

US EPA ARCHIVE DOCUMENT



March 31, 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  
Neal North Generating Station, Sioux City, 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 Neal North Generating Station received your request on March 17, 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 Neal North Generating Station has three surface impoundments that receive liquid-borne material for the storage of residuals or by-products from the combustion of coal. The questions enclosed in the information collection request have been copied below (in italics) with responses for each of the three surface impoundments.

#### **SURFACE IMPOUNDMENT 1 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 units. If the unit does not have a rating, please note that fact.*

To MidAmerican's knowledge, the Neal North Generating Station Surface Impoundment 1 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?*

Surface Impoundment 1 was placed into service in 1972, and there has been no expansion.

*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 bottom ash surface impoundment are coal combustion residue and are temporarily stored. The quantity of ash materials in the ponds is controlled by the removal of approximately 150,000 tons of coal combustion residue, in total from all three ash ponds, every two years for disposal in the adjacent dry monofill for the Neal North Generating Station. The temporary storage details are as follows:

- (1) Fly ash – Approximately 20% of the material is fly ash.
- (2) Bottom ash – Approximately 80% 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 mass can not be separately estimated from the bottom ash mixture.
- (4) Flue gas emission control residuals – No flue gas emission control residuals are generated at the Neal North Generating Station.
- (5) Other – Non-hazardous chemical cleaning byproduct is discharged periodically to the surface impoundment. This process, used to remove water-side boiler tube

deposits, is completed approximately every five to eight years. 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 south of the surface impoundment and eventually drains to the Missouri River.

**4. Was the management of the 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?**

Surface Impoundment 1 was not designed by a Professional Engineer, nor was construction under the supervision of a Professional Engineer. As discussed in question #5, Neal North is in the process of obtaining a safety certification from a Professional Engineer, and anticipates having this documentation available by June of 2009.

**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?**

The Neal North Generating Station does not have a current assessment or evaluation of the safety (i.e., structural integrity) of the surface impoundment. However, the Neal North Generating Station is in the process of obtaining such certification and anticipates having this documentation available by June of 2009. The documentation will include:

- A review of original design plan and project specification.
- A field survey to measure the berms around the surface impoundment.
- A geotechnical exploration, laboratory soils tests, stability analysis, and assessment on the stability of the existing berms. If any deficiencies are found, the evaluation will also include recommendations for remediation of deficient portions of the surface impoundment.

**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.**

Surface Impoundment 1 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 operating history of Surface Impoundment 1, and such inspections may have included a visual observation of the bottom ash 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 Surface Impoundment 1. No other assessments, evaluations or inspections by State or Federal regulatory officials within the past year referenced safety issues regarding Surface Impoundment 1.

***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 Surface Impoundment 1 is approximately 12.2 acres, and the total volumetric storage capacity is estimated to be approximately 220,182 cubic yards of coal combustion residue. As of March 4, 2009, Surface Impoundment 1 was estimated to contain approximately 132,111 cubic yards of coal combustion residue.

The maximum height of Surface Impoundment 1 is approximately twelve feet as measured from minimum crest height. However, at least 2.5 feet of freeboard is always maintained.

***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).***

There have been no known spills or unpermitted releases from Surface Impoundment 1 at the Neal North Generating Station within the last ten years.

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

The legal operator of Neal North Generating Station is MidAmerican Energy Company. The legal owners of Neal North Generating Station, and their respective ownership shares by Unit, are listed below:

*Unit 1*

- MidAmerican Energy Company (100%)

*Unit 2*

- MidAmerican Energy Company (100%)

*Unit 3*

- MidAmerican Energy Company (72%)
- Interstate Power and Light Company (28%)

**SURFACE IMPOUNDMENT 2 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 units. If the unit does not have a rating, please note that fact.***

To MidAmerican's knowledge, the Neal North Generating Station Surface Impoundment 2 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?***

Surface Impoundment 2 was placed into service in 1972, and there has been no expansion.

***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 bottom ash surface impoundment are coal combustion residue and are temporarily stored. The quantity of ash materials in the ponds is controlled by the removal of approximately 150,000 tons of coal combustion residue, in total from all three ash ponds, every two years for disposal in the adjacent dry monofill for the Neal North Generating Station. The temporary storage details are as follows:

- (1) Fly ash – Approximately 22% of the material is fly ash.
- (2) Bottom ash – Approximately 78% 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 mass can not be separately estimated from the bottom ash mixture.
- (4) Flue gas emission control residuals –No flue gas emission control residuals are generated at the Neal North Generating Station.
- (5) Other – Non-hazardous chemical cleaning byproduct is discharged periodically to the surface impoundment. This process, used to remove water-side boiler tube deposits, is completed approximately every five to eight years. Waste water is discharged from the surface impoundment in accordance with the terms and conditions of an the Iowa Department of Natural Resources National Pollution Discharge Elimination System permit, via an outfall south of the surface impoundment and eventually drains to the Missouri River.

***4. Was the management of the 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?***

Surface Impoundment 2 was not designed by a Professional Engineer, nor was construction under the supervision of a Professional Engineer. As discussed in question #5, Neal North is in the process of obtaining such certification from a Professional Engineer, and anticipates having this documentation available by June of 2009.

***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?***

The Neal North Generating Station does not have a current assessment or evaluation of the safety (i.e., structural integrity) of the surface impoundment. However, the Neal North Generating Station is in the process of obtaining such certification and anticipates having this documentation available by June of 2009. The documentation will include:

- A review of original design plan and project specification.
- A field survey to measure the berms around the surface impoundment.
- A geotechnical exploration, laboratory soils tests, stability analysis, and assessment on the stability of the existing berms. If any deficiencies are found, the evaluation will also include recommendations for remediation of deficient portions of the surface impoundment.

***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.***

Surface Impoundment 2 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 operating history of Surface Impoundment 2, and such inspections may have included a visual observation of the bottom ash 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 Surface Impoundment 2. No other assessments, evaluations or inspections by State or Federal regulatory officials within the past year referenced safety issues regarding Surface Impoundment 2.

**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 Surface Impoundment 2 is approximately 26.9 acres, and the total volumetric storage capacity is estimated to be approximately 477,370 cubic yards of coal combustion residue. As of March 4, 2009, Surface Impoundment 2 was estimated to contain approximately 286,444 cubic yards of coal combustion residue.

Water from Surface Impoundment 2 directly discharges into Surface Impoundment 3, and thus the height of Surface Impoundment 3 could be considered the maximum height of this management unit. However, the side wall of Surface Impoundment 2 is approximately 11 feet, as measured by minimum crest height, and least 2.5 feet of freeboard is always maintained.

**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).**

There have been no known spills or unpermitted releases from Surface Impoundment 2 at the Neal North Generating Station within the last ten years.

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

The legal operator of Neal North Generating Station is MidAmerican Energy Company. The legal owners of Neal North Generating Station, and their respective ownership shares by Unit, are listed below:

*Unit 1*

- MidAmerican Energy Company (100%)

*Unit 2*

- MidAmerican Energy Company (100%)

*Unit 3*

- MidAmerican Energy Company (72%)
- Interstate Power and Light Company (28%)

**SURFACE IMPOUNDMENT 3 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 units. If the unit does not have a rating, please note that fact.***

To MidAmerican's knowledge, the Neal North Generating Station Surface Impoundment 3 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?***

Surface Impoundment 3 was placed into service in 1975, and there has been no expansion.

***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 bottom ash surface impoundment are coal combustion residue and temporarily stored. The quantity of ash materials in the ponds is controlled by the removal of approximately 150,000 tons of coal combustion residue, in total from all three ash ponds, every two years for disposal in the adjacent dry monofill for the Neal North Generating Station. The temporary storage details are as follows:

- (1) Fly ash – Approximately 15% of the material is fly ash.
- (2) Bottom ash – Approximately 85% 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 mass can not be separately estimated from the bottom ash mixture.
- (4) Flue gas emission control residuals –No flue gas emission control residuals are generated at the Neal North Generating Station.
- (5) Other – Non-hazardous chemical cleaning byproduct is discharged periodically to the surface impoundment. This process, used to remove water-side boiler tube deposits, is completed approximately every five to eight years. 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 south of the surface impoundment and eventually drains to the Missouri River.

***4. Was the management of the 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?***

Surface Impoundment 3 was not designed by a Professional Engineer, nor was construction under the supervision of a Professional Engineer. As discussed in question #5, Neal North is in the process of obtaining such certification from a Professional Engineer, and anticipates having this documentation available by June of 2009.

***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?***

The Neal North Generating Station does not have a current assessment or evaluation of the safety (i.e., structural integrity) of the surface impoundment. However, the Neal North Generating Station is in the process of obtaining such certification and anticipates having this documentation available by June of 2009. The documentation will include:

- A review of original design plan and project specification.
- A field survey to measure the berms around the surface impoundment.
- A geotechnical exploration, laboratory soils tests, stability analysis, and assessment on the stability of the existing berms. If any deficiencies are found, the evaluation will also include recommendations for remediation of deficient portions of the surface impoundment.

***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.***

Surface Impoundment 3 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 operating history of Surface Impoundment 3, and such inspections may have included a visual observation of the bottom ash 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 Surface Impoundment 3. No other assessments, evaluations or inspections by State or Federal regulatory officials within the past year referenced safety issues regarding Surface Impoundment 3.

***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 Surface Impoundment 3 is approximately 76.1 acres, and the total volumetric storage capacity is estimated to be approximately 1,350,518 cubic yards of coal combustion residue. As of March 4, 2009, Surface Impoundment 3 was estimated to contain approximately 540,222 cubic yards of coal combustion residue.

The maximum height of Surface Impoundment 3 is approximately 20 feet as measured from minimum crest height. However, least 2.5 feet of freeboard is always maintained.

***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).***

There have been no known spills or unpermitted releases from Surface Impoundment 3 at the Neal North Generating Station within the last ten years.

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

The legal operator of Neal North Generating Station is MidAmerican Energy Company. The legal owners of Neal North Generating Station, and their respective ownership shares by Unit, are listed below:

*Unit 1*

- MidAmerican Energy Company (100%)

*Unit 2*

- MidAmerican Energy Company (100%)

*Unit 3*

- MidAmerican Energy Company (72%)
- Interstate Power and Light Company (28%)

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: Brad Lewis for Dana Ralston

Name: Dana M. Ralston

Title: General Manager – Neal Energy Center