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Central Valley Regional Water Quality Control Board

20 June 2013

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Nevada Irrigation District
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NOTICE OF APPLICABILITY (NOA); LIMITED THREAT GENERAL WASTE DISCHARGE REQUIREMENTS ORDER R5-2013-0073 (GENERAL ORDER); COMBIE RESERVOIR SEDIMENT AND MERCURY REMOVAL PROJECT, NEVADA AND PLACER COUNTIES

Our office received a Report of Waste Discharge application on 8 December 2012 from the Nevada Irrigation District (hereinafter Discharger), Combie Reservoir Sediment and Mercury Removal Project (hereinafter Project). Based on the application packet and subsequent information submitted by the Discharger, staff has determined that the project meets the required conditions for approval under the General Order for Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water (Limited Threat General Order). The proposed discharge is classified as an Other Limited Threat Wastewater to Surface Water project. This project is hereby assigned Limited Threat General Order R5-2013-0073-028 and National Pollutant Discharge Elimination System (NPDES) Permit No. CAG995002. Please reference your Limited Threat General Order number, **R5-2013-0073-028**, in your correspondence and submitted documents.

The Limited Threat General Order is enclosed, and may also be viewed at the following web address:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf. You are urged to familiarize yourself with the contents of the entire document. The Limited Threat General Order prescribes mandatory discharge monitoring and reporting requirements. The project activities shall be operated in accordance with the requirements contained in this NOA and the Limited Threat General Order.

CALIFORNIA TOXIC RULE / STATE IMPLEMENTATION POLICY MONITORING

The Limited Threat General Order incorporates the requirements of the California Toxic Rule (CTR) and the State Water Resources Control Board's (State Water Board), *Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, 2005, also known as the State Implementation Policy (SIP).

Screening levels for CTR constituents are found in Attachment B of the Limited Threat General Order. Review of your single effluent water quality data in comparison to the CTR screening values, did not show reasonable potential for the discharge to cause or contribute to an exceedance of the CTR water quality objectives in the Bear River. However, with only a single sample of the effluent, there is insufficient data to determine reasonable potential for several constituents of concern, which have been included in the effluent monitoring requirements of this NOA. Due to the removal of sediment containing mercury and other heavy metals that will

be concentrated and the discharge flow rate of 0.36 million gallons per day, this discharge has a limited threat to water quality.

PROJECT DESCRIPTION

The purpose of the Combie Reservoir Sediment and Mercury Removal Project is to remove elemental mercury from the deposited sediment and to restore reservoir capacity for drinking water use and recreational opportunities in the upper portion of Combie Reservoir. Combie Reservoir is located on the Bear River, which lies along the Nevada-Placer County border. The sediment that flows into Combie Reservoir contains elevated mercury concentrations that are remnants of gold processing practices used over a century ago. The Discharger is proposing to dredge the northeastern end of the reservoir using a remote controlled floating dredge capable of pulling up sediment at an approximate rate of 250 gallons/minute. The dredge material (slurry) will be pumped to an on-site Mobile Separation and Dewatering System that first dewateres the slurry via centrifuge. The dewatered slurry is then pumped to a Knelson Concentrator where the mercury removal occurs. Following the concentrator the centrate (remaining liquid effluent) is passed through a second centrifuge for additional dewatering. After the dewatering, the centrate will be discharged into a series of containment chambers separated by two or more floating turbidity curtains that retain the suspended solids and allow the treated effluent to return to the Combie Reservoir. The extracted mercury and other heavy metals will be collected and transported to a legal offsite disposal area as required by the Placer County Hazardous Materials Business Plan. The sand, silt, clay and gravel (dry cake) removed from the reservoir will be transported to an aggregate plant for processing, most likely the Cheveraux Aggregates, Inc. Meadow Vista processing plant a half mile upstream from the project location. Non-marketable materials will be disposed of in accordance with existing state and federal regulatory permits issued to the plant operator.

All project operations will occur between April 1 and December 1 each year, unless precluded by winter storms. The initial project is estimated to take between three and five years to complete and to remove between 150,000 and 200,000 tons of material from Combie Reservoir. The Combie Reservoir Sediment and Mercury Removal Project is the first to use the patented Knelson Concentrator in this particular type of application for removal of elemental mercury from dredged sediments. If this pilot project is successful, similar projects could be conducted at other mercury sediment impacted water bodies in the Sierra Nevada Mountains. The United States Geological Survey is partnering with the Discharger to monitor water quality and ecological parameters of interest to study the effects of operation on water quality and biota.

EFFLUENT LIMITATIONS

Effluent limitations are specified in Section V. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS of the Limited Threat General Order. The following effluent limitations are applicable to this discharge and are contained in Section V. A through C of the Limited Threat General Order:

A. Effluent Limitations – Applicable to All Limited Threat Discharges

2. Acute Whole Effluent Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste for all limited threat discharges shall be no less than:

- a. 70%, minimum for any one bioassay; and
- b. 90%, median for any three consecutive bioassays.

B. Effluent Limitations – Limited Threat Dischargers to Specific Waterbodies

4. The pH of all limited threat discharges within the Sacramento and San Joaquin River Basins (except Goose Creek) shall at all times be within the range of 6.5 and 8.5.

The Bear River is listed under the Clean Water Act 303(d) List of impaired water bodies for mercury. Furthermore, this project is disturbing mercury containing sediment and removing mercury from the sediment. Therefore, mercury effluent limitations and monitoring requirements will be added to this Limited Threat General Order.

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Mercury, Total Recoverable	µg/L	0.05	0.10

RECEIVING WATER LIMITATIONS

Receiving water limitations are specified in Section VI.A. Surface Water Limitations of the Limited Threat General Order. The Discharger must adhere to the 19 Surface Water Limitations specified in the Limited Threat General Order.

MONITORING AND REPORTING

Monitoring and reporting requirements are contained in Attachment E of the Limited Threat General Order. The Discharger is required to comply with the following monitoring and reporting requirements for the effluent and receiving water as specified in Attachment E of the Limited Threat General Order.

The Discharger shall submit a location map for Central Valley Water Board approval prior to discharging showing the three monitoring locations described below in Table E-1 that demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in the Limited Threat General Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	A location where a representative sample of the effluent can be collected prior to discharging to surface water. Within 50 feet of the final treatment of turbidity curtains.
--	RSW-001	The receiving water (Bear River), approximately 200 feet upstream of the Material Separation and Dewatering System.
--	RSW-002	The receiving water (Combie Reservoir), approximately 200 feet downstream of the furthest extent of dredging in Combie Reservoir (Southwestern edge).

Effluent Monitoring (EFF-001) – The Discharger shall monitor the limited threat discharge during discharge to the Combie Reservoir as specified in the following table:

Parameter	Units	Sample Type	Monitoring Frequency	Required Analytical Test Method
Total Flow	gpd	Estimate	1/Day	1

Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/Quarter	1
pH	standard units	Grab	1/Day	1
Turbidity	NTU	Grab	1/Day	--
Total Suspended Solids	mg/L	Grab	1/Week	--
Aluminum, Total Recoverable	µg/L	Grab	1/Quarter	1,2
Arsenic, Total Recoverable	µg/L	Grab	1/Quarter	1,2
Iron	µg/L	Grab	1/Quarter	1,2
Manganese, Total Recoverable	µg/L	Grab	1/Quarter	1,2
Mercury, Total Recoverable	µg/L	Grab	1/Month	1,2,5
Nickel, Total Recoverable	µg/L	Grab	1/Quarter	1,2
Zinc, Total Recoverable	µg/L	Grab	1/Quarter	1,2
Acute Toxicity	% survival	Grab	1/permit term	3
Chronic Toxicity	--	Grab	1/permit term	4

- ¹ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136
- ² For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
- ³ The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, ammonia, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
- ⁴ The presence of chronic toxicity shall be estimated as specified in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002.
- ⁵ Total mercury samples shall be taken using clean hands/dirty hands procedures, as described in USEPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2), and shall be analyzed by USEPA method 1630/1631 (Revision E) with a method detection limit of 0.2 ng/L.

Receiving Water Monitoring (RSW-001 and RSW-002) – The Discharger shall monitor the receiving water while discharging to the Combie Reservoir as follows:

A. Monitoring Location RSW-001 and RSW-002

1. The Discharger shall monitor the receiving water at RSW-001 and RSW-002 as follows:

Table E-6. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/Month	1
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/Month	1
pH	standard units	Grab	1/Month	1
Temperature	°F	Grab	1/Month	1

Turbidity	NTU	Grab	1/Month	1
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¹ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002. Attention shall be given to the presence or absence of:
 - a. Floating or suspended matter
 - b. Discoloration
 - c. Bottom deposits
 - d. Aquatic life
 - e. Visible films, sheens, or coatings
 - f. Fungi, slimes, or objectionable growths
 - g. Potential nuisance conditions

Monitoring reports shall be submitted to the Central Valley Water Board on a quarterly basis, and shall begin with the Third Quarter 2013 Report. Quarterly monitoring reports must be submitted even if there is no discharge or receiving water flow during the reporting quarter until your coverage is formally terminated in accordance with the Limited Threat General Order. When there is no discharge during the quarterly monitoring period the Discharger shall submit a "no discharge" report to the Central Valley Water Board.

GENERAL INFORMATION AND REQUIREMENTS

The Central Valley Water Board shall be notified immediately if any effluent limit violation is observed during implementation of the project.

Discharge of material other than what is described in the application is prohibited. The required annual fee (as specified in the annual billing you will receive from the State Water Resources Control Board) shall be submitted until this NOA is officially terminated. You must notify this office in writing when the discharge regulated by the Limited Threat General Order is no longer necessary. If a timely written request is not received, the Discharger will be required to pay additional annual fees as determined by the State Water Resources Control Board.

ENFORCEMENT

Failure to comply with the Limited Threat General Order may result in enforcement actions, which could include civil liability. Effluent limitation violations are subject to a Mandatory Minimum Penalty (MMP) of \$3,000 per violation. In addition, late monitoring reports may be subject to MMPs. When discharges do not occur during a quarterly report monitoring period, the Discharger must still submit a quarterly monitoring report indicating that no discharge occurred to avoid being subject to enforcement actions.

COMMUNICATION

All monitoring reports submittals, notification of the beginning and end of discharge, and questions regarding compliance and enforcement shall be directed to Lucio Orellana of the Central Valley Water Board's NPDES Compliance and Enforcement Unit. Mr. Orellana can be reached at (916) 464-4660 or Lucio.Orellana@waterboards.ca.gov.

Questions regarding the permitting aspects of your Limited Threat General Order, and written notification for termination of coverage under the Order, shall be directed to Josh Palmer at (916) 464-4674 or at Joshua.Palmer@waterboards.ca.gov.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with California Water Code Section 13320 and California Code of Regulations, Title 23, Sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this NOA, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day.

Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

Signed by Kenneth D Landau for

Pamela C. Creedon
Executive Officer

Enclosure: General Order R5-2013-0073 (Discharger only)

cc: David Smith, U.S. Environmental Protection Agency, Region IX, San Francisco
Phil Isorena, Division of Water Quality, State Water Board, Sacramento