Ameren

Ameren Services

July 27, 2011

Mr. Stephen Hoffman
U.S. Environmental Protection Agency (5304P)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Mr. Hoffman:

In letters to Mr. Michael Menne dated June 27, 2011, the USEPA requested information on how Ameren intended to address recommendations found in final reports on the structural stability of the CCR management units at our Coffeen, Duck Creek, ED Edwards, Meredosia, and Newton facilities. These reports were prepared by your engineering contractors based on site visits and provided their evaluations of the structural stability of the CCR management units at those facilities.

In 2010 and citing investigation authority under CERCLA, USEPA instituted a review of coal ash impoundments at electric generating facilities located throughout the United States. Ameren Corporation and its operating companies cooperated fully with that investigation and provided a variety of engineering documentation and made its facilities available for site inspections performed by USEPA's engineering consultant. That limited review effort has culminated in USEPA's issuance of reports regarding the structural stability of impoundments located at our facilities. While many of the observations are routine, we do have some concerns as to the methodology and process employed in drafting the reports. As a preliminary matter, the language used by your consultant is not tied to a regulatory definition, engineering standard or protocol. As such, a classification of "Priority 1" or Priority 2" is both ill-defined and highly subjective. Similarly, condition ratings such as "satisfactory"," fair"," poor", "unsatisfactory" or "unknown" also lack regulatory or statutory definition. To the extent USEPA has created its own standard and/or grading system; such a process could create confusion and be misleading to members of the public who are unfamiliar with the regulatory and engineering standards applicable to these facilities.

In fact, USEPA's regulatory basis both for its initial investigation and most recent correspondence regarding structural assessments remains unclear. (As you are aware, USEPA has proposed revisions to RCRA which would allow for the direct regulation including the engineering and design of impoundments and landfills. That regulatory process, however, has not been finalized.) In fact, state regulatory authorities such as IDNR traditionally have authority over the structural integrity of such facilities through their dam safety programs. Accordingly, in responding to USEPA's reports regarding the structural stability of CCR management units at our facilities, Ameren reserves its right to object to USEPA's assertion of jurisdiction in an area that appears to be outside of its regulatory purview. To the extent that Ameren has decided to implement a recommendation, such implementation is on a voluntary basis.

1901 Chouteau Avenue
PO Box 66149, MC 602
St. Louis, MO 63166-6149
Ameren.com

Subject to the above comments and objections, Ameren has attached each letter and has provided it's response in red. In our responses, we reference other documents which due to their size we will send those documents separately on a CD. All documents submitted should be considered and treated as Confidential Business Information.

If you have any further questions please feel free to contact me.

Sincerely,

Paul R. Pike
Environmental Science Executive
Environmental Services
T 314.554.2388
F 314.554.4182
ppike@ameren.com

Attachments

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

June 27, 2011

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Michael Menne, Vice President Environmental Services
Ameren Energy
One Ameren Plaza
1901 Chouteau Avenue
P.O. Box 66149
St Louis, Mo. 63166-6149

Dear Mr. Menne,

On August 12, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Coffeen 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 Coffeen 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 Coffeen 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 Coffeen facility. These recommendations are listed in Enclosure 2.

Since these recommendations relate to actions which could affect the structural stability of the CCR management units 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 explain why. Please provide a response to this request by July 27, 2011. 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

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

Enclosures

Priority 1 Recommendation: Priority 1 Recommendations involve the correction of severe deficiencies where action is required to ensure the structural safety and operational integrity of a facility or that may threaten the safety of the impoundment.
Priority 2 Recommendation: Priority 2 Recommendations are where action is needed or required to prevent or reduce further damage or impaired operation of the facility and/or improve or enhance the O&M of the facility, that do not appear to threaten the safety of the impoundment.

Based on observations during the site assessment, it is recommended that the following actions be taken at the Coffeen Power Generating Station.

6.2 Priority 1 Recommendations

Ameren is pleased and agrees with the report's conclusion that "Overall, the site is reasonably well maintained and operated with a few areas of concern as discussed in Section 6, Recommendations" and was given a "FAIR" condition rating. With this in mind, Ameren disagrees with the classification of these recommendations as Priority 1, which, by the definition in 6.1, implies that there are severe deficiencies in need of correction. Ameren feels that the recommendations are more accurately characterized as Priority 2 and further responds to the recommendations as noted below.

1. **Prepare an Emergency Action Plan (EAP) for the Recycle Pond and Gypsum Reclaim Pond by 08/01/2011.** An EAP should be prepared for the Recycle Pond and Gypsum Reclaim Pond as well as any other pertinent features related to the impoundments.

The Gypsum Reclaim Pond, herein identified as the GMF Recycle Pond Dam as indicated on the Illinois Department of Natural Resources – Office of Water Resources (IDNR-OWR) permit number DS2008025 (State Dam ID - IL50578), has been evaluated to be a Class III dam (equivalent to "Low Hazard Potential") because a failure of this dam is not anticipated to result in loss of life or any significant economic damage and is not required to have an EAP per IDNR-OWR regulations. Ameren does not agree with the recommendation that the hazard rating of the GMF Recycle Pond Dam should be changed to "Significant Hazard Potential" and does not agree with the recommendation that the Recycle Pond should be assigned a "Significant Hazard Potential" rating. Ameren believes a "Low Hazard Potential" rating for the Recycle Pond is appropriate. Ameren will however, for internal purposes, develop an Emergency Plant Procedure (EPP) to provide guidance and information for response to emergencies involving dam failure/loss of integrity at the GMF Recycle Pond Dam and Recycle Pond that will be incorporated into the existing plant EAP and plans to have this completed by 12/31/2011.

2. **Perform a hydrologic and hydraulic study by 08/01/2011.** A hydrology and hydraulic (H&H) study should be performed for the Recycle Pond to determine if it is capable of impounding the appropriate inflow design flood without overtopping. At a minimum, documentation required for this evaluation will include a current topographic survey of the site and surrounding drainage basin, basin characteristics (surface runoff/infiltration condition), and sufficient hydrologic data to determine the design storm

event. The capacity of the CMP outlet should also be determined. A complete set of calculations, assumptions, and methods for the
Gypsum Reclaim Pond's hydrologic and hydraulic analysis should also be provided for review.

The design of the Recycle Pond was performed by a Professional Engineer. The Recycle Pond is a perched impoundment that receives no storm water runoff beyond that which falls directly on the impoundment. It has been in operation in its current configuration since 1979 and has had no known issues regarding overtopping. The bottom ash from the Recycle Pond is continuously removed for beneficial use purposes and the water surface area remains constant. There is no reason to believe that the overflow is not adequately designed therefore an H&H analysis will not be performed for the Recycle Pond. The H&H analysis for the Gypsum Reclaim Pond has been included with this response.

3. **Establish seepage and ground water monitoring program by 08/01/2011.** As discussed in Section, 3.5, ponded water was observed at various locations along the downstream embankment of the Recycle Pond. The presence of water at the downstream toe of the embankment raises questions regarding the integrity and the stability of the embankment. Therefore, a detailed monitoring program should be established to quantify various important factors, including the source of the water (seepage or surface runoff) and, if seepage is the source of the ponded water, seepage quantities through the embankment, the amount of sediments carried by the seepage water, and the fluctuation of ground water levels.

The areas where ponded water was observed during the site assessment have been or are being re-graded to establish drainage from storm water runoff. The ponding water shown in photo 4 in the report has been eliminated and the area is currently dry. Plant personnel inspect the impoundment (and all other CCR impoundments) weekly and licensed engineers from the Dam Safety Group perform annual inspections. In these inspections, the embankments are monitored for seepage, including monitoring for the presence of sedimentation and changes in seepage flows. Any significant areas of seepage that develop and progress will be handled accordingly through the Dam Safety Group however there are currently no known areas of significant seepage occurring. Ameren will begin measuring and documenting the levels in the piezometers that were installed in conjunction with the stability analysis on a monthly basis beginning in July, 2011 and on a quarterly basis beyond 2011. Ameren has installed a monitoring well system to characterize the groundwater in the vicinity of our ash ponds as requested by the Illinois Environmental Protection Agency and is taking quarterly readings at the wells.

4. **Perform embankment and structure stability analyses by 08/01/2011.** The slopes of the Recycle Pond were steep, appearing to be 1.5H:1V in some cases, and their stability is unknown. Due to the lack of documented engineering design analysis, new stability analyses of both impoundments should be performed, or recently performed stability analyses should be provided for review. The analyses should incorporate seepage monitoring data and include evaluation of the embankments and the structures under seismic loading scenarios. According to Ameren, this task is currently being completed by another consultant retained by Ameren Energy. The results of this evaluation and the stability evaluation for the Gypsum Reclaim Pond should be provided to the EPA for review.

Ameren's consultant has completed the embankment stability analyses for the Recycle Pond and results of the analyses as well as the results of the embankment stability analyses for the Gypsum Recycle Pond have been included with this response.

5. **Perform video assessments of CMP outlet on the Recycle Pond by 08/01/2011.** A video inspection should be performed on this outlet to assess the condition of the conduit and its ability to pass the appropriate design event.

Ameren will perform a video inspection of the CMP outlet and plans to have this completed by 8/31/2011.

6. **Control vegetation on the upstream and downstream slopes by 08/01/2011.** Refer to Federal Emergency Management Agency's (FEMA) Manual 534, "Impact of Plants on Earthen Impoundments", for guidance on vegetation removal. This manual is available on the FEMA website.

All trees have been removed and Ameren controls vegetation by mowing the slopes twice yearly and the first yearly mowing has been completed.

7. **Repair sloughs on South and East embankments of Recycle Pond by 08/01/2011.** Minor sloughing on the south and east embankments should be repaired with engineered fill and sod cover re-established.

The shallow sloughing noted in the report is minor and superficial in nature. These sloughs were originally observed and documented in a consultant inspection in 1999 and observations during routine inspections have shown no change in conditions. Ameren will continue to monitor these areas during inspections and any progression of the sloughing will be repaired as required.

6.3 Priority 2 Recommendations

1. **Repair erosion of embankment by 08/01/2011.** Minor surface erosion was noted at both the Recycle Pond and Gypsum Reclaim Pond. Areas where erosion has occurred should be filled in and re-dressed with appropriate fill in order to prevent erosion from cutting further into the embankments.

Ameren will repair the minor surface erosion on both impoundments and re-seed as required and plans to have this completed by October 1, 2011 when the weather is conducive to the establishment of vegetation.

2. **Maintain a log of maintenance and other activities at the impoundments and supporting facilities.** We believe that this log will provide continuity during periods of staff change.

A log of maintenance and other activities will be kept and maintained electronically by the plant and Dam Safety Group.

3. **Develop an Operation and Maintenance (O&M) manual for the Recycle Pond by 08/01/2011.** The O&M manual should include at least the following three key elements:

• Procedures needed for operation and maintenance of the impoundment during typical operating conditions

• Procedures for monitoring performance of the impoundment, including visible changes (i.e. surface erosion, settlement and sloughing), internal embankment changes (i.e. erosion due to uncontrolled seepage), and fluctuations in groundwater level
• Emergency Action Plan (also part of Priority 1 Recommendations)

Ameren will develop an O&M manual for the Recycle Pond and plans to have this completed by 12/31/2011.

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

June 27, 2011

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Michael Menne, Vice President Environmental Services
Ameren Energy
One Ameren Plaza
1901 Chouteau Avenue
P.O. Box 66149
St Louis, Mo. 63166-6149

Dear Mr. Menne,

On August 11, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Duck Creek 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 Duck Creek 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 Duck Creek 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 Duck Creek facility. These recommendations are listed in Enclosure 2.

Since these recommendations relate to actions which could affect the structural stability of the CCR management units 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 explain why. Please provide a response to this request by July 27, 2011. Please send your response to:

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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.

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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

Enclosures

6.1 Definitions

Priority 1 Recommendation: Priority 1 Recommendations involve the correction of severe deficiencies where action is required to ensure the structural safety and operational integrity of a facility and that may threaten the safety of the impoundment.

Priority 2 Recommendation: Priority 2 Recommendations occur when action is needed or required to prevent or reduce further impoundment or impair operation and/or improve or enhance the O&M of the facility, that do not appear to threaten the safety of the impoundment.

Based on observations during the site assessment, it is recommended that the following actions be taken at the Duck Creek Power Generating Station.

6.2 Priority 1 Recommendations

Ameren is pleased and agrees with the report's conclusion that "Overall, the site is reasonably well maintained and operated with a few areas of concern as discussed in Section 6, Recommendations" and was given a "FAIR" condition rating. With this in mind, Ameren disagrees with the classification of these recommendations as Priority 1, which, by the definition in 6.1, implies that there are severe deficiencies in need of correction. Ameren feels that the recommendations are more accurately characterized as Priority 2 and further responds to the recommendations as noted below.

1. **Prepare an emergency action plan (EAP) for the facility by 8/1/2011.** An EAP should be prepared for the Fly Ash Pond Number 1 and Fly Ash Pond Number 2 as well as any other pertinent features related to the impoundments. The EAP should be reviewed by the EPA.

Fly Ash Pond 2 is currently regulated by the IDNR-OWR as a Class III Dam (equivalent to Low Hazard Potential) under permit 17252 (dam ID IL-and an EAP is not a requirement for this class of dam under state regulations because a failure of this dam is not anticipated to result in loss of life or any significant economic damage. Fly Ash Pond 1, which was recommended to be assigned a "Low Hazard Potential", would also not be required to have an EAP per the state regulations. Further, both Fly Ash Ponds have been permanently taken out of service and are in the process of being decommissioned. Piping systems to the ponds have been disabled and the ponds no longer receive any in-flows other than storm water. Fly Ash Pond 1 has been dewatered and Fly Ash Pond 2 is in the process of being dewatered. Based on this Ameren does not feel it is warranted to prepare EAP's for these impoundments.

2. **Perform a hydrologic and hydraulic study for Fly Ash Pond Number 1 by 8/1/2011.** This study should be performed to determine if the pond is capable of impounding the appropriate precipitation event since the drainage channels inside the impoundment perimeter cover a relatively small area compared to the potential runoff area within the impoundment. An impoundment break analysis should also be completed to determine the possible effects on the safety of people and the environment downstream of the facility. The results of this evaluation should be reviewed by the EPA.

Fly Ash Pond 1 has been dewatered and storm water that accumulates is pumped out of the ash pond as required. Ameren does not feel an H&H study is necessary.

3. **Perform embankment stability analyses by 8/1/2011.** Due to the lack of documented stability analyses under current conditions, new stability analyses of all impoundments should be performed. The analyses should incorporate seepage monitoring data and include an evaluation of the embankments and the outlet pipe for Fly Ash Pond Number 2 under seismic loading scenarios. According to Ameren, we understand that this task is currently being completed by another consultant retained by Ameren Energy. The results of this evaluation should be reviewed by the EPA.

Ameren's consultant has completed the embankment stability analyses for the both impoundments and results of the analyses have been included with this response.

4. **Perform video assessments of culvert piping by 8/1/2011**. Culvert piping used for the outlet from Fly Ash Pond Number 2 is reinforced concrete pipe. A video assessment should be performed of this pipe to determine its effectiveness and if remedial actions are necessary.

As previously indicated, Fly Ash Pond 2 is being dewatered and is in the process of being decommissioned. Ameren does not plan to perform a video assessment of this pipe.

5. **Control vegetation on the upstream and downstream slopes. Remove the trees from the embankment, including the large tree at the overflow outlet discharge point by 8/1/2011.** Refer to FEMA Manual 534 – Impact of Plants on Earthen Impoundments for guidance on vegetation removal. This manual is available on the FEMA website.

With the completely dewatered condition of Ash Pond 1, Ameren does not feel that the trees in the embankments are detrimental to the safety of the impoundment and does not plan to remove the trees at this time. Final closure activities will include removal of trees and re-dressing the slopes as required. Ameren controls vegetation by mowing the slopes twice yearly and the first yearly mowing has been completed.

6.3 Priority 2 Recommendations

1. **Repair erosion of embankments.** Minor surface erosion was noted at both the Fly Ash Pond Number 1 and Fly Ash Pond Number 2. Areas where erosion has occurred should be filled in and re-dressed with appropriate fill to prevent erosion from cutting further into the embankments.

Ameren will evaluate and repair the minor surface erosion on both impoundments and re-seed as required and plans to have this completed by October 1, 2011 when the weather is conducive to the establishment of vegetation.

2. **Maintain a log of maintenance and other activities at the fly ash impoundments and supporting facilities.** We believe that this log will provide continuity during periods of staff change.

A log of maintenance and other activities will be kept and maintained electronically by the plant and Dam Safety Group.

3. **Develop an Operation and Maintenance (O&M) manual for the impoundments and the facility by 8/1/2011.** The O&M manual should include at least the following three key elements:

Since both ponds have been permanently taken out of service and are no longer operated, Ameren does not intend to develop an O&M manual for these impoundments.

- Procedures needed for operation and maintenance of the impoundments during typical operating conditions
- Procedures for monitoring performance of the impoundments, including visible changes such as surface erosion, settlement and sloughing; internal embankment changes (such as erosion) due to uncontrolled seepage; and fluctuations in groundwater level
- The EAP

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

June 27, 2011

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VIA E-MAIL AND FEDERAL EXPRESS

Mr. Michael Menne, Vice President Environmental Services
Ameren Energy
One Ameren Plaza
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St Louis, Mo. 63166-6149

Dear Mr. Menne,

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The final report for the ED Edwards 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 ED Edwards facility. These recommendations are listed in Enclosure 2.

Since these recommendations relate to actions which could affect the structural stability of the CCR management units 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 explain why. Please provide a response to this request by July 27, 2011. Please send your response to:

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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

Enclosures

Recommendations
Recommendations shall be written concisely and identify the specific actions to be taken. The first word in the recommendation should be an action word (i.e. "Prepare," "Perform," or "Submit"). The recommendations shall be prioritized and numbered to provide easy reference. Impoundment safety recommendations shall be grouped, listed, or categorized similar to the U.S. Department of Interior, "Reclamation Manual, Directives and Standards, Review/Examination Program for High- and Significant-Hazard Impoundments," FAC 01-07 dated July 1998 as follows:

Priority 1 Recommendations: Priority 1 Recommendations involve the correction of severe deficiencies where action is required to ensure the structural safety, operational integrity of a facility, and the safety of the impoundment.
Priority 2 Recommendations: Priority 2 Recommendations are where action is needed or required to prevent or reduce further damage, impair operation, and/or improve or enhance the O&M of the facility. These items do not appear to threaten the safety of the impoundment.

Priority 1 Recommendations

Ameren is pleased and agrees with the report's conclusion that "Overall, the site is reasonably well maintained and operated with a few areas of concern as discussed in Section 6, Recommendations" and was given a "FAIR" condition rating. With this in mind, Ameren disagrees with the classification of these recommendations as Priority 1, which, by the definition in 6.1, implies that there are severe deficiencies in need of correction. Ameren feels that the recommendations are more accurately characterized as Priority 2 and further responds to the recommendations as noted below.

1. Prepare an EAP for the facility.

As previously clarified in our response to the draft report, Ameren reiterates that the ash pond impoundment is a single pond that has been divided into three cells, not individual impoundments as indicated in the report. All interior dikes are of ash construction. This configuration has evolved to support operational requirements of the plant. Ameren does not agree with the recommendation that the Ash Pond should be assigned a "Significant Hazard Potential" rating. Ameren believes a "Low Hazard Potential" rating is appropriate because a failure of this dam is not anticipated to result in loss of life or any significant economic damage. Ameren will however, for internal purposes, develop an Emergency Plant Procedure (EPP) to provide guidance and information for response to emergencies involving dam failure/loss of integrity at the Ash Pond that will be incorporated into the existing plant EAP and plans to have this completed by 12/31/2011.

2. Perform a hydrologic and hydraulic study.

Ameren will perform a hydrologic and hydraulic study and plans to have this completed by 12/31/2011.

3. Review stability and seismic analyses that are being prepared by Ameren Energy.

Ameren's consultant has completed the embankment stability analyses for the Ash Pond and results of the analyses have been included with this response.

4. Evaluate the depth and rate of movements of the west slope.

The shallow slide identified on the west slope has been repaired and re-seeded. No additional movements have been observed during inspections.

5. Monitor potential erosion in creek.

Plant personnel inspect the impoundment (and all other CCR impoundments) weekly and licensed engineers from the Dam Safety Group perform annual inspections. In these inspections, the embankment along the creek is monitored for erosion. Any significant areas of erosion that develop and progress will be handled accordingly through the Dam Safety Group.

6. Perform video assessments of culvert piping.

These three culvert pipes are relatively short and accessible and the plant was able to visually inspect the pipes. The culvert pipe connecting the north area of the ash pond was recently replaced with a new pipe. The two culvert pipes connecting the serpentine channels to the polishing end of the ash pond were found to be structurally sound with minor surfacing rusting and no obstructions to flow. Video inspections will not be performed however the pipes will continue to be visually observed during inspections and will be replaced when necessary as conditions warrant.

7. Control vegetation on the upstream and downstream slopes.

Ameren controls vegetation by mowing the slopes twice yearly and the first yearly mowing has been completed.

Priority 2 Recommendations

1. Repair erosion of embankments.

Ameren will repair the minor surface erosion on both impoundments and re-seed as required and plans to have this completed by October 1, 2011 when the weather is conducive to the establishment of vegetation.

2. Maintain a log of maintenance and other activities at the fly ash impoundments and supporting facilities.

A log of maintenance and other activities will be kept and maintained electronically by the plant and Dam Safety Group.

3. Monitor groundwater levels.

Ameren has installed a monitoring well system to characterize the groundwater in the vicinity of our ash ponds as requested by the Illinois Environmental Protection Agency and is taking quarterly readings at the wells.

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

June 27, 2011

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Michael Menne, Vice President Environmental Services
Ameren Energy
One Ameren Plaza
1901 Chouteau Avenue
P.O. Box 66149
St Louis, Mo. 63166-6149

Dear Mr. Menne,

On August 10, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Meredosia 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 Meredosia 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 Meredosia 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 Meredosia facility. These recommendations are listed in Enclosure 2.

Since these recommendations relate to actions which could affect the structural stability of the CCR management units 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 explain why. Please provide a response to this request by July 27, 2011. 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

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

Enclosures

6.1 Definitions

Priority 1 Recommendation: Priority 1 Recommendations involve the correction of severe deficiencies where action is required to ensure the structural safety, operational integrity of a facility, and that may threaten the safety of the impoundment.

Priority 2 Recommendation: Priority 2 Recommendations where action is needed or required to prevent or reduce further damage or impair operation and/or improve or enhance the O&M of the facility, that do not appear to threaten the safety of the impoundment.

Based on observations during the site assessment, it is recommended that the following actions be taken at the Meredosia Power Generating Station.

6.2 Priority 1 Recommendations

Ameren is pleased and agrees with the report's conclusion that "Overall, the site is reasonably well maintained and operated with a few areas of concern as discussed in Section 6, Recommendations" and was given a "FAIR" condition rating. With this in mind, Ameren disagrees with the classification of these recommendations as Priority 1, which, by the definition in 6.1, implies that there are severe deficiencies in need of correction. Ameren feels that the recommendations are more accurately characterized as Priority 2 and further responds to the recommendations as noted below.

1. **Prepare an emergency action plan (EAP) for the facility by 8/2/2011.** An EAP should be prepared for the Fly Ash and Bottom Ash Ponds as well as any other pertinent features related to the impoundments. The EAP should be reviewed by the EPA.

Ameren will however, for internal purposes, develop an Emergency Plant Procedure (EPP) to provide instructions and notifications for emergency response in the event of a developing dam safety situation for the Fly Ash Pond and Bottom Ash Pond that will be incorporated into the existing plant EAP and plans to have this completed by 12/31/2011.

2. **Perform a hydrologic and hydraulic study by 8/1/2011.** This study should be performed to determine if the existing ponds are capable of impounding the appropriate inflow design flood without overtopping of the impoundments. At a minimum, documentation required for this evaluation will include a current topographic survey of the site and surrounding drainage basin, basin characteristics (surface runoff/infiltration condition) and sufficient hydrologic data to determine the design storm event. The results of this evaluation should be reviewed by the EPA.

Ameren will perform a hydrologic and hydraulic study and plans to have this completed by 12/31/2011.

3. **Establish seepage and ground water monitoring program by 8/1/2011**. As discussed in Section, 3.5, seepage water at various locations along the downstream embankment of the Fly Ash pond was observed. The presence of seepage water at the downstream embankment raises serious questions regarding the integrity and the

stability of the embankment. Therefore, a detailed monitoring program should be established to quantify various important factors including seepage quantities through the embankment, the amount of sediments carried by the seepage water, and the fluctuation of ground water levels. The results of this evaluation should be reviewed by the EPA.

Plant personnel inspect the impoundment (and all other CCR impoundments) weekly and licensed engineers from the Dam Safety Group perform annual inspections. In these inspections, the embankments are monitored for seepage, including monitoring for the presence of sedimentation and changes in seepage flows. Any significant areas of seepage that develop and progress will be handled accordingly through the Dam Safety Group however there are currently no known areas of significant seepage occurring. Ameren will begin measuring and documenting the levels in the piezometers that were installed in conjunction with the stability analysis on a monthly basis beginning in July, 2011 and on a quarterly basis beyond 2011. Ameren has installed a monitoring well system to characterize the groundwater in the vicinity of our ash ponds as requested by the Illinois Environmental Protection Agency and is taking quarterly readings at the wells.

4. **Perform embankment and structure stability analyses by 8/1/2011.** The slopes of the Bottom Ash Pond were steep, appearing to be 1H:1V in some cases, and their stabilities are is unknown. Due to the lack of documented engineering design analysis, new stability analyses of both impoundments should be performed. The analyses should incorporate seepage monitoring data and include evaluation of the embankments and the structures under seismic loading scenarios. According to Ameren, we understand that this task is currently being completed by another consultant retained by Ameren Energy. The results of this evaluation should be reviewed by the EPA.

Ameren's consultant has completed the embankment stability analyses and results of the analyses have been included with this response.

5. **Perform video assessments of culvert piping by 8/1/2011.** Culvert piping used for the outlet works of the impoundments is vitrified clay pipe. As this pipe is either past or nearing the end of its life expectancy, a video assessment should be performed of all culvert piping to determine its effectiveness and if remedial actions are necessary.

A video assessment of the bottom ash pond revealed no significant conditions requiring action. A video inspection of the fly ash pond is planned for late July, 2011.

6. **Control vegetation on the upstream and downstream slopes. Remove the trees and stumps from the embankment including the large tree at the overflow outlet discharge point by 8/1/2011.** Refer to FEMA Manual 534 (Impact of plants on Earthen Impoundments) for guidance on vegetation removal. This manual is available on the FEMA website.

All trees have been removed and Ameren controls vegetation by mowing the slopes twice yearly. The first yearly mowing has been completed.

6.3 Priority 2 Recommendations

1. **Repair erosion of embankment.** Minor surface erosion was noted at both the Bottom Ash Pond and Fly Ash Pond. Areas where erosion has occurred should be filled

in and re-dressed with appropriate fill in order to prevent erosion from cutting further into the embankments.

Ameren will repair the minor surface erosion on both impoundments and re-seed as required and plans to have this completed by October 1, 2011 when the weather is conducive to the establishment of vegetation.

2. **Review the condition of riprap at the downstream toe of the bottom ash embankment and upgrade the riprap, if needed, to meet typical requirements for riprap size and placement by 12/1/2011.**

Ameren will evaluate the condition of the riprap as indicated by 12/1/2011.

3. **Maintain a log of maintenance and other activities at the fly ash impoundments and supporting facilities.** We believe that this log will provide continuity during periods of staff change.

A log of maintenance and other activities will be kept and maintained electronically by the plant and Dam Safety Group.

4. **Develop an Operation and Maintenance (O&M) manual for the impoundments and the facility by 8/1/2011.** The O&M manual should include at least the following three key elements:

- Procedures needed for operation and maintenance of the impoundments during typical operating conditions
- Procedures for monitoring performance of the impoundments, including visible changes such as surface erosion, settlement and sloughing; internal embankment changes such as erosion due to uncontrolled seepage; and fluctuations in groundwater level
- The EAP

Ameren will develop an O&M manual for the impoundments and plans to have this completed by 12/31/2011.

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

June 27, 2011

OFFICE OF
SOLID WASTE AND
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VIA E-MAIL AND FEDERAL EXPRESS

Mr. Michael Menne, Vice President Environmental Services
Ameren Energy
One Ameren Plaza
1901 Chouteau Avenue
P.O. Box 66149
St Louis, Mo. 63166-6149

Dear Mr. Menne,

On August 18, 2010 the United States Environmental Protection Agency ("EPA") and its engineering contractors conducted a coal combustion residual (CCR) site assessment at the Newton 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 Newton 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 Newton 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 Newton facility. These recommendations are listed in Enclosure 2.

Since these recommendations relate to actions which could affect the structural stability of the CCR management units 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 explain why. Please provide a response to this request by July 27, 2011. Please send your response to:

Mr. Stephen Hoffman
U.S. Environmental Protection Agency (5304P)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

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Arlington, VA 22202-2733

You may also provide a response by e-mail to hoffman.stephen@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

Enclosures

6.1 DEFINITIONS

Priority 1 Recommendation: Priority 1 Recommendations involve the correction of severe deficiencies where action is required to ensure the structural safety and operational integrity of a facility, or that may threaten the safety of the impoundment.
Priority 2 Recommendation: Priority 2 Recommendations are where action is needed or required to prevent or reduce further damage or impaired operation of the facility and/or improve or enhance the O&M of the facility, that do not appear to threaten the safety of the impoundment.

Based on observations during the site assessment, it is recommended that the following actions be taken at the Newton Power Generating Station.

6.2 PRIORITY 1 RECOMMENDATIONS

Ameren is pleased and agrees with the report's conclusion that "Overall, the site is reasonably well maintained and operated with a few areas of concern as discussed in Section 6, Recommendations" and was given a "FAIR" condition rating. With this in mind, Ameren disagrees with the classification of these recommendations as Priority 1, which, by the definition in 6.1, implies that there are severe deficiencies in need of correction. Ameren feels that the recommendations are more accurately characterized as Priority 2 and further responds to the recommendations as noted below.

1. Prepare an Emergency Action Plan (EAP) for the facility by 08/01/2011. An EAP should be prepared for the Primary and Secondary Ash Ponds as well as any other pertinent features related to the impoundments.

Ameren will however, for internal purposes, develop an Emergency Plant Procedure (EPP) to provide instructions and notifications for emergency response in the event of a developing dam safety situation for the Primary Ash Pond and Secondary Ash Pond that will be incorporated into the existing plant EAP and plans to have this completed by 12/31/2011.

2. Perform a hydrologic and hydraulic study by 08/01/2011. This study should be performed to determine if the existing ponds are capable of impounding the appropriate inflow design flood without overtopping of the impoundments. At a minimum, documentation required for this evaluation will include a current topographic survey of the site and surrounding drainage basin, basin characteristics (surface runoff/infiltration condition), and sufficient hydrologic and hydraulic data to determine the design storm event and discharge capacities for the outlet works.

The design of the impoundments was performed by a Professional Engineer. They are perched impoundments that receive no storm water runoff beyond that which falls directly on the impoundments, have been in operation in their current configuration since 1977 and have had no issues regarding overtopping of the embankments. The pond is currently operated with approximately 19' of freeboard. There is no reason to believe that the outlet works are not adequately designed therefore an H&H analysis will not be performed for the impoundments.

3. Evaluate adequacy of seepage and ground water monitoring program by 08/01/2011. Ameren has installed piezometers and taken initial readings. Piezometer screening intervals should be compared to soil stratigraphy to evaluate the ability of piezometers to measure pore pressure in critical layers. Minor uncontrolled seepage has been observed at the toe of the Primary Ash Pond embankment. The presence of uncontrolled seepage at the downstream toe of the embankment raises questions regarding the integrity and the stability of the embankment. Therefore, a detailed monitoring program should be established to quantify various important factors including the source of the water (seepage or surface runoff) and, if seepage is the source of the ponded water, seepage quantities through the embankment, the amount of sediments carried by the seepage water, and the fluctuation of ground water levels.

Plant personnel inspect the impoundment (and all other CCR impoundments) weekly and licensed engineers from the Dam Safety Group perform annual inspections. In these inspections, the embankments are monitored for seepage, including monitoring for the presence of sedimentation and changes in seepage flows. Any significant areas of seepage that develop and progress will be handled accordingly through the Dam Safety Group however there are currently no known areas of significant seepage occurring. Ameren will begin measuring and documenting the levels in the piezometers that were installed in conjunction with the stability analysis on a monthly basis beginning in July, 2011 and on a quarterly basis beyond 2011. Ameren has installed a monitoring well system to characterize the groundwater in the vicinity of our ash ponds as requested by the Illinois Environmental Protection Agency and is taking quarterly readings at the wells.

4. Perform embankment and structure stability analyses by 08/01/2011. The slopes of the Primary and Secondary Ash Ponds were generally 3H:1V, but calculations documenting the embankment stability were not available for our review. Stability analyses of both impoundments should be performed. The analyses should incorporate seepage monitoring data and include evaluation of the embankments and the structures under seismic loading scenarios. According to Ameren, we understand that this task is currently being completed by another consultant retained by Ameren Energy. The results of this evaluation should be reviewed by the EPA.

Ameren's consultant has completed the embankment stability analyses and results of the analyses have been included with this response.

5. Control vegetation on the upstream and downstream slopes by 08/01/2011. Refer to Federal Emergency Management Agency's (FEMA) Manual 534, "Impact of Plants on Earthen Impoundments" for guidance on vegetation removal. This manual is available on the FEMA website.

All trees have been removed and Ameren controls vegetation by mowing the slopes twice yearly and the first yearly mowing has been completed.

6.3 PRIORITY 2 RECOMMENDATIONS

1. Repair erosion of embankment by 08/01/2011. Minor surface erosion was noted at both the Primary and Secondary Ash Ponds. Areas where erosion has occurred should be filled in and re-dressed with appropriate fill to prevent erosion from cutting further into the embankments.

Ameren will repair the minor surface erosion on both impoundments and re-seed as required and plans to have this completed by October 1, 2011 when the weather is conducive to the establishment of vegetation.

2. Maintain a log of maintenance and other activities at the fly ash impoundments and supporting facilities. We believe that this log will provide continuity during periods of staff change.

A log of maintenance and other activities will be kept and maintained electronically by the plant and Dam Safety Group.

3. Develop an Operation and Maintenance (O&M) manual for the impoundments and the facility by 08/01/2011. The O&M manual should include at least the following three key elements:

- Procedures needed for operation and maintenance of the impoundments during typical operating conditions
- Procedures for monitoring performance of the impoundments, including visible changes (i.e. surface erosion, settlement and sloughing), internal embankment changes (i.e. erosion due to uncontrolled seepage), and fluctuations in groundwater level
- Emergency Action Plan

Ameren will develop an O&M manual for the impoundments and plans to have this completed by 12/31/2011.