CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

MEETING OF DECEMBER 9 AND 10, 2009
HESPERIA

ITEM: 5

SUBJECT: **WATER RECYCLING REQUIREMENTS FOR HIGH DESERT POWER PROJET, SAN BERNARDINO COUNTY**

CHRONOLOGY: This is a new permit.

ISSUE: Should the Lahontan Water Board adopt Water Recycling Requirements allowing High Desert Power Project to provide reclaimed water for plant cooling purposes?

DISCUSSION: High Desert Power Project, LLC is an 830 Megawatt (nominal output) natural gas-fired combined –cycle electric generating station. For this project, recycled water produced from the Victor Valley Wastewater Reclamation Authority (VVWRA) will be blended with State Water Project (SWP) water from the California Aqueduct for use as cooling tower make-up water.

VVWRA currently produces reclaimed water which is provided to the city for use at the Westwinds Golf Course in Victorville. The project proposes to build an 18-inch diameter reclaimed water pipeline to the facility that will tap into VVWRA's existing 16-inch diameter reclaimed water transmission pipeline.

Water Recycling Requirements are necessary to regulate the cooling water discharge as drift from the cooling towers.

Water Board staff has solicited comments from the Discharger and interested parties. All comments received have been addressed.

RECOMMENDATION: Adoption of Order as proposed.

Enclosure: 1. Proposed Board Order

JM/rp HighDesertPP/Porposed/HDPP GS

ENCLOSURE 1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. R6V-2009-(PROPOSED)
WDID NO. 6B360908004

WATER RECYCLING REQUIREMENTS FOR HIGH DESERT POWER PROJECT

San Bernardino County

The California Regional Water Quality Control Board, Lahontan Region (hereinafter Water Board) finds that:

1. User – Producer - Distributor

On August 24, 2009, the High Desert Power Project, LLC , hereinafter the "User," submitted an application/Report of Waste Discharge (RWD) for the proposed use of recycled water from the Victor Valley Wastewater Reclamation Authority (VVWRA), hereinafter the "Producer," for cooling applications at the High Desert Power Project (Facility). The RWD was deemed complete on September 23, 2009. VVWRA produces recycled water at its waste treatment facility and will provide recycled water to the City of Victorville. The City of Victorville, hereinafter (Distributor) through its Victorville Water District subsidiary, will distribute the recycled water obtained from VVWRA to the High Desert Power Project. For the purposes of this Order, "recycled water" as defined in the California Water Code (CWC), section 13050 and "reclaimed water" as used in CWC section 13523 are synonymous and refer to treated wastewater suitable for reuse.

2. Facility Location

The Facility is bordered to the east by Perimeter Road in the City of Victorville. To the west is previously graded but undeveloped land extending to the Southern California Logistics Airport (SCLA) operation area. The Facility is located in Section 24, Township 6 North, Range 5 West of San Bernardino Baseline and Meridian (Attachment A).

3. Other Related Requirements

The discharge of treated wastewater from the Producer's wastewater treatment plant (WWTP) is regulated by Board Order No. 6-99-58 (Waste Discharge Identification No. 6B360109001 and National Pollutant Discharge Elimination System No. CA 0102822) adopted on February 14, 2008.

The Facility is not currently authorized to receive recycled water from the Producer until its Water Recycling Requirements (WRRs) are updated to include the proposed reuse by HDPP, LLC. It is expected that the Producer's WRRs will be amended sometime in 2010.

PROPOSED

4. Reason For Action

CWC, Section 13523, provides the authority by which the Water Board can prescribe water reclamation (recycling) requirements for users and/or producers of recycled water, following consultation with the California Department of Public Health (CDPH).

California Code of Regulations (CCR), title 22, section 60323 requires the submittal of an Engineering Report to the CDPH for any proposed wastewater reuse. CDPH and Water Board staff approved the Engineering Report submitted for this proposed use in a letter dated September 24, 2009. Currently, the Facility uses State Water Project (SWP) water as the primary source of cooling tower make-up water. The User proposes to use up to 1,000 acre-feet per year (afy) of a blend of recycled water and treated SWP water for cooling tower make-up water. The blend ratio will vary depending on the quality of the recycled water and the SWP water, as well as the water demands of the Facility.

The use of CCR, Title 22 compliant reclaimed water from the Producer blended with SWP water is anticipated to begin in 2010.

5. Recycled Water Transmission and Distribution System

The Distirbutor proposes to install an 18-inch diameter HDPE recycled water pipeline that will connect to an existing 16-inch diameter recycled water pipeline. (Attachment B).

6. Supplemental Water Supply

The Facility uses SWP water from the California Aqueduct as its primary source of water. However, when the SWP water is not available, the Facility withdraws and uses SWP water that has been previously treated and injected into an Aquifer Banking System (ABS). Some water is recovered for cooling tower use from the ABS ultra filtration system, the filter backwash cleaning water and the zero liquid discharge (ZLD) system.

After recycled water is blended with SWP water in the cooling tower basin for make-up purposes, it will cycle through the existing ZLD system. This system will continue to provide for reuse of cooling water wastewater and eliminate the need for a wastewater discharge.

7. Treatment Processes

The SWP water is treated at an on-site treatment facility before it is used for power plant operations or injected into the ABS when SWP water is available.

The SWP water enters the plant at a flow rate of up to 5,856 gallons per minute (gpm). The plant pre-treatment system for the SWP water includes clarification (suspended solids removal). Clarified SWP water is supplied to the ABS system

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for additional treatment and to the clarified water tank in the power block. The clarified SWP water that will be used as cooling tower make-up water is stored in the clarified water tank and pumped to the cooling tower basin as needed.

The existing supply line to the cooling tower basin has an air gap of more than 1 foot to prevent backflow and cross connection.

The blow-down from the cooling tower basin is treated through the ZLD system, consisting of a softener, micro-filtration system (MF), a reverse osmosis (RO) system and a crystallizer. The RO permeate supplies a portion of the cooling tower make-up water (Attachment C).

Under no circumstances will the recycled water be cross-connected with other water systems. Moreover, recycled water will not be allowed to enter the ABS.

VVWRA will produce recycled water from municipal wastewater which has gone through sedimentation, oxidation, coagulation, filtration and disinfection processes after having passed through screening, primary, and secondary treatment processes. Recycled water must meet California Code of Regulations, title 22 requirements to be used for any application within California.

The expected quality of the recycled water supply is presented in Table 1.

Table 1. Title 22 Recycled Water Requirements

Turbidity	Less than 2 NTU Average
Turbidity	Greater than 5 NTU not more than 5 % of the time during a 24 hour period
Turbidity	Less than 10 NTU at all times
Total Coliform Bacteria	2.2 MPN per 100 ml per sample, median reading not to exceed over any 7-day continuous period
Total Coliform Bacteria	23 MPN per 100 ml per sample, not to occur more than once within 30 days
Total Coliform Bacteria	240 MPN per 100 ml in any sample
Disinfection CT	Greater than or equal to 450 mg-min/L with a minimum modal contact time of at least 90 minutes under peak dry weather conditions

NOTES:
CT=Product of chlorine residual concentration and detention time
mgd=Million gallons per day
mg-min/L=Milligrams-minutes per liter
ml=Milliliters
MPN=Most probable number
NTU=Nephelometric turbidity units

8. Cooling Tower Features

A cooling tower operates on the principle of heat transfer between water and atmospheric air by creating water droplets through spraying and developing thin films of water in the tower fill, thereby exposing large surface areas of water to air. This process allows heat to be transferred into the atmosphere.

The Facility cooling tower is a counter-flow tower consisting of a wood framework with a system of water distribution pipes and nozzles within the framework. The heat exchange medium consists of Polyvinylchloride fill. The system also includes a basin to collect the cooled water and direct it back to the circulating pumps. Fans are employed to move air through the fill as necessary for proper heat exchange. Drift eliminators are used to control drift loss from the tower. Before the air flow is permitted to exit through the top of the tower, it must pass through the drift eliminators. These are a block of material shaped to cause the air to change directions and thus provide impact surfaces that prevent droplets from being carried out of the tower with the air flow. Per the Engineering Report, it is expected that up to 1.1 gpm, or 0.0006 percent of the water circulating in the tower will escape from the tower as drift.

9. California Environmental Quality Act

The California Energy Commission is the lead agency under the California Environmental Quality Act (CEQA). The California Energy Commission has issued a staff analysis, which serves as a supplement to a petition for modification to use reclaimed water, submitted by High Desert Power Project, LLC. The supplement is a CEQA equivalent document used by the California Energy Commission. The Lahontan Water Board evaluated the impacts to water quality addressed in the environmental documents and finds the impact to water quality from the proposed water reuse project will be insignificant. This minimal discharge from the cooling towers as drift is insignificant since the rate of water escaping as drift is not sufficient to pool or percolate.

10. Receiving Waters

The receiving waters are the ground waters of the Upper Mojave Hydrologic Area of the Mojave Hydrologic Unit (Department of Water Resources [DWR] Unit No. 628.20). The ground water basin is called the Upper Mojave River Valley (DWR Unit No 6-42).

11. Lahontan Basin Plan

The Water Board adopted a Water Quality Control Plan for the Lahontan Region (Basin Plan) which became effective on March 31, 1995, and this Order implements the Basin Plan as amended.

12. Beneficial Uses – Ground Water

The beneficial uses of the ground waters of the Upper Mojave Valley ground water basin as set forth and defined in the Basin Plan are as follows:

a. Municipal and Domestic Supply (MUN)
b. Agricultural Supply (AGR)
c. Industrial Service Supply (IND)
d. Freshwater Replenishment (FRSH)
e. Aquaculture (AQUA)

13. Notification of Interested Parties

The Water Board has notified the User, Producer, Distributor, and interested persons of its intent to adopt Water Recycling Requirements for the High Desert Power Project, LLC.

14. Consideration of Public Comments

The Water Board, in a public meeting, heard and considered all comments pertaining to the recycled water use project.

15. State Water Board Recycled Water Policy

State Water Board Resolution No. 2009-0011, "Adoption of a Policy for Water Quality Control for Recycled Water," references and adopts the "State Water Resources Control Board Recycled Water Policy" (Recycled Water Policy). The Recycled Water Policy provides direction to the State and Regional Water Boards regarding the appropriate criteria to be used in issuing permits for some recycled water projects. The Recycled Water Policy describes permitting criteria intended to streamline, and provide consistency for, the permitting of the vast majority of recycled water projects. This Order implements the Recycled Water Policy because CDPH reviewed and accepted the Engineering Report to satisfy Section 5.b. of the policy.

IT IS HEREBY ORDERED pursuant to CWC, sections 13523, 13263, and 13267 that the User shall comply with the following:

I. Effluent Specifications

The total flow of recycled water to the Facility (a blend of recycled water and SWP water) shall not exceed the capacity of the Facility to accept it for cooling tower make-up water.

PROPOSED

II. User Recycled Water Requirements

A. (i) The User must follow the requirements in title 22, section 60306, the use of recycled water for cooling, which states:

"(a) Recycled water used for industrial or commercial cooling or air conditioning that involves the use of a cooling tower , evaporative condenser, spraying or any mechanism that creates a mist shall be a disinfected tertiary recycled water.

. . .

(c) Whenever a cooling system, using recycled water in conjunction with an air conditioning facility, utilizes a cooling tower or otherwise creates a mist that could come in contact with employees or members of the public, the cooling system shall comply with the following:

(1) A drift eliminator shall be used whenever the cooling system is in operation.

(2) A chlorine, or other, biocide shall be used to treat the cooling system recirculating water to minimize the growth of Legionella and other micro-organisms."

(ii) The User must maintain, at all times recycled water is used, a free chlorine residual of 0.5 mg/L in the cooling tower basin.

(iii) The User must maintain the cooling tower basin water pH within the range 6.0 to 9.0.

(iv) A wind sock shall be placed visibly to all persons approaching the cooling tower basin.

B. The recycled water may only be used for make-up water use in the cooling towers at the Facility.

1. Recycled water to the cooling towers as make-up water shall not be used at other locations or for uses other than those specified in this Order. Before any use may be changed or expanded, the User/Producer must file a revised Report of Recycled Water Use to the Water Board in accordance with California Water Code, section 13523, a revised CCR, title 22 engineering report (approved by the state Department of Public Health (DOPH) and the Water Board must issue new or modified Water Reclamation Requirements.

2. Both recycled water and SWP water shall be delivered to the cooling tower at the Facility at such rates and volumes as not to exceed cooling tower needs. Operation of the cooling tower shall

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prevent excessive drift greater than the specified volume stated in the recycled water Engineering Report.

3. The User shall designate an on-site supervisor responsible for the operation of the recycled water distribution system. The supervisor shall be responsible for enforcing this Order. Prevention of potential hazards, the installation, operation, and maintenance of the distribution system, maintenance of the distribution system plans in "as-built" form, and for the distribution of the recycled wastewater in accordance with this Order.

III. General Requirements and Prohibitions for recycled Water Use

A. There shall be no discharge, bypass or diversion of the recycled water to be used in the cooling towers at the Facility.

B. The use of reclaimed water shall not directly or indirectly cause a nuisance, a pollution or a threatened pollution from the use of this water in the point of use at the Facility.

C. A copy of these Water Recycling Requirements shall be maintained at the Facility so as to be available at all times to operating personnel.

D. The User may not accept recycled water from the Producer for use at the Facility until such time that the Producer's WRRs are amended by the Water Board for the reuse.

E. An agreement shall be established between the Producer and the User assuring that recycled water is delivered and utilized in conformance with this Order, the recycling criteria contained in CCR, title 22, division 4, chapter 3, sections 60301 through 60355, and the "Guidelines for Use of Reclaimed Water" by the state DOPH. The agreement shall also be such that periodic inspections of the Facility to monitor compliance shall be conducted.

IV. Provisions

A. Pursuant to California Water Code, section 13267(b), the High Desert Power Project, LLC shall comply with the Monitoring and Reporting Program. The Monitoring and Reporting Program may be modified by the Executive Officer.

B. The User shall immediately notify the Water Board whenever an adverse condition occurs as a result of this reuse; written confirmation shall follow. An adverse condition includes, but is not limited to, a release of recycled wastewater from the cooling towers.

APPROVED

C. Any proposed material change in the character of water to be recycled, method of reuse, location of reuse or quantity of recycled water shall be reported to the Water Board.

D. The Water Board hereby reserves the privilege of changing all or any portion of this Order upon legal notice to and after opportunity to be heard is given to all concerned parties.

E. The owner(s) of property subject to recycling requirements shall be considered to have a continuing responsibility for ensuring compliance with applicable recycling requirements in the operation or use of the owned property. Any change in the ownership and/or the operation of property subject to recycling requirements shall be reported to the Water Board. Notification of applicable recycling requirements shall be furnished the new owner(s) and or operator(s). A copy of such notification shall be sent to this Water Board.

F. The User must comply with the "Standard Provisions of Waste Discharge Requirements," dated September 1, 1994, in Attachment "D" which is made part of this Order.

G. The User must comply with "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of the Monitoring and Reporting Program.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Board, Lahontan Region, on December 9, 2009.

_____
HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: A. General Vicinity Map
B. Proposed 18-inch recycled water pipeline
C. Process Flow Diagram
D. Standard Provisions for Waste Discharge Requirements

JM/rp BO2009/HighDesertPP/Proposed/HDPP WRR

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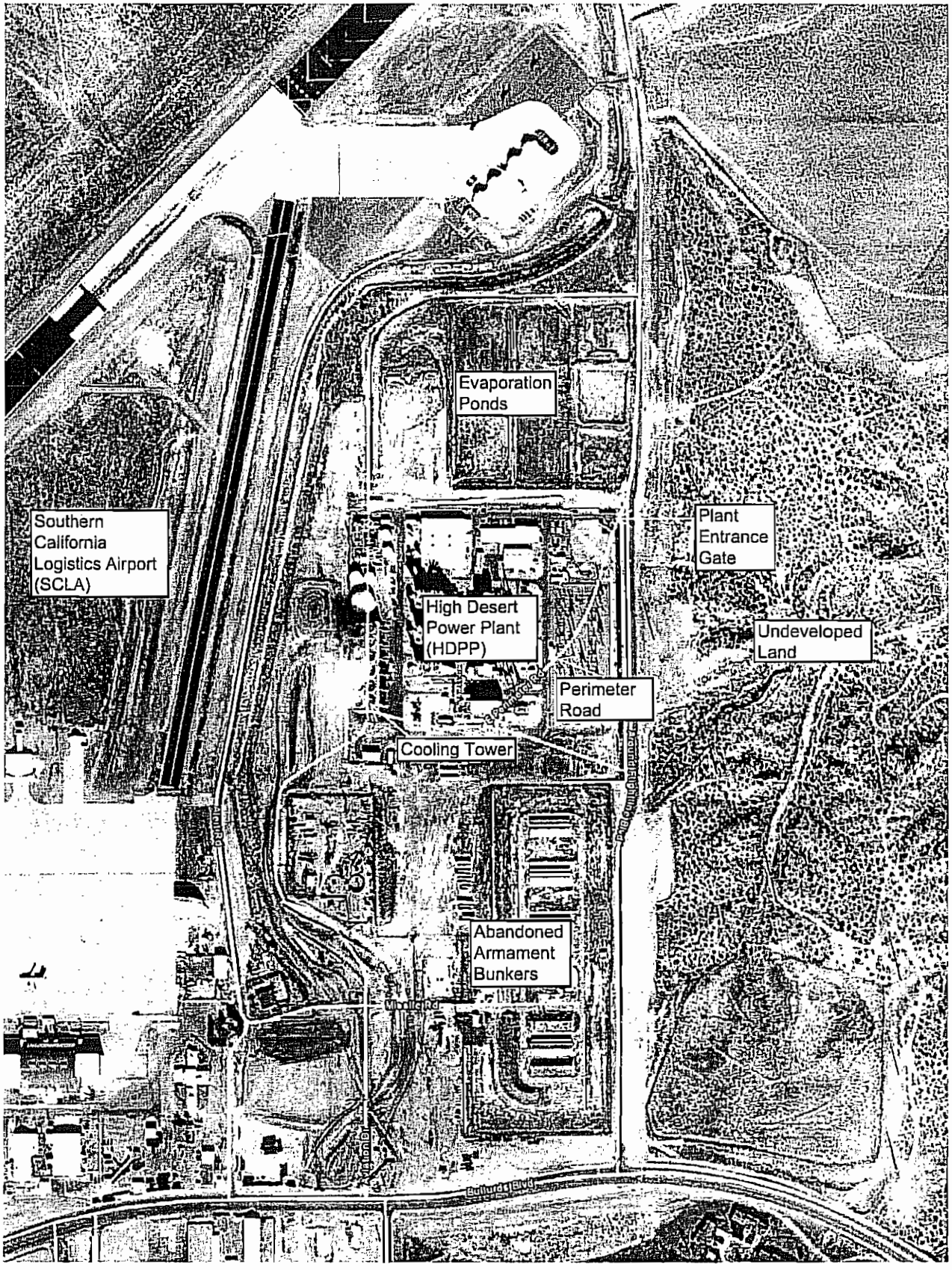


North

0 500 1,000

Approximate scale in feet

ATTACHMENT A

FIGURE 1-1
HDPP Vicinity Map
Victorville, CA

Aerial Image © Google Earth, 2009. Annotation by CH2M HILL, 2009.

JMSTBD.SCO386932.ER.02 HDPP_vicinity.al 2/09

CH2MHILL

05-0011

Proposed 18" recycled water pipeline

GENERAL NOTES:

1. PROVIDE 2'-6" MINIMUM COVER ON ALL UNDERGROUND PIPING. PROVIDE REINFORCEMENT AS REQUIRED FOR CONSTRUCTION CONDITIONS.
2. ALL UNDERGROUND DUCTILE IRON PIPING SHALL BE ENCASED IN POLYETHYLENE SACK. SEE SPEC 600.
3. THE FIRE PROTECTION SYSTEMS ARE DESIGNED TO COMPLY WITH CITY OF VICTORVILLE FIRE DEPARTMENT STANDARDS.

SEE POST INDICATOR VALVE @ FIRE HYDRANT

FIRE DEPARTMENT CONNECTION

FIRE PUMP HOUSE

CONTROL ROOM AND ADMINISTRATION BUILDING

FIRE PROTECTION SUPPLY FOR WATER TREATMENT BUILDING

FIRE PROTECTION SUPPLY FOR ADMINISTRATION BUILDING

WATER TREATMENT BUILDING

HEAT RECOVERY STEAM GENERATOR # 1

COMBUSTION TURBINE GENERATOR # 1

COMBUSTION TURBINE # 1 STEP UP TRANSFORMER FIRE PROTECTION VALVE HOUSE

COMBUSTION TURBINE # 2 STEP UP TRANSFORMER FIRE PROTECTION VALVE HOUSE

HEAT RECOVERY STEAM GENERATOR # 2

HEAT RECOVERY STEAM GENERATOR # 3

COMBUSTION TURBINE GENERATOR # 2

COMBUSTION TURBINE GENERATOR # 3

STATION POWER STEP DOWN FIRE PROTECTION VALVE HOUSE

COMBUSTION TURBINE # 3 STEP UP TRANSFORMER FIRE PROTECTION VALVE HOUSE

STEAM TURBINE STEP UP TRANSFORMER FIRE PROTECTION VALVE HOUSE

STEAM TURBINE GENERATOR

STEAM TURBINE FIRE PROTECTION VALVE HOUSE

COOLING TOWER FIRE PROTECTION VALVE HOUSE

FIRE TRUCK MANEUVERING DRAFT COOL ING TOWER

PLANT COORDINATES

SCALE IN FEET
SCALE: 1" = 40'-0"

BIBB JOBSITE - RECEIVED
DEC 17 2001
KIEWIT - MPANY

REV	DESCRIPTION	BY	DATE
A	ISSUED FOR REVIEW		12-13-01

Bibb and associates

KIEWIT INDUSTRIAL CO.

HIGH DESERT POWER PROJECT LLC

HIGH DESERT POWER PROJECT

FIRE PROTECTION UNDERGROUND PIPING ARRANGEMENT

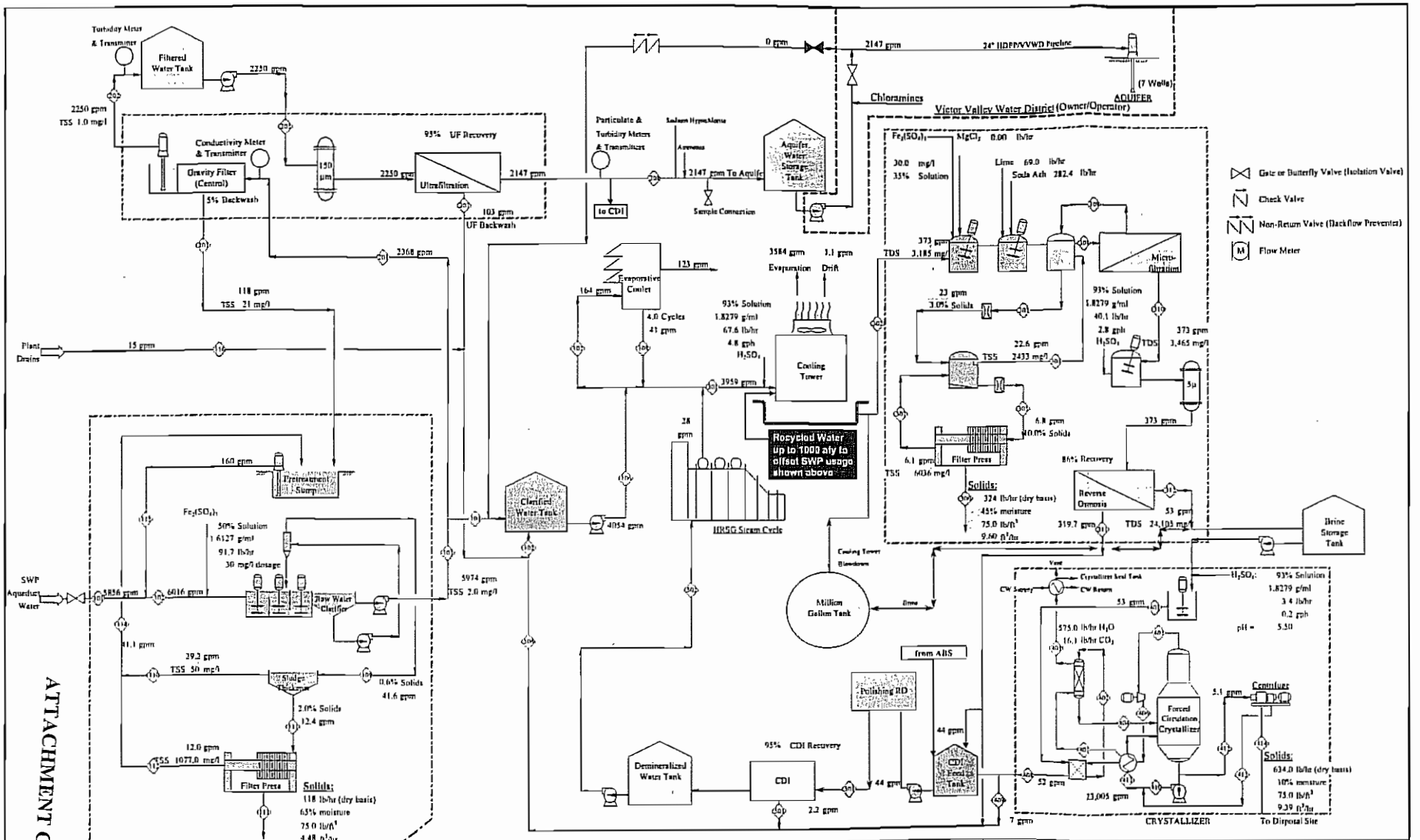
	BY	DATE
DESIGNED	RKT	12-13-01
DRAWN	RKT	12-13-01
CHECKED		
APPROVED		

SHEET 1 of 1

DRAWING NUMBER 20-FA-FP-0002

ATTACHMENT B

05-0012



ATTACHMENT C

REV	DESCRIPTION		
F	Issued for Start-up Planning	LDH	4-24-02
E	Added Instrumentation	JRB	9-2-01
D	Revised for Permit	JRB	6-28-01
C	Issued for Permit	JRB	5-14-01
B	Revised ABS	JRB	3-19-01
A	ISSUED FOR APPROVAL	JRB	3-19-01

KIEWIT INDUSTRIAL CO.
A Kiewit Company

HIGH DESERT POWER PROJECT LLC

HIGH DESERT POWER PROJECT

Bibb and associates

Water Treatment System
Water Balance
Case 4 (98°F, Avg Water Quality)

SHEET 1 of 1

DRAWING NUMBER 20-148-WB-004

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

a. to enter upon premises in which an effluent source is located or in which any required records are kept;

b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);

c. to inspect monitoring equipment or records; and

d. to sample any discharge.

2. Reporting Requirements

a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.

b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.

c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.

d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation.

f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

MONITORING AND REPORTING PROGRAM NO. R6V-2009-(PROPOSED)
WDID NO. 6B360908004

WATER RECYCLING REQUIREMENTS
FOR
HIGH DESERT POWER PROJECT

San Bernardino County

I. INSPECTIONS AND MONITORING

A. Requirements

1. Annually, during the last calendar quarter, the User shall evaluate drift eliminators on the cooling towers for proper performance.

2. Monthly, the User must inspect all signage that informs the public that recycled water is currently being used. Inspection results must be reported quarterly.

3. Weekly, test free chlorine residual of 0.5 mg/L in the cooling tower basin using EPA methods stated in 40 CFR, Part 136, or equivalent. This monitoring shall be reported in the quarterly reports.

4. Weekly, test and maintain the pH of the water in the cooling tower basin within the range 6.0 to 9.0. This monitoring shall be reported in the quarterly reports.

II. REPORTING

In each monitoring report, the User shall evaluate and state every item where the Order requirements are not met. Include a statement of the actions undertaken or proposed which will bring the discharge into compliance with requirements at the earliest time and submit a schedule for correction.

A. Summary of Monitoring and Reporting

Report Designation	Monitoring Period	Reporting Date
Quarterly Reports	All information collected over the three previous months.	1st day of the following month after each quarter period

PROPOSED

B. Annual Report

An annual report shall contain tabular and graphical summaries of the prior year's monitoring data. The compliance record shall be evaluated and a summary provided of corrective actions taken or planned to bring the User into full compliance with the Order.

Beginning on **March 15, 2011** and continuing thereafter, the User must submit an annual report to the Lahontan Water Board covering the previous calendar year with the following information:

1. Documentation of status of the User's compliance with the attached Water Recycling Requirements;

2. The compliance record and the corrective actions taken or planned, which are necessary to bring the User into full compliance with the Water Recycling Requirements;

3. The User's time schedule for completing corrective actions needed to achieve compliance.

C. General Provisions

The Discharger must comply with Attachment A, "General Provisions for Monitoring and Reporting", dated September 1, 1994, which is attached to and made a part of this Monitoring and Reporting Program.

Ordered by: _____ Dated: **December 9, 2009**
HAROLD J. SINGER
EXECUTIVE OFFICER

Attachment: A. General Provisions for Monitoring and Reporting September 1, 1994.

JM/rp BO2009/HighDesertPP/Proposed/HDPP WRR MRP

PROPOSED

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

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

ii. Methods for Chemical Analysis of Water and Wastes, EPA

b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. 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 EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.

d. The Discharger 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 facility.

e. The Discharger 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. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.

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

Pursuant to California Water Code Section 13267(b), the Discharger 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 Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. 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 Discharger 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. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board 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 Regional Board.

c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board 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 facility 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 facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

e. Monitoring reports are to include the following:

i. Name and telephone number of individual who can answer questions about the report.

ii. The Monitoring and Reporting Program Number.

iii. WDID Number.

f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation under Section 13268 of the Water Code.

x:PROVISONS WDRS

file: general pro mrp

ITEM NO. 5

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

LATE REVISION

BOARD ORDER NO. R6V-2009-(PROPOSED)
WDID NO. 6B360908004

WATER RECYCLING REQUIREMENTS
FOR
HIGH DESERT POWER PROJECT

San Bernardino County

Changes to Board Order No. R6V-2009-(PROPOSED) Deletions are in ~~*Strikeout*~~ and Insertions are *Underlined*.

1. Page 1 (05-0003), Finding 3 – Correct the Board Order number.

   "Other Related Requirements

   The discharge of treated wastewater from the Producer's wastewater treatment plant (WWTP) is regulated by Board Order No. ~~6-99-58~~ R6V-2008-004 (Waste Discharge Identification No. 6B360109001 and National Pollutant Discharge Elimination System No. CA 0102822) adopted on February 14, 2008."

2. Page 4 (05-0006), Finding 9 -- Insert the following language describing the role of the Water Board under CEQA.

   "California Environmental Quality Act

   . . . The ~~Lahontan~~ Water Board, acting as a CEQA Responsible Agency pursuant to California Code of Regulations, title 14, section 15096, subdivision (g)(2), evaluated the potentially significant impacts to water quality addressed in the environmental documents and finds the impact to water quality from the proposed water reuse project will be insignificant. . . . "

3. Page 5 (05-0007), Finding 15 – Insert the following language describing how the use complies with the Recycled Water Policy.

"State Water Board Recycled Water Policy

. . . The Recycled Water Policy describes permitting criteria intended to streamline, and provide consistency for, the permitting of the vast majority of recycled water projects. The Recycled Water Policy addresses impacts to water quality through a salt management plan including a degradation analysis. Because there is no discharge to surface water or ground water authorized by this Order, a salt management plan and degradation analysis are not necessary. This Order implements the Recycled Water Policy because CDPH reviewed and accepted the Engineering Report to satisfy Section 5.b. of the policy."

4. Page 1, Monitoring and Reporting Program (05-0022), section II.A. – Insert the specific dates the quarterly reports are due.

"Summary of Monitoring and Reporting

Report Designation	Monitoring Period	Reporting Date
Quarterly Reports	All information collected over the three previous months.	1st day of the ~~following~~ second month after each quarter period – Feb, May, Aug, Nov
	(Jan-Mar)	May 1
	(Apr-Jun)	Aug 1
	(July-Sept)	Nov 1
	(Oct- Dec)	Feb 1"

5. Insert Enclosures 3 (California Department of Public Health letter) and 4 (Comments from Victor Valley Wastewater Reclamation Authority)

s/ HDPP proposed/ HDPP late revision

PROPOSED

ENCLOSURE 3
California Department of Public Health letter
Dated September 24, 2009

State of California—Health and Human Services Agency
California Department of Public Health

MARK B HORTON, MD, MSPH
Director

ARNOLD SCHWARZENEGGER
Governor

9/157

	SEP 24 2009
JM	

September 24, 2009

Mike Coony
Water Resources Control Engineer
Regional Water Quality Control Board – Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392

Dear Mr. Coony,

SUBJECT: HIGH DESERT POWER PROJECT – TITLE 22 ENGINEERING REPORT FOR RECYCLED WATER USE

The Department of Public Health, Drinking Water Field Operations Branch (Department) has received a report entitled "Engineering Report for Recycled Water Use by High Desert Power Project", dated May 2009 prepared by CH2MHill. The High Desert Power Project (HDPP) is a natural gas-fired combined-cycle electric generating station located in Victorville and currently produces 830-megawatts electricity. HDPP anticipates using a blend of recycled water and State Water Project (SWP) water for cooling tower make-up water. HDPP estimates an approximate usage of up to 1,000 acre-feet of recycled water per year.

The recycled water will be produced and supplied to HDPP from the Victor Valley Wastewater Reclamation Authority (VVWRA). Recycled water will be used only as make-up water for the cooling tower process. Recycled water shall be limited to disinfected tertiary recycled water only. The proposed recycled water use application complies with the requirements specified in Subsection 60306(a) and Section 60307(a) of the Water Recycling Criteria, Title 22, California Code of Regulations for industrial uses involving the use of a cooling tower.

Recycled water will be supplied to HDPP from VVWRA via a new 18-inch diameter pipeline connected to an existing 16-inch pipeline in Perimeter Road, which subsequently supplies recycled water to Westwinds Golf Course. This is the only source of recycled water utilized by HDPP. There will be no direct connection between the recycled water system and the potable water system at HDPP. The domestic water at HDPP will be provided by Victorville Water District through separate pipelines. All onsite recycled water piping will be identified to clearly differentiate it from onsite potable, process, and fire suppression water piping. Signs will be posted at exposed recycled water assemblies that identify the use of recycled water. Access to HDPP is

Southern California Drinking Water Field Operations Branch, San Bernardino District
464 West 4th Street, Suite 437, San Bernardino, CA 92401
Telephone: (909)383-4328 Fax: (909)383-4745
Internet Address: www.cdph.ca.gov

05-0029

limited to trained HDPP personnel and qualified vendors. Public access to HDPP is restricted.

The engineering report for the use of recycled water at HDPP is acceptable to the Department. However, the relationship between producer, distributor, and user of the recycled water needs to be clearly defined. The report identifies VVWRA as the producer of the recycled water, and the City of Victorville, through Victorville Water District will distribute recycled water to HDPP. The Department understands that VVWRA's permit must be updated to allow for the production and distribution of recycled water for cooling purposes as VVWRA does not hold a master permit.

In addition, as a distributor of recycled water, the City of Victorville must adopt an ordinance for the use of recycled water in the City's service area describing the procedures, restrictions, and other requirements that will be imposed by the City and/or users. The ordinance must be submitted to the Department for review and approval prior to the use of recycled water at HDPP.

Prior to initial delivery of the recycled water to HDPP, the onsite piping systems shall be inspected and tested for possible cross connections. A report documenting the initial inspection and testing shall be supplied to the Department. Subsequent cross connection inspections and testing shall be performed as required by VVWRA, the City, and Title 22.

We appreciate the opportunity to review and comment on the subject project. If you have any questions regarding this letter, please contact me at (909) 383-4328 or by email at Sean.McCarthy@cdph.ca.gov.

Sincerely,

Sean F. McCarthy

Sean F. McCarthy, P.E.
Senior Sanitary Engineer
San Bernardino District

cc: Logan Olds
General Manager
Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 6
Hesperia, CA 92345

Reggie Lamson
Interim General Manager
Victorville Water District
17185 Yuma Street
Victorville, CA 92395

Fred Strauss
Director, Environmental Programs
Tenaska, Inc.
1044 N. 115th Street, Suite 400
Omaha, NE 68154

ENCLOSURE 4
Victor Valley Wastewater Reclamation Authority Comments

1. December 2, 2009 email
2. November 30, 2009 response form
3. November 24, 2009 letter

From: "Logan Olds" <lolds@vvwra.com>
To: "John Morales" <JMMorales@waterboards.ca.gov>
CC: "Cindi Mitton" <cmitton@waterboards.ca.gov>, "Mike Plaziak" <mplaziak@wa...
Date: 12/2/2009 6:20 AM
Subject: RE: Tentative Recycling Requirements for High Desert Power Project

Good Morning John,

Based on your comments below to modify VVWRA's WRR's at the March 2010 LRWQCB meeting to include reclaimed water use at HDPP VVWRA changes its position from "do not concur" to "concur" with the proposed Tentative Water Recycling Requirements for High Desert Power Project.

Thank you very much for your and Cindi's assistance in resolving this issue.

Logan Olds
General Manager
Victor Valley Wastewater Reclamation Authority

760-948-9849 Hesperia Administration Office (Tues-Wed-Fri)
760-246-8638 Wastewater Treatment Plant, Victorville (Mon-Thurs-Fri)

15776 Main Street, Suite 3
Hesperia, CA 92345

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This email and any files transmitted with it may contain privileged or otherwise confidential information. If you are not the intended recipient,
or believe that you may have received this communication in error, please advise the sender via reply email and delete the email you received.
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-----Original Message-----
From: John Morales [mailto:JMMorales@waterboards.ca.gov]
Sent: Tuesday, December 01, 2009 4:48 PM
To: Logan Olds
Cc: Cindi Mitton; Mike Plaziak
Subject: Tentative Recycling Requirements for High Desert Power Project

Logan,

Pursuant to our phone conversation today, the purpose of this e-mail is to confirm our understanding of how we have addressed your comments received on November 30, 2009 on the Tentative Water Recycling Requirements for the High Desert Power Project (HDPP).

Water Board staff intends to bring amended WRRs to the Regional Water Board for consideration at its March 2010 meeting for modifying the Westwinds Golf Course WRRs to include HDPP's recycled water use. This addresses your concerns raised in your comment letter regarding HDPPs need to use recycled water early next year.

Based on this, we understand this changes VVWRA's position from not concurring with the proposed HDPP WRRs to concurring with them.

Please reply to this e-mail with your understanding per the above.

Thank you,

John Morales, P.E.
Water Resources Control Engineer
CA Regional Water Quality Control Board
Lahontan Region (6B)
14440 Civic Drive, Suite 200

Notice
Submittal of Written Material for Regional Board Consideration

In order to ensure that the State of California Lahontan Regional Water Quality Control Board has the opportunity to fully study and consider written material, it is necessary to submit it at least ten (10) days before the Regional Board Meeting. Pursuant to Title 23 of the California Code of Regulations, Section 648.2, the Regional Board may refuse to admit written testimony into evidence unless the proponent can demonstrate why he or she was unable to submit the material on time or that compliance with the deadline would otherwise create a hardship. If any other party demonstrates prejudice resulting from admission of the written testimony, the Regional Board may refuse to admit it.

11/230
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6836090004

COMPLETE FORM AND RETURN

To: CA Regional Water Quality Control Board, Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392
ATTN: John Morales

Comments: TENTATIVE RECYCLING REQUIREMENTS FOR HIGH DESERT POWER PROJECT, SAN BERNARDINO COUNTY

_____ We concur with proposed requirements

_____ We concur; comments attached

X We do not concur; comments attached

Logan Olds (Sign)

LOGAN OLDS (Type or print name)

VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY (Organization)

15776 (Address)

_____ (City and State)

_____ (Telephone)

Victor Valley Wastewater Reclamation Authority

A Joint Powers Authority and Public Agency of the State of California

15776 Main Street, Suite 3 • Hesperia, California 92345
Telephone: (760) 948-9849 • Fax: (760) 948-9897
e-mail: mail@vvwra.com

24 November 2009

California Regional Water Quality Control Board, Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392
ATTN: John Morales

RE: Tentative Water Recycling Requirements for High Desert Power Project, San Bernardino County

Dear Mr. Morales,

In response to the CA Regional Water Quality Control Board, Lahontan Region's inquiry regarding the Tentative Water Recycling Requirements for High Desert Power Project, VVWRA does not concur with the Tentative Water Recycling Requirements for the High Desert Power Project (HDPP) for the following reasons:

1. Section 3. Page One. States that the HDPP will not be able to accept reclaimed water until VVWRA completes updating the Water Recycling Requirements (WRR's) which "...will be amended sometime in 2010".

2. Section III. E. Page Seven. This section restates section 3 above.

VVWRA agreed with LRWQCB to delay its request to pursue a Master Reclamation permit until the third quarter of 2010 at which time we anticipate the WRR's will be complete. The HDPP has stated that they will be capable of accepting reclaimed water beginning in February-March of 2010. This is approximately ten months before VVWRA anticipates the Regional Board will approve the Master Reclamation Permit.

The Authority submitted Form 200 on the 27th of October requesting to include HDPP on the list of existing reclaimed water users. An increase in reclaimed flow beyond the 1680 ac-ft/yr was not requested. VVWRA requests that LRWQCB consider allowing HDPP to accept reclaimed water from the Authority pending completion of the WRR's in 2010.

Sincerely,

Logan Olds

Logan Olds
General Manager

c: Reggie Lamson, City of Victorville
Jon Boyer, High Desert Power Plant
Piero Dallarda, VVWRA Legal Counsel