

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**

**SAN DIEGO REGION**

**TENTATIVE ORDER NO. R9-2009-0110**

**WASTE DISCHARGE AND WATER RECLAMATION REQUIREMENTS**

**FOR**

**ORANGE GROVE ENERGY, LP C/O J-POWER USA DEVELOPMENT CO., LTD.  
ORANGE GROVE POWER PLANT  
SAN DIEGO COUNTY**

The following Discharger is subject to waste discharge requirements and water reclamation requirements as set forth in this Order:

**Table 1. Facility Information**

<b>Discharger</b>	<b>Orange Grove Energy, LP C/O J-Power USA Development Co., Ltd.</b>
<b>Name of Facility</b>	<b>Orange Grove Power Plant</b>
<b>Facility Address</b>	<b>35435 East Pala Del Norte Road, Pala, CA 92059</b>
<b>Facility Contact, Phone</b>	<b>Mr. Mike Jones, (847) 226-9134</b>
<b>Mailing Address</b>	<b>1900 East Golf Road, Suite 1030, Schaumburg, IL 60173</b>
<b>Type of Facility</b>	<b>Recycled Water Use Site</b>

The discharge by Orange Grove Energy, LP C/O J-Power USA Development Co., Ltd. from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

**Table 2. Discharge Location**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Hydrologic Area of Discharge</b>
<b>001 (Landscape Irrigation)</b>	<b>Tertiary recycled water</b>	<b>Pala Hydrologic Subarea (903.21)</b>
<b>002 (Septic Tank)</b>	<b>Domestic Wastewater</b>	<b>Pala Hydrologic Subarea (903.21)</b>
<b>003 (Five Above Ground Oily Drain Tanks)</b>	<b>Contaminated liquids and facility wash down water</b>	<b>Trucked offsite</b>

**Table 3. Administrative Information**

<b>This Order was adopted by the California Regional Water Quality Control Board, San Diego Region on:</b>	<b>December 16, 2009</b>
<b>This Order shall become effective on:</b>	<b>December 16, 2009</b>

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The California Regional Water Quality Control Board, San Diego Region (Regional Board), finds that:

1. On July 14, 2009, the Regional Board received a complete report of waste discharge (ROWD) for the Orange Grove Power Plant (Power Plant). The ROWD consists of: 1. Form 200 dated July 9, 2009; 2. Engineering Report dated April 8, 2009, titled *Engineering Report for the Production, Distribution, and Use of Recycled Water for Orange Grove Project*; and 3. Technical Report dated July 2009, entitled *Report of Waste Discharge for Orange Grove Power Plant*.
2. Orange Grove Energy, LP C/O J-Power USA Development Co., Ltd. (Discharger) will own and operate the Power Plant located in the Pala Hydrologic Subarea (HSA 903.21) of the Monserate Hydrologic Area (HA 903.20) of the San Luis Rey Hydrologic Unit (HU 905.00), and is located near the San Luis Rey River.
3. For the purposes of this Order, the term 'recycled water' applies to disinfected tertiary recycled water supplied by the Fallbrook Public Utilities District (FPUD). The term 'wastewater' applies to any liquid waste discharged from the Power Plant including domestic wastewater, recycled water, wash water, and contaminated liquids.
4. This Order serves as both Water Reclamation Requirements issued pursuant to California Water Code (CWC) section 13523 for the use of recycled water, and waste discharge requirements issued pursuant to CWC section 13263 for the storage and discharge of wastewater.
5. Tertiary recycled water from the FPUD will be stored at the Power Plant in a 414,000-gallon recycled water storage tank. Recycled water will be used at the Power Plant for cooling tower makeup water, toilet flushing, and irrigation of landscaping located within the boundaries of the Power Plant's security fence.
6. A reverse osmosis system treats cooling tower blowdown water. The reverse osmosis permeate is recycled in the cooling tower and reverse osmosis concentrate is blended with fresh (non-potable) water for use as supply water to the demineralizer and fire suppression systems. The demineralizer system produces water for injection into the combustion turbines, all minerals removed from the water are stored in cartridges and regenerated offsite. Fresh water may be replaced with recycled water in the event that fresh water is unavailable due to drought conditions.
7. Bottled water will be provided for human consumption and hand washing. Self-contained safety showers and eyewashes will have no connection to the non-potable systems at the Power Plant.
8. Domestic wastewater will be discharged to discharge point 002, an onsite septic tank, through an effluent filter prior to disposal in a leach field.

9. The Power Plant will direct wastewater from the chiller package, air compressor, gas compressor, service building floor drains, and combustion turbines to an above ground oily drain tank (discharge point 003), prior to being trucked offsite on an as needed basis.
10. All wastewater treatment, storage, disposal, and purveyance facilities for the Power Plant are located outside the 100-year flood plain. Drainage and water management systems will be designed to control run-on and run-off from a 100-year storm event.
11. The FPUD Plant Number 1 produces tertiary recycled water containing constituents in the following concentrations, as reported in the September 2009 self monitoring report submitted by the FPUD to the Regional Board:

**Table 4. Tertiary Recycled Water Quality**

Constituent	TDS	Cl	SO <sub>4</sub>	%Na <sup>2</sup>	NO <sub>3</sub> <sup>-</sup>	Fe	Mn	MBAS	B	F
Concentration (mg/L)	820	170	230	50	26.4	0.028	0.032	0.17	0.31	0.84

Notes: TDS = total dissolved solids; Cl = chlorine; SO<sub>4</sub> = sulfate; %Na = percent sodium; NO<sub>3</sub><sup>-</sup> = nitrate as NO<sub>3</sub><sup>-</sup>; Fe = iron; Mn = manganese; MBAS = methylene blue – activated substance; B = boron; Turb = turbidity (NTU = nephelometric turbidity units); F = fluoride.

Nitrate concentrations in the recycled water exceed water quality objectives for the Pala HSA, therefore, this Order requires the development of an Irrigation Management Plan to manage the application of nitrogen to landscape.

12. The discharge from the recycled water storage tank for landscape irrigation has characteristics which can create water quality and public health problems if improperly treated and managed. It is necessary to establish requirements for landscape irrigation that ensure protection of water resources and public health. (e.g., pathogenic organisms, salinity and other waste constituents, and potential for unauthorized discharges).
13. As of September 8, 2009, the California Department of Public Health (CDPH) has not received a complete engineering report required by Title 22 of the California Code of Regulations (CCR). An engineering report is necessary in order for the CDPH to provide comments and recommendations prior to use of recycled water at the Power Plant. This Order requires the Discharger submit a certification that the CDPH has accepted the engineering report prior to delivery of recycled water to the Power Plant.
14. In accordance with the criteria established in section 2200, Title 23 of the CCR, the wastewater discharged from the treatment system is appropriately classified as

having a threat to water quality at category "3" and complexity at category "C".<sup>1</sup>

15. This Regional Board, acting in accordance with section 13244 of the California Water Code (Water Code), adopted the *Water Quality Control Plan for the San Diego Basin (9)*, (Basin Plan) on September 8, 1994. The Basin Plan was subsequently approved by the State Water Resources Control Board (State Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Board and approved by the State Board. The Basin Plan contains beneficial uses, water quality objectives, and provides guidance for regulation of recycled water, individual domestic subsurface disposal systems, and wastewater disposal.
16. The Basin Plan established municipal and domestic supply (MUN), agricultural supply (AGR), and industrial service supply (IND) as existing beneficial uses of groundwater in the Pala HSA 903.21.
17. The Basin Plan establishes the following groundwater quality objectives for the Pala HSA 903.21:

**Table 5. Groundwater Water Quality Objectives**

HYDROLOGIC AREA	CONSTITUENT (mg/L or as noted)												
	(Concentrations not to be exceeded more than 10% of the time during any one year period)												
	TDS	Cl	SO <sub>4</sub>	%Na <sup>2</sup>	NO <sub>3</sub> <sup>-</sup>	Fe	Mn	M B A S	B	O D O R	TURB (NTU)	COLOR (UNITS)	F
Pala HSA (903.21)	900	300	500	60	15	0.3	0.05	0.5	0.75	none	5	15	1.0

Notes: TDS = total dissolved solids; Cl = chlorine; SO<sub>4</sub> = sulfate; %Na = percent sodium; NO<sub>3</sub><sup>-</sup> = nitrate as NO<sub>3</sub><sup>-</sup>; Fe = iron; Mn = manganese; MBAS = methylene blue – activated substance; B = boron; Turb = turbidity (NTU = nephelometric turbidity units); F = fluoride.

18. The State Board established California's antidegradation policy in Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. Resolution No. 68-16 incorporates the federal antidegradation policy where applicable. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The discharge of wastes regulated under this Order is not expected to degrade existing water quality.

<sup>1</sup> Category "3" – Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 2. Category "C" – Any discharge for which waste discharge requirements have been prescribed pursuant to Section 13263 of the Water Code not included as a Category "A" or Category "B" as described above. Included would be discharges having no waste treatment systems or that must comply with best management practices, discharges having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal.

19. The discharge of recycled water is exempt from CCR Title 27 regulations in accordance with CCR, Title 27, Division 2, Subdivision 1, Chapter 1, Article 1 because it meets the conditions prescribed in CCR section 20090(a) for discharges of domestic sewage or treated effluent which are regulated by Waste Discharge Requirements.
20. The State Board issued a draft *Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling* on June 30, 2009. The use of recycled water for power plant cooling as described in Finding 4 of this Order is consistent with the draft policy which states, "To conserve the state's scarce water resources, the State Board encourages the use of recycled water for cooling water in lieu of marine, estuarine, or freshwater."
21. The California Energy Commission implements the California Environmental Quality Act through CCR Title 20, division 2, chapter 6, article 1. On April 8, 2009 the California Energy Commission adopted Order No. 09-0408-02 which adopted the Commission Decision on the Orange Grove Power Plant Project. It was determined that the Power Plant would not have a significant effect on water quality provided conditions of certification (mitigation measures) are completed. The California Energy Commission outlines specific tasks to ensure that the Discharger complies with all conditions of certification including a requirement that all recycled water use is consistent with CCR Titles 22 and 17 and all wastewater not suitable for treatment and reuse onsite is properly classified, managed, and disposed. In addition, the California Energy Commission requires monthly sampling for the first year and quarterly sampling thereafter of recycled water being received by the FPUD in order to document compliance with water quality specifications.
22. This Regional Board has notified the Discharger and all known interested persons of the intent to prescribe waste discharge requirements for the proposed discharge.
23. This Regional Board in a public meeting has heard and considered all comments pertaining to the use of recycled water at the Power Plant and discharge of wastewater from the recycled water storage tank at the Power Plant.

**IT IS HEREBY ORDERED THAT** the Orange Grove Energy, LP C/O J-Power USA Development Co., Ltd. (Discharger), in order to meet the provisions contained in Division 7 of the Water Code and Regulations adopted thereunder, shall comply with the following:

**A. PROHIBITIONS**

1. Discharge of wastes lands that have not been specifically described in the ROWD, and for which valid waste discharge requirements are not in force, are prohibited.

2. Neither the treatment, nor storage, nor disposal of wastewater shall create a condition of pollution, contamination or nuisance, as defined by Water Code section 13050.
3. In conformance with Title 22 Requirements, recycled water shall not be used for direct human consumption or for the processing of food or drink intended for human consumption.
4. The discharge of treated wastewater shall not cause a violation of the prohibitions contained in the Basin Plan, incorporated herein by reference.

**B. DISCHARGE SPECIFICATIONS**

1. Water discharged to discharge point 001 for landscape irrigation shall not contain pollutants in excess of the following limitations based on Basin Plan groundwater water quality objectives:

**Table 6. Discharge Specifications**

Constituent	Units	Annual Average <sup>a</sup>
TDS	mg/L	900
Chloride	mg/L	300
Sulfate	mg/L	500
Iron	mg/L	0.3
Manganese	mg/L	0.05
Fluoride	mg/L	1.0
Boron	mg/L	0.75

a. The annual average shall be calculated once every calendar year and apply to the arithmetic mean of the results of all samples collected during any calendar year.

2. The Discharger shall develop an Irrigation Management Plan for the irrigation of landscape with recycled water. The Irrigation Management Plan shall include measures to ensure the use of recycled water occurs at an agronomic rate while employing practices to ensure irrigation efficiency necessary to minimize application of salinity constituents (by mass) to the landscape.
3. Domestic wastewater discharged to discharge point 002 shall only contain potable water, recycled water, and domestic waste.
4. Wastewater discharged to discharge point 003 shall be trucked offsite to a waste collection facility authorized to accept such waste.
5. Extracted minerals from the demineralizer system shall not be disposed of onsite.
6. The Discharger shall minimize or eliminate the direct or indirect discharge of wastewater from the Power Plant to lands not owned or controlled by the Discharger. Any discharge to surface waters, either perennial or ephemeral,

including wetlands, vernal pools, etc. must be authorized by an NPDES permit.

**C. FACILITY DESIGN AND OPERATION SPECIFICATIONS**

1. Within 180 days of the adoption of this Order, the Discharger shall develop and submit the Irrigation Management Plan to the Regional Board. The Irrigation Management Plan shall account for the following:
  - a. Soil characteristics;
  - b. Effluent characteristics;
  - c. General requirements of the major plant species being irrigated (e.g., seasonal demand, climate, nutrient requirements);
  - c. Climatic conditions (e.g., precipitation, evapotranspiration rate, wind);
  - e. Other supplemental nutrient additions (e.g., chemical fertilizers) generally used within the disposal area; and
  - f. Management of impoundments used to store or collect effluent.
2. The Discharger shall designate a recycled water supervisor who is responsible for the proper installation, operation, and maintenance of the recycled water system; the prevention of potential hazards; and preservation of the recycled water distribution system plans in "as built" form. Designated recycled water supervisors shall obtain instruction in the use of recycled water from an institution approved by the CDPH and the County of San Diego Department of Environmental Health (DEH). Additional guidance regarding recycled water supervisor responsibilities and instruction requirements is provided in Attachments 17 and 18 of the *Recycled Water Plan Check and Inspection Manual* developed by the DEH, which are incorporated herein by reference.
3. Prior to receiving recycled water at the Power Plant, the Discharger shall certify that the CDPH has accepted the engineering report required by CCR Title 22 and has no objections to the use of adequately treated disinfected tertiary recycled water at the Power Plant.
4. The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order.



5. The Discharger shall comply with the attached Monitoring and Reporting Program No. R9-2009-0110, and future revisions thereto as specified by the Regional Board. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. R9-2009-0110.

**D. RECYCLED WATER USE REQUIREMENTS**

1. Recycled water used for the purposes of cooling tower makeup water, flushing toilets, and irrigation shall be treated in conformance with all applicable provisions of CCR, Title 22, Division 4, Chapter 3 (Water Recycling Criteria) and, at a minimum, meet disinfected tertiary recycled water treatment and use standards as prescribed by section 60301.230 and sections 60306 thru 60307, respectively.
2. The Discharger must comply with the comments and recommendations submitted as part of the CDPH's letter accepting the engineering report. CDPH may identify in its recommendations with respect to the proposed recycled water use any conditions upon which its approval of a proposed project is based.
3. All accessible recycled water equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities. All recycled water distribution system piping shall be purple or adequately identified with purple tape, tags, or stickers per section 116815(a) of the California Health and Safety Code.
4. Except as allowed under section 7604 of Title 17, CCR, no physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water.
5. Any backflow prevention device installed to protect the public water system shall be inspected and maintained in accordance with section 7605 of CCR Title 17.
6. Irrigation with recycled water shall not take place within 50 feet of any domestic water supply well and/or storage of recycled water within 100 feet of any domestic water supply well unless approved by the CDPH.
7. All recycled water valves, outlets, and quick couplers should be of a type or secured in a manner that only permits operation by authorized personnel.
8. The recycled water piping system shall not include any hose bibs. Quick couplers that are different from that used on the potable water system may be used.

9. Except where CDPH has approved alternative signage and wording or an educational program pursuant to Title 22 Requirements, (1) all use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public in a size no less than four inches high by eight inches wide that include the following wording "RECYCLED WATER-DO NOT DRINK", and (2) each sign shall display an international symbol similar to that shown in Attachment No. 1 to this Order.
10. All windblown spray, misting, ponding, and surface runoff of recycled water applied for irrigation onto property not owned or controlled by the Discharger shall be minimized or eliminated through implementation of the required Best Management Practices (BMPs) and consider implementing other BMPs as appropriate. Required and recommended BMPs are identified in Attachment No. 2.

#### E. PROVISIONS

1. The Discharger must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the Water Code and is grounds for (a) enforcement action; (b) termination, revocation and reissuance, or modification of this Order; or (c) denial of a report of waste discharge in application for new or revised waste discharge requirements.
2. The Discharger shall allow the Regional Board, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to do the following:
  - a. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this Order;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this Order; and
  - d. Sample or monitor, at reasonable times for the purposes of assuring compliance with this Order or as otherwise authorized by the Water Code, any substances or factors at any location.
3. The Discharger shall report any noncompliance, which may endanger human health or the environment. Any such information shall be provided orally to the Regional Board **within 24 hours** from the time the owner becomes aware of the circumstances. A written submission shall also be provided **within five**

**days** of the time the owner becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, or prevent recurrence of the noncompliance. The Regional Board, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24-hours. Any spill of wastewater greater than 50,000 gallons must be reported to the Regional Board within 24 hours.

4. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
5. In an enforcement action, a defense for the Discharger shall not be that halting or reducing the regulated activity would have been necessary in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the Discharger shall, to the extent necessary to maintain compliance with this Order, control production, all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies for example, when the primary source of power to the treatment facility fails, is reduced, or is lost.
6. Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the state, shall as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Director of Environmental Health, County of San Diego in accordance with California Health and Safety Code section 5411.5 and notify the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.17), and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of section 13271 of the Water Code unless the Discharger is in violation of a Basin Plan prohibition.
7. Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters

of the state, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the state, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the state oil spill contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.1). This requirement does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to CWA section 311 or the discharge is in violation of a Basin Plan prohibition.

8. A copy of this Order shall be maintained at the Discharger's facility and shall be available to operating personnel at all times.
9. The Discharger shall notify the Regional Board prior to an alteration of the written agreement between FPUD and Discharger resulting in a new producer of recycled water for the Power Plant.
10. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board.
11. The Discharger shall furnish to the Regional Board, within a reasonable time, any information which the Regional Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Discharger shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.
12. The Discharger shall file a new Report of Waste Discharge at least 120 days prior to the following:
  - a. Addition of a new process or product resulting in a change in the character of the wastes;
  - b. Significant change in the treatment or disposal method (e.g., change in the method of treatment which would significantly alter the nature of the waste);
  - c. Change in the disposal area from that described in the findings of this Order;

- d. Potable water is supplied via a pipeline to the Power Plant;
  - e. Other circumstances that result in a material change in character, amount, or location of the waste discharge; or
  - f. Any planned change in the regulated facility or activity which may result in noncompliance with this Order.
13. This Order is not transferable to any person except after notice to the Regional Board. The Discharger shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current Discharger and the new discharger. This agreement shall include an acknowledgement that the existing Discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. The Regional Board may require modification or revocation and reissuance of this Order to change the name of the discharger and incorporate such other requirements as may be necessary under the Water Code.
14. Where the Discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information.
15. All applications, reports, or information submitted to the Regional Board shall be signed and certified as follows:
- a. The Report of Waste Discharge shall be signed as follows:
    - i. For a corporation - by a principal executive officer of at least the level of vice-president;
    - ii. For a partnership or sole proprietorship - by a general partner or the proprietor, respectively; and
    - iii. For a municipality, state, federal or other public agency - by either a principal executive officer or ranking elected official.
  - b. All other reports required by this Order and other information required by the Regional Board shall be signed by a person designated in paragraph (a) of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:

- i. The authorization is made in writing by a person described in paragraph (a) of this provision;
  - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and
  - iii. The written authorization is submitted to the Regional Board.
- c. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

16. The Discharger shall submit reports required under this Order or other information required by the Regional Board to the following address:

California Regional Water Quality Control Board  
San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, California 92123  
Attn: Groundwater Basins Branch

## **F. NOTIFICATIONS**

1. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Discharger from liability under federal, state or local laws, nor create a vested right for the Discharger to continue the waste discharge.
2. The Water Code provides that any person who intentionally or negligently violates any waste discharge requirements issued, reissued, or amended by this Regional Board shall be liable civilly in accordance with Water Code section 13350.
3. The Water Code provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or falsifying any information provided in the monitoring reports is guilty of a misdemeanor and is subject to a civil liability in accordance with Water Code section 13268.

4. This Order may be amended, rescinded, or updated for cause including, but not limited to, the following:
  - a. Violation of any terms or conditions of this Order;
  - b. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts; or
  - c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Discharger for amending, rescinding, or updating this Order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

5. These requirements have not been officially reviewed by the US Environmental Protection Agency and are not issued pursuant to Clean Water Act section 402.
6. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
7. This Order becomes effective on the date of adoption by the Regional Board.

*I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on December 16, 2009.*

[TENTATIVE]

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JOHN H. ROBERTUS, Executive Officer  
San Diego Regional Water Quality Control Board

**ATTACHMENT NO. 1**  
**TO**  
**TENTATIVE**  
**ORDER NO. R9-2009-0110**





**ATTACHMENT NO. 2**  
**BEST MANAGEMENT PRACTICES (BMPs)**  
**TENTATIVE ORDER NO. R9-2009-0110**  
**WASTE DISCHARGE AND WATER RECLAMATION REQUIREMENTS**  
**FOR**  
**ORANGE GROVE ENERGY, LP C/O J-POWER USA DEVELOPMENT CO., LTD.**  
**ORANGE GROVE POWER PLANT**  
**SAN DIEGO COUNTY**

This menu of potential Best Management Practices (BMPs) identifies some practices for the management of the production, distribution, and use of recycled water that, in addition to requirements in law<sup>1</sup>, will help ensure the safe and efficient use of recycled water. Many of these BMPs are also intended to minimize or eliminate conditions that cause runoff, ponding, and windblown spray (drift). Recycled Water Use Requirement D.9 requires the Discharger to implement the Required BMPs identified in Section I and to consider implementing other BMPs (Sections II – IV) as appropriate for Irrigation Area.

**I. REQUIRED BMPs**

- A.** Proper operation and management of recycled water system in order to provide for detection of leaks, and correction either within 72 hours of learning of a leak, or prior to the release of 1,000 gallons.
- B.** Proper design and operation of sprinkler heads.
- C.** Refraining from application during precipitation events.

**II. OTHER POTENTIAL BMPs: GENERAL OPERATIONAL CONTROLS**

- A.** The Recycled Water Use Supervisor attends regular training regarding the safe and efficient operation and maintenance of recycled water use facilities.
- B.** The Recycled Water Use Supervisor ensures that all recycled water facilities are maintained, operated and repaired at all times in a manner that does not cause illness or injury to any person and in a manner that does not cause damage or injury to the real or personal property of any person or entity.
- C.** Where feasible, different piping materials are used to assist in water system identification.

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<sup>1</sup> Water Code, Health and Safety Code, California Code of Regulations, etc.

**III. OTHER POTENTIAL BMPs: WORKER/PUBLIC PROTECTION**

- A. Workers, residents, and the public are made aware of the potential health risks associated with contact or ingestion of recycled water, and are educated about proper hygienic practices to protect themselves and their families.
- B. Workers are provided with the appropriate safety equipment and clothing during prolonged contact with recycled water.
- C. Potable drinking water is provided for workers.
- D. Toilet and washing facilities are provided.
- E. Precautions are taken to avoid contact of recycled water with food and food is not allowed into areas that are still wet with recycled water.
- F. A first aid kit is available on site, to prevent the contact of cuts and other injuries with recycled water.

**IV. OTHER POTENTIAL BMPs: EFFICIENT IRRIGATION**Hardware:

- A. All irrigation systems have the appropriate equipment/hardware for the application.
- B. Irrigation system installed according to the design.
- C. Irrigation system is designed to provide as much flexibility as possible for the operation of the irrigation system.
- D. All sprinkler heads are uniform in brand, model and nozzle size. Where different arcs are needed at the same station, matched precipitation rates by changing nozzles.
- E. Sprinkler heads placed per manufacturer's recommendations and based on measured spacing between sprinkler heads.
- F. Where lower precipitation rates are required, such as on slopes, reduced nozzle size and spray angle per manufacturer's recommendations.
- G. Installed booster pumps to increase pressure where needed.
- H. Installed pressure reducers to decrease pressure where needed.
- I. Pipes sized to convey water in the quantity required by the system.
- J. Check valves installed either in-line or built into the sprinkler head assembly to minimize low head drainage after the valve has closed.
- K. Automatic flow control devices installed that shut down a system if a break or other similar high flow/low pressure situation develops during irrigation.
- L. Use centralized control systems or controllers that measure or can be programmed to use evaporation rates, or systems that use controls such as moisture sensors.

Maintenance:

- M. Routinely adjust sprinkler heads so they achieve 80% head to head coverage throughout their intended arc. There are no obstructions that would interfere with the free rotation and smooth operation of any sprinkler, (e.g., trees, tall grass, shrubs, signs, etc.). The system is routinely tested so adjustments can be made.
- N. Routinely adjust valves or pressure regulators so that the systems are operating at the pressure required by the sprinkler heads or emitters. Routinely test pressures periodically with a pressure gauge to maintain appropriate pressure levels.
- O. Routinely test the accuracy of time clocks and recalibrate or repair as necessary.

- P. Repair or replace broken risers, sprinklers, valves, etc. as soon as they are discovered; replace with appropriate make and model of equipment to maintain uniformity through out the system.
- Q. Routinely check backflow devices, pumps, etc. for leaks and repair or replace as necessary.
- R. Routinely clean screens and backwash filters to keep systems operating optimally.

Management:

- S. Determined the optimum duration and frequency for irrigation cycles considering evapotranspiration, soil type, plant varieties being irrigated, climatic conditions, and any other factors affecting optimum irrigation efficiencies.
- T. Irrigation with recycled water only occurs during periods of minimal public use of the Use Area with consideration given to allow an adequate dry-out time before the Use Area will be used by the public.
- U. The frequency of respective irrigation cycles is only as often as necessary to meet the water requirements of the landscape. This is determined by measuring the amount of moisture remaining in the root zone reservoir between irrigation cycles. Moisture levels in the root zone is measured and optimized via the use of tensiometers, gypsum blocks, soil probes, the "feel method", an on-site weather station, and or the California Irrigation Management Information System (CIMIS) to estimate soil moisture levels. These methods are reviewed, inspected, and maintained regularly to ensure accuracy and reliability.
- V. Use automatic rain shut-off devices to reduce irrigation if significant rainfall occurs.
- W. Use multiple rain shut-off devices to reduce ponding if precipitation rate is higher than the infiltration rate of the soil.
- X. Majority of irrigation occurs in the evening or early morning to avoid the heat and/or windy parts of the day.
- Y. Irrigated areas grouped into zones of similar water use.
- Z. As needed, aerate the soil to improve infiltration of air and water into the soil.
- AA. Perform good horticultural practices; fertilization, mowing, de-thatching, aeration, and pest control, as necessary to create the best growing environment for landscape vegetation.
- BB. Provided infiltration areas at the lowest elevation of the Use Area.
- CC. Installed storm drain inlet valves or plugs to contain accidental discharges during dry weather
- DD. Implemented low impact development practices to minimize runoff that contains recycled water.
- EE. Employ water budgeting using evapotranspiration data from CIMIS or an on-site weather station and crop coefficients from Water Use Classification of Landscape Species (WUCOLS)
- FF. Dedicated landscape water meters for monitoring of water budget and leak detection.
- GG. Conformance to local or the State Water Efficient Landscape Ordinance.
- HH. Education of residents, customers and employees regarding the importance of efficient water use.
- II. Each site supervisor has been provided a conductivity tester as a tool to help them determine the difference between recycled water and potable water.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

**TENTATIVE  
MONITORING AND REPORTING PROGRAM NO. R9-2009-0110**

**ORANGE GROVE ENERGY, LP C/O J-POWER USA DEVELOPMENT CO., LTD.  
ORANGE GROVE POWER PLANT  
SAN DIEGO COUNTY**

This Monitoring and Reporting Program is issued under authority of California Water Code section 13267 and is needed to provide information necessary to determine compliance by Orange Grove Energy, LP C/O J-Power USA Development Co., Ltd. (Discharger) with Waste Discharge Requirements in Order No. R9-2009-0110. The burden of these reports, including the costs, is reasonable in relationship to the need for and benefit obtained from the reports.

**A. MONITORING PROVISIONS**

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be collected from the monitoring points specified in this Monitoring and Reporting Program (MRP) and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the acceptance by the California Regional Water Quality Control Board, San Diego Region (Regional Board).
2. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10 percent from true discharge rates throughout the range of expected discharge volumes.
3. Unless otherwise permitted by the Regional Board, all analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health. The Discharger must use a laboratory capable of producing and providing quality assurance/quality control (QA/QC) records for Regional Board review. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all laboratory reports submitted to the Regional Board.

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4. Monitoring must be conducted in accordance with the methods or test procedures contained in the most current version of 40 Code of Federal Regulations (CFR) 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants; Procedures for Detection and Quantification." If the Discharger proposes to use methods or test procedures other than those in 40 CFR 136, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.
5. Any reports presenting new analytical data is required to include the complete Laboratory Analytical Report(s). The Laboratory Analytical Report(s) must be signed by the laboratory director and contain:
  - a. A complete sample analytical report.
  - b. A complete laboratory QA/QC report.
  - c. A discussion of the sample and QA/QC data.
  - d. Specific methods of analysis.
  - e. A transmittal letter that shall indicate whether or not all the analytical work was supervised by the director of the laboratory, and contain the following statement, "All analyses were conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with USEPA procedures."
6. Monitoring results must be reported on discharge monitoring report forms acceptable to the Regional Board.
7. If the Discharger monitors any pollutants more frequently than required by this MRP, using test procedures approved under 40 CFR, Part 136, or as specified in this MRP, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharger's monitoring report. The increased frequency of monitoring shall also be reported.
8. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation and copies of all reports required by this MRP, and records of all data used to complete the application for this MRP. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when required by the Regional Board.
9. Records of monitoring information shall include the following:
  - a. The date, exact place, and time of sampling or measurements;

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- b. The individual(s) who performed the sampling or measurements;
  - c. The date(s) analyses were performed;
  - d. The individual(s) who performed the analyses;
  - e. The analytical techniques or methods used; and
  - f. The results of such analyses.
10. All monitoring instruments and devices that are used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.
  11. The Discharger shall report all instances of noncompliance, including a discussion of any steps taken as required by Provision E.3 of Order No. R9-2009-0110, when monitoring reports are submitted to the Regional Board.
  12. The monitoring reports shall be signed by an authorized person as required by Order Provision E.15.

**B. RECYCLED WATER MONITORING**

1. Samples of recycled water shall be collected at the point of transfer from the Fallbrook Public Utilities District to the Discharger owned delivery trucks. The Discharger is responsible for monitoring and reporting in accordance with the following criteria:

**Table 1. Recycled Water Monitoring and Reporting**

Constituent	Units	Type of Sample	Sampling Frequency <sup>a</sup>	Reporting Frequency <sup>a</sup>
Total Coliform	most probable number per 100 milliliters	Grab	Annually	Annually
BOD <sub>5</sub> or CBOD <sub>5</sub> @20°C	mg/L	Grab	Annually	Annually
Total Suspended Solids	mg/L	Grab	Annually	Annually
Total Dissolved Solids	mg/L	Grab	Annually	Annually
Chloride	mg/L	Grab	Annually	Annually
Sulfate	mg/L	Grab	Annually	Annually
Iron	mg/L	Grab	Annually	Annually
Manganese	mg/L	Grab	Annually	Annually
Boron	mg/L	Grab	Annually	Annually
Fluoride	mg/L	Grab	Annually	Annually
Aluminum	mg/L	Grab	Annually	Annually
Arsenic	mg/L	Grab	Annually	Annually

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Constituent	Units	Type of Sample	Sampling Frequency <sup>a</sup>	Reporting Frequency <sup>a</sup>
Barium	mg/L	Grab	Annually	Annually
Cadmium	mg/L	Grab	Annually	Annually
Chromium	mg/L	Grab	Annually	Annually
Copper	mg/L	Grab	Annually	Annually
Lead	mg/L	Grab	Annually	Annually
Mercury	mg/L	Grab	Annually	Annually
Selenium	mg/L	Grab	Annually	Annually
Silver	mg/L	Grab	Annually	Annually
Zinc	mg/L	Grab	Annually	Annually
Turbidity	nephelometric turbidity units	Grab	Annually	Annually

a. Annually is defined as once per calendar year.

- Each reporting period, the Discharger shall review monitoring results for compliance with Order No. R9-2009-0110. The statement of compliance shall identify and report all violations of Discharge Specifications B.1 through B.6 of Order No. R9-2009-0110.

The Discharger shall calculate and report the annual average for comparison with discharge specifications.

- The Discharger shall establish a compliance plan that addresses continuous exceedances of discharge specifications. The compliance plan shall identify the corrective actions required to achieve compliance with this Order within 6 months of identification of a continuous violation(s). The compliance plan shall be implemented immediately after the Discharger identifies a continuous violation(s).

If it is anticipated compliance cannot be achieved within 6 months or if compliance is not achieved within 6 months, the Discharger shall submit a technical report identifying the steps that have been and will be taken to achieve compliance as well as a time schedule identifying when compliance will be achieved. The technical report shall be submitted to the Regional Board no later than 30 days after the Discharger becomes aware that the compliance schedule will not be met.

### C. ANNUAL REPORT

The Discharger shall submit an annual report with the following information, at a minimum:

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1. The results and statement of compliance required by Monitoring and Reporting Program Recycled Water Monitoring Requirement B.1 through B.2.
2. A record of the volume of recycled water trucked to the Power Plant.
3. Contact information for the current Recycled Water Supervisor including name, mailing address, phone number, and e-mail.
4. A statement certifying that to the best of the Discharger's knowledge, all recycled water delivered to the Power Plant was treated to a level of at least disinfected tertiary recycled water.
5. A record of when above ground oily drain tanks were removed, volume removed, and the ultimate destination of wastewater removed from discharge point 003 as required in Order Discharge Specification B.3.
6. A description of any upset to the recycled water system, duration of upset, and steps taken to remediate the upset.
7. A certification statement as required by Order Provision E.15.

**D. REPORTING SCHEDULE**

Monitoring reports shall be submitted to the Regional Board in accordance with the following schedule:

**Table 2. Reporting Schedule**

Reporting Frequency	Report Period	Report Due
Annual	January – December	January 30 <sup>th</sup>

**Monitoring reports shall be submitted to:**

California Regional Water Quality Control Board  
San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123  
ATTN: Groundwater Basins Branch

Ordered by: TENTATIVE  
JOHN H. ROBERTUS  
Executive Officer

Date: December 16, 2009