Quantity	Hours/Day	Horsepower	Days/year	Emission factors (lb/hr) PM10	PM2.5	CO	VOC	NOx	SOx
Drill Rig	1	12	500	5	0.064	0.059	0.563	0.157	2.023	0.003
Backhoe	1	5	250	5	0.060	0.055	0.445	0.160	1.794	0.002
Water Truck	1	4	250	5	0.066	0.061	0.480	0.182	1.862	0.002

Hourly Emissions (lb/hr) PM10	PM2.5	CO	VOC	NOx	SOx	Daily Emissions (lb/day) PM10	PM2.5	CO	VOC	NOx	SOx
0.06	0.06	0.56	0.16	2.02	0.00	0.77	0.71	6.76	1.88	24.27	0.04
0.06	0.06	0.45	0.16	1.79	0.002	0.30	0.28	2.23	0.80	8.97	0.01
0.07	0.06	0.48	0.18	1.86	0.00	0.26	0.24	1.92	0.73	7.45	0.01
0.19	**0.17**	**1.49**	**0.50**	**5.68**	**0.01**	**1.33**	**1.22**	**10.90**	**3.41**	**40.69**	**0.05**

Total Emissions from Activity (total pounds) PM10	PM2.5	CO	VOC	NOx	SOx
3.840	3.533	33.786	9.396	121.356	0.186
1.495	1.375	11.133	3.995	44.843	0.048
1.318	1.213	9.598	3.644	37.234	0.038
6.65	**6.12**	**54.52**	**17.04**	**203.43**	**0.272**

Notes

Emission factors from CARB Off-road Mobile Source Emission Factors (2006-2020). (2008 data used).
PM2.5 emission factors from updated CEIDARS List with PM2.5 fractions. PM2.5 numbers obtained by multiplying the PM10 values by fraction in CEIDARS list for onroad or offroad diesel vehicles.

Travel on unpaved road

Activity occurs in month 1 only.

$F = 2.1 * G/12 * H/30 * (J/3)^{0.7} * (I/4)^{0.5} * (365-K)/365$ SCAQMD Table A9-9-D

Emission factor for vehicle travel on unpaved roads (lb/VMT)

16 G = Surface silt loading (%) (from Table A9-9-D-1 for farm road)

5 H = Mean vehicle speed (mph)

8 I = Mean number of wheels on vehicle (from below)

14 J = Mean vehicle weight (ton) (from below)

46 K = Number of days with >= 0.01 inches of precipitation per year (from Fresno WSO Airport weather station WRCC)

1.696 PM10 lb/VMT

Equipment	Quantity	Hours/Day	Days/year	Miles travelled per hour	Watering Control Efficiency	PM10 Emissions (lb/hr)	PM10 Emissions (lb/day)	PM10 Emissions (total pounds)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (lb/day)	PM2.5 Emissions (total pounds)
Drill Rig	1	12	5	0	85%	0.00	0.00	0.00	0.00	0.00	0.000
Backhoe	1	5	5	0.5	85%	0.13	0.64	3.179	0.03	0.13	0.674
Water Truck	1	4	5	0.75	85%	0.19	0.76	3.82	0.04	0.16	0.809
					Total	**0.32**	**1.40**	**6.994**	**0.07**	**0.30**	**1.483**

Drill Rig won't move once onsite

Distance from road to well site is 0.25 miles, 0.5 mile onsite RT used as worst-case.

Water efficiency from CEQA Table 11-4 watering 3 times daily or using chemical suppressants

PM2.5 emission factors from updated CEIDARS List with PM2.5 fractions.

PM2.5 numbers obtained by multiplying the PM10 values by fraction in CEIDARS list for appropriate fugitive dust sources.

	# wheels	weight (tons)
Drill rig	10	20
backhoe	4	9
water truck	10	13
total	24	42
avg	8	14

Hourly Emissions (lb/hr)

	PM10	PM2.5	CO	VOC	NOx	SOx
Equipment exhaust	0.19	0.17	1.49	0.50	5.68	0.01
Fugitive dust	0.32	0.07				
TOTAL (lb/hr)	**0.51**	**0.24**	**1.49**	**0.50**	**5.68**	**0.01**

Daily Emissions (lb/day)

	PM10	PM2.5	CO	VOC	NOx	SOx
Equipment exhaust	1.33	1.22	10.90	3.41	40.69	0.05
Fugitive dust	1.40	0.30				
TOTAL (lb/day)	**2.73**	**1.52**	**10.90**	**3.41**	**40.69**	**0.05**

Total Emissions (lb/event)

	PM10	PM2.5	CO	VOC	NOx	SOx
Equipment exhaust	6.65	6.12	54.52	17.04	203.43	0.27
Fugitive dust	6.99	1.48				
TOTAL (lb/event)	**13.65**	**7.60**	**54.52**	**17.04**	**203.43**	**0.27**

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TECHNICAL AREA: AIR QUALITY

Data Request 2: Please identify if the project owner would be willing to accept a condition to require that the well drilling be performed outside of the main construction period of the project (before, after, or during a gap between the site grading, excavation, and building construction activities).

Response: The project owner accepts this condition and will perform any well drilling outside of the main construction period of the Project.

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TECHNICAL AREA: AIR QUALITY

Data Request 3: If the project owner is unwilling to stipulate to a condition as noted in the previous data request then please revise the worst-case short-term (1-hour NOx and 24-hour PM10/PM2.5 only) modeling analysis to include the drilling activity emissions. Please also provide an electronic copy of the revised construction modeling input/output files.

Response: See Response to Data Request 2, provided above. As the Project Owner has agreed to a condition that there will be no well drilling activities during the main construction period of the Project, this data request is no longer applicable.

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TECHNICAL AREA: SOIL AND WATER RESOURCES

Data Request 4: In accordance with the Energy Commission's power plant siting regulations, Appendix B (g)(14)(E)(iii), please provide additional information on the potential impacts to the target aquifer and any nearby existing (or planned) groundwater wells that may be impacted by project water well pumping at maximum plant operational capacity, as well as pumping under average plant operating conditions.

Response: The Project is not expected to impact the target aquifer nor any nearby existing or planned groundwater wells during either maximum plant operational capacity or pumping under average plant operating conditions.

The ability to draw from this aquifer was approved in the Final Commission Decision (FCD). Page 95 of the FCD states, "Although water supply sources being considered by the Applicant include pumping of ground water from the upper semi-confined aquifer (within 400 of the ground surface), ground water pumping for this project is expected to have an insignificant effect on the ground water level due to the estimated pumping rates (a peak of 138 gallons per minute) relative to the volume of ground water storage and the annual yield. As a result, there is no significant potential for subsidence due to ground water withdrawal at the proposed SPP." Also provided as Attachment A to this sheet is a permit from the County of Fresno allowing Midway to construct the well on-site.

The Project is not expected to impact any nearby existing or planned ground water wells. Based on survey data completed by Stuart St.Clair (URS Corporation), the results of which are provided as Attachment B to this sheet, the only two wells that would draw from this aquifer are the existing CalPeak Panoche well and the proposed Midway well.

Based on discussions with the owners and lessees of nearby properties, URS prepared the attached map which shows the locations of the groundwater monitoring well at the Midway site and all other known existing groundwater wells within ½ mile of the site. Well numbers 1, 2, and 3 are monitoring wells installed at various depths for the water supply investigation for the nearby Panoche Energy Center electric generation facility, which is currently under construction. Well number 4 is a damaged irrigation well, which is partially filled with sand and has a pump stuck in it. Well number 5 is the supply well for the nearby CalPeak Panoche electric generation facility. Well numbers 6, 7, and 8 are monitoring wells installed at various depths several years ago by the United States Geological Survey for an investigation of hydrogeologic conditions in the western San Joaquin Valley. Well number 9 is the monitoring well that Starwood installed at the Midway site in February 2008.

The results also support the FCD, which on page 206 states, "Staff has not identified any nearby development projects or activities, including the Panoche Energy Center, Federal Medium Security Prison, City of Mendota, or drought related water use that will be affected by the use of semi-confined aquifer groundwater for the SPP."

DEPARTMENT OF COMMUNITY HEALTH, ENVIRONMENTAL
P.O. Box 11867, Fresno, California 93775-1867 Tel: (559) 445-3357 FAX: (559) 445-3301
Website: www.fresnohumanservices.org

PERMIT TO CONSTRUCT, DEEPEN, DESTROY, RECONDITION, OR REPAIR A WELL

Note: This permit is non-transferable and is valid for 180 days

PERMIT NUMBER: WP0028259 896-5368

3/08 Application Date | 4/08 Estimated Starting Date

T: 15S R: 13E S: 5

APN: 027 / 060 / 18S

Job Address / Location: 39 43649 Panoche Rd

Owner Name: Starwood Power Midway LLC

Owner Address: 5949 Sherman Thomas Charter Way Stanislaus Zip: 95320

Contractor Name: Arthur Thomas License # 301319 Phone: 896 5369

TYPE OF WORK [X] New Well [ ] Replacement Well [ ] Reconstruction/Deepening [ ] Test Hole Only [ ] Destruction

INTENDED USE [ ] Domestic Private [ ] Agricultural [X] Industrial [ ] Cathodic [ ] Monitoring [ ] Soil Boring [ ] Domestic Public System Name:

OFFICE USE ONLY

Payment Date: 3/10/08 Receipt #: 5-00001372 Amount: $480.00

Specialist: Ed Yamamoto Census Tract: 83.02

Facility ID #: Parcel ID #:

[X] Well Location In Designated Flood Zone. Extend casing above known flood level.

[ ] Depth To Corcoran Clay (special annular seal requirements apply) 700 ft

Parcel Size: 128 ac

Owner Phone: 209 666 1518

WELL CONSTRUCTION [ ] Casing Driven [ ] Cable Tool [ ] Hardrock [ ] Auger [X] Direct Rotary [ ] Reverse Rotary

Conductor Casing Material: Diameter: in Depth: ft

Well Casing Material: PVC Diameter: 8" in Gauge: 200

Annular Seal Depth: 500' ft [ ] Neat Cement [ ] Sand Cement [ ] Concrete

[ ] Bentonite - Manufacturer and Product Name LETCO [ ] Mixed With Water [ ] Dry Application

Seal Placement Method [X] Pumped [ ] Free Fall (allowed only when the interval to be sealed is dry and less than 30 feet in depth)

WELL DESTRUCTION [ ] Open Bottom [ ] Gravel Packed [ ] Uncased [ ] Other

Diameter in Total Depth ft Depth To Water ft [ ] Casing To Be Perforated ft To ft

Destruction Seal [ ] Neat Cement [ ] Sand Cement [ ] Concrete Fill Material Below Seal

[ ] Bentonite - Manufacturer and Product Name [ ] Mixed With Water [ ] Dry Application

[ ] Seal Interval Feet Below Grade To Top Of Casing [ ] Seal Bottom Of Well To Top Of Casing

[ ] Casing Cut Off Feet Below Grade (6 feet maximum allowed)

[ ] Free Fall (allowed only when the interval to be sealed is dry and less than 30 feet in depth)

Seal Placement Method [ ] Pumped

[ ] Oil-lubricated pump. Any oil in the well will be removed and properly disposed of prior to destruction.

SETBACKS (in feet) [X] All Setbacks Exceed 300 Feet Other Wells 20' Leach Lines 300+ Septic Tank 300+

Cesspool Seepage Pits Sewer Lines 300+ Designated Sewage Replacement Area

Animal/Fowl Enclosure Flood Control Basins Waste Water Disposal Ponds Lakes, Streams

SPECIAL SUBDIVISION, TRACT RESTRICTIONS Tract Name, Number

[ ] Setbacks (specify type, e.g. well-to-well, etc. and required distance)

[ ] Designated Engineered Sewage Disposal Areas (enclose tract map showing designated areas on each parcel)

FEE [X] $480 (Domestic, Agricultural, Cathodic, Industrial) [ ] No Charge (Well Destructions, Monitoring Wells, Soil Borings)

PAYMENT METHOD [ ] Cash [ ] Check [ ] Credit Card*

*Authorization on file with Fresno County Department of Community Health, Environmental Health Division

I hereby certify that the information described herein is correct. I understand that all work is to be done in accordance with the California Well Standards Ordinance and the conditions of this permit application, including any conditions which are added by the Environmental Health Division upon review of this application and issuance of the permit. I certify that I have a current C-57 Contractor's License and, if I employ workers, a current certificate of Workers' Compensation Insurance. I further understand that any permit issued pursuant to this application is subject to such further conditions as may be deemed necessary to ensure compliance with the Ordinance.

CONTRACTOR SIGNATURE: DATE: 3/8/08

OFFICE USE ONLY

Permission is hereby granted to perform the work as set forth on this application.

Approved: Date: 3/10/08

Final Inspection: Date:

Filed Complete: Date:

Filed Incomplete: Date:

Supervisor:

Business Office Use

Division Clerical Use

Account #

Entered By

PE 4652

Date

DATA REQUEST RESPONSE #4 ATTACHMENT A

DATA REQUEST RESPONSE #4 ATTACHMENT B

Proposed Midway Site (5.6 acres)

Existing PG&E Substation

Proposed Panoche Energy Center

Existing Wellhead Peaker Plant

Existing CalPeak Panoche

Chaney Ranch

Panoche

Fairfax

California

ROAD

PANOCHE

PIPELINE

BM 398

BM 397

BM 342

BM 366

BM 392

BM 405

BM 421

BM 439

BM 408

BM 426

BM 465

BM 507 (1953)

BM 449

Well

Wells

2 LANE

CHOUNET RANCH*

CHANEY RANCH*

TUMEY HILLS*

MONOCLINE RIDGE*

Existing Water Wells:

1 - monitoring well
2 - monitoring well
3 - monitoring well
4 - supply well (damaged)
5 - supply well
6 - monitoring well
7 - monitoring well
8 - monitoring well
9 - monitoring well

0 0.1 0.2 0.3 0.4 0.5 Miles

0 100 200 300 400 500 600 Meters

0 1,000 2,000 Feet

1 inch equals 2,000 feet (1:24,000)

NAD 1983 UTM Zone 10

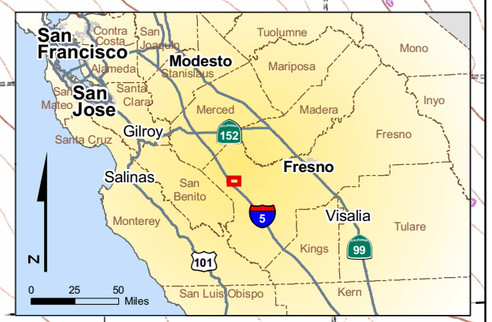
N

Legend

7.5 Minute USGS Quad Index

Water Well

Source: California Digital Raster Graphics, 7.5 Minute (O) Series, Albers Nad83 Trimmed provided online by the California Spatial Information Library (CaSIL) and produced by the State of California, Stephen P. Teale Data Center, GIS Solutions Group (Teale) from scanned USGS topographic maps: Chaney Ranch (1971), Chounet Ranch (1971), Monocline Ridge (1971) & Tumey Hills (1971).



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STARWOOD POWER - MIDWAY, LLC PEAKING PROJECT	Figure 1	WATER WELLS WITHIN 0.5 MILE OF MIDWAY SITE
		2008

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TECHNICAL AREA: SOIL AND WATER RESOURCES

Data Request 5: Please provide additional information on the project's backup plans and contingencies for management of the RO reject water in the event that wastewater discharge to the RO pond is temporarily or permanently prohibited for any reason.

Response: As described in Section 3.4.9 of the 2006 Midway Application for Certification (06-AFC-10), should wastewater discharge to the Reverse Osmosis (RO) pond be temporarily or permanently prohibited for any reason, the RO will be turned off and the Project will use the demineralizer unit directly, creating no RO wastewater flow. In addition, if necessary, RO wastewater could be stored onsite for a short period of time before being hauled off. If it becomes necessary to use the backup water supply for an extended period of time, the RO pond will be lined, as required by the local water board. Also, please refer to the materials submitted for Condition of Certification SOIL&WATER-4 (Report of Waste Discharge).