NOTE

Subject: EPA Comments on MidAmerican Energy Co, Walter Scott Junior Energy Center, Council Bluffs, IA
Round 7 Draft Assessment Report

To: File
From: Jana Englander, OSWER, US EPA

Date: January 13, 2011

1. On p. 8 and p. 47, please update repair status (anticipated to start in October 2010) of "fixing various issues in the area of the Pony Creek improvement project, including repair of the discharge end of the outlet pipe and repair of the slough on the outside slope of the levee on the north side of the South Ash Pond," in final report.

2. On p. 26, the plant is currently regulated under NPDES Permit No. 78-20-1-01 which and expired on February 26, 2008. Has there been activity to renew the NPDES Permit, please clarify status.

State: None

Company: See attached letter dated March 4, 2011. Additional attachments can be found in the "Comments" section of MidAmerican Energy's George Neal North Energy Center materials.

MidAmerican ENERGY
OBSESSIVELY, RELENTLESSLY AT YOUR SERVICE.

4299 NW Urbandale Drive
Urbandale, Iowa 50322

March 4, 2011

Delivered via Overnight Mail

Mr. Stephen Hoffman
U.S. Environmental Protection Agency
Two Potomac Yard
2733 South Crystal Drive
5th Floor, N-5237
Arlington, Virginia 22202-2733

Re: Comments to Draft Coal Combustion Waste Impoundment Round 7 Dam Assessment Reports for Neal North Energy Center (Site #13), Walter Scott Energy Center (Site #14), Riverside Generating Station (Site #15), and Louisa Generating Station (Site #16)

Dear Mr. Hoffman:

MidAmerican Energy Company ("MidAmerican") appreciates the opportunity to review the subject reports and provide its comments prior to the reports' finalization. MidAmerican has been handling and continues to handle coal combustion residue and manage its surface impoundments in a safe and environmentally sound manner, including the safe and beneficial use of coal combustion residue in multiple applications for over twenty years. MidAmerican takes its environmental responsibilities seriously and continues to pursue opportunities to demonstrate respect for the environment. As such, any improvement items highlighted in the surface impoundment reports will be, or have been, addressed in a timely and diligent manner. Specific action items and comments are outlined in more detail below on a site-by-site basis.

Walter Scott Energy Center Draft Report Comments

The draft report for this facility provides an assessment of **"Fair"** for both the South Surface Impoundment and the North Surface Impoundment. Pursuant to the report, the presence of sloughing on the levee side of the South Surface Impoundment and the need to further document the safety of the embankments under certain modes of failure were the primary contributors to this ranking. However, since the on-site inspection was conducted in September 2010, a great deal of work has been accomplished to specifically address these issues. As a result, MidAmerican respectfully requests that the ranking for both of these surface impoundments be changed to **"Satisfactory"** in the final report. The evidence to support this request is provided below.

South Surface Impoundment Levee Sloughing

The Mills and Pottawattamie (M&P) Missouri River Levee District and the U.S. Army Corps of Engineers completed these repairs in February 2011 as shown in the photographs below. Large rip-rap was utilized to fill and stabilize the eroded portion of the levee, followed by a cover layer of soil and seeding.

Photo 1 - Levee District and Corps of Engineers starting repairs to slough

Photo 2 – Same area with final cover over slough area and graded

Comments to Specific Report Sections

Section 1.1.1: On February 11, 2011, Terracon completed a supplement analysis to calculate the liquefaction potential of the surface impoundment levee structures. The report can be found in Attachment A. The report concludes that "the factor of safety for liquefaction potential is above 1.6 for the sandy alluvial soils observed in [the] borings." In addition, the report evaluated a lower elevation embankment in the area of Station 22+00 to 25+00. For this section of the levee, a factor of safety was calculated to be "in excess of 1.8 for both steady state and pseudo-static seismic stability." These values are well above the minimum acceptable value and demonstrate that the

liquefaction potential and seismic stability are not areas of concern for the Walter Scott surface impoundments.

Section 1.1.3: Subsequent to the on-site inspection, the Walter Scott facility has been able to obtain the Southwest Iowa Renewable Energy rail spur construction drawings. Those drawings are provided in Attachment B.

Section 1.1.5: The report indicates that the damaged end of the outlet structure should be repaired to restore the structure to serviceable condition. The M&P Missouri River Levee District and Corps of Engineers are in the process of repairing these structures which were damaged by their previous subcontractor during straightening of the Pony Creek drainage way. Photograph 3 below shows the current status of the repairs. The photo was taken facing north showing the repaired discharge structure (located immediately below the orange cone) in the south bank of the North Surface Impoundment. This update also applies to section 1.2.5.

Photo 3 – Repaired outlet structure

Section 1.1.7: The report indicates that the inspection program is substandard, and that a formal inspection program should be developed and implemented. Walter Scott Energy Center has now adopted a formal quarterly levee inspection program which follows the recommendations in report Section 9.3.1. The new inspection form, shown in Attachment C, began to be utilized in late 2010. The facility plans on continuing inspections with formal logs for both surface impoundments on at least a quarterly basis.

Section 1.2.6: The facility continues to make periodic inspections and repairs as necessary to address pond-side slope erosion caused by wave actions on the South Surface Impoundment on the north and south sides. The facility is also monitoring wave action on the northeast corner of the North Surface Impoundment and will make a further assessment on placement of rip rap for wave erosion protection in late spring 2011. Photographs 4-7 detail the repairs made to the South Surface Impoundment following the on-site inspection in September 2010.

Photo 4 – Placed rip-rap to protect wave erosion action
North side of South Surface Impoundment

Photo 5 - Close up view of rip-rap protection
North side of South Surface Impoundment

Photo 6 – Placed rip-rap to protect wave erosion action
Southwest side of South Surface Impoundment

Photo 7 – Placed rip-rap to protect wave erosion action
Southeast side of South Surface Impoundment

Section 2.3: In the *North Ash Pond* portion of this section, please revise the following sentence to include the underlined wording: "Fly ash disposal in the pond was terminated by December 31, 2007; fly ash is currently dry-disposed in an ash monofill or sold for beneficial reuse."

Section 3.2: The first paragraph reads, "The WSEC is currently regulated under NPDES Permit No. 78-20-1-01 (see Appendix C – Doc 1.6). This permit was effective on February 27, 2003, amended October 16, 2006, and expired on February 26, 2008, according to the furnished documentation." For clarification, please add the following sentence: "However, a permit renewal application was timely submitted to the Iowa Department of Natural Resources prior to expiration."

Section 4.2.2: The report states that "All fly ash now is captured in silos and is sold for beneficial reuse or sent to an ash monofill." MidAmerican suggests that this should be rephrased to "All fly ash now is captured in silos and is sold for beneficial reuse or sent to an on-site, lined coal combustion residue monofill."

Section 6.1.1: Please delete the phrase "Hearsay evidence from MidAmerican staff is that", and replace it with "According to MidAmerican staff." Additionally, the high water levels observed during the on-site inspection have in fact dropped considerably. At elevation 971.5', the water level surrounded the base of the pole shown in Photograph 8. At that elevation there was still approximately 2' of freeboard remaining to the lowest point on the levee structure. As can be seen in

the photo, the water level has dropped several feet, and it is estimated that there is now approximately 5' of freeboard in the surface impoundments.

Photo 8 – Facing northwest showing southeast bank of South Surface Impoundment

Section 8.1: The report indicates that "Water is discharged through the outlet structure to Pony Creek". This statement is not accurate, and should be changed to "Water can be discharged through the outlet structure to Pony Creek". While the capability exists, water has not discharged through this outlet structure in many years.

Also, please replace all references of "ash monofill" with "coal combustion residue monofill", or "CCR monofill". This revised description is consistent with how the facility is described within the Iowa Department of Natural Resources permits.

Lastly, the final sentence in the second paragraph states that "MidAmerican indicated that the ash material is tested for arsenic before being used for beneficial purposes." While this statement is accurate, MidAmerican also tests for antimony, barium, cadmium, chromium, mercury, selenium, and thallium. That stated, it would be more accurate to rephrase to "MidAmerican indicated that the ash material is tested pursuant to the beneficial reuse requirements of Iowa Administrative Code 567 Chapter 108."

Section 9.1: "Pottawattamie and Lee Counties" should be changed to "Pottawattamie and Mills County".

Neal North Energy Center Draft Report Comments

The draft report for this facility provides an assessment of **"Satisfactory"** for Surface Impoundments 1, 2, 3A and 3B. MidAmerican agrees with this assessment. However, a number of "action items" are outlined in the report, and this response provides an opportunity to describe the progress to date, and MidAmerican's plans to address those items. In addition, other suggested editorial changes and clarifications will be provided on a section-by-section basis.

Status of "Action Items"

1. **Section 1.1.3, First Paragraph, 3rd Sentence –** "However, MidAmerican should perform its own calculations to provide formal documentation of internal hydrologic safety of the ash ponds…"
   - This item will be completed with an engineering study by October 30, 2011.

2. **Section 1.1.5, Second Paragraph, 3rd Sentence –** "A couple of relatively shallow holes in the outside slope surface, apparently caused by seepage erosion, were observed in the perimeter dike on the northeast side near east corner of Pond 3B North. MidAmerican has been aware of this condition and has plans to reconstruct the embankment in the area in accordance with HWS' recommendations and field guidance…"
   - The engineering study will be completed by October 30, 2011.
   - Construction activities will be completed by October 30, 2012.

3. **Section 1.1.5, Third Paragraph, 1st Sentence –** "MidAmerican additionally has plans to restore embankment height back up to the design top elevation along the low section of the perimeter dike observed around much of Pond 3B South…"
   - The engineering study will be completed by October 30, 2011.
   - Construction activities will be completed by October 30, 2012.

4. **Section 1.1.5, Third Paragraph, last Sentence** – "Thus, it would be prudent to monitor potential movement after the dike is raised, and it may be of value to monitor potential movement even if the dike is not raised"
   - The engineering study will be completed by October 30, 2011.
   - Construction activities will be completed by October 30, 2012.
     - Monitoring of the movement marker will be completed every six months following construction activities for one year. If any movement is identified, monitoring activities will continue every six months until movement ceases and addressed as necessary.

5. **Section 1.1.5, Fourth Paragraph, 1st Sentence –** "MidAmerican also plans to remove a relatively large berm of material, determined to be bottom ash and coal residuals, observed on the outside slope of the perimeter dike on the west side of pond 1..."
   - Permit application(s) will be submitted by April 15, 2011, to the appropriate regulatory agencies.
   - The project will be completed by November 30, 2011.

6. **Section 1.1.6, Second Paragraph, 3rd Sentence –** "However, the bare outside slope of the perimeter dike at the offset near the south corner of Pond 3A should be protected against erosion."
   - The project will be completed by October 30, 2011.

7. **Section 1.2.7, 1st Sentence –** "It is recommended that the inspection program be formalized…"
   - An operating and maintenance (O&M) plan was developed for this facility on February 22, 2011. Refer to Attachment D for a copy of the current O&M Plan.

8. **Section 9.2.1, First Paragraph, 3rd Sentence –** "MEC plans to install a fixed staff gage in Pond 1 to allow visual monitoring to verify that the water level stays below the maximum water elevation of 1078.5' recommended in the HWS Geotechnical Engineering Report."
   - The gage will be installed by July 31, 2011.

<u>Suggested Editorial Changes and Clarifications</u>

Section 2.1, 6th paragraph: Please add "process water" to the third sentence as part of the description of what is discharged to the surface impoundment.

Section 2.1, 9th paragraph: Please change the word "obliterated" to "removed".

Section 2.2, 1st paragraph: It would be more accurate to rephrase the following sentence to add the underlined wording: "The surface impoundment <u>discharges</u> are regulated by the Iowa Department of Natural Resources <u>under the National Pollutant Discharge Elimination System program</u>."

Section 2.3, 3rd paragraph: In the second sentence, please add "process water" to the description of what is discharged to the surface impoundment.

Section 2.4.2, 2nd paragraph: Please add "Water is sampled at this location for water-quality monitoring regulated by the plant's NPDES permit." after the sentence ending in "fitted with a staff gage."

Section 2.4.2, 5th paragraph: Please delete "and water is sampled for water quality monitoring."

Section 2.4.2, 6th paragraph: Please change the underlined portion of the following sentence: "The south part of Pond 2 is currently being excavated to restore storage volume, but when that area of the pond again receives sluice water and plant drainage water, it is presumed that water from that area will drain to the southeast part of Pond 2…" In addition, the next sentence in that paragraph should change "southwest" to "northwest".

Section 5.2.2: In the "Pond 2 Outlet Conduit" section, please reword the last sentence of the paragraph to delete "of the bottom ash and C-stone" and insert "excavation of ash" instead.

Section 5.3.2: In the "Pond 3A Outlet Conduit" section, the actual pipe is roughly 150-200 feet further north from the outlet structure. The pipe referenced in the document is the emergency high overflow pipe that is never used. Water discharging from 3A to 3B has a greater distance to travel before being discharged from the outfall.

Section 6.1.4, 3rd paragraph: "Beecause" is misspelled.

Table 7.5: The initial recommended ash pond operating condition for 3B south was 1079'. An additional study revealed that the pond could safely operate at 1079.5'. Please refer to Attachment E for additional details concerning this revised assessment.

Section 8.1: The sentence discussing the Neal 4 ash operations doesn't belong in this report and should be deleted. The Neal 4 facility is physically separate from Neal North, and its ash is independently managed.

Photo 1.1 Description: Please change the caption wording from "only" to "approximately".

Photos 1.13, 3.6, 3.16, 3.18, 3.32: To maintain consistency with the remaining site photos, these referenced photos should have the Neal South plant "cropped out".

Photo 2.8: The photo caption should read "Pond 1", not "Pond 2".

Riverside Generating Station Draft Report Comments

The draft report for this facility provides an assessment of **"Poor"** for the South Surface Impoundment. Pursuant to the report, the South Surface Impoundment is marginally stable under static steady state seepage conditions and does not meet appropriate safety factors against failure. However, since the on-site inspection was conducted in September 2010, a great deal of additional investigation and analysis has been completed to specifically address these issues. As a result, MidAmerican respectfully requests that the ranking for South Surface Impoundments be changed to **"Fair"** in the final report. In addition, once the levee improvement project is completed this year, the ranking should be changed to "**Satisfactory**". The evidence to support this request is provided below.

Supplemental Geotechnical Investigations

Supplemental geotechnical on-site investigation, additional soil borings, field and laboratory soil tests, and a geotechnical report was performed by Terracon on December 7, 2010. While this information was provided to Dewberry on December 17, 2010, it appears that the findings of the analysis were not incorporated into the facility draft report, nor was it utilized to determine the ranking of the South Surface Impoundment. Please refer to Attachment F for a copy of this report.

During the subsequent investigation, an additional eight (8) borings were taken and cone penetrometer soundings were completed to supplement the borings and soil characteristics. These additional tests allowed Terracon to better define existing soil conditions and provide better soil parameters to perform a final soil analysis for the stability of the ash pond. The revised soil analysis indicated a noticeable improvement in the factor of safety for slope stability.

The December 7, 2010, geotechnical report in Table 4 shows the existing embankment sections exhibit factors of safety between 1.25 and 1.32. This is a significant improvement over the initial results, but is still slightly less than the desired factor of safety of 1.4 for the long term steady state seepage condition.

Table 4. Existing Embankment Under Conditions of Steady State Seepage

Section[1]	Estimated Factor of Safety Obtained from Analysis	
	Steady State Seepage Design Condition	
	Required Minimum Factor of Safety[2]	Riverside Slope
A	1.4	1.30
B	1.4	1.25
C	1.4	1.26
D	1.4	1.32
E	1.4	1.26

1. Refer to Ash Pond Plan in Exhibit D-1, for cross section location.
2. Reference: Table 6.1b (EM 1110-2-1913)

As a result of the slightly lower than desired safety factors, MidAmerican immediately developed a project implementation program to further improve the embankment of the South Surface Impoundment to the desired factor of safety of greater than 1.4 for slope stability. Refer to Attachment G for the preliminary plans to stabilize the embankment via placement of a geogrid. Copies of the permits received from the Iowa Department of Natural Resources and the Army Corps of Engineers approving the work are included in Attachment H. Based on the implementation of this levee improvement plan, the following factors of safety, shown in Table 5 and Table 6, will be achieved (from December 7, 2010, Terracon geotechnical report).

Table 5. Stabilized Embankment Slopes Under Conditions of Steady State Seepage

Section[1]	Estimated Factor of Safety Obtained from Analysis	
	Steady State Seepage – Stabilized Slope	
	Required Minimum Factor of Safety[2]	Riverside Slope
A	1.4	1.44
B	1.4	1.45
C	1.4	1.42
D	1.4	1.51
E	1.4	1.42

1. Refer to Ash Pond Plan in Exhibit D-1, for cross section location.
2. Reference: Table 6.1b (EM 1110-2-1913)

Table 6. Stabilized Embankment Slopes Under Conditions of Sudden Drawdown

Section[1]	Estimated Factor of Safety Obtained from Analysis	
	Sudden Drawdown Conditions – Stabilized Slope	
	Required Minimum Factor of Safety[2]	Riverside Slope
A	1.2	1.23
B	1.2	1.26
C	1.2	1.25
D	1.2	1.26
E	1.2	1.25

1. Refer to Ash Pond Plan in Exhibit D-1, for cross section location.
2. Reference: Table 6.1b (EM 1110-2-1913)

It is expected that the levee improvement work at the South Surface Impoundment will begin in the spring/summer of 2011, once Mississippi River water levels and weather are conducive to initiating construction activities. As a result, the expected project completion date is summer/fall of 2011. Once this project is complete, the slope stability under steady state seepage and sudden drawdown conditions will exceed the required factors of safety. MidAmerican will then notify the Environmental Protection Agency that the project is finished, and the ranking for the South Surface Impoundment should be able to be improved to "**Satisfactory**" at that time.

Comments to Specific Report Sections

Section 1.1.: The draft report indicates that the South Surface Impoundment is marginally stable and does not meet appropriate safety factors against failure. This assessment was based on the preliminary reports prior to more extensive geotechnical site investigations and issuance of the final

geotechnical report dated December 7, 2010. The additional testing and analyses demonstrate factors of safety which are considerably improved from the initial results, although they are slightly less than the desired factor of safety. These improved safety factors should be taken into consideration in this section, in the final rating, and included in the overall report.

Section 1.2.1 & 1.2.3: On January 14, 2011, Terracon performed a seismic analysis of the Riverside South Surface Impoundment. The report, provided in Attachment J, demonstrated results of global stability factors of safety ranging from 1.28 to 1.37; well above required minimum factor of safety range from 1.0 to 1.1. MEC submitted these reports to Dewberry on January 25, 2011, but it does not appear that the report results were included in the draft report documentation. Please utilize these report results in your final assessment for the Riverside facility.

Figure 2.1-2: The photo incorrectly labels Alcoa as the Riverside Generating Plant. Riverside is actually just north of the South Surface Impoundment (South Ash Pond) as shown in the red circle below.

Section 2.4.1: Several additional borings and cone penetrometer tests were conducted as part of the December 7, 2010, and January 14, 2011, test reports which should allow deletion or revision of the following statement: "MEC personnel provided limited subsurface data consisting of boring logs used in conjunction with monitoring well installations." Please also add a statement that MidAmerican personnel provided supplemental geotechnical reports, boring logs which identified subsurface data, and cone penetrometer test soundings to supplement the borings initially provided during the on-site inspections.

Figure 2.5-1: It should be recognized that the vast majority of these critical infrastructures are at a relatively high elevation and would not be impacted by any potential breach of the surface impoundment levee structure.

Section 4.2.1: This section should be revised to reflect that the north pond accepts only stormwater from the coal pile and there is no discharge, and that the south pond accepts the noted wastewater including storm water from some plant roofs and some paved areas, and discharges through a permitted National Pollutant Discharge Elimination System outfall.

Section 7: This entire section should be updated to reflect the supplemental reports completed on December 7, 2010, and January 14, 2011.

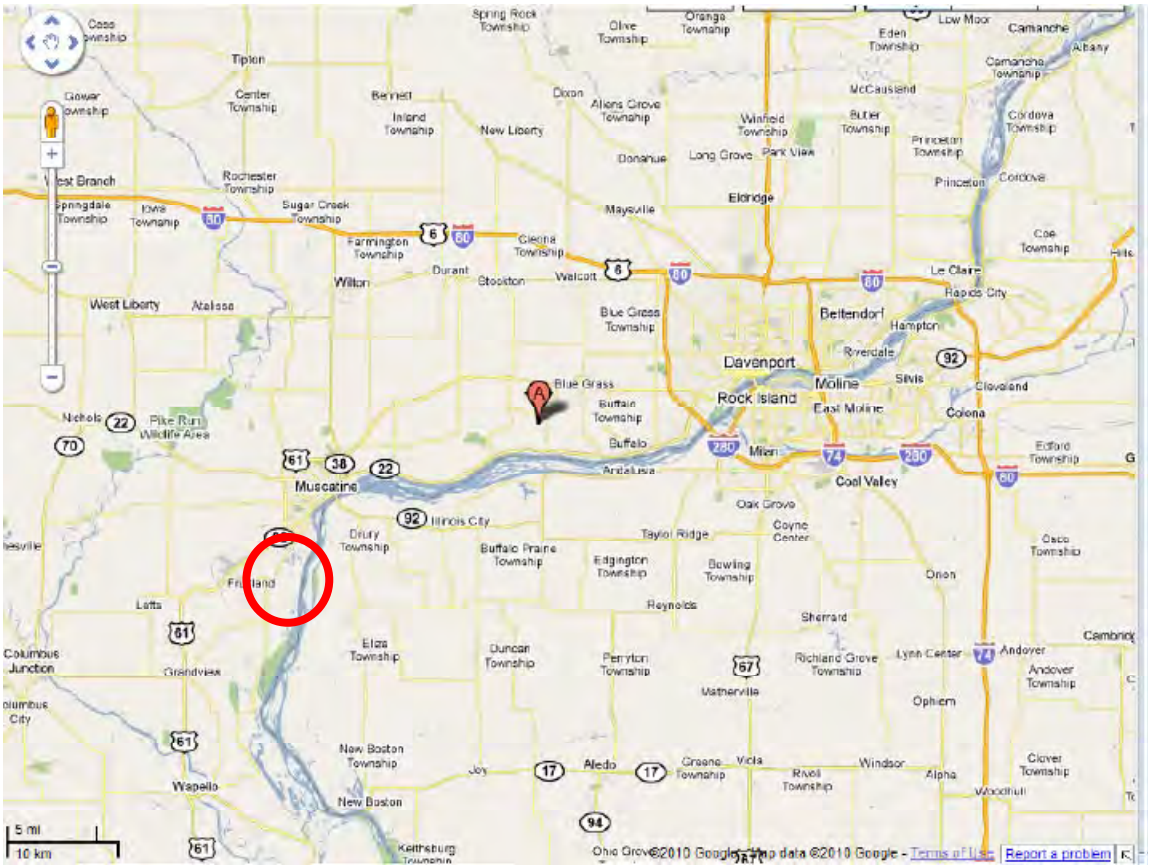
Section 7.1.1: Riverside Generating Station is in Scott County, not Louisa County.

Louisa Generating Station Draft Report Comments

The draft report for this facility provides an assessment of **"Satisfactory"** for its surface impoundments. MidAmerican agrees with this assessment. However, a number of suggested editorial changes and clarifications are provided below on a section-by-section basis.

Suggested Editorial Changes and Clarifications

Section 2.1: The general description and figures 2.1a and 2.1b relate to IPSCO Steel, not Louisa. The Louisa Generating Station is further southwest near Fruitland, Iowa, as shown in the red circle on the map below.



Section 2.3: It is unclear why the surface impoundment is referred to as the North Ash Pond in this section and in other areas of the document. Louisa only has one surface impoundment, and this may be a carryover issue from the Riverside report. In addition, Louisa's surface impoundment accepts stormwater from the main plant, scrubber area, and some building roof drains. Please refer to Attachment I for a drawing detailing the stormwater flow paths. Coal pile runoff is also permitted through National Pollutant Discharge Elimination System Outfall 004, however actual flow has never been observed.

Section 2.5: This section appears to reference the IPSCO Steel facility again. Within five miles south of Louisa, the only "highway" is Country Road X61 (Stewart Road), some residences, no businesses, no restaurants, and no places of worship. There are also no schools, nursing homes, or fire stations.

Section 4.2.1: Same comment to stormwater as in Section 2.3 above. This is also noted in Sections 6.1.1, 6.1.2, and 6.1.3.

Section 7.1.6: The last sentence in the section appears to be a heading which doesn't belong to the paragraph: "Adequacy of Supporting Technical Documentation".

General: An Operating and Maintenance (O&M) plan is being developed and will substantially mirror the Neal North Energy Center O&M Plan provided in Attachment D. Trees along the south and north exterior walls still need to be removed; MidAmerican is developing a plan for this activity which is expected to begin in spring 2011.

Again, MidAmerican appreciates the opportunity to review and provide its comments on the draft surface impoundment reports for Walter Scott Energy Center, Neal North Energy Center, Louisa Generating Station, and Riverside Generating Station. If you have any questions or require additional information, please don't hesitate to contact me.

Sincerely,

Kevin D. Dodson
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Compliance and Permitting
Phone: 515-281-2692
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Attachments

cc: Jim Kohler – U.S. EPA
Dave Ulozas
Matt Finnegan
Mark Podany
Dave Maystrick
Reg Soepnel
Sam Nelson
Bill Whitney
Jim Wiegand
Doug Haiston
Dave Webb
Jenny McIvor
Jess Vilsack
Peg Roy