



**California Regional Water Quality Control Board
Lahontan Region**



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M E M O R A N D U M

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TO: John Kessler
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CC Christopher Dennis
California Energy Commission

FROM: Linda Stone
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SUBJECT: FACTS, REQUIREMENTS, SURFACE WATER MONITORING AND REPORTING PROGRAM, IVANPAH SOLAR ELECTRIC GENERATING SYSTEMS PROJECT

John,

I am transmitting the following three documents for the California Energy Commission's use in establishing conditions for the protection of water quality for the proposed Ivanpah Solar Electric Generating Systems Project.

1. Facts
2. Requirements
3. Surface Water Monitoring and Reporting Program

If you have any questions, please feel to contact me.

Attachments

PROOF OF SERVICE (REVISED 7/20/09) FILED WITH
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FACTS
for
IVANPAH SOLAR ELECTRIC GENERATING SYSTEMS PROJECT
SAN BERNARDINO COUNTY
to the
CALIFORNIA ENERGY COMMISSION

1. Reason for Action and Regulatory Authority

The Applicant filed an Application for Certification (AFC) with the California Energy Commission (Energy Commission) on August 31, 2007. The AFC proposed the construction and operation of a solar power plant at the Project site. In conjunction with Project construction, the Applicant proposes to discharge wastes, dredged, and/or fill material to State waters. Additionally, construction and operation of the Project have the potential to impact water quality via storm water runoff.

Under the Warren-Alquist Act, and Governor's Executive Order S-14-08, the Energy Commission has the authority to streamline permitting for renewable energy generation facilities. The Lahontan Regional Water Board requirements for this project will be issued to the Applicant through the Energy Commission's certification process.

In a May 28, 2009 letter, the U.S. Army Corps of Engineers determined that the drainages on the site are not waters of the United States (U.S.). However, the drainages affected by the Project are waters of the State, as defined by California Water Code (Water Code) section 13050, and are subject to State requirements in accordance with Water Code section 13260 and to the Water Quality Control Plan for the Lahontan Region (Basin Plan). All actions impacting or potentially impacting these drainages, including dredge and fill activities and construction and industrial activities, will be regulated through these requirements, which will be incorporated in the Energy Commission's certification process.

2. Waste Discharge Requirements History

The Project is a new facility. There are no previous Lahontan Regional Water Quality Control Board (Lahontan Water Board) actions for this Project or location. The *Facts, Requirements, and Surface Water Monitoring and Reporting Program* for waste discharge address storm water, dredge and fill, and groundwater requirements for the Project.

3. Climate

The Mojave Desert has a typical desert climate, i.e., extreme daily temperature changes, low annual precipitation, strong seasonal winds, and mostly clear skies. The annual highest temperature in the Mojave Desert exceeds 100 degrees

Fahrenheit. Winter temperatures are more moderate, with mean maximum temperatures in the 60s and lows in the 30s. For the period of 1971 to 2000, the average annual precipitation in the vicinity of the Project ranged from 5 to 7 inches. Most of the precipitation occurs between December and March. However, occasional heavy precipitation occurs in the summer due to thunderstorms.

4. Site Geology

a. Setting

The Project is located in the Basin and Range Geomorphic Province, which is characterized by an extensional tectonic regime, i.e., block-faulted mountain ranges separated by down-dropped, sediment filled basins. The Project site is on the western flank of the Ivanpah Valley in the eastern Mojave Desert. Ivanpah Valley is an elongate, internally draining, structural basin, which extends north into Las Vegas Valley. The Project is situated on the mid portion of a bajada (a broad apron of coalesced alluvial fans) on the east side of the Clark Mountains.

b. Faulting and Seismicity

There are no active faults mapped in the Project site. The nearest active fault is the Death Valley fault, approximately 50 miles northwest of the Project.

c. Soils

The Project surface is covered by coarse-grained, gravelly soils that are characterized by the Natural Resource Conservation Service as well drained to excessively well drained with negligible to medium runoff potential.

5. Groundwater

The Ivanpah Valley is underlain by the Ivanpah Valley Groundwater Basin (Department of Water Resources Basin No. 6-30). The north-south trending basin extends into Nevada and includes Jean Lake Valley at its northern extent. It is bounded by bedrock mountains, which have shed the detritus that forms the unconsolidated alluvial deposits of the basin. These deposits appear to extend to depths of 8,000 feet or more near the axis of the basin.

Groundwater in the basin appears to be largely unconfined. In the vicinity of the Project, the depth to groundwater ranges from approximately 200 to 700 feet below ground surface. The shallower depth to groundwater occurs in the topographically lowest portion of the Project, near Ivanpah Lake. In the western portion of the Project area, which is topographically higher on the bajada, the depth to groundwater is the greatest. The groundwater flow direction is generally east toward Ivanpah Lake.

Groundwater quality in the groundwater basin is generally good, although total dissolved solids (TDS) can be high in some areas. TDS at the Project site is estimated to be between 300 to 600 milligrams per liter (mg/L). TDS levels

increase in the proximity of Ivanpah Lake.

The Applicant plans to install two groundwater wells and to use the wells to supply water during construction and operation. The Project will use a dry-cooling technology to avoid the use of water for power plant cooling.

6. Surface Water and Storm Water

Ivanpah Valley is an arid, internally draining basin. In the southern portion of the valley, surface water flow is toward Ivanpah Lake, a predominately dry lakebed. Numerous ephemeral channels (i.e., washes) drain from the Clark Mountains, across the bajada surface where the Project is located, and terminate at Ivanpah Lake. The ephemeral washes are characterized by natural processes that, to varying degrees, support native desert wash vegetation and provide wildlife habitat.

Surface water drainage at the Project area is a complex network of interconnected or anastomosing channels. The channels represent ephemeral washes that only flow when storm events generate runoff from the Clark Mountains. During such events, the Project site can be subject to flash flooding and mass erosion. A hydrologic study and modeling performed by the Applicant and the U. S. Bureau of Land Management (BLM) found that the 100-year flood event would inundate most of the Project area through canalized and sheet flows, and would be primarily erosive in nature.

7. Land Uses and Existing Site Conditions

The Project site and adjacent areas are federal lands managed by the BLM's California Desert District and are used for low intensity livestock grazing. The Primm Valley Golf Club is approximately 0.5 miles east of the Project area.

The 4,073-acre Project consists of a relatively undisturbed Mojave creosote bush scrub environment, which supports a diversity of plant communities and a high diversity of wildlife, including the Federal and State Endangered desert tortoise.

8. Description of Dredge and Fill Impacts to State Waters

The Project involves the proposed discharge of structural materials and/or earthen wastes (fill) as described in Table 1.

TABLE 1
Dredge and Fill Impacts to Waters of the State*

		Linear Impacts ⁴ (feet):	Impact Area (acres)	Fill Volume (cubic yards)	Dredge Volume (cubic yards)
30-foot-wide asphalt roads (including 3-foot shoulder)	Amount	11,639	---	---	---
	Temporary ¹		0.995	0	0
	Long-term ²		0.5	806	806
	Permanent ³		1.346	2,172	2,172
24-foot-wide asphalt roads	Amount	4,433	---	---	---
	Temporary		0.13	0	0
	Long-term		0.31	500	500
	Permanent		0.059	95	95
15-foot-wide dirt roads	Amount	2,022	---	---	---
	Temporary		0	0	0
	Long-term		0.192	0	0
	Permanent		0	0	0
12-foot-wide dirt roads	Amount	16,171	---	---	---
	Temporary		0.154	0	0
	Long-term		2.19	0	0
	Permanent		0.113	0	0
12-foot-wide rerouted trails	Amount	1,194	---	---	---
	Temporary		0	0	0
	Long-term		0.061	0	0
	Permanent		0.188	0	0
12-foot-wide gravel road	Amount	487	---	---	---
	Temporary		0	0	0
	Long-term		0	0	0
	Permanent		0.028	0	0
10-foot-wide heliostat maintenance paths	Amount	154,800	---	---	---
	Temporary		0	0	0
	Long-term		21.57	0	0
	Permanent		0	0	0
10-foot-wide heliostat arrays	Amount	158,285	---	---	---
	Temporary		21.8	0	0
	Long-term		0.031	0	0
	Permanent		0	0	0
Natural gas line corridor	Amount	7,380	---	---	---
	Temporary		0.939	0	0
	Long-term		0	0	0
	Permanent		0	0	0
Gas and water utility lines	Amount	1,126	---	---	---
	Temporary		0.215	2,828	2,828
	Long-term		0.19	0	0
	Permanent		0	0	0

TABLE 1
Dredge and Fill Impacts to Waters of the State*

		Linear Impacts ⁴ (feet):	Impact Area (acres)	Fill Volume (cubic yards)	Dredge Volume (cubic yards)
Metering sets	Amount	80	---	---	---
	Temporary		0	0	0
	Long-term		0.005	0	0
	Permanent		0	0	0
Power blocks, diversion channels and berms	Amount	17,177	---	---	---
	Temporary		0	0	0
	Long-term		1.284	1,419	503
	Permanent		0.15	75	289
Gen-tie lines and towers	Amount	0	---	---	---
	Temporary		0	0	0
	Long-term		0	0	0
	Permanent		0	0	0
Administration/Maintenance Building	Amount	3,618	---	---	---
	Temporary		0	0	0
	Long-term		0.444	666	0
	Permanent		0	0	0
Substation	Amount	4,670	---	---	---
	Temporary		0	0	0
	Long-term		0	0	0
	Permanent		0.572	845	0
Construction laydown, staging and stockpiling	Amount		---	---	---
	Temporary		2.674	0	0
	Long-term		0	0	0
	Permanent		0	0	0
Perimeter fence installation	Amount	0	---	---	---
	Temporary		76	0	0
	Long-term		0	0	0
	Permanent		0	0	0
TOTAL DREDGE AND FILL IMPACTS	Amount	383,082			
	Temporary		26.91	2,828	2,828
	Long-term		26.78	3,391	1,809
	Permanent		2.46	3,187	2,556

NOTES:

*Table 1 is based on Ivanpah Solar Electric Generating System's Data Response to Energy Commission, Set 1P, *Beneficial Use and Dredge/Fill Analyses for Waters of the State*, September 9, 2009

¹ Temporary impacts are associated with construction activities, and these areas will be restored upon completion of construction.

² Long-term impacts continue for the duration of Project operations, which is estimated at approximately 50 years. At Project decommissioning, these areas will be rehabilitated and revegetated.

³ Permanent impacts are associated with roads and structures that will remain following Project closure.

⁴ Note that linear distances are likely overestimated since there is redundancy among values for temporary, long-term, and permanent impacts.

9. Mitigation Plan

See Condition of Certification, Biology-20, Final Staff Assessment (FSA) for a description of the compensation requirements for impacts to waters of the State.

10. Storm Water Discharges

The existing slope and drainage of the Project site have not been previously modified from their natural state. Topographically, the site is relatively uniform and slopes down to the east at a gradient of approximately 5 percent. Grading will be minimized to the extent feasible (i.e., restricted to the three power blocks, support area, and areas with higher topographic relief in the northern portion of the site). Outside of those specified areas, existing conditions will be largely maintained during construction and operation.

The *Requirements* contained in Appendix C of the FSA regulate construction-related and industrial-related waste discharges in storm water runoff and other discharges associated with Project. The requirements also direct the Applicant to maintain pre-development infiltration, surface retention, and recharge rates in order to minimize post-development impacts to offsite water bodies and underlying groundwater. The Applicant is required to avoid adverse effects of altering the hydrologic characteristics (i.e., avoid hydromodification) of the Project area by site design and construction practices.

a. *Construction Storm Water Management*

The Project is divided into three power-generating areas, referred to as Ivanpah 1, 2, and 3. The areas will be built sequentially and the Applicant estimates that construction will be ongoing for a total of 48 months. Under the Storm Water Pollution Prevention Plan (SWPPP) and Drainage, Erosion, and Sediment Control Plan (DESCP), site grading will be minimized and most storm water will be allowed to flow unimpeded across the site in existing channels and as sheet flow. The Applicant will implement best management practices (BMPs) as described in the SWPPP and DESCP to prevent water quality impacts during construction.

b. *Post-Construction Storm Water Management*

Impacts to the onsite ephemeral washes will be minimized through the implementation of a low impact development approach (i.e., measures that maintain or mimic pre-development hydrology) as described in the DESCP. Storm water diversion structures will only be constructed around the substation and the three power blocks. The Applicant proposes to manage storm water, erosion, and sedimentation at the completed Project through a comprehensive system of source controls, treatment BMPs, and site design. The final storm water management system must replicate pre-development hydrographs for the 2-year through the 10-year, 24-hour storm events. At a minimum, the Applicant will adhere to detention and retention requirements of State Water Resources Control Board's *Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity, General Permit No CAS00002*;

Waste Discharge Requirements For Discharges of Storm Water Associated With Industrial Activities, General Permit No. CAS00001; and all subsequent revisions and amendments to these general permits.

11. Waste Water Discharges

Waste water generated by Project operation will be from two sources: waste water generated from washing the heliostats and domestic waste discharged to onsite septic systems. The excess heliostat wash water will drain to the ground surface beneath the heliostats where it will evaporate. The septic systems will be sited and designed in accordance to the Water Quality Control Plan for the Lahontan Region (Basin Plan) and San Bernardino County requirements.

12. Receiving Waters

The receiving waters are the “minor surface waters of the Ivanpah Hydrologic Area” (Hydrologic Subunit 612.00) and groundwaters of the Ivanpah Groundwater Basin (Department of Water Resources No. 6-30).

13. Basin Plan

The Lahontan Water Board adopted a Water Quality Control Plan for the Lahontan Basin (Basin Plan), which became effective on March 31, 1995. The *Requirements and Surface Water Monitoring and Reporting Program*, Appendix C and D, respectively, of the FSA, implement the Basin Plan.

14. Beneficial Uses - Surface Waters

The Basin Plan designates beneficial uses for surface waters in each watershed of the Lahontan Region. The beneficial uses listed for minor surface waters of the Ivanpah Hydrologic Area include:

- a. municipal and domestic water supply (MUN),
- b. agricultural supply (AGR),
- c. groundwater recharge (GWR),
- d. water contact recreation (REC-1),
- e. non-contact water recreation (REC-2),
- f. commercial and sportfishing (COMM),
- g. warm freshwater habitat (WARM),
- h. wildlife habitat (WILD).

15. Beneficial Uses - Groundwaters

The Basin Plan designates beneficial uses for groundwaters in each watershed of the Lahontan Region. Beneficial uses of groundwaters of the Ivanpah Groundwater Basin include:

- a. municipal and domestic water supply (MUN),
- b. agricultural supply (AGR),
- c. industrial surface supply (IND),
- d. freshwater replenishment (FRSH).

16. Non-Degradation

The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*). Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings or facts. The Basin Plan implements and incorporates by reference State antidegradation policies.

17. Other Considerations and Requirements for Discharge

Pursuant to Water Code section 13241, the *Facts, Requirements, and Surface Water Monitoring and Reporting Program* take into consideration:

- a. *Past, present, and probable future beneficial uses of water.*
These requirements identify past, present, and probable future beneficial uses of water as described in Facts Nos. 14 and 15. The proposed discharge will not adversely affect present or probable future beneficial uses of the receiving waters.
- b. *Environmental characteristics of the hydrologic unit and the groundwater basin under consideration, including the quality of water available thereto.*
Facts Nos. 3 through 7 describe the environmental characteristics and quality of waters in the hydrologic unit and groundwater basin.
- c. *Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area.*
These requirements will not result in changes to groundwater quality. Adverse effects to surface water quality will be minimized.
- d. *Economic considerations.*
The Energy Commission's certification authorizes the Applicant to implement closure and post-closure maintenance actions at the Project as proposed by the Applicant. These requirements accept the Applicant's proposed actions as meeting the best practicable control method for protecting water quality from impacts from the Project.
- e. *The need for developing housing in the region.*
The Applicant is not responsible for developing housing in the region.
- f. *The need to develop and use recycled water.*
The water requirements for the Project are minimized by the incorporation of dry-cooling technology. Additionally, there are no feasible sources of recycled water in the vicinity of the Project.

REQUIREMENTS
for
IVANPAH SOLAR ELECTRIC GENERATING SYSTEM
SAN BERNARDINO COUNTY
to the
CALIFORNIA ENERGY COMMISSION

I. DISCHARGE SPECIFICATIONS

A. Storm Water Discharges

Waste in discharges of storm water must be reduced or prevented to achieve the best practicable treatment level using controls, structures, and management practices. The Applicant shall comply with all requirements (with the exception of purely administrative requirements, e.g., filing a Notice of Intent) contained in State Water Resources Control Board's (State Water Board) *Waste Discharge Requirements For Discharges of Storm Water Runoff Associated With Construction Activity, General Permit No. CAS00002*; *Waste Discharge Requirements For Discharges of Storm Water Associated With Industrial Activities, General Permit No. CAS00001*; and all subsequent revisions and amendments.

These requirements do not preclude the Applicant from requirements imposed by municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to separate storm sewer systems or other water, conveyances, and water bodies under their jurisdiction.

B. Receiving Water Limitations

Receiving water limitations are narrative and numerical water quality objectives contained in the Water Quality Control Plan for the Lahontan Region (Basin Plan). As such, the objectives are required to be met.

1. Surface Water Objectives

The discharge of waste to surface waters shall not cause or contribute to a violation of the following water quality objectives for waters of the Ivanpah Hydrologic Unit (No. 612.00).

a. *Ammonia*

Ammonia concentrations shall not exceed the values listed in Tables 3-1 through 3-4 of the Basin Plan for the corresponding conditions in these tables. Tables 3-1 through 3-4 of the Basin Plan are incorporated into these requirements by reference.

b. *Bacteria, Coliform*

- i. Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes.
- ii. The fecal coliform concentration during any 30-day period shall not exceed a log mean of 20/100 milliliter (ml) nor shall more than 10 percent of all samples collected during any 30-day period exceed 40/100 ml. The log mean shall ideally be based on a minimum of not less than five samples collected as evenly spaced as practicable during any 30-day period. However, a log mean concentration exceeding 20/100 ml, or one sample exceeding 40/100 ml, for any 30-day period shall indicate violation of this objective even if fewer than five samples were collected.

c. *Biostimulatory Substances*

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.

d. *Chemical Constituents*

- i. Waters designated as MUN (municipal and domestic supply) shall not contain concentrations of chemical constituents in excess of the primary or secondary maximum contaminant levels (MCL) based upon drinking water standards specified in provisions of the California Code of Regulations (CCR), Title 22, Division 4, Chapter 15, hereby incorporated by reference into these requirements. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.
- ii. Waters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses.

e. *Chlorine, Total Residual*

For the protection of aquatic life, total chlorine residual shall not exceed either a median value of 0.002 milligrams/liter (mg/L) or a maximum value of 0.003 mg/L. Median values shall be based on daily measurements taken within any six-month period.

f. *Color*

Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses.

g. *Dissolved Oxygen*

- i. The dissolved oxygen concentration as percent saturation shall not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration be less than 80 percent of saturation.
- ii. For waters with the beneficial uses of COLD (cold freshwater habitat) or WARM (warm freshwater habitat), the minimum dissolved oxygen

concentration shall not be less than that specified in Table 3-6 of the Basin Plan. Table 3-6 of the Basin Plan is incorporated herein by reference.

h. *Floating Materials*

- i. Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses.
- ii. The concentrations of floating material shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

i. *Oil and Grease*

- i. Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect the water for beneficial uses.
- ii. The concentration of oils, greases, or other film or coat generating substances shall not be altered.

j. *Pesticides*

- i. For the purposes of these requirements, pesticides are defined to include insecticides, herbicides, rodenticides, fungicides, piscicides and all other economic poisons. An economic poison is any substance intended to prevent, repel, destroy, or mitigate the damage from insects, rodents, predatory animals, bacteria, fungi, or weeds capable of infesting or harming vegetation, humans, or animals (California Agriculture Code 12753).
- ii. Pesticide concentrations, individually or collectively, shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall not be an increase in pesticide concentrations found in bottom sediments. There shall be no detectable increase in bioaccumulation of pesticides in aquatic life.
- iii. Waters designated as MUN shall not contain concentrations of pesticides or herbicides in excess of the limiting concentrations set forth in the CCR, Title 22, Division 4, Chapter 15. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

k. *pH*

In fresh waters with designated beneficial use of COLD or WARM, changes in normal ambient pH levels shall not exceed 0.5 pH units.

l. *Radioactivity*

- i. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor which result in

the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

- ii. Waters designated as MUN shall not contain concentrations of radionuclides in excess of the limits specified by the more restrictive of the CCR Title 22 Division 4, Article 5 sections 64441 et seq. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.
- m. *Sediment*

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses.
- n. *Settleable Materials*

Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. The concentration of settleable materials shall not be raised by more than 0.1 milliliters/liter.
- o. *Suspended Materials*
 - i. Waters shall not contain suspended materials in concentrations that cause nuisance or that adversely affect the water for beneficial uses.
 - ii. The concentration of total suspended materials shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.
- p. *Taste and Odor*

Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses. The taste and odor shall not be altered.
- q. *Temperature*
 - i. The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated to the satisfaction of the California Energy Commission (Energy Commission) that such an alteration in temperature does not adversely affect the water for beneficial uses.
 - ii. For waters designated COLD, the temperature shall not be altered. For waters designated WARM, water temperature shall not be altered by more than 5 degrees Fahrenheit above or below the natural temperature.

- r. *Toxicity*
 - i. All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
 - ii. The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for “experimental water” as defined in the most recent edition of *Standard Methods for the Examination of Water and Wastewater* (American Public Health Association, et al.).
- s. *Turbidity*

Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

2. Groundwater Objectives

The discharge of waste to groundwaters shall not cause, or contribute to, a violation of the following water quality objectives for waters of the Ivanpah Groundwater Basin (Department of Water Resources No. 6-30).

a. *Bacteria, Coliform*

In groundwaters designated as MUN, the median concentration of coliform organisms over any seven-day period shall be less than 1.1/100 ml.

b. *Chemical Constituents*

- i. Groundwaters designated as MUN shall not contain concentrations of chemical constituents in excess of the primary or secondary MCLs based upon drinking water standards specified in provisions of the CCR, Title 22, Division 4, Chapter 15, hereby incorporated by reference into these requirements. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.
- ii. Groundwaters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses.

c. *Radioactivity*

Groundwaters designated as MUN shall not contain concentrations of radionuclides in excess of the limits specified by the more restrictive of the CCR Title 22 Division 4, Article 5 sections 64441 et seq. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

d. *Taste and Odor*

Waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. For groundwaters designated MUN, at a minimum, concentrations shall not exceed adopted secondary MCLs based upon drinking water standards specified in provisions of the CCR, Title 22, Division 4, Chapter 15, hereby incorporated by reference into these requirements. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

II. PROHIBITIONS AND REQUIREMENTS

The discharge of wastes and fill associated with the Project must not violate the following waste discharge prohibitions. These waste discharge prohibitions do not apply to discharges of storm water when wastes in the discharge are controlled through the application of management practices or other means and the discharge does not cause a violation of water quality objectives. The Energy Commission expects that control measures will be implemented in an iterative manner as needed to meet applicable receiving water quality objectives.

A. Regionwide Prohibitions

1. The discharge of waste⁽ⁱ⁾ that causes violation of any narrative water quality objective contained in the Basin Plan, including the Nondegradation Objective, is prohibited.
2. The discharge of waste that causes a violation of any numeric water quality objective contained in the Basin Plan is prohibited.
3. Where any numeric or narrative water quality objective contained in the Basin Plan is already being violated, the discharge of waste that causes further degradation or pollution is prohibited.
4. The discharge of untreated sewage, garbage, or other solid wastes into surface waters of the Lahontan Region is prohibited. (For the purposes of this prohibition, “untreated sewage” is that which exceeds secondary treatment standards of the Federal Water Pollution Control Act, which are incorporated in the Basin Plan in section 4.4 under “Surface Water Disposal of Sewage Effluent.”)

Definitions:

- (i) “Waste” is defined to include any waste or deleterious material including, but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock, or other organic or mineral material) and any other waste as defined in the California Water Code § 13050(d).

5. For municipal⁽ⁱⁱ⁾ and industrial⁽ⁱⁱⁱ⁾ discharges:
 - a. The discharge, bypass, or diversion of raw or partially treated sewage, sludge, grease, or oils to surface waters is prohibited.
 - b. The discharge of wastewater except to the designated disposal site (as defined and in accordance with California Water Code [Water Code] section 13000 et seq.) is prohibited.
 - c. The discharge of industrial process wastes^(iv) to surface waters designated for the Municipal and Domestic Supply (MUN) beneficial use is prohibited. The discharge of industrial process wastes to surface waters not designated for the MUN use may be permitted if such discharges comply with the *General Discharge Limitations* in section 4.7 of the Basin Plan and if appropriate findings under State and federal anti-degradation regulations can be made.

Prohibitions 5(b) and 5(c) do not apply to industrial storm water. For control measures applicable to industrial storm water, see section 4.3 of the Basin Plan, entitled “Stormwater Runoff, Erosion, and Sedimentation,” specifically the requirements, which mandate the use of best available technology economically available (BAT) and best conventional pollution control technology (BCT) to reduce pollutants, and any more stringent controls necessary to meet water quality standards. Compliance with the requirements of a variety of laws and regulations for the control of hazardous materials and hazardous wastes may help to reduce potential storm water pollutants. Such programs include State and local laws to control toxic air pollutants, hazardous material storage and emergency response planning, the workers' right-to-know program, and hazardous waste source reduction and management review.

Prohibitions 5(b) and 5(c) do not apply to surface water disposal of treated groundwater. For control measures applicable to surface water disposal of treated ground water, see Lahontan Regional Water Quality Board Order No. R6T-2004-0025.

B. Project Discharge Prohibitions

1. Activities and waste discharges associated with the Project must not cause or threaten to cause a nuisance or pollution as defined in Water Code section 13050.

(ii) “Municipal waste” is defined in section 4.4 of the Basin Plan.

(iii) “Industry” is defined in section 4.7 of the Basin Plan.

(iv) “Industrial process wastes” are wastes produced by industrial activities that result from one or more actions, operations, or treatments which modify raw material(s) and that may (1) add to or create within the effluent, waste, or receiving water a constituent or constituents not present prior to processing, or (2) alter water temperature and/or the concentration(s) of one or more naturally occurring constituents within the effluent, waste or receiving water. Certain non-storm water discharges may occur at industrial facilities that are not considered to be industrial process wastes for the purposes of Prohibition 5(c). Examples include: fire hydrant flushing, atmospheric condensates from refrigeration and air conditioning systems, and landscape watering.

2. The discharge, including discharges of fill material, must be limited to that described in the Applicant's final *Drainage, Erosion, and Sediment Control Plan*.
3. The discharge or deposition of any wastes into channels, surface water, or any place where it would be discharged or deposited where it would be eventually transported to surface waters, including the 100-year floodplain, must not contain or consist of any substance in concentrations toxic to animal or plant life.
4. The discharge or deposition of any wastes into channels, surface water, or any place where it would be discharged or deposited where it would be eventually transported to surface waters, including the 100-year floodplain, must not contain or consist of oil or other floating materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters.
5. The discharge of waste, as defined in the Water Code that causes violation of any narrative water quality objective contained in the Basin Plan is prohibited.
6. The discharge of waste that causes violation of any numeric water quality objective contained in the Basin Plan is prohibited.
7. Where any numeric or narrative water quality objective contained in the Basin Plan is already being violated, the discharge of waste that causes further degradation or pollution (as defined in Water Code section 13050) is prohibited.
8. The discharge of septic tank pumpings (septage) or chemical toilet wastes to other than a sewage treatment plant or a waste hauler is prohibited.

C. Requirements

1. The Applicant shall develop a final Storm Water Pollution Prevention Program (SWPPP) that is consistent with the requirements of State Water Board's *General Permit No. CAS00001* and *General Permit No. CAS00002*. This SWPPP, or any future revision to this SWPPP, shall be implemented after approval by the Compliance Project Manager.
2. The Applicant must, at all times, maintain appropriate types and sufficient quantities of material on site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the State.
3. Discharges of wastewater generated by the Project's operations are not allowed to be released to the offsite environment.

4. The Applicant must permit Energy Commission staff or its authorized representative upon presentation of credentials:
 - a. Entry onto Project premises;
 - b. Access to copy any record required to be kept under the terms and conditions of the Final Staff Assessment (FSA);
 - c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by the FSA;
 - d. Sampling of any discharge or surface water covered by the FSA.
5. The Applicant must immediately notify the Energy Commission by telephone whenever an adverse condition occurs as a result of this discharge. Such a condition includes, but is not limited to, a violation of the conditions of the FSA, a significant spill of petroleum products or toxic chemicals, or damage to control facilities that would cause noncompliance. A written notification of the adverse condition must be provided to the Energy Commission within two weeks of occurrence. The written notification must identify the adverse condition, describe the actions necessary to remedy the condition, and specify a timetable, subject to any modifications by Energy Commission staff, for the remedial actions.
6. The Applicant must comply with the *Surface Water Monitoring and Reporting Program*, Appendix D of the FSA.

III PROVISIONS

A. Special Provisions for Fill Impacts to State Waters

1. Detailed final grading plans must be provided to the Energy Commission a minimum of 60 days prior to commencement of construction activities.
2. Construction equipment must be clean and free from oil, grease, and loose metal material and must be removed from service if necessary to protect water quality.
3. Restoration of temporary disturbances and temporary discharges of fill to waters of the State must be achieved immediately following completion of work in an area of the temporary impacts. Restoration must include implementing measures to fully restore conditions to support all beneficial uses for the water body temporarily impacted in the shortest feasible time. Restoration must include, but is not limited to, grading to pre-project contours and revegetation with native species. The Applicant must implement Best Management Practices (BMPs) to control erosion and runoff from areas associated with temporary fills.

4. Mitigation for 29.2 acres of permanent and long-term impacts must be proposed prior to initiation of construction and approved by the Energy Commission.
5. No debris, cement, concrete (or wash water there from), oil, or petroleum products must be allowed to enter into or be placed where it may be washed from the Project site by rainfall or runoff into waters of the State. When operations are completed, any excess material must be removed from the Project work area and any areas adjacent to the work area where such material may be transported into waters of the State.
6. No equipment may be operated in areas of flowing or standing water; no fueling, cleaning, or maintenance of vehicles or equipment must take place within any areas where a discharge to ephemeral channels or other waters of the State may occur; construction materials and heavy equipment must be stored outside of the channel perimeter of the waters of the State. When work within the boundaries of waters of the State is necessary, the entire stream flow must be diverted around the work area, temporarily, as needed to control waste discharge.
7. The Applicant must immediately notify the Energy Commission by telephone whenever an adverse condition occurs as a result of this discharge. Such a condition includes, but is not limited to, a violation of these conditions of certification, a significant spill of petroleum products or toxic chemicals, or damage to control facilities that would cause noncompliance. A written notification of the adverse condition must be provided to the Energy Commission within two weeks of the occurrence. The written notification must identify the adverse condition, describe the actions necessary to remedy the condition, and specify a timetable subject to any modifications by Energy Commission staff for the remedial actions.

B. Special Provisions for Storm Water

1. The Applicant must ensure that storm water discharges and non-storm water discharges do not cause or contribute to an exceedance of any applicable water quality standards.
2. Industrial storm water discharges must use best available technology economically available (BAT) and best conventional pollution control technology (BCT) to reduce pollutants, and any more stringent controls necessary to meet water quality standards.
3. Post-construction storm water flows (velocity and volume) emanating from the Project site must not exceed predevelopment levels. Runoff from newly constructed impervious areas that is greater than predevelopment levels must be treated and detained to predevelopment runoff levels. Methods such as

low impact development may be used to achieve this requirement (see State Board Resolution No. 2008-0030).

4. The Applicant must implement Best Management Practices (BMPs) to prevent or reduce the discharge of wastes associated with water contacting construction materials or equipment.
5. The Applicant must provide effective cover, mulch, fiber blankets, or other erosion control for soils disturbed by construction activities.
6. The Applicant must provide BMPs for erosion stabilization for all areas of disturbed soil regardless of time of year, including erosion from rainfall, non-storm water runoff, and wind.
7. The Applicant must stabilize to prevent erosion all finished slopes, open space, utility backfill, and graded or filled lots within two weeks from when excavation or grading activity has been completed.
8. The Applicant must control runoff from offsite areas, route flows away from disturbed areas in a manner that does not cause onsite or offsite erosion, and provide controls to minimize runoff and problems from storm water flows to the Project area from offsite areas.
9. The Applicant must, at all times, maintain effective perimeter controls (i.e., control around the Project area and all areas where there could be erosion or sediment discharges from the site), and stabilize all construction entrances/exits sufficiently to control erosion and soil or sediment discharges from the site.
10. The Applicant must properly install and effectively maintain all BMPs for storm drain inlets and perimeter controls, runoff control BMPs, and stabilized entrances/exits.
11. The Applicant must ensure that construction activity traffic to and from the Project is limited to entrances and exits that employ effective controls to prevent offsite tracking of soil.
12. The Applicant must ensure that all storm drain inlets, perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits are maintained and protected from activities that could reduce their effectiveness.
13. The Applicant must comply with the following source control requirements:
 - a. Maintain vegetative cover to the extent possible by developing the Project in a way that reduces the amount of soil exposed to erosion at any time.
 - b. Inspect and remove accumulated deposits of soil at all inlets to the storm drain system at frequent intervals during rainy periods.

- c. Provide buffer strips and/or vegetation protection fencing between the active construction area and any water bodies.
 - d. Provide “good housekeeping” measures for construction materials, waste management, vehicle storage and maintenance, and landscape materials at all times including, but not limited to, the list of required measures in Attachment B of the *Surface Water Monitoring and Reporting Program*, (Appendix D of the FSA), which is made a part of these requirements.
14. The Applicant must maintain, in perpetuity, post-construction control and treatment measures for storm water, or must identify in writing to the Energy Commission, the entity that is legally responsible for maintaining the post-construction controls at the Project site.
15. The Applicant shall have in place adequate emergency response plans in order to clean up any spill or release of any waste at the Project site.

SURFACE WATER MONITORING AND REPORTING PROGRAM
for
IVANPAH SOLAR ELECTRIC GENERATING SYSTEM
SAN BERNARDINO COUNTY
to the
CALIFORNIA ENERGY COMMISSION

I. MONITORING

A. General Requirements

1. The Applicant must comply with the “General Provisions for Monitoring and Reporting,” which is attached to and made part of this Monitoring and Reporting Program (Attachment A).
2. In addition to General Provision 1 of Attachment A, the following provisions apply to sampling and analysis under this program:
 - a. Quality assurance/quality control (QA/QC) procedures must be followed and a QA/QC plan must be included in the Sampling and Analysis Plan (SAP) that is provided to the California Energy Commission (Energy Commission). The SAP may be part of the Storm Water Pollution Prevention Program (SWPPP).
 - b. The Applicant may conduct their own field analysis of pH and turbidity if the Applicant has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.
 - c. All monitoring instruments and equipment (including an Applicant’s own field instruments for measuring pH and turbidity) must be calibrated and maintained in accordance with manufacturer’s specifications to ensure accurate measurements.
 - d. With the exception of field analyses conducted by the Applicant for pH and turbidity, all analyses must be sent to and conducted at a laboratory certified for such analysis by the California Department of Public Health.
3. The Applicant must comply with the “Good Housekeeping Best Management Practices,” which is attached to and made part of this Monitoring and Reporting Program (Attachment B).

B. Construction Site Storm Event Water Monitoring

The Applicant must monitor site precipitation continuously and keep a record of storm events that produce more than 0.5 inch of precipitation at the site. During storms and/or within one business day after each 0.5 inch of

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precipitation from a storm event, the Applicant must visually observe and document observations of storm water discharges from the site. For visual observations, the Applicant must look for and document the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

The Applicant must visually observe and document observations of the discharge of stored or contained storm water that is discharged subsequent to a storm event. The Applicant is only required to visually observe such discharges if they occur during daylight hours. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation must be observed prior to the discharge to determine whether controls and best management practices (BMPs) are in place and functioning as required.

For the purposes of these requirements, a "potential storm event" is defined as any storm event with a 30 percent or greater chance of precipitation as predicted by the National Weather Service's nearest weather station for the local climate zone. Forty-eight (48) hours prior to each potential storm event, the Applicant must visually observe and implement appropriate corrective action for:

1. all storm water drainage areas, to identify any spills, leaks, or uncontrolled pollutant sources,
2. all BMPs (see Attachment B), to identify whether they have been properly installed and maintained, and
3. any storm water storage and containment areas, to detect leaks and ensure maintenance of adequate freeboard.

Within one business day after each storm event that produces precipitation of 0.5 inch or more, the Applicant must conduct a post-storm event inspection to:

1. identify whether BMPs were adequately designed, implemented, and effective,
2. identify if and where additional BMPs are needed, and where BMPs are in need of maintenance.

Within one business day after the initial 0.5 inch of precipitation from a storm event, and every 1 inch thereafter, the Applicant must collect and analyze samples of storm water discharged from any detention basins. If no discharge occurs from a basin, no sample is required, but the absence of discharge must be documented.

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Storm water sampling and analyses must be performed in accordance with the following requirements:

1. The Applicant must analyze the samples for pH and turbidity.
2. The Applicant is not required to physically collect samples or conduct visual observations during dangerous weather conditions or outside of scheduled site operation hours.

The Applicant must perform sampling of storm water discharges from all drainage areas associated with construction activity. The storm water discharge collected and observed must represent the worst quality storm water discharge in each drainage area based on visual observation of the water and upstream conditions. For example, if there has been concrete work recently in an area, or drywall scrap is exposed to the rain, a pH sample must be taken of drainage from the relevant work area. Similarly, if muddy water is flowing through some parts of a silt fence, samples must be taken of the muddy water even if most water flowing through the fence is clear.

C. Construction Site Monitoring

1. On a daily basis, the Applicant must inspect all public and private paved roads serving the Project and daily remove, by vacuuming or sweeping, visible accumulations of sediment or other construction activity-related materials that are deposited on the roads. All inspections under this provision must be documented in writing.
2. The Applicant must ensure that inspections and observations at locations where runoff may discharge from the Project site are performed weekly, and at least once each 24-hour period during extended storm events, to identify any problems and/or BMPs that:
 - a. need maintenance to operate effectively,
 - b. have failed, or
 - c. are inadequate to achieve effective control.
3. The Applicant must visually observe construction areas and each drainage area for the presence of (or indication of prior) non-storm water discharges and their sources to ensure that all BMPs are in place and effective.
 - a. One visual observation must be conducted quarterly in each of the following periods: January through March, April through June, July through September, and October through December. Visual observations are only required during daylight hours (sunrise to sunset).
 - b. Visual observations must document evidence of any non-storm water discharge, pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. The Applicant must maintain onsite records indicating the personnel performing the visual observation, the dates and approximate time each drainage area and non-

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storm water discharge was observed, and the response taken to eliminate non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

4. The Applicant must monitor and report runoff from surrounding areas that may contribute to exceedances or excursions from requirements (violations).

D. Post-Construction Monitoring

On a semi-annual basis, the Applicant must inspect and document inspections of post-construction treatment controls at the Project. Maintenance must be provided to address any controls that are not in compliance with requirements.

E. Receiving Water Monitoring

1. Receiving water sampling must be conducted at the sample locations designated in the final SWPPP.
2. Twice monthly and at no less than 10-day intervals from November through May of each year, the Applicant must sample the Project's receiving waters with grab samples. The samples must be analyzed, at a minimum, for the following constituents:
 - a. Turbidity,
 - b. Temperature,
 - c. Dissolved Oxygen,
 - d. Suspended Solids,
 - e. Total Dissolved Solids, and
 - f. pH.

If no water is present (documented by photographs), no sampling is required.

3. The Applicant must also sample the receiving waters for the above parameter(s) when discharge from any detention basin occurs.

II. REPORTING

A. Required Program Reports

1. The Applicant must develop and implement a final SWPPP, as described in II.B, below, and provide the final SWPPP to the Energy Commission 60 days prior to commencement of construction activities. The SWPPP must include receiving water monitoring locations as required above.
2. The Applicant must provide a Sampling and Analysis Plan (SAP) as referenced in I.A, above, to the Energy Commission 60 days prior to

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commencement of construction activities. The SAP may be part of the SWPPP as described under I.A.2.

B. Storm Water Pollution Prevention Program

1. The final SWPPP must be developed and implemented to address the following objectives:
 - a. To demonstrate that the site is in compliance with these requirements (*Requirements* in Appendix C and this *Monitoring and Reporting Program*). To determine whether immediate corrective actions, additional BMP implementation, or SWPPP revisions are necessary to reduce pollutants and wastes in storm water discharges and non-storm water discharges; and
 - b. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in storm water discharges.
2. The Applicant must develop a final SWPPP that includes all monitoring procedures and instruction, location maps, forms, and checklists as required in these requirements and this MRP.

C. Storm Water Pollution Prevention Plan Annual Report

1. The Applicant must prepare and provide an annual report no later than January 30 of each year.
2. The Annual Report must include a summary and evaluation of all sampling and analysis results, original laboratory reports, a summary of all corrective actions taken during the compliance year, and identification of any recommended compliance activities or corrective actions that were not implemented.
3. The Annual Report must include all records and reports of visual observations and sample collection exceptions, the analytical method, method reporting unit, and method detection limit of each analytical parameter.

D. Records

1. The Applicant must maintain records on site of all visual observations, personnel performing the observations, observation dates, weather condition, locations observed, and corrective actions taken in response to the observations.
2. All inspections and observations pursuant to Section I.C. above must be documented in writing and must include:
 - a. Inspector's name, title, and signature.
 - b. Inspection date and date the inspection report was written.

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- c. Weather information: estimate of beginning of storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall (inches).
 - d. A list and description of BMPs evaluated and any deficiencies noted. If there are no deficiencies, the report must indicate (under penalty of perjury) that the Project is in compliance with these discharge requirements.
 - e. Report the presence of noticeable odors or any visible sheen on the surface of any discharges.
 - f. Corrective actions required, including any changes necessary to comply with requirements, and implementation dates for completing corrective actions.
 - g. Photographs taken during the inspection.
3. Records of all storm water monitoring information and copies of all reports (including Annual Reports) required by these requirements must be retained for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended when requested by the Energy Commission. Records must be retained on site while construction is ongoing. The records must include:
- a. The date, place, time of project inspections, sampling, visual observation, and/or measurement, including precipitation;
 - b. The individual(s) who performed the project inspections, sampling, visual observations, and/or measurement;
 - c. The date and approximate time of analyses;
 - d. The individual(s) and company who performed the analyses;
 - e. A summary of all analytical results from the last five years, the method detection limits and reporting units, and the analytical techniques or methods used;
 - f. QA/QC records and results;
 - g. Non-storm water discharge inspections and visual observations and storm water discharge visual observation records; and
 - h. Visual observation and sample collection exception records.

**ATTACHMENT A
GENERAL PROVISIONS
FOR
MONITORING AND REPORTING**

1. Sampling And Analysis

- a. All analyses shall be performed in accordance with the current edition(s) of the following documents:
 - i. Standard Methods for the Examination of Water and Wastewater, American Public Health Association, et al.
 - ii. Methods for Chemical Analysis of Water and Wastes, USEPA
- b. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health or a laboratory approved by the Compliance Project Manager (CPM). Specific methods of analysis must be identified on each laboratory report.
- c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than the methods listed above are used, the exact methodology must be submitted for review and must be approved by the CPM prior to use.
- d. The Applicant shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the Project.
- e. The Applicant shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted.
- f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
- g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. Operational Requirements

a. *Sample Results*

The Applicant shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the California Energy Commission (Energy Commission).

b. *Operational Log*

An operation and maintenance log shall be maintained at the Project. All monitoring and reporting data shall be recorded in a permanent log book.

3. Reporting

a. For every item where the requirements are not met, the Applicant shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.

b. All sampling and analytical results shall be made available to the Energy Commission upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Energy Commission.

c. The Applicant shall provide a brief summary of any operational problems and maintenance activities to the Energy Commission with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.

d. Monitoring reports shall be signed by:

i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the Project from which the discharge originates;

ii. In the case of a partnership, by a general partner;

iii. In the case of a sole proprietorship, by the proprietor; or

iv. In the case of a municipal, state or other public Project, by either a principal executive officer, ranking elected official, or other duly authorized employee.

e. Monitoring reports are to include the name and telephone number of an individual who can answer questions about the report.

ATTACHMENT B
GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES

1. Good housekeeping measures for construction materials include:
 - a. Maintaining an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced.
 - b. Covering and berming loose stockpiled construction materials (e.g. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).
 - c. Storing chemicals in watertight containers or in a bermed storage shed (completely enclosed) with appropriate secondary containment.
 - d. Minimizing contact of construction materials with precipitation.
 - e. Implementing best management practices (BMPs) to reduce or prevent the offsite tracking of loose construction and landscape materials.

2. Good housekeeping measures for waste management include:
 - a. Preventing disposal of any rinse/wash waters or materials into the storm drain system.
 - b. Berming sanitation facilities (e.g. Porta Potties) and preventing them from being kept within the curb and gutter or on sidewalks or adjacent to a storm drain.
 - c. Cleaning or replacing sanitation facilities and inspecting them regularly for leaks and spills.
 - d. Covering waste disposal containers when they are not in use and preventing them from overflowing.
 - e. Berming and securely protecting stockpiled waste material from wind and rain at all times unless actively being used where a spill or spills would enter surface drainage systems.
 - f. Implementing procedures to deal with hazardous and non-hazardous spills.
 - g. Preparing and implementing a spill response and implementation plan prior to commencement of construction activities, including:
 - i. Locations of onsite equipment and materials for cleanup of spills and leaks.
 - ii. Procedures to follow in the event of spill or leak that includes immediate cleanup.
 - iii. Locations and procedures of disposing of waste materials.
 - iv. Identification of and training for spill response personnel.
 - h. Lining and berming of concrete washout areas so there is no leakage or overflow into the underlying soil or the surrounding areas. Washout areas must be positioned away from drain inlets and waterways and be clearly labeled.

3. Good housekeeping measures for vehicle storage and maintenance include:
 - a. Not allowing oil, grease, or fuel to leak in to the soil.
 - b. Placing all equipment or vehicles to be fueled, maintained and/or stored in a designated area fitted with appropriate BMPs.
 - c. Cleaning leaks immediately and disposing of leaked materials and sorbents properly.
 - d. Fixing leaks immediately or removing equipment for service.
4. To assess the potential pollutant sources and identify all areas of the site where good housekeeping or additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and non-storm water discharges, the Applicant must assess and report on the following:
 - a. The quantity, physical characteristic (liquid, powder, solid, etc.), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.
 - b. The degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.
 - c. The direct and indirect pathways that pollutants may be exposed to storm water discharges and non-storm water discharges. This must include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.
 - d. Sampling, visual observation, and inspection records.
 - e. Effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and non-storm water discharges.



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
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APPLICATION FOR CERTIFICATION
FOR THE *IVANPAH SOLAR ELECTRIC
GENERATING SYSTEM*

DOCKET No. 07-AFC-5
PROOF OF SERVICE
(Revised 7/20/09)

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DECLARATION OF SERVICE

I, Teraja` Golston, declare that on October 13, 2009, I served and filed copies of the attached Ivanpah Solar Electric Generating System (07-AFC-5) Lahontan RWOCB's Waste Discharge Requirements. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:

[www.energy.ca.gov/sitingcases/ivanpah].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

 X sent electronically to all email addresses on the Proof of Service list;

 X by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

 X sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

OR

 depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 07-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

Original Signature in Dockets
Teraja` Golston