

Date: October 16, 2013

Place: NVE Pearson Building
Las Vegas, Nevada

Project/Purpose: NV Energy - Reid Gardner Station
Implementation of Administrative Order on Consent (AOC)
Quarterly AOC Meeting/Workshop

Attendees: Alison Oakley/NDEP
Scott Smale/NDEP
Brad Cross/ARCADIS U.S., Inc.
John Kivett/ARCADIS U.S. Inc.
Tony Garcia/NV Energy
Jason Reed/NV Energy
Mike Rojo/NV Energy
Matt Johns/CH2M Hill
Sergio Escobar/CDWR
Peter Mesard/Exponent
Becky Svatos/Stanley Consultants
Africa Espina/Stanley Consultants
Jonathan Sarich/Stanley Consultants
Cindy Quast/Stanley Consultants
Julie Oriano/Stanley Consultants
Notes By: Jonathan Sarich/Stanley Consultants

A meeting was held between NV Energy (NVE) and Nevada Division of Environmental Protection (NDEP) representatives on October 16, 2013 to discuss the status of the implementation of the AOC signed by NVE and NDEP on February 22, 2008. Topics discussed during the meeting are summarized below.

Background Conditions Report – NDEP and ARCADIS U.S. had recently received the complete draft Background Conditions Report and had not yet had time to review it in detail. Previously, NDEP had requested that Stanley Consultants evaluate whether the background arsenic soil data could be differentiated into two populations; those samples collected north of the Muddy River and those collected south of the river. Stanley Consultants analyzed the data and found that these two populations were not statistically differentiated. The proposed background arsenic levels in soil were not changed in the draft report. To support their review of the report, NDEP requested available data on arsenic concentrations in coal and ash at the Station. After they have had time to review the report in more detail, NDEP will schedule a call to discuss the background report. NDEP will provide written comments prior to the next AOC meeting scheduled for December 10, 2013.

Muddy River Work Plan – The primary objective of this work plan is to evaluate the interaction between the Muddy River and the alluvial groundwater aquifer at the Station. The approach to meeting this objective is to gather information to develop a flow balance for the river with the net groundwater gain/loss to the river calculated by difference after accounting for all surface water flows. Additional objectives are to collect:

- Water quality data from the Muddy River and adjacent alluvial groundwater for potential future mass flux calculations.
- Geologic information adjacent to the river to evaluate whether clay layers or other geologic features are present that could impact the groundwater-surface water interaction.
- Groundwater elevations adjacent to the river along with surface water elevations to evaluate hydraulic gradients.
- Muddy River cross-section information to compare river bottom elevations with groundwater elevations.

The locations of the flow gauging stations on the river and the adjacent groundwater monitoring wells were discussed and it was agreed they would be as shown on Figure 3 (provided to NDEP before the meeting) with the following changes:

- MRW-4 would be moved north of the river onto NVE property to make access easier for the well installation.
- MRW-5 would not be installed and the survey transect planned for that location would be moved downstream between existing monitoring wells IMW-16S and HM-53.

The following specific aspects of the Muddy River Work Plan were discussed:

- Each of the five borings adjacent to the river will be conducted to a depth of 25 – 50 feet bgs to look for fat clay layers or other aquitards/aquicludes. Geophysical testing (sieve analysis, permeability, etc) will be conducted on soil samples collected during drilling.
- Two of these borings (MRW-2 and MRW-6) will be continued to the top of the Muddy Creek Formation and a 3-well cluster will be installed at each of these locations with the deep well completed just above the Muddy Creek Formation. All wells will be four inches in diameter to allow for potential future pumping tests. The deeper borings will help to address the geologic data gap regarding the location of the top of the Muddy Creek Formation. The 3-well clusters will be used to evaluate vertical gradients near the river as well as water quality changes with depth in the alluvial aquifer.
- At each of the other three locations (MRW-1, MRW-3, and MRW-4) a 4-inch diameter shallow well will be installed that is screened across the water table.
- All shallow monitoring wells will be used to monitor the groundwater elevation adjacent to the river at flow monitoring locations. Existing well P-15AR will serve this purpose at flow monitoring location MR-25.4.

- The flow at the new gauging stations and existing culverts shown on Figure 3 will be measured continuously for at least a year. The data may be accessed remotely or downloaded monthly in the field.
- Transducers will be installed in all new monitoring wells and P-15AR to monitor groundwater levels continuously for at least a year. This data may be accessed remotely or downloaded monthly in the field.
- Equipment will be installed at the gauging stations and monitoring wells to continuously monitor conductivity, chloride, and potentially other parameters. The data may be accessed remotely or downloaded monthly in the field. Groundwater and surface water samples will be collected quarterly for laboratory analysis of additional parameters.
- NVE plans to work with the USGS to have them install and maintain the gauging stations.
- A total of 12 river transects, the diversion dam and culvert elevations will be surveyed.
- Where there is a river transect without a gauging station, a surface water elevation and velocity measurement will be made at the time of the surveying to estimate flow in the river.

NDEP/ARCADIS U.S. made the following suggestions:

- Include temperature in the parameters to be monitored continuously.
- Install flux meters in the monitoring wells to provide both groundwater flow and direction information. However, this may be difficult because flux meters can only be installed in 2-inch diameter wells and 4-inch diameter wells are planned to allow for aquifer testing.
- An explanation of the method to be used to estimate evapotranspiration losses should be included in the Work Plan.
- The Field Investigations section of the Work Plan should clearly explain how the data will be collected.
- Consider screening a well in the Muddy Creek Formation.

NVE plans to submit the draft Work Plan to NDEP in January.

Pond F Solids Removal Completion Report – NVE presented and discussed how they had addressed NDEP’s comments on the draft report. NDEP agreed to the changes and said the report can now be finalized.

Groundwater Monitoring Report (GMR) –NDEP’s comments on the First Semi-Annual 2013 GMR were discussed and the agreed upon changes will be made in the Second Semi-Annual GMR, as follows:

- NVE will include the Annual Sampling Record table in the main body of the GMR rather than on the CD.

- NVE presented a table showing the conditions of wells currently being monitored and agreed to provide this table to NDEP. This table is also used to track resolution of groundwater monitoring problems.
- The use of “low flow” and “no flow” purging was discussed because there are some wells that often purge dry and some wells that consistently produce silty water. NDEP stated that low flow purging could be conducted just until parameters stabilize rather than purging 3 – 5 well volumes. It was agreed that NVE would try low flow purging in a few wells that typically purge dry or produce silty water. This data would then be compared with data collected when the well is purged dry or when 3 – 5 well volumes are purged to evaluate whether to switch to low flow purging. No flow purging using HydraSleeves was also discussed and may be considered at a future date.
- When free product is recovered from HM-48 and MH-50R it will be managed separately and tested for the presence of chlorinated solvents. If the material is determined to be hazardous waste it will be disposed of according to RCRA requirements.
- Although it could still be somewhat emulsified, the diesel free product volumes included in the GMRs were obtained after the product had been allowed to separate in the product recovery tank. Therefore, NVE will continue to report diesel recovery volumes as it has been on previous reports.

ARCADIS U.S. has not been able to find some of the past GMRs on FilesAnywhere. Stanley Consultants will ensure that FilesAnywhere has all of the GMRs available for review.

Diesel Recovery System – The electrical work is in progress now for the modifications to the recovery system.

SA-14 Petroleum Area Work Plan – NVE is currently working on a Laser Induced Fluorescence (LIF) investigation work plan to delineate the presence of free product in the area of SA-14. NVE sent a sample of their free product to a laboratory and has confirmed that it is a good candidate for the (LIF) technology. A grid was set up with 150 – 200 boreholes spaced approximately 30 feet apart. The Work Plan will include flexibility to change locations based on conditions found in the field and will step out from observed product areas to delineate the extent of product. NVE plans to penetrate approximately three to four feet past the top of groundwater at each location until there is about two feet without product detection.

Engineering plans depict the presence of numerous underground utilities within the investigation boundary. Due to the age of the facility it is not known if the engineering plans show a complete inventory of underground structures. Therefore,, NVE is planning to hydro-knife the first six feet at each location and then backfill with sand. This means that no LIF data will be collected in the first six feet. NVE will also collect some soil samples for laboratory analysis. ARCADIS U.S. suggested that NVE consider conducting CPT's next to some LIF locations to gather geophysical information in the area of the product plume. This information could be especially useful when designing the remediation approach. The LIF Work Plan will be submitted to NDEP in December.

Conceptual Site Model (CSM) Visualization – Receptors, such as, near-by drinking wells, rivers or wetlands is being added to the CSM as well as some underground structures and foundations. During the discussion it was confirmed that available CPT data was already included in the model. NVE found the water use application for the Unit 4 dewatering well which indicates the well is approximately 40 feet deep. NVE also found a drawing showing the dewatering trench along the toe of the raw water ponds that is connected to the dewatering well. NVE will provide NDEP with these two items. When the LIF data is collected, it will be added to the CSM. A CSM update workshop will take place in 2014.

Pond 4A/C1/C2 Solids Removal Work Plans – These three Work Plans will be submitted to NDEP for review in mid-December. Solids removal activities are planned to begin in July 2014 with bidding scheduled for spring 2014. NDEP suggested that NVE request a deadline for completing their review when submitting the Work Plans.

PA-5/6/7 Area South of Ponds D/E Work Plan – NVE is expecting to submit this Work Plan in January 2014.

BLM Land Purchase – NVE recently held a meeting with the Moapa Band of Paiutes and the BLM to address concerns regarding the purchase of the WMU-7 and Section 5 areas. BLM was satisfied with the meeting and committed to moving forward with a direct sale of the land to NVE. The Notice of Reality Action (NORA) is currently being processed by the BLM. Because of the federal government shutdown, the timing of the sale is uncertain.

Access to Former Dairy Property – Wells located on the former dairy property might be sampled in December if an access agreement can be signed. NVE is drafting an agreement to present to the property owner. The KMW wells recently discovered on the property will need to be resurveyed.

NDEP Website – The summary description of the Reid Gardner Station on NDEP's website has some inaccuracies and needs to be updated. NVE will send NDEP some suggested text changes. An updated fact sheet and figure will also be provided to NDEP to be uploaded onto the website.

Next AOC Meeting – The next AOC meeting is scheduled for December 10, 2013, even though the current meeting serves as the required fourth quarter meeting. The December meeting would be the fifth AOC meeting in 2013 and is intended to discuss NDEP's comments on the Background Conditions Report and the Muddy River Work Plan. The time and location will be determined at a later date. The first quarter AOC meeting is tentatively scheduled for January 29, 2014.

NDEP Action Items from Quarterly AOC Meeting on October 16, 2013

<u>Priority</u>	<u>Deliverables Already Submitted to NDEP</u>	<u>Submittal Date</u>	<u>Party Responsible</u>	<u>Notes</u>
1	Background Report (Complete Report)	10-4-13	NDEP/ARCADIS	NDEP to provide comments prior to the December 10, 2013 Quarterly AOC meeting.
2	August 2013 AOC Meeting Minutes	10-3-13	NVE/STANLEY CONSULTANTS	NDEP to provide comments
3	Updated Community Relations Fact Sheet and Figure	10-28-13	NDEP/ARCADIS	NDEP to provide comments

<u>Priority</u>	<u>Future Submittals and Action Items</u>	<u>Estimated Delivery Date</u>	<u>Party Responsible</u>	<u>Notes</u>
	October 2013 AOC Meeting Minutes	November 2013	NVE/STANLEY CONSULTANTS	
	Work Plan to further investigate free product in the plant area	December 2013	NVE	
	Pond 4A and Ponds C1/C2 Solids Removal Work Plans	December 2013	NVE/STANLEY CONSULTANTS	NVE plans to begin solids removal activities in 2014.
	Updated Closure Plan	2013	NVE/STANLEY CONSULTANTS	
	Work Plan for Muddy River data collection to develop a preliminary flow balance for the Muddy River as it travels through the Station.	January 2014	NVE/STANLEY CONSULTANTS	
	Work Plan for the installation and sampling of groundwater monitoring wells located south of the E Ponds and former Pond D	January 2014	NVE	
	2013 Annual GMR	1-28-14	NVE/STANLEY CONSULTANTS	
	Ponds D/G solids removal oversight report	TBD	ARCADIS	Arcadis to document their oversight activities

**NV Energy – Reid Gardner Station
Implementation of Administrative Order on Consent
Quarterly AOC Meeting
October 16, 2013, 10:00 AM
List of Attendees**

Name	Representing	Phone	E-Mail
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