APPLICANT'S SUPPLEMENTAL RESPONSE TO DATA REQUEST 16 AND 26: ADDITIONAL INFORMATION REGARDING WASTE MANAGEMENT

In this section of Applicant's Supplemental Response to CEC Staff Data Request 16 and 26, Applicant describes the changes to the Waste Management section that will result from the changes to the Project Description relating to the removal of Unit 3. Per staff's request, Applicant uses a strike-out/underline format to identify changes to the Waste Management section of the Application for Certification that will result from the changes to the Project Description.

The Waste Management sub-sections that have been modified are listed in the table of contents below. If there has been no change to a Waste Management sub-section relating to Applicant's Supplemental Response to Data Request 16 and 26, the section is labeled "no changes" in the table of contents below.

TABLE OF CONTENTS

5.14 Waste Management 5.14-1

5.14.1 Introduction (Please refer to the updated Project Description in Section 2.1.1) 5.14-1
5.14.2 Laws, Ordinances, Regulations, and Standards(no changes) 5.14-1
5.14.2.1 Federal 5.14-1
5.14.2.2 State (no changes) ..... 5.14-1~~5.14-2~~
5.14.2.3 Local (no changes) ..... 5.14-1~~5.14-2~~
5.14.3 Affected Environment (no changes) ..... 5.14-1~~5.14-2~~
5.14.4 Environmental Analysis ..... 5.14-1~~5.14-2~~
5.14.4.1 Construction (no changes) 5.14-2
5.14.4.2 Operations and Maintenance 5.14-2
5.14.4.3 Abandonment and Closure (no changes) 5.14-5
5.14.5 Cumulative Effects (no changes) 5.14-5
5.14.6 Mitigation Measures (no changes) 5.14-5
5.14.7 Involved Agencies and Agency Contacts (no changes) 5.14-5
5.14.8 Permits Required and Permit Schedule (no changes) 5.14-5
5.14.9 References (no changes) ..... 5.14-5~~5.14-6~~

Tables

Table 5.14-1 Laws, Ordinances, Regulations, and Standards (LORS) (no changes)
Table 5.14-2 Waste Recycling/Disposal Facilities (no changes)
Table 5.14-3 Summary of Construction Waste Streams and Management Methods (no changes)
Table 5.14-4 Operating Waste Streams and Management Methods
Table 5.14-5 Agency Contacts (no changes)
Table 5.14-6 Applicable Permits (no changes)

5.14 WASTE MANAGEMENT

5.14.1 Introduction (Please refer to the updated Project Description in Section 2.1.1)

5.14.2 Laws, Ordinances, Regulations, and Standards

5.14.2.1 Federal

National Environmental Policy Act of 1969

The NEPA establishes a public, interdisciplinary framework for Federal agencies reviewing projects under their jurisdiction to consider environmental impacts. NEPA's basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment.

The BLM, as lead Federal agency for the Project, is responsible for preparation of an Environmental Impact Statement (EIS) in compliance with NEPA to evaluate the environmental impacts of the portions of the Rio Mesa SEGF on federal lands. ~~Only the Rio Mesa Solar III plant and the~~ The Project gen-tie line, upgraded Bradshaw Trail access road, and construction/emergency backup power supply line are located on public lands administered and managed by the BLM. NEPA compliance is required for these portions of the Project through preparation of a Draft and Final EIS. The Applicant anticipates that BLM may consider RMS 1 and 2 as a connected action under NEPA. BLM is also responsible for Native American consultation, including government to government consultation regarding project facilities located on BLM land.

The President's Council on Environmental Quality (CEQ) developed guidelines and procedures to assist Federal agencies with NEPA procedures so that environmental justice concerns are effectively identified and addressed. This includes guidelines for public participation, alternatives, and mitigation.

The Resource Conservation and Recovery Act, 42 United States Code (USC), §§6901 to 6992k (no changes)

Title 49 CFR, Parts 172 and 173 (no changes)

The Clean Water Act of 1971, 33 USC, §§1251 et seq. (no changes)

5.14.2.2 State (no changes)

5.14.2.3 Local (no changes)

5.14.3 Affected Environment (no changes)

5.14.4 Environmental Analysis

The analysis of impacts related to waste management from the Project is based on CEQA Appendix G Guidelines. Significance is criteria summarized as follows:

- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste needs.
- Comply with federal, state and local statutes and regulations related to solid waste.

5.14.4.1 Construction (no changes)

5.14.4.2 Operations and Maintenance

Operation of the facility will generate wastes resulting from processes, routine facility maintenance, and office activities typical of solar powered operations. The operating waste streams and management methods are summarized in Table 5.14-4 and are described in more detail in the following sections. The types of waste and their estimated quantities are shown in Table 5.14-4.

Non-hazardous Solid Waste

The Project will produce maintenance and plant wastes typical of solar power generation operations. Paper, wood, plastic, cardboard, empty nonhazardous containers, reverse osmosis membranes, demineralization units sewage sludge, evaporation pond sludge, cartridge filters, and other miscellaneous solid wastes, including the typical refuse generated by workers, are examples of non-hazardous solid waste expected to be generated.

Non-hazardous waste material will be segregated and recycled to the extent practical, and a certified waste-handling contractor will remove the remainder on a regular basis for disposal at a Class III landfill. Non-hazardous waste generated during operational phases at the project site is not expected to significantly impact already available landfill capacity. The Project will comply with federal, state and local statutes and regulations related to solid waste. Impacts associated with non-hazardous waste management during the operations phase would not be significant.

Table 5.14-4
Operating Waste Streams and Management Methods

Waste Stream	Waste Classification	Anticipated Amount[1]	Treatment
Paper, wood, plastic, cardboard, and empty non-hazardous container	Non-hazardous	~~400~~ 300 lbs per week	Weekly collection for recycling and/or disposal at a Class III Landfill
Empty hazardous material containers	Hazardous	Varies, based on chemical usage	Recondition or recycle
Lubricating oil (Steam Turbine lubricating system)	Hazardous[2]	3,000 gallons per Steam Turbine oil flush event	Hazardous waste disposal facility or recycle
Lubricating oil filters (Steam Turbine oil system)	Hazardous	5,000 lbs per year per Steam Turbine	Hazardous waste disposal facility or recycle
Lubricating oil (Boiler feedwater pump and turbine drive oil system)	Hazardous	1,500 gallons per turbine drive lube oil flush event	Hazardous waste disposal facility or recycle

Table 5.14-4
Operating Waste Streams and Management Methods

Waste Stream	Waste Classification	Anticipated Amount[1]	Treatment
Lubricating oil filters (boiler feedwater pump and turbine drive oil system)	Hazardous	2,500 lbs per year per turbine drive	Hazardous waste disposal facility or recycle
Lubricating oil (miscellaneous equipment oil flushes)	Hazardous	1,000 gallons per year per plant	Hazardous waste disposal facility or recycle
Solvents, paints and adhesives	Hazardous	~~180~~ 120 lbs per month	Hazardous waste disposal facility or recycle
Reverse Osmosis Membranes	Non-hazardous	As needed	Recycled by water treatment manufacturer
Demineralization Units and Condensate Polisher	Non-hazardous	Vessels changed out weekly per plant	Recycled by water treatment manufacturer
Oily rags	Hazardous	900 lbs per year per plant, 400 lbs per year for common area	Hazardous waste disposal facility or recycled by certified oil recycler
Oily absorbent	Hazardous	600 lbs per year per plant, 200 lbs per year for common area	Hazardous waste disposal facility or recycled by certified oil recycler
Oil-water separator waste	Hazardous	~~200~~ 150 gallons per year	Hazardous waste disposal facility or recycled by certified oil recycler
Mirror wash machine oil filters	Hazardous	1,~~500~~ 000 lbs per year	Hazardous waste disposal facility or recycled by certified oil recycler
Mirror wash machine oils	Hazardous	2 gallons per oil change or 800 gallons per year per plant	Hazardous waste disposal facility or recycled by certified oil recycler
Sewage sludge	Non-hazardous	200 gallons per day per plant, 200 gallons per day for common area	Disposal offsite to sewage treatment facility
Evaporation pond sludge	Non-hazardous	Varies, pond emptied as needed	Disposal offsite at landfill
Cartidge Filters	Non-hazardous	Varies, vessels changed out weekly per plant	Disposal offsite at landfill

Source: Bechtel Power Corporation, 2011.

Notes:
[1] All numbers are estimates.
[2] Under California Regulations.
lbs = pounds.

Liquid Wastes

A raw water treatment plant will be located in the common area to clean raw well water for use by the Project. The treatment plant will be designed to remove impurities and make the water suitable for use in process production and mirror washing. Reject waste produced from the reverse osmosis process in the raw water treatment system will be captured in the wastewater collection tank and treated by the wastewater treatment (WWT) system located in a common area. Wastewater treatment systems will also be located at each plant.

The WWT system will consist of either a thermal distillation system with mechanical vapor compression or ion exchange. Distillate collected from the WWT plant will be recycled for reuse.. Concentrate from the WWT systems will be disposed of in two evaporation ponds in the common area and allowed to evaporate. Each pond will be lined with a high-density polyethylene (HDPE) liner to prevent infiltration of process water into the subsoil below. Provisions for avian protection netting will be determined, depending upon local jurisdiction and agency requirements and applicable LORS. When needed, pond sludge will be removed from site by an outside contractor. General plant drains will collect containment area washdown, sample drains, and drainage from plant equipment. Water from these areas will be collected in a system of floor drains, hub drains, sumps, and piping and routed to the wastewater collection tank. Drains that potentially could contain oil or grease will first be routed through an oil and water separator. Similarly, drains in the common area are located in the water treatment building. These drains will be collected and routed to a sump and pumped back to the wastewater collection tank. Any of these drains that could potentially contain oil or grease will be administratively controlled via operational procedures.

Permeate from the raw water treatment system in the common area will be used as the feed water for the power cycle makeup treatment system in each plant. The power cycle make-up treatment system will be a self-contained skid mounted mixed bed (cation/anion) ion exchanger with off-site regeneration. There will be no liquid waste from the power cycle makeup water treatment equipment.

Boiler blowdown will consist of boiler water discharged from SRSG to maintain the water chemistry within acceptable ranges. Boiler blowdown from the SRSG will be routed to the SRSG flash tank. Flash steam from the flash tank will be recovered back into the steam cycle via the deaerator. Condensate from the flash tank will be further flashed to atmosphere and the remaining water cooled and recovered in the treated water storage tank. As an alternative, blowdown may be discharged to the wastewater collection tank for treatment.

Blowdown from the night-time preservation, and startup/~~ and~~ auxiliary boilers will be collected in blowdown tanks and recovered in the treated water storage tank. As an alternative, blowdown may be discharged to the wastewater collection tank for treatment.

Each plant and the common area will include a septic system for sewage disposal and for potable and domestic water streams. Sewage generated from these systems will be collected and discharged to individual on-site septic tank and leach field. When needed, sewage sludge will be removed from the site by a sanitary service.

Hazardous Wastes (no changes)

5.14.4.3 Abandonment and Closure (no changes)

5.14.5 Cumulative Effects (no changes)

5.14.6 Mitigation Measures (no changes)

5.14.7 Involved Agencies and Agency Contacts (no changes)

5.14.8 Permits Required and Permit Schedule (no changes)

5.14.9 References (no changes)