

US EPA ARCHIVE DOCUMENT



May 15, 2009

Mr. Richard Kinch
US Environmental Protection Agency
Two Potomac Yard
2733 S. Crystal Dr.
5th Floor; N-5783
Arlington, VA 22202 2733

VIA OVERNIGHT MAIL

Re: Surface Impoundment Section 104(e) Request
Riverside Generating Station, Bettendorf, Iowa

Dear Mr. Kinch:

This letter responds to the subject information collection request issued by the United States Environmental Protection Agency (EPA) pursuant to section 104(e) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9604(e). MidAmerican Energy Company's Riverside Generating Station received your request on May 4, 2009, and this response has been timely submitted within the required ten (10) business days.

MidAmerican Energy Company (MidAmerican) understands that it is not obligated to provide any information or documents protected from disclosure by either attorney-client privilege or the work product doctrine. MidAmerican notes, objects, and reserves all rights to object in the future to EPA's apparent assumption that the residuals or byproducts from the combustion of coal are potential subjects of liability for reimbursement of costs or response under CERCLA; that they are appropriate subjects of the information requests to which MidAmerican is responding; or that they are "hazardous substances" within the meaning of CERCLA. Further, by responding to EPA's request, MidAmerican does not acknowledge that there is any release or threatened release of a hazardous substance, pollutant, or contaminant. MidAmerican also reserves all rights, including rights to object to the requests, not expressly waived.

MidAmerican further objects to this request because it contains undefined and ambiguous terms such as "surface impoundment", "similar diked or bermed management unit(s)", "landfills", "liquid-borne material", "storage or disposal", "no longer receive", "coal combustion residues", "residuals or byproducts", "residues or by-products", and "free liquids", and because the terms "residuals or byproducts" and "residues or by-products" seem to be used interchangeably without an explanation whether the terms are intended to have the same meaning.

Subject to the objections stated herein, MidAmerican provides the following response.

MidAmerican's Riverside Generating Station (RGS) has two surface impoundments. The south surface impoundment receives liquid-borne material for the storage of residuals or by-products from the combustion of coal. The north surface impoundment no longer receives coal combustion residues or by-products, but still contains free liquids. The questions enclosed in the information collection request have been copied below (in italics) with responses for each surface impoundment.

"NORTH SURFACE IMPOUNDMENT" RESPONSES:

1. Relative to the National Inventory of Dams criteria for High, Significant, Low, or Less than Low Hazard Potential, please provide the potential hazard rating for each management unit and indicate who established the rating, what the basis of the rating is, and what federal or state agency regulates the unit(s). If the unit(s) does not have a rating, please note that fact.

To MidAmerican's knowledge, the Riverside Generating Station (RGS) north surface impoundment has not been rated by a Federal or State regulatory agency relative to the National Inventory of Dams criteria.

2. What year was each management unit commissioned and expanded?

The north surface impoundment was placed into service in 1979. The impoundment has not been expanded from original design. Coal combustion residue was last transported to the north surface impoundment in 2001.

3. What materials are temporarily or permanently contained in the unit? Use the following categories to respond to this question: (1) fly ash; (2) bottom ash; (3) boiler slag; (4) flue gas emission control residuals; (5) other. If the management unit contains more than one type of material, please identify all that apply. Also, if you identify "other," please specify the other types of materials that are temporarily or permanently contained in the unit(s).

All solid materials in the surface impoundment are coal combustion residue and temporarily stored. The details are as follows:

- (1) Fly ash – Approximately 5% of the material is fly ash, coal pyrites and economizer ash. Fly ash is present due to occasional transfer of fly ash during periods of maintenance on the dry fly ash collection system. Coal pyrites are minerals and rocks found in coal that are not milled in the coal pulverizers. Coal pyrites also include a very small amount of unburned coal that is rejected along with the minerals. Economizer ash is lighter than bottom ash and travels to the back-pass of the boiler, but is heavy enough to deposit in the back-pass and not be captured as fly ash. Economizer ash has a consistency similar to sand.
- (2) Bottom ash – Approximately 90% of the material is bottom ash and boiler slag.

- (3) Boiler slag – This material is included as part of the bottom ash estimate in (2) above. The boiler slag volume can not be separately estimated from the bottom ash mixture.
- (4) Flue gas emission control residuals – No flue gas emission control residuals are stored in the surface impoundment.
- (5) Other – Approximately 5% of the material is other material. Prior to 1998, the RGS north surface impoundment accepted construction and demolition rubble (e.g. concrete chunks), and sand bags from MidAmerican Energy's Bettendorf Service Center. The impoundment also accepts excess storm water runoff from the facility coal pile.

4. Was the management unit(s) designed by a Professional Engineer? Is or was the construction of the waste management unit(s) under the supervision of a Professional Engineer? Is inspection and monitoring of the safety of the waste management unit(s) under the supervision of a Professional Engineer?

The RGS north surface impoundment was not designed by a Professional Engineer, nor was construction under the supervision of a Professional Engineer. As discussed in question #5, inspection and monitoring of the safety of the surface impoundment has been conducted by MidAmerican employees.

5. When did the company last assess or evaluate the safety (i.e., structural integrity) of the management unit(s)? Briefly describe the credentials of those conducting the structural integrity assessments/evaluations. Identify actions taken or planned by facility personnel as a result of these assessments or evaluations. If corrective actions were taken, briefly describe the credentials of those performing the corrective actions, whether they were company employees or contractors. If the company plans an assessment or evaluation in the future, when is it expected to occur?

MidAmerican employees make monthly rounds of the perimeter of the RGS north surface impoundment looking for visible signs of erosion. The structural integrity of the RGS north surface impoundment not been formally evaluated. The north surface impoundment is at, or near, the surrounding grade on all but the northwest side of the impoundment, and therefore has limited potential to breach in a fashion that would result in a sudden and significant release of contents.

6. When did a State or a Federal regulatory official last inspect or evaluate the safety (structural integrity) of the management unit(s)? If you are aware of a planned state or federal inspection or evaluation in the future, when is it expected to occur? Please identify the Federal or State regulatory agency or department which conducted or is planning the inspection or evaluation. Please provide a copy of the most recent official inspection report or evaluation.

The RGS north surface impoundment has not been the subject of any specific inspections by State or Federal regulatory officials, and MidAmerican is not aware of any planned inspections. However, numerous regulatory agency inspectors have visited the site for

other reasons during the unit's operating history and such inspections may have included a visual observation of the surface impoundment.

7. Have assessments or evaluations, or inspections conducted by State or Federal regulatory officials conducted within the past year uncovered a safety issue(s) with the management unit(s), and, if so, describe the actions that have been or are being taken to deal with the issue or issues. Please provide any documentation that you have for these actions.

There have been no assessments, evaluations or inspections by State or Federal regulatory officials within the past year of the RGS north surface impoundment. No other assessments, evaluations or inspections by State or Federal regulatory officials within the past year referenced safety issues regarding the RGS north surface impoundment.

8. What is the surface area (acres) and total storage capacity of each of the management units? What is the volume of materials currently stored in each of the management unit(s). Please provide the date that the volume measurement(s) was taken. Please provide the maximum height of the management unit(s). The basis for determining maximum height is explained later in this Enclosure.

The total surface area of the RGS north surface impoundment is 14.1 acres, and the total volumetric storage capacity is estimated to be approximately 135,000 cubic yards of coal combustion residue. As of May 5, 2009, the north surface impoundment was estimated to contain approximately 81,000 cubic yards of coal combustion residue.

The maximum height of the RGS north surface impoundment dike is 12 feet as measured from the old Crow Creek bed on the northwest side of the impoundment, decreasing to even grade along the southern boundary. At least two feet of freeboard is maintained in the surface impoundment.

9. Please provide a brief history of known spills or unpermitted releases from the unit within the last ten years, whether or not these were reported to State or federal regulatory agencies. For purposes of this question, please include only releases to surface water or to the land (do not include releases to groundwater).

The north surface impoundment has had no known spills or unpermitted releases within the last ten years.

10. Please identify all current legal owner(s) and operator(s) at the facility.

The legal operator and owner of Riverside Generating Station is MidAmerican Energy Company.

“SOUTH SURFACE IMPOUNDMENT” RESPONSES:

1. Relative to the National Inventory of Dams criteria for High, Significant, Low, or Less than Low Hazard Potential, please provide the potential hazard rating for each management unit and indicate who established the rating, what the basis of the rating is, and what federal or state agency regulates the unit(s). If the unit(s) does not have a rating, please note that fact.

To MidAmerican's knowledge, the Riverside Generating Station (RGS) south surface impoundment has not been rated by a Federal or State regulatory agency relative to the National Inventory of Dams criteria.

2. What year was each management unit commissioned and expanded?

The south surface impoundment was placed into service in 1967. The original south surface impoundment was constructed at 563.4 foot mean sea level (MSL). The surface impoundment was raised by 2 feet (to 565.4 foot MSL) in 1970. In 1976, the surface impoundment was raised again to an elevation between 576 foot and 580 foot MSL, with an 8 foot wide top and a 1:1 slope on both sides, to increase the storage capacity and add protection against Mississippi River flooding. The 1976 expansion in storage capacity was the final expansion of the south surface impoundment. The surface impoundment was repaired in late 2001 due to flood damage caused by the Mississippi River earlier that year. The 2001 repair broadened the top of the surface impoundment to 12 feet and lengthened the Mississippi River side slope to 2:1 (i.e. 2 feet horizontal: 1 foot vertical).

3. What materials are temporarily or permanently contained in the unit? Use the following categories to respond to this question: (1) fly ash; (2) bottom ash; (3) boiler slag; (4) flue gas emission control residuals; (5) other. If the management unit contains more than one type of material, please identify all that apply. Also, if you identify "other," please specify the other types of materials that are temporarily or permanently contained in the unit(s).

All solid materials in the surface impoundment are coal combustion residue and temporarily stored. The details are as follows:

- (1) Fly ash – Approximately 5% of the material is fly ash, coal pyrites and economizer ash. Fly ash is present due to occasional transfer of fly ash during periods of maintenance on the dry fly ash collection system. Coal pyrites are minerals and rocks found in coal that are not milled in the coal pulverizers. Coal pyrites also include a very small amount of unburned coal that is rejected along with the minerals. Economizer ash is lighter than bottom ash and travels to the back-pass of the boiler, but is heavy enough to deposit in the back-pass and not be captured as fly ash. Economizer ash has a consistency similar to sand.
- (2) Bottom ash – Approximately 95% of the material is bottom ash and boiler slag.

- (3) Boiler slag – This material is included as part of the bottom ash estimate in (2) above. The boiler slag volume can not be separately estimated from the bottom ash mixture.
- (4) Flue gas emission control residuals – No flue gas emission control residuals are stored in the surface impoundment.
- (5) Other – The RGS south surface impoundment also accepts plant waste water and storm water. Annual storm water is estimated at 8.6 million gallons. Waste water averages 1.2 million gallons per day, and includes plant service waste water (e.g. non-contact bearing cooling water, wash down water), water treatment wastewater from reverse osmosis and the demineralizer, and once-through ash sluice water. Waste water is discharged from the surface impoundment in accordance with the terms and conditions of an Iowa Department of Natural Resources National Pollution Discharge Elimination System permit, via an outfall to the Mississippi River.

4. Was the management unit(s) designed by a Professional Engineer? Is or was the construction of the waste management unit(s) under the supervision of a Professional Engineer? Is inspection and monitoring of the safety of the waste management unit(s) under the supervision of a Professional Engineer?

The RGS south surface impoundment was not designed by a Professional Engineer, nor was construction under the supervision of a Professional Engineer. As discussed in question #5, inspection and monitoring of the safety of the surface impoundment has been conducted by MidAmerican employees.

5. When did the company last assess or evaluate the safety (i.e., structural integrity) of the management unit(s)? Briefly describe the credentials of those conducting the structural integrity assessments/evaluations. Identify actions taken or planned by facility personnel as a result of these assessments or evaluations. If corrective actions were taken, briefly describe the credentials of those performing the corrective actions, whether they were company employees or contractors. If the company plans an assessment or evaluation in the future, when is it expected to occur?

MidAmerican employees make monthly rounds of the perimeter of the RGS south surface impoundment looking for visible signs of erosion. The structural integrity of the RGS south surface impoundment not been formally evaluated.

6. When did a State or a Federal regulatory official last inspect or evaluate the safety (structural integrity) of the management unit(s)? If you are aware of a planned state or federal inspection or evaluation in the future, when is it expected to occur? Please identify the Federal or State regulatory agency or department which conducted or is planning the inspection or evaluation. Please provide a copy of the most recent official inspection report or evaluation.

The RGS south surface impoundment has not been the subject of any specific inspections by State or Federal regulatory officials, and MidAmerican is not aware of any planned

inspections. However, numerous regulatory agency inspectors have visited the site for other reasons during the unit's operating history and such inspections may have included a visual observation of the surface impoundment.

7. Have assessments or evaluations, or inspections conducted by State or Federal regulatory officials conducted within the past year uncovered a safety issue(s) with the management unit(s), and, if so, describe the actions that have been or are being taken to deal with the issue or issues. Please provide any documentation that you have for these actions.

There have been no assessments, evaluations or inspections by State or Federal regulatory officials within the past year of the RGS south surface impoundment. No other assessments, evaluations or inspections by State or Federal regulatory officials within the past year referenced safety issues regarding the RGS south surface impoundment.

8. What is the surface area (acres) and total storage capacity of each of the management units? What is the volume of materials currently stored in each of the management unit(s). Please provide the date that the volume measurement(s) was taken. Please provide the maximum height of the management unit(s). The basis for determining maximum height is explained later in this Enclosure.

The total surface area of the RGS south surface impoundment is 12 acres, and the total volumetric storage capacity is estimated to be approximately 226,000 cubic yards of coal combustion residue. As of March 1, 2009, the south surface impoundment was estimated to contain approximately 176,000 cubic yards of coal combustion residue. However, material in the surface impoundment is removed at least once per year for beneficial use or final disposal in a municipal solid waste landfill.

The maximum height of the RGS south surface impoundment is approximately 15 feet as measured from the adjacent water level of the Mississippi River on the east side of the impoundment. However, at least 5 feet of freeboard is maintained in the surface impoundment.

9. Please provide a brief history of known spills or unpermitted releases from the unit within the last ten years, whether or not these were reported to State or federal regulatory agencies. For purposes of this question, please include only releases to surface water or to the land (do not include releases to groundwater).

A leak was found on the Mississippi River side of the surface impoundment in 2002, caused by damage from Mississippi River flooding, and was repaired using drilled grout on April 14, 2002. There have been no known leaks or needed repairs since April 14, 2002.

10. Please identify all current legal owner(s) and operator(s) at the facility.

The legal operator and owner of Riverside Generating Station is MidAmerican Energy Company. However, the south surface impoundment is located on land that MidAmerican Energy Company leases from the adjacent Alcoa facility.

I certify that the information contained in this response to EPA's request for information and the accompanying documents is true, accurate, and complete. As to the identified portions of this response for which I cannot personally verify their accuracy, I certify under penalty of law that this response and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: 

Name: Reginald R. Soepnel

Title: General Manager – Mississippi River Energy Center