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April 20, 2007

Che McFarlin
Siting Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Starwood-Midway Additional Project Information (06-AFC-10)
URS Project No. 27656131.00400

Dear Mr. McFarlin:

On behalf of Starwood Power-Midway, LLC, URS Corporation Americas (URS) hereby submits Additional Information for the Starwood-Midway Project.

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 the Additional Information for the Starwood-Midway Project on the behalf of Starwood Power-Midway, LLC.

Sincerely,

URS CORPORATION

Angela Leiba
Project Manager

AL:ml

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During the design process for the Midway Project, a few minor Project components have been modified and slight equipment location adjustments on-site are proposed (see attachment A, Revised Preliminary Plan). Provided below is a summary of all additional Project information.

1. Addition of an Oily Water Separator (OWS) on-site to collect oily waste from equipment areas (like transformer containment areas). Effluent (water) will be directed to the on-site evaporation pond. Oils collected will be pumped to a disposal truck and hauled off-site.

2. Relocation of "Waste Water System Above-Ground Storage Tank" (item 21 on previous Preliminary Plan submitted with the Midway AFC). This tank has been renamed as "GT Drain Tank" and relocated/renumbered to item 11 on the Revised Preliminary Plan. The "Wash Down Drain Tank Area" has been removed.

3. Rename "Waste Water System Collection Sump" (item 20 on Revised Preliminary Plan) to "GT Drain Collection Sump". This Gas Turbine Drain Collection Sump along with the OWS (item 21) will collect waste from the GT areas. The OWS will also collect waste from containment areas (transformers) and equipment washdown areas (such as the air compressor/dryer skid).

4. The Auxiliary Transformer has been added to the Revised Preliminary Plan as item 22.

5. Shift the DI Trailer pad (item 16 on Revised Preliminary Plan) to connect to the proposed internal roadway/vehicle turnaround area.

6. As the site is in a floodplain, the top of foundations will be raised 3 feet above existing grade to comply with Fresno County regulations and avoid impacts related to the 100-year flood zone. This modification is in response to Fresno County Site Plan Review (March 7, 2007).

7. The proposed on-site evaporation pond will provide stormwater retention for the Project. This modification is in response to Fresno County Site Plan Review (March 7, 2007).

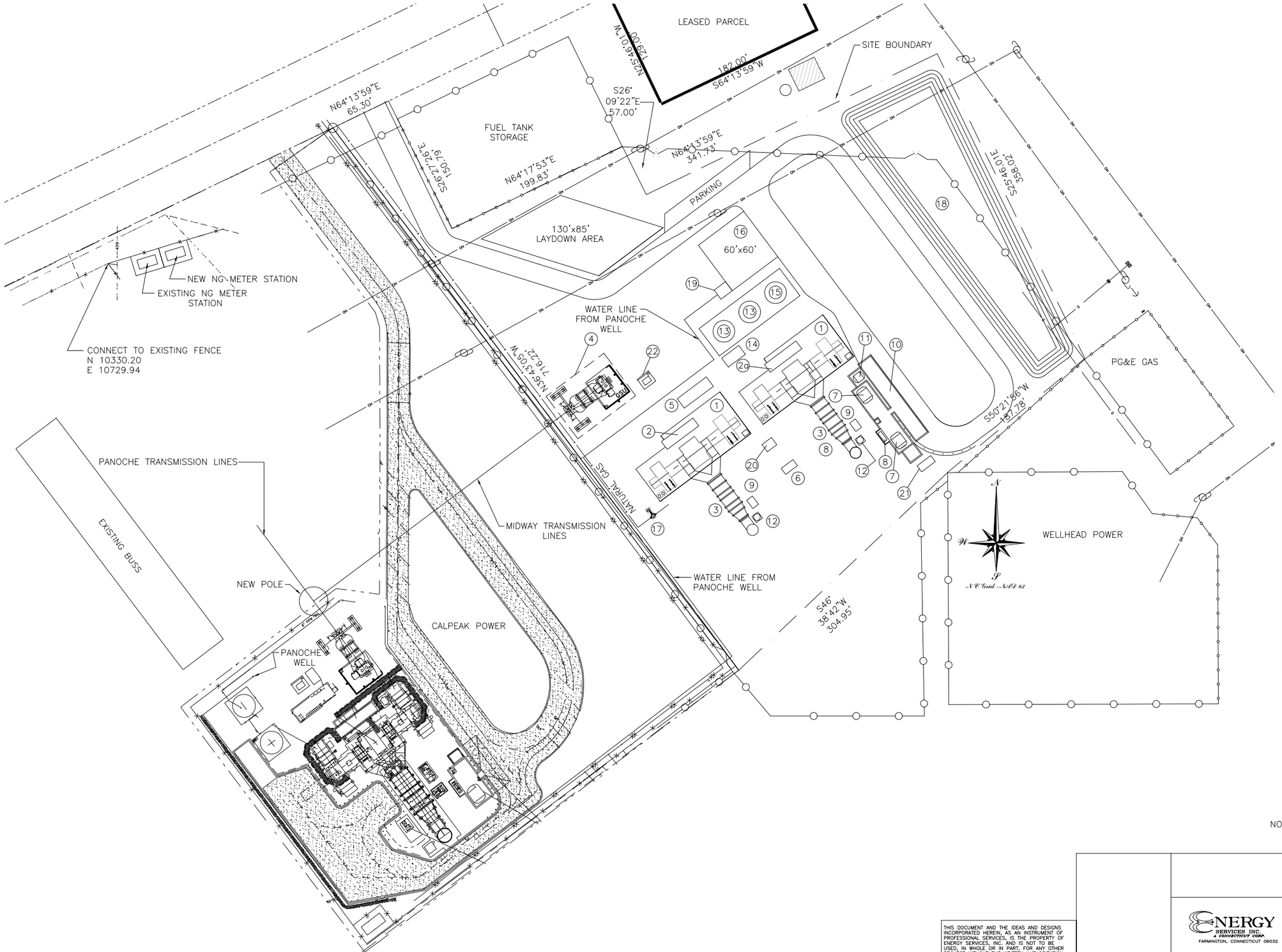
The additional Project information required minor revisions to the text within the three Starwood Power-Midway AFC (06-AFC-10) Sections listed below:

1. Section 3.0 Facility Description and Location
2. Section 5.5 Water Resources
3. Section 5.14 Waste Management

The revised AFC pages are provided in ~~strike-out/~~underline format as Attachment B. The additional Project information did not change or alter any Project conclusions identified in the Starwood Power-Midway AFC (06-AFC-10).

ATTACHMENT A
REVISED PRELIMINARY PLAN

REV	DATE	DESCRIPTION	BY	APP
A	22AUG06	INITIAL ISSUE	RAR	DAT



ITEM	DESCRIPTION	QTY
1	FT8-3 GAS TURBINE GENERATOR UNIT	2
2	PRIMARY CONTROL ENCLOSURE 1	1
2a	PRIMARY CONTROL ENCLOSURE 2	1
3	CO/SCR CATALYST	2
4	SWITCH YARD/ MAIN STEP-UP TRANSFORMER/ DEAD END STRUCTURE (13.8x115 kV)	1
5	SECONDARY CONTROL ENCLOSURE	1
6	AIR COMPRESSOR/DRYER SKID	2
7	AQUEOUS AMMONIA TANK	2
8	AQUEOUS AMMONIA FORWARDING PUMP SKID	1
9	AQUEOUS AMMONOA INJECTION CONTROL SKID	2
10	AQUEOUS AMMONIA UNLOADING AREA	1
11	GT DRAIN TANK (4,700 GALLON)	1
12	CEMS ENCLOSURE	2
13	DEMINERALIZED WATER TANK (75,000 GALLON)	2
14	DEMINERALIZED WATER PUMP SKID	1
15	RO TANK (75,000 GALLON)	1
16	DI TRAILER PAD	1
17	GAS FUEL SEPARATOR	1
18	RO/EVAPORATION POND	1
19	RO UNIT	1
20	GT DRAIN COLLECTION SUMP	1
21	OIL WATER SEPARATOR	1
22	AUXILIARY TRANSFORMER	1

NOTES:

1. TANK DIMENSIONS= 23' DIAMETER x 24' HIGH

Starwood Power Midway LLC

ENERGY SERVICES INC. A CONNECTICUT CORP. FARMINGTON, CONNECTICUT 06032

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PRELIMINARY PLAN

NO SM-100-BP001 SH 1/1 REV A

ATTACHMENT B
REVISED AFC PAGES

SECTION 3.0
FACILITY DESCRIPTION AND LOCATION

include one (1) 75,000 gallon Raw Water Storage Tank, an RO unit, a Mobile Water Treatment system (i.e., Demineralizer Trailers on a pad), two (2) 75,000 gallon Demineralized (DI) Water Storage Tanks, and a forwarding system to deliver the demineralized water to the gas turbines.

- A Natural Gas Fuel system that will supply natural gas to the gas turbines in a manner that meets the required engine specifications (i.e., pressure, flow, quality). The project will tie into the existing 6" diameter fuel natural gas supply pipeline for the CalPeak Panoche plant, which in turn ties into the PG&E main gas truckline running along West Panoche Road. A separate meter and 6" line will supply Midway with natural gas.
- A Compressed Air system that will provide clean, dry air to the gas turbines, BOP instrumentation, and BOP servicing areas. This system will include two (2) air compressor skids and one (1) dryer skid.
- ~~A Waste Water system to collect oily water waste from equipment locations. This system will include a CTG drain system with storage tank(s) to contain drainage from the CTG units. Oily waste will be collected in sumps and pumped to above-ground storage tanks (ASTs).The oily waste will be sent off-site for disposal.~~
- A Plant Drain System that will include a 3,000 gallon Oil Water Separator (OWS) to collect oily waste from equipment/containment areas (transformer containment areas, air compressor/dryer skid and CEMS enclosures) and the GT Drain Tank, an Above-Ground Storage Tank (AST), that will collect waste from the CTG units. Water from the OWS will be discharged to the evaporation pond. Oils collected in the OWS will be sent off-site for disposal. CTG waste will first be collected in a sump and then pumped to the AST. Waste in the AST will be sent off-site for disposal.
- A Site Stormwater Drainage system that will handle drainage of rainwater from non-equipment locations.
- A lined evaporation pond that will collect discharge wastewater from the RO Unit and the OWS.

Refer to Figure 3.4-1 for a general arrangement of the power plant equipment.

3.4.2 List of Major Equipment

The following is an all inclusive list of the equipment which will be part of the Midway Project.

1. Two (2) FT8-3 SwiftPac Combustion Turbine Generator units. Each CTG unit includes, but is not necessarily limited to the following major assemblies:
   a) Two (2) CTG Driver Assemblies with engines, lube oil systems, enclosures
   b) One (1) Electric Generator
   c) One (1) Electric Generator Lube Oil System
   d) One (1) Electric Generator Enclosure With Silencers
   e) One (1) CTG Control House

f) One (1) 15 kV Bus Duct Assembly
g) Two (2) CTG Inlet Silencers
h) Two (2) CTG Inlet Filter Houses with ladders and platforms
i) Two (2) Engine Heater Skids
j) One (1) Hydraulic Start Skid
k) Two (2) Gas Fuel Metering and Filter Skids
l) Two (2) Water Injection Skids for NOx Control
m) Two (2) Fire Protection Skids
n) Two (2) Buffer Air Heat Exchangers
o) Interconnecting Field Piping
p) Cable Tray System
q) One (1) Fogging Pump/Control Skid – for Inlet Air Cooling
r) Two (2) Fogging Inlet Spool Pieces
s) One (1) Water Wash Skid – per unit

2. One (1) Gas Fuel Separator ~~Coalescer/Filter~~
3. Two (2) SCR/CO Catalysts - each with 50' Exhaust Stack
4. Two (2) Aqueous Ammonia Storage Tanks
5. One (1) Aqueous Ammonia Forwarding Skid
6. Two (2) Aqueous Ammonia Injection Control Skids

~~7.One (1) Wash Down Drain Tank~~

~~8.~~7.Two (2) Continuous emissions monitoring system (CEMS) Monitors

~~9.~~8.Two (2) DI Water Tanks (75,000 gallons each)

~~10.~~9. One (1) Raw Water Tanks (75,000 gallons)

~~11.~~10. Provision for Mobile Water Treatment Trailers

~~12.~~11. One (1) DI Water Forwarding Skid

~~13.~~12. ~~Two~~One (~~1~~2) Air Compressor/Dryer Skid~~s~~

~~14.One (1) Air Dryer/Tank Skid~~

~~15.~~13. One (1) Generator Step-Up Transformer (13.8/115 kV)

~~16.~~14. One (1) 480V Auxiliary Transformers

~~17.~~15. 480V Switchgear

~~18.~~16. Plant MCC's

~~19.~~17. One (1) ~~4,700~~1,000 Gallon CTG Drain AST~~Holding Tanks – per unit~~

~~20.~~18. One (1) Reverse Osmosis (RO) Unit

~~21.~~19. One (1) Oil/~~Water Separatory Waste Storage Tank (4,700 gallon)~~

Table 3.4-1 provides further information about key equipment.

TABLE 3.4-1
DIMENSIONS OF KEY EQUIPMENT

Dimensions of Key Equipment				
Qty.	Description	Length (Feet)	Width (Feet)	Height (Feet)
2	Combustion Turbine Generator Units	120	35	33 (Top of CTG Inlet Air Filter)
1	GSU Main Transformer Dead End Structure	50	25	50
2	Exhaust Stack	N/A	15 - diameter	50
2	Primary Control Enclosure	45	12	15
1	Secondary Control Enclosure	40	15	15
3	Water Storage Tanks (Vertical)	23' diameter	n/a	25
2	Ammonia Injection Skids	10	10	10
1	Ammonia Fwd Skid	10	10	10
2	Ammonia Tank (Horizontal)	16'	n/a	12' diameter
2	SCR/CO Catalyst	65	20	45
1	DI Water FWD Skid	10	10	10
1	RO Unit	12.5	3.7	7.1

All structure dimensions shown are approximate. Actual dimensions will be determined during detailed design.

3.4.3 Site Access

Site access from West Panoche Road would be provided via a 20-foot wide access roadway easement adjacent (east of) the PG&E Substation. From a proposed entrance gate, which would be located just south of West Panoche Road, the proposed access roadway would be graded gravel and run for

Demineralized water will be stored in two (2) 75,000-gallon tanks. A forwarding system will be utilized to provide this DI water to the gas turbines within the required flow and pressure limits.

3.4.9.4 Waste Water Treatment Systems

The Midway project will utilize two different systems to manage wastewater.

3.4.9.4.1 Treatment and Disposition of Liquid Process Wastes

Wastewater generated by the RO process and from the OWS will be conveyed by gravity to an on-site, lined evaporation pond (which can accommodate 30 acre-feet per year) on the east side of the Midway site. The average RO wastewater generation rate that will require disposal is expected to be approximately 25 gpm. Residue from this pond would be disposed of in a permitted landfill. Treatment and disposition of liquid wastes is discussed in Section 5.5 and Section 5.14 (the Water Resources and Waste Management Sections, respectively) of this application.

3.4.9.4.2 Plant Drains and Wash-down

~~A sump will collect oils and chemicals that could drain from the gas turbine exhaust floor drains, the generator floor drains, the transformer containment area, the equipment wash down areas, and the ammonia storage. Oil leakage from equipment is expected to be minimal. Composition will be similar to standard parking lot impacts. Nonetheless, all equipment that has potential for significant leakage of oil or hazardous chemicals, such as glycol coolants, will be located within spill containment basins which would also flow into the sump. A sump pump will convey this oily waste water/chemical drain water to an on-site 4,700 gallon storage tank. Waste from the storage tank will be pumped out and moved offsite. The storage tank will include level and leak detection instrumentation.~~

The Midway Project will implement a plant drain system that will separately handle two different types of waste streams. Oily waste from Project equipment/containment areas will be handled using an OWS. GTG waste will be handled separately using a collection sump and an AST.

Oily waste will be directed to an OWS from the main and auxiliary transformer containment areas, the air compressor/dryer skid, the CEMS enclosures, and the generator floor drains via gravity drain. The OWS will remove the oily waste from the collected stormwater. The non-hazardous, cleansed water from the OWS would then be discharged via a 4-inch PVC gravity pipe to the evaporation pond. Oils collected in the OWS will be stored in the 3,000 gallon OWS until it is transported off-site to a hazardous waste disposal facility for treatment and disposal. The OWS will be installed underground and will include level and leak detection instrumentation.

GTG waste will be directed to the GT drain collection sump. This waste stream will include oils and water wash chemicals from the GT drains. Waste collected in this sump will be pumped to the 4,700 gallon GT drain tank (an AST). Waste in the GT drain tank would then be transported off-site to a hazardous waste disposal facility for treatment and disposal. The GT drain tank will include level instrumentation.

3.4.9.4.3 Domestic/Sanitary Wastewater

The project will not require sanitary waste systems. Portable sanitary units will be delivered and maintained by a local service company.

3.4.9.4.4 Stormwater Drainage

Rainfall from the project site will be predominantly drained by sheet flow and directed to the on-site evaporation pond.~~efforts will be made to maintain the integrity of the existing drainage patterns, wherever possible~~. Based on the final site-grading plan, some isolated areas may require underground stormwater collection and drainage piping.

3.4.10 Waste Management

The project will generate a variety of non-hazardous and hazardous wastes during construction and operation (see Tables 3.4-4 and 3.4-5). These include liquids and solids from the wastewater system (discussed in Section 3.4.9.4), replaceable parts, rags, and other waste materials and chemicals produced during construction and operation.

Handling of hazardous wastes is discussed in Section 3.4.11 and Section 5.15 (the Hazardous Materials Handling Section) of this application.

3.4.10.1 Solid Waste – Non-Hazardous

3.4.10.1.1 Construction Waste

Inert solid wastes resulting from construction activities may include lumber, excess concrete, metal and scrap, and empty non-hazardous containers. Management of these wastes will be the responsibility of the construction contractor(s). Typical management practices required for contractor waste include recycling when possible, proper storage of waste and debris to prevent wind dispersion, and weekly pickup of wastes with disposal at local Class III landfills. The total amount of solid waste generated by construction activities has been estimated to be similar to that for normal commercial construction. It is not expected to result in a significant impact on public health or to cause adverse effects on local landfill capacity. Table 3.4-4 provides an overview of the waste streams anticipated for the construction phase of the project. For projected quantities refer to Section 5.14.

3.4.10.1.2 Operations Waste

Inert solid wastes generated at the facility during operation are predominantly routine maintenance wastes. Scrap materials such as paper, packing materials, glass, metal, and plastic will be segregated and managed for recycling. Non-recyclable inert wastes will be stored in covered trash bins in accordance with local ordinances and picked-up by an authorized local trash hauler on a regular basis for transport and disposal in a suitable landfill in the area. Table 3.4-5 provides an overview of the

waste streams anticipated for when the project is operational. For projected quantities refer to Section 5.14.

3.4.10.2 Liquid Wastes – Non-Hazardous

Non-hazardous liquid wastes produced in the facility consist of wastewater system wastes. Handling and disposal of these wastes is discussed in the Waste Management Section (Section 5.14) as well as the Hazardous Materials Handling Section (Section 5.15) of this application. ~~Skim oil collected from equipment drains and other liquids drained from equipment will generally be treated as hazardous due to possible heavy metals content.~~

TABLE 3.4-4
SUMMARY OF CONSTRUCTION WASTE STREAMS AND MANAGEMENT

Waste Stream	Waste Classification	Estimated Frequency of Generation	On-site Treatment	Disposal Method
Paper, wood, glass, and plastics from packing materials, waste lumber, insulation, and empty non-hazardous containers	Non-hazardous	Intermittent	None	Weekly collection for recycling and/or disposal at a Class III Landfill
Residual Solids from Evaporation Pond (dirt and concrete particles)	Non-hazardous	One time at end	None	Excavate at end of construction and spread onsite
Empty hazardous material containers-drums	Hazardous Recyclable	Every 90 days	Store for < 90 days	Recondition, recycle, or waste disposal at Class I Landfill
Used and waste lube oil during Combustion Turbine Generator (CTG) Lube Oil Flushes	Hazardous Recyclable	Every 90 days	Store for < 90 days	Recycle
Spent batteries; lead acid	Hazardous	Every 90 days	Store for < 90 days	Recycle
Spent batteries; alkaline type, sizes AAA, AA, C, and D	Recyclable	Every 90 days	Store for < 90 days	Recycle
Sanitary waste-portable chemical toilets and construction office holding tanks	Sanitary	Periodically pumped to tanker truck by licensed contractors	None	Collection by licensed contractor (minimum) for offsite treatment/disposal
Stormwater	Non-hazardous	Intermittent	None	Drained by sheet flow and directed to on-site evaporation pond~~Discharged as sheet flow from the site~~
Waste oil including used motor oil, transmission fluid, hydraulic fluid, and antifreeze	Hazardous	Every 90 days	Store for < 90 days	Hazardous waste disposal facility or recycle
Waste paint, thinners, and solvents	Hazardous	Every 90 days	Store for < 90 days	Hazardous waste disposal facility or recycle
Oily rags	Hazardous	Every 90 days	Store for < 90 days	Hazardous waste disposal facility or recycled
Oil Absorbents	Hazardous	Every 90 days	Store for < 90 days	Hazardous waste disposal facility

auxiliary mechanical and electrical equipment will be located adjacent to the power blocks. Refer to Figure 3.4-1 for a general arrangement of equipment.

The CTG units will be supported on a reinforced concrete foundation at grade. Individual reinforced concrete pads at grade will be used to support the BOP mechanical and electrical equipment. Foundation pilings will be used for major equipment and building foundations if required. All equipment will have seismic anchoring that meets or exceeds requirements for CBC Seismic Zone 4.

3.5.2 Exhaust Stacks

Each CTG unit will be provided with one self-supporting steel stack. The stack will be 15 feet in diameter and 50 feet tall and will include associated appurtenances, such as sampling ports, exterior ladders and side step platforms.

3.5.3 Buildings

The plant buildings will include two (2) primary control enclosures (one for each SwiftPac unit and one (1) secondary control enclosure. Building dimensions are shown in Table 3.4-1. All of the enclosures will be supported on mat foundations or individual spread footings.

3.5.4 Storage Tanks

The Midway project will utilize two (2) DI Water Storage Tanks (75,000 gallons each) and one (1) Raw Water Storage Tank (75,000 gallons). Each of these three storage tanks will be approximately 23’ in diameter and 24’ high, and will be supported by a concrete ringwall foundation. The Midway project will also utilize two (2) Aqueous Ammonia Storage Tanks (12,000 gallons each).

3.5.5 Roads

The site will be accessed from West Panoche Road via a new entrance road shown on Figure 3.4-1. The access road network serving the project will consist of a graded gravel entrance road extending for approximately 250 feet to an approximately 1,150-foot asphalt turn-around adjacent to the plant.

3.5.6 Site Security Fencing

A security fence will enclose the plant site. Access gates will be provided, as required. In addition to the perimeter security fence, the substation and transformer area will be fenced and provided with access gates. Security will be maintained on a 24-hour basis with either surveillance devices or personnel.

3.5.7 Site Grading and Drainage

The plant site will consist of a graded gravel entrance road, parking area, and an asphalt road turn-around adjacent to the plant equipment. ~~Stormwater will continue to run off the site as sheet flow~~Stormwater and rainfall from the project site will be predominantly drained by sheet flow and

directed to the on-site evaporation pond. The evaporation pond would adequately provide for stormwater retention for the Project. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared prior to construction of the site. This plan will be utilized at the site to control and minimize stormwater during the construction of the facility. The plan will use best management practices such as stabilized construction entrances, silt fencing, berms, hay bales, and detention basins to control runoff from all construction areas.

3.5.8 Site Flood Issues

According to the Federal Emergency Management Agency (FEMA), the site is within the 100-year flood plain. The ~~site will be raised~~top of foundations will be raised three feet ~~one foot~~ above existing grade in conformance with the Fresno County Ordinance Title 15 Flood Hazard Areas to ensure that in the event of a 100-year storm, the site and equipment is not subjected to any flood damage.

3.5.9 Earthwork

Excavation work will consist of the removal, storage, and/or disposal of earth, sand, gravel, vegetation, organic matter, loose rock, boulders, and debris to the lines and grades necessary for construction. Materials suitable for backfill will be stockpiled at designated locations using proper erosion protection methods. Any excess material will be removed from the site and disposed of at an acceptable location. If contaminated material is encountered during excavation, its disposal will comply with applicable LORS.

The site is currently a storage yard. ~~If needed, fill will be imported to establish finish grade. Finish grade will be approximately one foot higher than existing grade.~~ The quantity of fill for the project is approximately 9,500 cubic yards all of which will come from the site, as described in the Appendix L.

Graded areas will be smooth, compacted, free from irregular surface changes, and sloped to drain. Cut and fill slopes for permanent embankments will be designed to withstand horizontal ground accelerations for Seismic Zone 4. For slopes requiring soil reinforcement to resist seismic loading, geogrid reinforcement will be used for fills and soil nailing for cuts. Slopes for embankments will be no steeper than 2:1 (horizontal:vertical). As stated, ~~Construction will be at~~ the top of foundations will be raised three feet ~~one foot~~ above existing grade~~, which is fairly level~~. ~~; therefore major cuts and fills are not anticipated.~~

Areas to be backfilled will be prepared by removing unsuitable material and rocks. The bottom of an excavation will be examined for loose or soft areas. Such areas will be excavated fully and backfilled with compacted fill.

Backfilling will be done in layers of uniform, specified thickness. Soil in each layer will be properly moistened to facilitate compaction to achieve the specified density. To verify compaction, representative field density and moisture-content tests will be performed during compaction. Structural fill supporting foundations, roads, and parking areas will be compacted to at least 95 percent of the maximum dry density as determined by American Society for Testing Materials (ASTM) D-1557 as described in Appendix L, Geotechnical Report. Embankments, dikes, bedding for

SECTION 5.5
WATER RESOURCES

TABLE 5.5-10
ESTIMATED RO WASTEWATER QUALITY DATA

Constituent	Concentration
Alkalinity (as $CaCO_3$)	560 mg/L
Ammonia (NH_3-N)	Negligible
Bicarbonate (as $CaCO_3$)	560 mg/L
Boron (B)	17 mg/L
Calcium (Ca)	960 mg/L
Carbonate (as $CaCO_3$)	4.0 mg/L
Chloride (Cl)	800 mg/L
Hardness (as $CaCO_3$)	6,000 mg/L
Hydroxide (as $CaCO_3$)	Negligible
Iron (Fe)	Negligible
Magnesium (Mg)	880 mg/L
Nitrate (NO_3)	560 mg/L
o-Phosphate (o-PO_4-P)	Negligible
Potassium (K)	34 mg/L
Silica – Total (SiO_2)	188 mg/L
Sodium (Na)	1,880 mg/L
Sulfate (SO_4)	7,600 mg/L
Total Dissolved Solids (TDS)	13,600 mg/L
Total Suspended Solids (TSS)	Negligible

The project description includes an evaporation pond (lined surface impoundment) for disposal of wastewater via atmospheric drying, resulting in a residue that must be disposed of in a landfill system. The evaporation pond would be a 25,000 square-foot pond lined with a polyethylene liner and a 4-inch PVC gravity pipe from the RO and OWS units ~~facility~~ to the pond. The size of the pond is limited by space available on the project site. While this method of wastewater disposal may create some limitations related to the amount of hours the plant could operate, water needs could still be satisfied. Specifically, in the rare instance that the plant were to operate for a high number of hours (more than 400) and the ~~RO~~ evaporation pond created a water system limitation, the RO unit would be shut down and the demineralization units would run on raw water. This approach would eliminate a RO wastewater flow.

5.5.4 Water Resources and Wastewater Management

5.5.4.1 Midway Water Resources Plan

For purposes of the remainder of this analysis, the existing CalPeak Panoche well is utilized as the water source for Midway. This would utilize the upper aquifer groundwater.

Service water will be treated in the on-site RO treatment facility. All other process water will be further treated in the demineralizer. The production well location and the water treatment facilities are shown on the site layout drawing, Figure 3.4-1. The production well water quality is presented in Table 5.5-5.

Midway will use water to inject into the gas turbines for NO_X control, gas turbine inlet fogging and for intermittent miscellaneous service water uses. The peak flow rates are as follows:

NO_X Control	98 gpm
Inlet Fogging	40 gpm

The NO_X control and inlet fogging water will be treated using a RO system, followed by a mixed-bed demineralizer. The amounts of water used for each purpose is summarized in Table 5.5-7.

5.5.4.1.1 Service Water Supply Facilities

Service water for Midway will be supplied via the existing CalPeak Panoche well connected to the upper aquifer. The service water would only be processed by the RO unit. It would not flow through the demineralizer process.

5.5.4.1.2 Demineralized Water

A Water Treatment system would provide demineralized water to the gas turbines for water injection/inlet fogging. Water injection will be utilized to provide control of NOx emissions during combustion. Inlet fogging will be utilized to provide cooling of inlet air. This system will include one (1) 75,000 gallon Raw Water Storage Tank, an RO Treatment System, a Mobile Water Treatment system (i.e., Demineralizer Trailers on a pad), two (2) 75,000 gallon Demineralized Water Storage Tanks, and a forwarding system to deliver the demineralized water to the gas turbines.

The water injected into the CTG for NO_x control must be free of contaminants. A demineralized water system utilizing trailer-mounted exchangers that will be regenerated offsite will provide high-purity water to be used for injection water into the turbine generator for NO_x control. The product water from the RO system, stored in the Raw Water tank, is sent through a demineralizer and then to one of two 75,000 gallon demineralized water storage tanks. A forwarding system will be utilized to provide this demineralized water to the gas turbines within the required flow and pressure limits.

5.5.4.2 Midway Wastewater Management Plan

For purposes of the remainder of this analysis, the existing CalPeak Panoche well is utilized as the water source for Midway. Based on this water source, use of an on-site evaporation pond was identified as the alternative to be implemented for disposal of wastewater. The industrial wastewater discharge from the plant will consist of RO reject water and discharge water from the OWS. Table 5.5-7 shows the water and wastewater streams for RO reject water. Refer to the water balance, Appendix B, for flow rates.

Wastewater from Midway will consist of RO reject water and OWS discharge that is non-hazardous. The average volume of process wastewater is expected to range from approximately 3.4 acre-feet per year at 400 hours of operation to approximately 34 acre-feet per year at 4,000 hours of operation. The expected RO wastewater composition utilizing CalPeak Panoche well water as the source is shown in Table 5.5-10.

Process wastewater will be conveyed by gravity to the ~~an~~ evaporation pond on the east side of the Midway site. The evaporation pond (25,000 square feet in size) is designed to accommodate approximately 30 acre-feet per year. When the well pump is operating (in general, twice as often as the generators), the average RO process wastewater generation rate ~~that will require disposal~~ is expected to be approximately 25 gallons per minute (gpm). This equates to approximately 18.7 acre-feet per year [3.4 acre-feet + 34 acre-feet/2 = 18.7] that will require disposal to the evaporation pond.

The evaporation pond would also contain site stormwater runoff and OWS discharge collected from equipment areas such as transformer containment areas, the air compressor/dryer skid, the CEMS enclosures, and the generator floor drains on-site. Based upon an average annual rainfall of 11.23 inches (per Fresno weather station No. 043257) over the 5.6-acre site, and assuming an average site imperviousness of 60-percent, the annual stormwater runoff from the Project site is estimated to be approximately 3.1 acre-feet. The remaining capacity of the evaporation pond (approximately 11.3 acre-feet per year) would adequately cover storm water runoff and the discharge from the OWS (< 3.1 acre-feet).

Incorrect disposal of process wastewater can degrade soil, surface water and groundwater. All other liquid wastes generated by Midway will flow by gravity to oily water sumps which then pump the liquid waste to a 4,700 gallon tank that will be used to temporarily store the waste before it is hauled off-site for disposal in accordance with all regulations.

5.5.4.2.1 Domestic/Sanitary Wastewater

Portable toilets will be provided at the site. The sanitary wastes from the toilets will be hauled off-site for disposal in accordance with all regulations.

5.5.4.2.2 Stormwater Runoff

According to the Federal Emergency Management Agency (FEMA), the entirety of the Midway site is included within the special flood hazard area (Zone A) inundated by the 100-year flood with no base flood elevation. The ~~site~~ top of foundations will be ~~raised (approximately 1-foot)~~ 3 feet above existing grade in conformance with the Fresno County ordinance Title 15, Flood Hazard Areas to ensure that, in the event of a 100-year storm, the site and equipment is not subjected to any flood damage. Stormwater permits are required for the following industrial facilities: steam electric power generating facilities, manufacturing facilities included in certain designated Standard Industrial Classifications, and facilities located within municipal separate storm sewer systems (MS4) areas. Midway is not proposed as a steam electric power generating facility and is not included in any of the designated Standard Industrial Classifications subject to stormwater effluent limitations guidelines. In addition, the Midway site is not within an MS4 urban area. Therefore, the facility does not require a stormwater permit. Stormwater and rainfall from the project site will be predominantly drained by sheet flow and directed to the on-site evaporation pond. The evaporation pond would adequately provide for stormwater retention for the Project. ~~Stormwater from the Midway site will continue to run off the site as sheet flow.~~

A Stormwater Pollution Prevention Plan (SWPPP) will be prepared prior to construction of Midway. This plan will be implemented at the Midway site to control and minimize contamination of stormwater during construction of the facility. The plan will employ best management practices such as stabilized

SECTION 5.14
WASTE MANAGEMENT

Table 5.14-3
Operating Waste Streams and Management Methods

Waste Stream	Waste Classification	Quantity	Duration	On-site Treatment	Off-Site Treatment
Paper, wood, plastic, cardboard	Non-hazardous	<1 cubic yard/ month	Intermittent	None	Weekly collection for recycling and /or disposal at a Class III Landfill
Empty hazardous material containers	Hazardous	<1 cubic yard/ month	Every 90 days	Store for < 90 days	Recondition or recycle
Used hydraulic fluids, oils, grease, oily filters from CTG and other equipment using hydraulic actuators and lubricants	Hazardous	<1 gpd	Every 90 days	Store for < 90 days	Recycle
Used Air Filters from the CTG	Non-hazardous	700	Every 5 years	None	Recycle
Spent batteries; lead acid	Hazardous	1/year	Every 90 days	Store for < 90 days	Recycle
Spent batteries; alkaline type, sizes AAA, AA, C, and D	Recyclable	100/year	Every 90 days	Store for < 90 days	Recycle
Spent batteries	Hazardous	1/year	Intermittent	Store for < 90 days	Recycle
Spent selective catalytic reduction (SCR) catalyst	Hazardous	1	Every 3 to 5 years	Store for < 90 days	Recycle
Oily rags from CTG and other equipment using hydraulic actuators and lubricants	Hazardous	180/year	Intermittent	Store for < 90 days	Hazardous waste disposal facility or recycled
Oily Absorbent from CTG and other equipment using hydraulic actuators and lubricants	Hazardous	40 lbs/ year	Intermittent	Store for < 90 days	Recycle or hazardous waste disposal facility
Sanitary waste-portable chemical	Sanitary	50gpm/ month	Continuous	Continuous	Collection by licensed contractor (minimum) for offsite treatment/disposal
CTG periodic operational chemical cleaning	Hazardous	<1gpd	Every 90 days	Store for < 90 days	Hazardous waste disposal facility (by licensed subcontractors)
RO evaporation pond residue	Non-hazardous	302 cubic yards	Once every 5 years	NA	Landfill
Oils collected in the OWS	Hazardous	2,500 gal	Once every 5 years	Store until OWS is ~80% full	Hazardous waste disposal facility treatment/disposal

Non-hazardous Solid Waste. Midway will produce maintenance and plant wastes typical of power generation operations. The following types of non-hazardous solid waste may be generated: paper, wood, plastic, cardboard, empty non-hazardous containers, used air filters, rags and other miscellaneous solid wastes including the typical refuse generated by workers.

Non-hazardous waste material will be segregated and recycled to the extent practical, and the remainder will be removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill.

Liquid Wastes. Industrial wastewater may contain wastes such as cleaning chemicals, oils, metals, oil-water separator effluent, and utility water used for washdown and other purposes. ~~Skim oil collected from equipment drains and other liquids drained from equipment will generally be treated as hazardous due to possible heavy metals content.~~

~~The Midway will utilize two different systems to manage wastewater; one for the treatment and disposition of liquid process wastes from the RO unit and another to contain and dispose of waste for the plant drains and washdown process.~~

~~Oils and chemicals that could drain from the gas turbine exhaust floor drains, the generator floor drains, the transformer containment area, the equipment wash down areas, and the ammonia storage area would flow into a sump. Oil leakage from equipment is expected to be minimal. Composition will be similar to standard parking lot impacts. Nonetheless, all equipment that has potential for significant leakage of oil or hazardous chemicals, such as glycol coolants, will be located within spill containment basins which would also flow into the sump. A sump pump will convey this oily wastewater/chemical drain water to an on-site 4,700 gallon storage tank. The ST waste will be pumped out and moved offsite. The ST will include level and leak detection instrumentation.~~

The Midway Project will implement a plant drain system that will separately handle two different types of waste streams. Oily waste from Project equipment/containment areas will be handled using an OWS. GTG waste will be handled separately using a collection sump and an AST.

Oily waste will be directed to an OWS from the main and auxiliary transformer containment areas, the air compressor/dryer skid, the CEMS enclosures, and the generator floor drains via gravity drain. The OWS will remove the oily waste from the collected stormwater. The non-hazardous, cleansed water from the OWS would then be discharged via a 4-inch PVC gravity pipe to the evaporation pond. Oils and chemicals collected in the OWS will be stored in the 3,000 gallon OWS until it is transported off-site to a hazardous waste disposal facility for treatment and disposal. The OWS will be installed underground and will include level and leak detection instrumentation.

GTG waste will be directed to the GT drain collection sump. This waste stream will include oils and water wash chemicals from the GT drains. Waste collected in this sump will be pumped to the 4,700 gallon GT drain tank (an AST). Waste in the GT drain tank would then be transported off-site to a hazardous waste disposal facility for treatment and disposal. The GT drain tank will include level instrumentation.

Wastewater generated by the RO and OWS processes will be conveyed by gravity to an evaporation pond (which can accommodate 30 acre-feet per year) on the east side of the Midway site. The average RO wastewater generation rate that will require disposal is expected to be approximately 25 gpm (approximately 18.7 acre-feet per year). This on-site, lined surface impoundment, in which the wastewater would evaporate via atmospheric drying, will result in a residue that must be disposed of in a landfill system.

The evaporation pond would also contain site stormwater runoff and OWS discharge collected from equipment areas such as transformer containment areas, the air compressor/dryer skid, the CEMS enclosures, and the generator floor drains on-site. ~~Stormwater and rainfall from the project site will be predominantly drained by sheet flow~~ The available evaporation pond capacity would adequately provide for site stormwater runoff and discharge from the OWS (estimated at < 3.1 acre-feet per year). ~~Efforts will be made to maintain the integrity of the existing drainage patterns, wherever possible.~~ Based on the final site-grading plan, some isolated areas may require underground stormwater collection and drainage piping which would be developed in accordance with all applicable LORS. Wastewater and wastewater system wastes are further discussed in the Water Resources Section (Section 5.5) of this application.

Hazardous Wastes. Hazardous wastes generated will include spent catalyst from the SCR, used oils from equipment maintenance, oils collected from the OWS, and oil-contaminated materials such as spent oil filters, rags, or other cleanup materials. Spent catalyst will be returned to the manufacturer for metals reclamation and/or disposal. Used oil generated will be recycled, and oil or heavy metal contaminated materials (e.g. filters) requiring disposal will be disposed of in a Class I waste disposal facility. Other occasional waste streams include alkaline or acid cleaning solutions used during chemical cleaning of the CTG. Table 5.14-3 summarizes the hazardous waste to be generated from operation of the plant.

Hazardous wastes will be collected by a licensed hazardous waste hauler and disposed of at a hazardous waste facility. Hazardous wastes will be transported offsite using a hazardous waste manifest. Copies of manifest reports, waste analysis, exception reports, destruction certifications, etc., will be kept onsite and accessible for inspection for three years. Land disposal restriction notices/certificates will be kept onsite and accessible for inspection for five years.

With implementation of training and BMPs specified in Section 5.14.3, impacts related to solid, liquid and hazardous waste would be less than significant.

5.14.2.3 Abandonment/Closure

Premature closure or unexpected cessation of plant operations will be outlined in the facility's closure plan. The plan will outline steps to secure hazardous and non-hazardous materials and wastes. Such steps will be consistent with best management practices and the Hazardous Materials Business Plan and according to applicable LORS. The plan will include monitoring of vessels and receptacles of hazardous material and wastes, safe cessation of processes using hazardous materials or hazardous wastes, and inspection of secondary containment structures.

Planned permanent closure impacts will be incorporated into the facility closure plan and evaluated at the end of the generating station's economic operation. The facility closure plan will document non-hazardous and hazardous waste management practices including: the inventory, management, and