UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

January 12, 2012

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL

Mr. Kevin Geraghty
Vice President, Power Generation
NV Energy
PO Box 98910
Las Vegas, Nevada 89151-0001

Re: Request for Action Plan regarding NV Energy - Reid Gardner Generating Station

Dear Mr. Geraghty,

On February 15, 2011 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the NV Energy - Reid Gardner Generating Station facility. The purpose of this visit was to assess the structural stability of the impoundments or other similar management units that contain “wet” handled CCRs. We thank you and your staff for your cooperation during the site visit. Subsequent to the site visit, EPA sent you a copy of the draft report evaluating the structural stability of the units at the NV Energy - Reid Gardner Generating Station facility and requested that you submit comments on the factual accuracy of the draft report to EPA. Your comments were considered in the preparation of the final report.

The final report for the NV Energy - Reid Gardner Generating Station facility is enclosed. This report includes a specific condition rating for each CCR management unit and recommendations and actions that our engineering contractors believe should be undertaken to ensure the stability of the CCR impoundment(s) located at the NV Energy - Reid Gardner Generating Station facility. These recommendations are listed in Enclosure 2.

Since these recommendations relate to actions which could affect the structural stability of the CCR management unit(s) and, therefore, protection of human health and the environment, EPA believes their implementation should receive the highest priority. Therefore, we request that you inform us on how you intend to address each of the recommendations found in the final report. Your response should include specific plans and schedules for implementing each of the recommendations. If you will not implement a recommendation, please provide a rationale. Please provide a response to this request by February 13, 2012. Please send your response to:

Mr. Stephen Hoffman
U.S. Environmental Protection Agency (5304P)
1200 Pennsylvania Avenue, NW

Washington, DC 20460

If you are using overnight of hand delivery mail, please use the following address:

Mr. Stephen Hoffman
U.S. Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Drive
5th Floor, N-5838
Arlington, VA 22202-2733

You may also provide a response by e-mail to hoffman.stephen@epa.gov, kohler.james@epa.gov, and englander.jana@epa.gov.

You may assert a business confidentiality claim covering all or part of the information requested, in the manner described by 40 C. F. R. Part 2, Subpart B. Information covered by such a claim will be disclosed by EPA only to the extent and only by means of the procedures set forth in 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when EPA receives it, the information may be made available to the public by EPA without further notice to you. If you wish EPA to treat any of your response as "confidential" you must so advise EPA when you submit your response.

EPA will be closely monitoring your progress in implementing the recommendations from these reports and could decide to take additional action if the circumstances warrant.

You should be aware that EPA will be posting the report for this facility on the Agency website shortly.

Given that the site visit related solely to structural stability of the management units, this report and its conclusions in no way relate to compliance with RCRA, CWA, or any other environmental law and are not intended to convey any position related to statutory or regulatory compliance.

Please be advised that providing false, fictitious, or fraudulent statements of representation may subject you to criminal penalties under 18 U.S.C. § 1001.

If you have any questions concerning this matter, please contact Mr. Hoffman in the Office of Resource Conservation and Recovery at (703) 308-8413. Thank you for your continued efforts to ensure protection of human health and the environment.

Sincerely,
/Suzanne Rudzinski/, Director
Office of Resource Conservation and Recovery

Enclosure

Enclosure 2

NV Energy - Reid Gardner Generating Station Recommendations (from the final assessment report)

11.0 Conclusions

11.1 Assessment of Dams

11.1.1 Field Assessment

No visual signs of instability, movement or seepage were observed for the embankments and associated facilities at RGGS. Issues of potential concern for the eight CCW impoundments were identified from our field assessment as follows:

- Embankment slopes of the impoundments showed minor signs of erosion from surface runoff and tire rutting on Ponds B1, C1, C2, E1, and E2. NV Energy has indicated they have initiated repairs to the erosion noted during the site assessment and that visual observations are planned after significant rainfall events to check for erosion.
- Minor damages to the HDPE liner system involving small, localized, unsealed connections, tears, and bulging, at Ponds B1, B3, C1, and E1. NV Energy has indicated they have initiated repairs to the HDPE liner damages noted during the site assessment.
- Portions of downstream slopes on the north dike of Pond C1 and on the north end of the west dike of C2 appear to be slightly oversteepened. NV Energy has indicated they will restore these slopes to the original design slopes of 2H:1V, included as part of the erosion repairs.
- The 16-inch gravity pipe adjacent, and parallel, to the toe of the Pond F dike provides a potential seepage and erosion pathway that should be monitored. NV Energy has indicated the 16-inch gravity pipe and pipe alignment will be monitored regularly to identify potential seepage or sediment transport.
- The proximity of the Muddy River to the toe of the Pond F dike at the northeast extent of the dike increases the potential for bank erosion that could reduce the stability, or undermine the dike. NV Energy has indicated that the dike will be inspected regularly to promptly identify and address erosion.
- Future removal of the Pond G dike should be planned to not adversely affect the performance of the Pond F dike slurry wall. NV Energy has indicated that the Pond G dikes will not be removed until Pond F is out of service.

11.1.2 Adequacy of Structural Stability

Records of a structural stability evaluation of the impoundments were provided by the RGGS personnel. The calculated factors of safety met or exceeded the minimum required factors of safety for the impoundments.

A detailed liquefaction analysis had not been previously performed. The dike foundations include loose, saturated, granular soil, which may be susceptible to significant strength loss or settlement under the anticipated earthquake loading. If further evaluation indicates there is a potential for liquefaction to affect the stability of an embankment, then the pseudo-static stability analysis performed by NVE would not be applicable and a post-liquefaction stability analysis would be necessary. As a result of this review, NVE has initiated a study of the liquefaction potential of the impoundments to include field investigations, analysis, and assessment of the liquefaction potential relative to stability of the impoundments.

11.1.3 Adequacy of Hydrologic/Hydraulic Safety

The eight CCW impoundments at the RGGS currently appear to have adequate freeboard and storage capacity to safely store the 24-hour, 100-year storm event inflow design flood.

11.1.4 Adequacy of Instrumentation and Monitoring of Instrumentation

The impoundments have staff gauges and groundwater monitoring wells. Surveyed benchmarks and embankment settlement monuments to enable measurement and monitoring of movement of the dikes should be considered.

11.1.5 Adequacy of Maintenance and Surveillance

The impoundments at the RGGS have adequate maintenance and surveillance programs. The facilities are generally well maintained and routine surveillance is performed by RGGS staff. Dam safety inspections for the impoundments are performed every three years by a NDWR inspector.

11.1.6 Adequacy of Project Operations

Operating personnel are knowledgeable and are well trained in the operation of the project. The current operations of the facilities are satisfactory.

12.0 Recommendations

12.1 Corrective Measures and Analyses for the Structures

☐ We concur with NVE's plan to conduct a study of the liquefaction potential of the impoundments to include field investigations, analysis, and assessment of the liquefaction potential relative to stability of the impoundments. If the results indicate there is a potential for liquefaction to affect the stability of an embankment, then the pseudo-static stability analysis performed by NVE would no longer be applicable and a post-liquefaction stability analysis would be necessary.

Additional improvements to address stability of the impoundments may be necessary depending on the findings of the liquefaction potential evaluation.

☐ Clear vegetation from the Pond F dike slopes above the Muddy River. Monitor the bank of the Muddy River for erosion to assess the potential for encroachment of the river on the toe of the Pond F dike at the northeast extent of Pond F.

☐ Protect the integrity of the Pond F dike slurry wall by not removing the adjacent Pond G dikes until Pond F is out of service.

☐ Monitor the 16-inch gravity pipe adjacent to the toe of Pond F dike for visual signs of erosion or seepage because of its critical location adjacent to the toe of the embankments.

☐ Perform repairs to the HDPE lining to seal the interstitial liner drainage system.

12.2 Corrective Measures Required for Instrumentation and Monitoring Procedures

We recommend a more thorough instrumentation and monitoring program is developed and implemented. NVE has initiated surveys of concrete pads on the dikes and this may provide useful information on movement of the dike. If surveys of the concrete pads are found to be not representative of embankment movement, then we recommend that settlement monuments be installed. We recommend that uniform dike crest elevations be established in order to help with visual identification of settlement and to avoid the potential for concentrated flow if impoundments should overtop. We recommend a standardized monitoring program be established that includes all monitoring instrumentation and documents the methods used for data collection.

12.3 Corrective Measures Required for Maintenance and Surveillance Procedures

We recommend NV Energy develop and document formal inspections of the CCW impoundments, at a minimum to be performed annually by plant staff. We recommend a brief daily check inspection be conducted by RGGS personnel and that a written record is maintained for the monthly inspections being conducted by NV Energy personnel. Also, continue efforts to repair minor erosion, oversteepened banks, and damage to the HDPE liner system as necessary.

12.4 Corrective Measures Required for the Methods of Operation of the Project Works
None.

12.5 Summary
The following factors were the main considerations in determining the final rating of the CCW impoundments at RGGS.
☐ The dikes at the CCW impoundments are Significant-Hazard structures based on federal and state classifications.
☐ The impoundments were generally observed to be in good condition in the field assessment.
☐ Detailed liquefaction potential evaluations have not been performed and are warranted based on loose, saturated, granular foundation soil that appears to be present in the dike foundations across the site and the seismicity of the area. We recognize that NVE has initiated a liquefaction potential study, however the results will not be available in time to address in this report.
☐ Operational procedures are considered adequate

12.6 Acknowledgement of Assessment
I acknowledge that the management units referenced herein were personally inspected by me and were found to be in the following condition:

Impoundment	***Rating***
Pond F	**FAIR**
Pond E1	**FAIR**
Pond E2	**FAIR**
Pond 81	**FAIR**
Pond 82	**FAIR**
Pond 83	**FAIR**
Pond C1	**FAIR**
Pond C2	**FAIR**