



# STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

June 20, 2014

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

Colleen Cripps, Ph.D., Administrator

Michael Rojo  
Environmental Services, Supervisor  
NV Energy  
PO Box 279, MS 77  
501 Wally Kay Drive  
Moapa, NV 89025

Re: **NV Energy (NVE)**  
**Reid Gardner Station (RGS)**  
**NDEP Facility ID #H-000530**

Nevada Division of Environmental Protection (NDEP) Comments and Concurrence:  
*Solids Removal Work Plan for Former Ponds 4A, 4C-1, and 4C-2, Administrative Order on Consent Activities, NV Energy, Reid Gardner Station, Draft May 2014*

Dear Mr. Rojo:

The NDEP has received and reviewed NVE's submittal of three individual response to comments (RTCs) for NDEPs March 17, 2014 comments to the work plans titled *Draft Solids Removal Work Plan for Former Pond 4A, Solids Removal Work Plan for Former Pond 4C-1, and Solids Removal Work Plan for Former Pond 4C-2*. The RTC were received by the NDEP on May 19, 2014. The NDEP requests replacement pages only for the final documents and electronic copies of the final work plans. The NDEP finds that the documents are acceptable and **concurs** with the work plans and provides the following responses noted for the administrative record:

Comments to Report for Pond 4A solids removal

4A 1. Pages 2-1 through 2-3, Background: The background section includes several generalized statements that have not been demonstrated or are inconsistent with existing data. For example, it is stated that the clay cores, clay blanket, and underlying natural clay unit "appear to have limited contaminant migration" even through a groundwater recovery trench was later installed to contain contaminant migration. Also it is stated that materials encountered during the 2008 investigation were "generally fat clays" overlain by pond solids. The boring logs from that investigation describe those soils as lean clay and previous investigations in the same area describe encountering lean clays and sandy clays. Such generalized statements should be avoided if not well documented.

*NVE Response: NVE believes that the statements made in the work plan are consistent with existing data. Available information of the Pond 4A construction and current groundwater monitoring data support the statement that contaminant migration appears to be generally limited both laterally and vertically to the vicinity of Pond 4A. This conclusion is supported by the following evidence: The second Semi-Annual 2013 Groundwater Monitoring and Remediation report indicates TDS concentrations in shallow groundwater immediately below the base of the pond to up to 66,500 mg/L (CMW-5S). Additionally, the groundwater interceptor trench installed in 2006 and terminated in the shallow clays immediately downgradient of Pond 4A produced water with only 5,520 mg/L of TDS. Similar observations are noted with respect to vertical*



*migration. For example the concentration of TDS in CMW-5D was 11,050 mg/L, which is screened only 15 feet below CMW-5S at the same location within the pond footprint.*

*NVE believes that the data supports the statement that the underlying natural clay unit does appear to have limited contaminant migration. The first paragraph of page 2-1 was revised to state "The record drawings show that a 2-foot thick clay blanket was placed along the interior toe of the north and east berm. The clay blanket and clay cores consisted of native clay soils."*

*The last paragraph on page 2-3 was revised to clarify the statement regarding fat clays including the following wording: "However, the report includes logs from previously installed borings indicating that Pond 4A is underlain by lean and silty clays. The thickness of the clay layer is reported to range from 3-18 feet under Pond 4A with laboratory permeabilities ranging from  $1.2 \times 10^{-6}$  to  $2.1 \times 10^{-8}$  cm/sec (i.e. low permeability material) (Converse Consultants, 2005)." This 2005 reference was added to the References in Section 5.*

NDEP Response: NDEP acknowledges the revisions to the text of the Work Plan. NDEP understands that NVE believes that the prior statements made in the Work Plan are supported by the data; however, these topics are likely better served in the context of the forthcoming conceptual site model (CSM). Given the objective of the Work Plan (below), the inclusion of CSM-oriented statements in the background section appears to over-reach the intent of the Work Plan.

*"...remove solids from former Pond 4A, characterize solids in the former pond, and characterize underlying soils. Potential environmental impacts to underlying soil and groundwater in this area will be addressed later under the oversight of the NDEP BCA and in accordance with the AOC."*

In response to NVE's conclusions about fate and transport regarding total dissolved solids (TDS) associated with the subject ponds, it appears that other components of the CSM that may impact the observed concentration data were not considered. These include but are not limited to groundwater-surface water interaction and geochemistry. The overall CSM should be considered when evaluating the fate and transport of chemicals of concern at the Site.

#### Comments to Report for Pond 4C-1 and Pond 4C-2 solids removal

4C 1. Pages 2-1 through 2-3, Background: The background sections for both 4C-1 and 4C-2 include a generalized statement that clay cores, clay blanket, and the underlying natural clay unit "appear to have limited contaminant migration". The extent of the groundwater impacts have not been fully established and such general statements should be avoided.

*NVE Response: NVE believes that the statements made in the work plan are consistent with existing data. Available information on the Pond 4C-1 and 4C-2 construction and current groundwater monitoring support the statement that contaminant migration appears to be generally limited both laterally and vertically in the vicinity of these ponds. This conclusion is supported by the following evidence: the second Semi-Annual 2014 Groundwater Monitoring and Remediation Report indicate TDS concentrations in shallow groundwater at the base of the pond to be up to 90,000 mg/L (MW-11S). By Comparison, TDS*

*measurements downgradient of Pond C1 and outside of the berm declined to less than 7,000 mg/L (6,472 mg/L in MW-5). Similar observations are noted with respect to vertical migration. For example, the concentration of TDS in MW-11M was 9,220 mg/L, which is screened only 13 feet below MW-11S at the same location within the pond footprint.*

*NVE believes that the data supports the statement that the underlying natural clay unit does appear to have limited contaminant migration. However, the report was revised to state "The clay blanket and clay cores consisted of native clay soils."*

NDEP Response: See the response provide above.

Please contact me with any questions or comments about this letter at (775) 687-9396 or [aoakley@ndep.nv.gov](mailto:aoakley@ndep.nv.gov)

Sincerely,



Alison Oakley, CEM  
Environmental Scientist III  
Bureau of Corrective Actions  
NDEP-Carson City Office

- cc: Greg Lovato, Nevada Division of Environmental Protection (NDEP)  
Scott Smale, Bureau of Corrective Actions, NDEP Carson City  
Todd Croft, Bureau of Corrective Actions, NDEP Las Vegas  
Bill Campbell, Tribal Liaison, NDEP  
Alan Tiney, Bureau of Water Pollution Control, NDEP  
Ebrahim Juma, Clean Water Team ([ejuma@cleanwaterteam.com](mailto:ejuma@cleanwaterteam.com))  
Joe Leedy, Clean Water Team ([jleedy@cleanwaterteam.com](mailto:jleedy@cleanwaterteam.com))  
Lynn M. Cintron, Southern Nevada Health District, ([cintron@snhdmail.org](mailto:cintron@snhdmail.org))  
Amy Irani, Environmental Health Manager ([Irani@snhdmail.org](mailto:Irani@snhdmail.org))  
Brian Northam, Southern Nevada Health District, ([northam@snhdmail.org](mailto:northam@snhdmail.org))  
Walter Ross, Environmental Health Supervisor/Engineer ([Ross@snhdmail.org](mailto:Ross@snhdmail.org))  
Andy Chaney, Southern Nevada Health District, ([chaney@snhdmail.org](mailto:chaney@snhdmail.org))  
Donna Houston, Southern Nevada Health District, ([houston@snhdmail.org](mailto:houston@snhdmail.org))  
Starla Lacy, NV Energy ([SLacy@nvenergy.com](mailto:SLacy@nvenergy.com))  
Darren Patten, NV Energy ([DPatten@nvenergy.com](mailto:DPatten@nvenergy.com))  
Tony Garcia, NV Energy ([TGarcia@nvenergy.com](mailto:TGarcia@nvenergy.com))  
Michael Rojo, NV Energy ([MRojo@nvenergy.com](mailto:MRojo@nvenergy.com))  
Jason Reed, NV Energy ([JReed@nvenergy.com](mailto:JReed@nvenergy.com))  
Becky Svatos, Stanley Consultants, Inc., ([SvatosBecky@stanleygroup.com](mailto:SvatosBecky@stanleygroup.com))  
William Carrig, Stanley Consultants, Inc., ([CarrigBill@stanleygroup.com](mailto:CarrigBill@stanleygroup.com))  
John Kivett, ARCADIS U.S., Inc., ([John.Kivett@arcadis-us.com](mailto:John.Kivett@arcadis-us.com))  
Brad Cross, ARCADIS U.S., Inc., ([Brad.Cross@arcadis-us.com](mailto:Brad.Cross@arcadis-us.com))
- cc: Althea Tom, Moapa Band of Paiutes, Chairperson, P.O. Box 340, Moapa, NV 89025  
Darren Daboda, Moapa Band of Paiutes, Environmental Director, P.O. Box 340, Moapa, NV 89025  
Clark County Emergency Management, 500 S. Grand Central Parkway 6th Floor, P.O. Box 551713, Las Vegas, NV 89155-1713  
Anitha Rednam, Department of Water Resources, 1416 9th Street, Room 1140, Sacramento CA 95814  
Dan Galpern, Law Offices of Charles M. Tebbutt, P.C., 941 Lawrence St., Eugene, OR 97401-2815