

Lahontan Regional Water Quality Control Board

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Kern County

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COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE FREMONT VALLEY PRESERVATION PROJECT, AQUAHELIO RESOURCES, LLC, KERN COUNTY, STATE CLEARINGHOUSE NO. 2012111014

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received the Draft Environmental Impact Report (DEIR) for the above-referenced project (Project) on September 16, 2013. Errata to the DEIR were received on October 7, 2013. The DEIR and errata were prepared by Kern County (County) and submitted in compliance with provisions of the California Environmental Quality Act (CEQA). Water Board staff, acting as a responsible agency, is providing these comments to specify the scope and content of the environmental information germane to our statutory responsibilities pursuant to CEQA Guidelines, California Code of Regulations (CCR), title 14, section 15096. Based on our review of the DEIR, we have determined that additional environmental review is warranted. Specifically, the DEIR should include: 1) an evaluation of potential water quality impacts posed by construction and implementation of the Project on land where biosolid and sewage sludge waste is known or suspected to be present in the soils; 2) a Degradation Analysis, consistent with State Water Resources Control Board (State Water Board) Resolution 68-16, must be performed to quantify what, if any, degradation of existing groundwater resources will occur with Project implementation; and 3) characterization, to the extent possible, of the waste streams associated with the water treatment systems, including identification of waste handling, storage, and disposal methods. We encourage the County to continue to support and promote redevelopment and reuse of previously disturbed lands. Such reuse can benefit environmental resources, including hydrology and water quality, by maintaining relatively undisturbed natural areas.

PROJECT DESCRIPTION

The Project is comprised of several components: (1) a solar photovoltaic (PV) electrical generating facility (solar facility); (2) a water recharge and recovery facility (water banking); and (3) a native groundwater extraction facility. The proposed Project would be located on approximately 4,800 acres of land on four geographically separate sites around Koehn Dry Lake in unincorporated eastern Kern County. The four Project sites are primarily undeveloped and are either formerly cultivated and grazed lands or

otherwise previously disturbed lands. The three Project components (solar, water banking, and native groundwater extraction) will be co-located in various combinations on each of the four Project sites.

The proposed solar facility would generate up to 1,008 megawatts of solar energy, and include an estimated 3.6 million PV solar modules and associated onsite and offsite infrastructure. The solar facility will comprise up to 4,000 acres of the total Project area.

The proposed water banking facility would store water supplies in the Fremont Valley Groundwater Basin beneath the Project sites for recovery at a later date. Potential water banking sources include water from the Los Angeles Aqueduct, Antelope Valley-East Kern Water Agency, and State Water Project Aqueduct. The banking would be accomplished through a combination of percolation (impoundments/basins) and direct injection (up to 73 injection wells). The proposed recharge capacity is 222,000 acre-feet per year (AF/Y) and the recovery capacity is 200,000 AF/Y. The recharge basins will comprise approximately 550 acres of the total Project area, with over 300 acres on Site 2 allocated for recharge.

The proposed native water extraction facility is separate from the water banking facility and would provide for the extraction of up to an additional 114,000 AF/Y of groundwater from the Fremont Valley Basin. These waters would be allocated for sale, distribution, or exchange within Kern County.

WATER BOARD'S AUTHORITY

All groundwater and surface waters are considered waters of the State. Surface waters include streams, lakes, ponds, and wetlands, and may be ephemeral, intermittent, or perennial. All waters of the State are protected under California law. State law assigns responsibility for protection of water quality in the Lahontan Region to the Lahontan Water Board. Some waters of the State are also waters of the U.S. The Federal Clean Water Act (CWA) provides additional protection for those waters of the State that are also waters of the U.S.

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect the quality of waters of the State within the Lahontan Region. The Basin Plan sets forth water quality standards for surface water and groundwater of the Region, which include designated beneficial uses as well as narrative and numerical objectives which must be maintained or attained to protect those uses. The Basin Plan can be accessed at http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml.

SPECIFIC COMMENTS ON THE ENVIRONMENTAL DOCUMENT

1. The Water Board has active Waste Discharge Requirements (WDRs) that authorize land application of digested sewage sludge and biosolids on all or portions of three of the four Project sites: Site 2 (Sons Ranch), Site 3 (Brothers Ranch), and Site 4 (Randsburg/Saltdale Ranch). The Water Board adopted the WDRs on June 8, 1995, under Board Order No. 6-95-69. This Board Order is

currently active and will remain in effect until rescinded by the Water Board. A copy of Board Order No. 6-95-69 is enclosed for reference. According to our records, biosolid and/or Class B sewage sludge waste was last applied to these sites in 2001.

The Water Board cannot authorize reuse or redevelopment of these sites until: 1) all requirements for closure have been met, 2) the sites have been evaluated and all threats to water quality have been remediated, and 3) the active Board Order has been formally rescinded by the Water Board. We recommend that the Project proponent and current land owner(s) of the Sons Ranch, Brothers Ranch, and Randsburg/Saltdale Ranch sites contact Water Board staff to determine next steps towards rescinding Board Order No. 6-95-69.

2. Land application of biosolid and sewage sludge waste has the potential to concentrate constituents of concern including, but not limited to, nitrates, heavy metals, pathogens, constituents of emerging concern (i.e. caffeine, pharmaceuticals, etc.), and manufacturing by-products (dioxins and furans). Leachate generated by storm water or other waters percolating through these wastes has the potential to contain chemical constituents at concentrations that potentially may warrant classification as a designated waste. Surface waters can be impacted if leachate becomes entrained in storm water, and groundwater can become impacted as leachate infiltrates through the soil column.

The application of biosolid and sewage sludge waste on several of the Project sites is briefly discussed in section 4.8 of the DEIR, "Hazards and Hazardous Materials," and in Appendix D, "Soils and Geology Phase I Studies." However, such wastes also have the potential to significantly degrade water quality and violate water quality standards for both surface water and groundwater. As such, Section 4.9 of the DEIR, Hydrology and Water Quality, should be revised to include a full evaluation of the potential water quality impacts posed by construction and implementation of the Project on land where biosolid and sewage sludge waste is known or suspected to be present. Adequate mitigations must be identified in the DEIR that reduce potential impacts to a less than significant level. It is our recommendation that the recharge facilities be sited such that they avoid all areas that may have been used for land application of biosolid and sewage sludge waste.

3. Mitigation Measure 4.8-3 (Solar/Water Facilities) – The soils at the Project sites must be tested to determine concentrations of and leachability of all potential constituents of concern that may be present at the Project sites. If found, elevated concentrations of constituents of concern in soil or groundwater may first require **remediation**. To perform these analyses later as part of mitigation measure (MM) 4.8-3 is unacceptable and defers the mitigation. The results of these analyses should be included as part of the DEIR, and mitigations to avoid or minimize potential water quality impacts to a less than significant level must be included as part of the Project. Potential constituents of concern include, but are not limited to, nitrates, heavy metals, pathogens, constituents of emerging

concern (i.e. caffeine, pharmaceuticals, etc.), manufacturing by-products (dioxins and furans), pesticides, and herbicides.

4. Section 4.9.3, Regulatory Setting – This discussion fails to identify the water quality standards that could potentially be violated by the Project. The Project is located within the Koehn Hydrologic Area (Fremont Hydrologic Unit) of the Lahontan Region. Water quality objectives and standards, both numerical and narrative, for waters of the State, including those within the Koehn Hydrologic Area, are outlined in Chapter 3 of the Basin Plan. These water quality standards need to be identified and quantified in the DEIR and utilized in evaluating thresholds of significance for Project impacts.
5. Section 4.9.4, Impact 4.9-1(Solar) – All surface waters are waters of the State. Some waters of the State are “isolated” from waters of the U.S. Determinations of the jurisdictional extent of the waters of the U.S. are made by the United States Army Corps of Engineers (USACE) on a project-by-project basis. We request that the Project proponent consult with the USACE and the Water Board and perform the necessary jurisdictional determinations for surface waters within the Project area to ensure that the full extent of both State and federal jurisdictional areas are accurately documented. The discharge of waste¹ to waters of the State, either onsite or offsite, is subject to regulation by the Water Board.
6. Section 4.9.4, Impact 4.9-2 (Water Facilities) – The recharge and direct injection of poor quality waters into the aquifer has the potential to significantly impact the quality of existing groundwater within the Fremont Basin. The State Water Board established California’s antidegradation policy in State Water Board Resolution 68-16 for both surface and groundwater. A copy of the policy is enclosed for reference. That policy requires that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies. If degradation is proposed, the proposed discharge that results in degradation must be treated using best practical control technology such that 1) pollution or nuisance will not occur, and 2) that the highest water quality consistent with maximum benefit to the people of the State will be maintained. The Basin Plan implements, and incorporates by reference, the State antidegradation policy.

The DEIR must characterize the existing, ambient water quality of groundwater beneath the Project site(s) and compare that to the known water quality of the water to be injected and recharged. A Degradation Analysis, consistent with

¹ “Waste” is defined in the Basin Plan to include sewage and any waste substance or deleterious material including, but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock, or other organic or mineral material) and any other waste associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation as defined in the California Water Code, section 13050(d).

State Water Board Resolution 68-16, must be performed to quantify what, if any, degradation of existing groundwater resources will occur with Project implementation. The results of that analysis must be included in the environmental review.

7. Section 4.9.4, Impact 4.9-2 (Water Facilities) – The DEIR recognizes that some level of water treatment will be necessary to maintain the quality of the recovered and extracted water to meet drinking water standards. Such treatments generally produce a waste that will need to be contained, managed, and disposed of in accordance with applicable regulations. Depending on the types of waste generated and the concentrations of constituents in the waste, such waste may warrant classification as a hazardous or designated waste. Without proper containment, such waste has the potential to significantly impact water quality. Potential waste streams generated as a result of Project implementation should be identified and characterized to the extent possible in the environmental review. Mitigation measures to reduce potential environmental impacts from these waste streams to a less than significant level need to be included in the DEIR.
8. Appendix B, Groundwater Management, Monitoring and Mitigation Plan (GMMMP) – The following comments pertain to the GMMMP.
 - a. Constituents of emerging concern (CEC), pesticides, herbicides, and other constituents of concern that may be present in soils or surface waters and ground waters on or around the Project sites should be monitored for as part of the GMMMP. The GMMMP needs to specify how and at what frequency these constituents of concern will be monitored, and what water quality thresholds will be used to determine the need for additional mitigations. The GMMMP, as currently presented in Appendix B, does not appear to be very useful in addressing these concerns and will need to be revised.
 - b. Section 6.24.2 of the GMMMP describes capturing natural storm flows within onsite and offsite streams for recharge. While we agree that it may be appropriate to capture and retain onsite generated storm flows for recharge, it is not appropriate to route upstream or offsite storm flows into the Projects recharge facilities. These flows are critical to support downstream surface water resources (ephemeral streams, Koehn Lake, wetlands, etc.) and the beneficial uses associated with those water resources such as habitat, groundwater recharge, water quality enhancement, flood peak attenuation, and others.
 - c. Section 6.24.4 of the GMMMP states “Reclaimed water/recycled water may be incorporated [into the Project], as feasible.” Nowhere in the body of the DEIR is there a discussion related to the use of reclaimed or recycled water as part of the Project. If the Project proponent intends to use reclaimed/recycled water in the construction or operation of the

Project, that use must be identified in the DEIR and thoroughly evaluated in the environmental review.

9. Native recharge of the Fremont Groundwater Basin is on the order of 15,000-17,000 AF/Y. The Project proposes to transfer large volumes of water into and out of the Fremont Groundwater Basin annually by banking 222,000 AF/Y of import or other water, recovering up to 200,000 AF/Y of banked water, and extracting up to 114,000 AF/Y of native groundwater. The DEIR should evaluate the potential cumulative effect on water quality, hydrology, and storage capacity of the aquifers within Fremont Groundwater Basin for various operating scenarios, particularly under maximum recovery and extraction operating capacities.
10. In several sections of the DEIR, it is stated that federal National Pollutant Discharge Elimination System (NPDES) requirements are not applicable in non-jurisdictional areas. To clarify, NPDES requirements are not applicable in areas that do not discharge to or drain towards waters of the United States (hence no federal nexus). However, all surface waters are waters of the State and under California's Porter-Cologne Water Quality Control Act, the State Water Board and Regional Water Boards have the authority to issue individual storm water permits for those discharges where there is potential threat to water quality. To that end, we request that the Project proponent develop and implement a site-specific Storm Water Pollution Prevention Plan that complies with the NPDES General Construction Storm Water Permit, WQO 2009-0009-DWQ, as amended. The SWPPP must identify the specific construction and post-construction storm water controls to be implemented throughout the life of the Project. In addition, the Project Proponent must also apply for an individual storm water permit with the Lahontan Water Board.
11. Post-construction storm water management must be considered a significant Project component, and BMPs that effectively treat post-construction storm water runoff should be included as part of the Project. The DEIR needs to specify temporary and permanent sediment and erosion control BMPs that will be implemented to mitigate potential water quality impacts related to storm water. The temporary BMPs need to be implemented for the Project until such time that vegetation has been restored to pre-Project conditions or permanent BMPs are in-place and functioning.
12. We request that vegetation clearing be kept to a minimum and, where feasible, existing vegetation be mowed so that after construction the vegetation could more readily re-establish and help mitigate for potential storm water impacts.
13. We request that construction staging areas be sited in designated areas on or around the Project site. An adequate combination of BMPs must be used to prevent unauthorized non-storm water discharges from the site and to stabilize soils from erosion. Construction equipment should use existing roadways to the extent feasible.

14. Obtaining a permit and conducting monitoring does not constitute adequate mitigation. Development and implementation of acceptable mitigation is required. The environmental document must specifically describe the best management practices and other measures used to mitigate Project impacts.
15. As noted in Section 4.9.3 of the DEIR, a draft Salt and Nutrient Management Plan (SNMP) has been prepared for the Fremont Basin. The Fremont Integrated Regional Water Management (IRWM) Group spear-headed that effort in 2010, and Regional Board staff have been coordinating with the IRWM stakeholders to finalize that plan by May 2014. The Project proponent is urged to participate in the Fremont IRWM Group regarding the Projects potential for salt and nutrient loading within the basin.

PERMITTING REQUIREMENTS

A number of activities associated with the proposed Project appear to have the potential to impact waters of the State and, therefore, may require permits issued by either the State Water Board or Lahontan Water Board. The required permits may include:

- The direct injection of water may require individual waste discharge requirements (WDRs) or General Waste Discharge Requirements for Aquifer Storage and Recovery Projects that Inject Drinking Water into Groundwater, WQO 2012-0010, both issued by the Lahontan Water Board;
- Streambed alteration and/or discharge of fill material to a surface water, including water diversions, may require a CWA, section 401 water quality certification for impacts to federal waters (waters of the U.S.), or dredge and fill WDRs for impacts to non-federal waters, both issued by the Lahontan Water Board;
- Land disturbance of more than 1 acre may require CWA, section 402(p) storm water permits, including a NPDES General Construction Stormwater Permit, WQO 2009-0009-DWQ, obtained from the State Water Board, or individual storm water permit obtained from the Lahontan Water Board;
- Discharge of designated wastes to land may require WDRs issued by the Lahontan Water Board in compliance with the California Code of Regulations, Title 27, section 20005 et seq. If activities include waste streams associated with the water treatment systems, and a planned discharge to land would occur, please submit the required WDR application, Form 200;
- Discharge of low threat wastes to a surface water including, but not limited to, diverted stream flows, construction and/or dredge spoils dewatering, and well construction and hydrostatic testing discharge, may be subject to discharge and monitoring requirements under either NPDES General Permit, Limited Threat Discharges to Surface Waters, Board Order R6T-2008-0023, issued by the Lahontan Water Board; and

- Discharge of low threat wastes to land, including clear water discharges, small dewatering projects, and inert wastes, may require General Waste Discharge Requirements (WDRs) for Discharges to Land with a Low Threat to Water Quality issued by the Lahontan Water Board.

We request that the DEIR list the permits that may be required, as outlined above, and identify the specific activities that may trigger these permitting actions in the appropriate sections of the DEIR. Information regarding these permits, including application forms, can be downloaded from our web site at <http://www.waterboards.ca.gov/lahontan/>.

Thank you for the opportunity to comment on the DEIR. We encourage the County to continue to support and promote redevelopment and reuse of previously disturbed lands. Such reuse can benefit environmental resources, including hydrology and water quality, by maintaining relatively undisturbed native areas. If you have any questions regarding this letter, please contact me at (760) 241-7376 (jan.zimmerman@waterboards.ca.gov) or Patrice Copeland, Senior Engineering Geologist, at (760) 241-7404 (patrice.copeland@waterboards.ca.gov).



Jan M. Zimmerman, PG
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Encl: Copy of Regional Board Order No. 6-95-69
State Board Resolution 68-16

cc: State Clearinghouse (SCH No. 2012111014)
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