DRAFT REPORT
ROUND 10 DAM ASSESSMENT - MAY 16, 2011
EME HOMER CITY GENERATION L.P.
HOMER CITY GENERATING STATION
ASH DISPOSAL SITE PONDS, COAL REFUSE SITE PONDS AND ASH RECYCLE PONDS
HOMER CITY, PENNSYLVANIA

PREPARED FOR:

U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

PREPARED BY:

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, Ma 02062
GZA File No. 01.0170142.30

GZA
GeoEnvironmental, Inc.

Engineers and
Scientists

March 12, 2012
GZA File No. 170142.30

Mr. Stephen Hoffman
Senior Environmental Scientist
Office of Solid Waste
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: Assessment of Dam Safety of Coal Combustion Surface Impoundments at the Homer City Generating Station

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Dear Mr. Hoffman,

In accordance with our proposal 01.P0000177.11 dated March 28, 2011, and U.S. Environmental Protection Agency (EPA) Contract No. EP10W001313, Order No. EP-B115-00049, GZA GeoEnvironmental, Inc. (GZA) has completed our inspection of the Coal Combustion Waste (CCW) impoundments associated with the Ash Disposal Site, Coal Refuse Site, and Ash Recycle Ponds 1 through 4 at the EME Homer City Generating Station in Homer City, Pennsylvania (Site). The Site visit was conducted by GZA on May 16, 2011. The primary purpose of our efforts was to provide the EPA with a site specific inspection of the impoundments to assist EPA in assessing the structural stability of the impoundments under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104(e). We are submitting one hard copy and one CD-ROM copy of this Draft Report directly to the EPA.

In our opinion, the impoundments at the Ash Disposal Site (comprising of Treatment Pond Nos. 1 and 2, the Polishing Pond and the Stormwater Surge Pond) as well as those at the Coal Refuse Site (comprising of the Stage I/II Sedimentation Pond, the Small Sediment Trap, the Stage III/IV Sedimentation Pond, Storage Pond Nos. 1 and 2 and the Leachate Pump Pond) do not meet the criteria set forth by the U.S. EPA with regard to coal ash "management units" (impoundments). This opinion is based on the fact that said impoundments do not receive liquid borne material from, nor are they used for the storage or disposal of residual by-products from the coal combustion process. These structures were inspected during the site visit and checklists for each have been included in **Appendix C** for informational purposes. However due to the fact that neither qualifies as a CCW management unit, no further study or discussion of the above referenced impoundments is necessary in our opinion.

Based on our visual inspection, and in accordance with the EPA criteria, each of Ash Recycle Ponds 1 through 4 are currently in **POOR** condition, in our opinion. Further discussion of our evaluation and recommended actions are presented in the Task 3 Dam Assessment Report. For each Pond the report includes: (a) a completed Coal Combustion Dam Inspection Checklist Form; (b) a field sketch; and (c) selected photographs with captions. Our services and report are subject to the Limitations found in **Appendix A** and the Terms and Conditions of our contract agreement.

We are happy to have been able to assist you with this inspection and appreciate the opportunity to continue to provide you with dam engineering consulting services. Please contact the undersigned if you have any questions or comments regarding the content of this Task 3 Dam Assessment Report.

Sincerely,

GZA GeoEnvironmental, Inc.

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EXECUTIVE SUMMARY

This Inspection Report presents the results of a visual inspection of the EME Homer City Generation L.P. (EME) Homer City Generating Station, Coal Combustion Waste (CCW) impoundments in Homer City, Pennsylvania. These inspections were performed on May 16, 2011 by representatives of GZA GeoEnvironmental, Inc. (GZA), accompanied by representatives of EME, the Pennsylvania Department of Environmental Protection (PADEP) Division of Dam Safety and Bureau of Waste Management.

Homer City Generating Station is a three unit coal fired generating station with a maximum generating capacity of approximately 1,884 Megawatts. Units 1 and 2 began operations in 1969 and Unit 3 came on line in 1977. Power from the station is sold to the Pennsylvania, New Jersey, and Maryland (PJM) Power Pool. The generating station is situated on 2,400 acres of land which include fly ash (the Ash Disposal Site) and coal refuse (the Coal Refuse Site) landfill to accommodate wastes generated from the station's dry ash handling system. An 1,800 acre reservoir, the Two Lick Reservoir, is maintained and operated by the station as a flood control, conservation and recreational reservoir for the Two Lick Creek. Cooling water for the station is pumped from Two Lick Creek.

The Generating Station employs a dry ash handling system for CCWs, including dry ash precipitators for fly ash collection, and hydrobin/centrifuge treatment for bottom ash. Fly ash is land filled at the Ash Disposal Site northwest of the generating units. Bottom ash is land filled at the Coal Refuse Site north of the generating units. Wastewater from the hydrobin/centrifuge treatment process, which contains CCWs, is slurried to four nearly identical settling ponds known as Ash Recycle Ponds 1 through 4 which are located in the center of the facility adjacent to the generating units.

GZA visually inspected a total of 14 active impoundments during our site visit. Four of the impoundments are associated with the Ash Disposal Site (Treatment Pond Nos. 1 and 2, the Polishing Pond and the Stormwater Surge Pond) and six were associated with the Coal Refuse Site (the Stage I/II Sedimentation Pond, the Small Sediment Trap, the Stage III/IV Sedimentation Pond, Storage Pond Nos. 1 and 2 and the Leachate Pump Pond. These (ten) impoundments at the Ash Disposal Site and Coal Refuse Site collect surface water runoff and/or leachate from the landfills for treatment prior to discharge at the site's National Pollutant Discharge Elimination System (NPDES) permitted outfalls. Said impoundments do not receive liquid borne material from, nor are they used for the storage or disposal of residual by products from the coal combustion process. Incidental CCWs mixed with silt may be present in the surface water runoff and/or leachate flows entering the Ash Disposal Site and Coal Refuse Site impoundments, however quantities are considered "di minimus". These impoundments are not used for long term disposal and are regularly cleaned out as needed (typically one to two times per year). In GZA's opinion the four impoundments associated with the Ash Disposal Site and the six associated with the Coal Refuse Site do not meet the criteria set forth by the U.S. EPA for coal ash impoundments. ***These impoundments were inspected during the site visit and checklists for each have been included in* Appendix C for informational purposes.** ***However no further study or discussion herein, of these impoundments, is necessary.***

The remaining four impoundments inspected were Ash Recycle Ponds 1 through 4. According to EME personnel bottom ash slurry from the coal combustion process is sent to three hydrobin/centrifuges adjacent to the generating units. Water and bottom ash are separated in the

process and dewatered bottom ash from each hydrobin/centrifuge is hauled to and land filled at the Coal Refuse Site. Residual water from the process, which still contains a low level of CCW residuals, is discharged into the four Ash Recycle Ponds which provide treatment in the form of sedimentation. Decant water from each Ash Recycle Pond passes over a dedicated weir structure and/or through drains beneath the bottom of the Ponds into a wet well. Water in the wells flows to a small pump house which pumps water back to the plant for re-use in plant processes as necessary. Excess water is pumped into a baffled concrete settling basin situated between the Ash Recycle Ponds where further treatment in the form of pH adjustment is applied. Decant overflow from the concrete settling basin is discharged under NPDES Permit PA0005037, Outfall No. 5 to an un-named stream west of the Ponds. In our opinion the Ash Recycle Ponds qualify as CCW impoundments because of the of the presence of CCWs (albeit low) in the wastewater slurried thereto from the hydrobin/centrifuge treatment system.

Ash Recycle Ponds 1 through 4, respectively, in their current configuration each have a maximum height of approximately 11 feet and a storage volume of 5 acre-feet at the top of embankment. Therefore in accordance with United States Army Corps of Engineers (USACE) criteria, the Ponds would be classified as **Small** sized structures. Note the Ash Recycle Ponds 1 through 4 are all smaller than the smallest size classification according to USACE guidelines. Note the PADEP does not regulate the Ash Recycle Ponds as dams.

It is GZA's opinion that Ash Recycle Ponds 1 through 4 are each respectively considered **Less Than Low** Hazard potential structures. This hazard potential rating is based on the relatively small impoundment volume and on GZA's opinion that failure of the embankment is not likely to result in loss of human life and environmental damage, if any, would be minimal and limited to the Owner's property. The downstream area beyond the facility property limits is agricultural and sparsely populated.

Based on the results of the visual inspection, discussions with EME personnel, and a review of available design documentation, each of the Ash Recycle Ponds was judged to be in **POOR** condition. The following deficiencies were noted at the Ponds:

General Deficiencies (All Ash Recycle Ponds):

1. Sloughing and erosion observed at numerous locations along the inside slopes above the waterline.
2. Inside slopes above the waterline steeper than the 2H:1V as specified on the original design drawings and locally steeper than 1H:1V.
3. Minor ruts and depressions along the top of the embankments, possibly due to past vehicular travel.
4. Moderate corrosion of the steel railing around individual wet well structures.-
5. Presence of overgrown vegetation above the waterline along portions of the inside slopes.
6. No geotechnical computations with respect to the embankments' stability were made available to GZA for review.

Deficiencies specific to a particular Pond are described as follows:

Ash Recycle Pond No. 1:

1. In addition to corrosion, part of the railing around the decant intake structure was observed to be broken/disconnected.

Ash Recycle Pond No. 2:

1. Shallow standing water observed near the toe along portions of the west embankment.
2. Overgrown, woody vegetation, brush, small trees/shrubs, and weeds observed along the outside slope of the western embankment with areas of exposed earth.
3. Minor erosion observed at areas of exposed earth on the outside slope of the western embankment.
4. Ruts and depressions observed near the toe of the western embankment.
5. Stumps (with associated below grade root balls) approximately 2- to 4-inches in diameter observed at the outside slope of the western embankment from past vegetative maintenance activities.

Ash Recycle Pond No. 3:

1. Overgrown woody vegetation observed at the southern inside slope near the wet well.

Ash Recycle Pond No. 4:

1. Woody vegetation observed at the southern inside slope.
2. Overgrown woody vegetation, brush, small trees/shrubs and weeds observed along the outside slope of the western embankment with areas of exposed earth.
3. Erosion observed at areas of exposed earth on outside slope of the western embankment.
4. Ruts and depressions observed at the toe of the western embankment and areas of wet spongy ground.

The following recommendations and remedial measures generally describe the recommended approach to address current deficiencies. Prior to undertaking recommended maintenance, repairs, or remedial measures, the applicability of environmental permits needs to be determined for activities that may occur within resource areas under the jurisdiction of the appropriate regulatory agencies.

Studies and Analyses

1. Perform a seepage analysis to assess the factor of safety of piping failure, at Ash Recycle Ponds 1 through 4.

2. Perform a geotechnical stability analysis of the Ash Recycle Pond embankments under all applicable loading conditions, including earthquake-induced loading.

3. Investigate cause of shallow standing water/spongy ground at the toe of Pond's 2 and 4 western embankment.

Recurrent Operation and Maintenance Recommendations

1. Monitor sloughing and areas of erosion, ruts or depressions on the embankments and maintain a schedule for addressing deficiencies observed.

2. Monitor shallow standing water and wet spongy ground at the toe of the common western embankment of Ash Recycle Ponds 2 and 4.

Minor Repair Recommendations

1. Regularly repair sloughs and erosion observed on the embankments. Consideration should be given to providing permanent erosion protection (i.e. revetment matting or similar) as necessary.

2. Clear and grub woody vegetation from outside slope of the western embankments of Ponds 2 and 4 and fill depressions from root balls with compacted sand and gravel. Provide loam as necessary and seed and maintain a healthy grass cover.

3. Re-grade inside and outside slopes of all Ponds as necessary to achieve 2H:1V geometry as specified of the original design drawings. This is best achieved during times when the Ponds are dewatered for cleaning/dredging.

4. Repair railings around wet wells.

Remedial Measures Recommendations

1. Make provisions to address any deficiencies identified by the above recommended seepage analyses.

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1.0 DESCRIPTION OF PROJECT

1.1 General

1.1.1 Authority

The United States Environmental Protection Agency (EPA) has retained GZA GeoEnvironmental, Inc. (GZA) to perform visual inspections and develop a report of conditions for the EME Homer City Generation L.P. (EME, Owner), Homer City Generating Station, Coal Combustion Waste (CCW) impoundments in Homer City, Pennsylvania. These inspections were authorized by the EPA under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104(e). These inspections and report were performed in accordance with Task 3 of RFQ-DC-16 Round 10 for EPA's Office of Resource Conservation and Recovery in support for the Assessment of Dam Safety of Coal Combustion Surface Impoundments, dated March 16, 2011. The inspection generally conformed to the requirements of the Federal Guidelines for Dam Safety[1], and this report is subject to the limitations contained in **Appendix A** and the Terms and Conditions of our Contract Agreement.

1.1.2 Purpose of Work

The purpose of this investigation was to visually inspect and evaluate the present condition of the facility's dam(s), dike(s) and appurtenant structures to attempt to identify conditions that may adversely affect their structural stability and functionality, to note the extent of any deterioration that may be observed, review the status of maintenance and needed repairs, and to evaluate the conformity with current design and construction standards of care.

The investigation was divided into four parts: 1) obtain and review available reports, investigations, and data from the Owner pertaining to the dam and appurtenant structures; 2) perform an on-site review with the Owner of available design, inspection, and maintenance data and procedures for the management unit(s); 3) perform a visual inspection of the site; and 4) prepare and submit a draft and a final report presenting the evaluation of the structure(s), including recommendations and proposed remedial actions.

1.1.3 Definitions

To provide the reader with a better understanding of the report, definitions of commonly used terms associated with dams are provided in **Appendix B**. Many of these terms may be included in this report. The terms are presented under common categories associated with dams which include: 1) orientation; 2) dam components; 3) size classification; 4) hazard classification; 5) general; and 6) condition rating.

1.2 Description of Project

1.2.1 Location

The approximately 2,400 acre Homer City Generating Station facility is located approximately 2.5 miles southwest of Homer City, Pennsylvania. The generating station is

[1] FEMA/ICODS, April 2004: http://www.ferc.gov/industries/hydropower/safety/guidelines/fema-93.pdf

accessible from the north and/or south via Route 119 to Power Plant Road. Homer City Generating Station is approximately located at latitude 40° 30' 46" North and longitude 79° 11' 43" West.

Fourteen impoundments were visually inspected during the site visit. Ash Recycle Ponds 1 through 4, are located on the northwest side of the center of the facility adjacent to the generating units. Treatment Ponds 1 and 2, the Storm Water Surge Pond, and the Polishing Pond are located approximately 1 mile northwest of the generating units, at the Ash Disposal Site. The Stage I/II Sedimentation Pond, which is part of the Coal Refuse Site is situated approximately 1 mile north of the generating units. Also associated with the Coal Refuse Site are Storage Pond Nos. 1 and 2, the Leachate Pump Pond, the Stage III/IV Surge Pond, and the Small Sediment Trap which are located approximately one mile northeast of the generating units.

A site locus of the impoundments and surrounding area is shown in **Figure 1** and an aerial photograph of the impoundments and surrounding area is provided in **Figure 2**. The Ash Recycle Ponds and the impoundments associated with the Ash Disposal Site are accessed via paved roads off of Power Plant Road. The impoundments associated with the Coal Refuse Site are only accessible via dirt/gravel unimproved roads off of the main haul road to the Coal Refuse Site landfill.

1.2.2 Owner/Caretaker

The Ponds and power station are owned and operated by EME Homer City Generation L.P.

	Dam Owner/Caretaker
Name	EME Homer City Generation L.P.
Mailing Address	1750 Power Plant Road
City, State, Zip	Homer City, PA 15748
Contact	Joe Stanek
Title	Environmental Manager
E-Mail	jstanek@mwgen.com
Daytime Phone	(724) 479-6256
Emergency Phone	911

1.2.3 Purpose of the Ponds

Homer City Generating Station is a three unit coal fired generating station with a maximum generating capacity of approximately 1,884 Megawatts. Units 1 and 2 began operations in 1969 and Unit 3 came on line in 1977. Power from the station is sold to the Pennsylvania, New Jersey, and Maryland (PJM) Power Pool. The generating station is situated on approximately 2,400 acres of land which include fly ash (the Ash Disposal Site) and coal refuse (the Coal Refuse Site) landfills to accommodate wastes generated the station's dry ash handling system. An 1,800 acre reservoir, the Two Lick Reservoir, is maintained and operated by the station as a flood control, conservation and recreational reservoir for Two Lick Creek. Cooling water for use at the station is pumped from Two Lick Creek.

The Generating Station employs a dry ash handling system for CCWs, including dry ash precipitators for fly ash collection, and hydrobin/centrifuge treatment for bottom ash. Fly ash is land filled at the Ash Disposal Site northwest of the generating units. Bottom ash is land filled at the Coal Refuse Site north of the generating units. Wastewater from the hydrobin/centrifuge treatment process is slurried to four nearly identical settling ponds known as Ash Recycle Ponds 1 through 4, which are located in the center of the facility adjacent to the generating units.

GZA visually inspected a total of 14 active impoundments during our site visit. Four of the impoundments are associated with the Ash Disposal Site (Treatment Pond Nos. 1 and 2, the Polishing Pond and the Stormwater Surge Pond) and six were associated with the Coal Refuse Site (the Stage I/II Sedimentation Pond, the Small Sediment Trap, the Stage III/IV Sedimentation Pond, Storage Pond Nos. 1 and 2 and the Leachate Pump Pond. These (ten) impoundments at the Ash Disposal Site and Coal Refuse Site collect surface water runoff and/or leachate from the landfills for treatment prior to discharge at the site's National Pollutant Discharge Elimination System (NPDES) permitted outfalls. Said impoundments do not receive liquid borne material from, nor are they used for the storage or disposal of residual by products from the coal combustion process. Incidental CCWs mixed with silt may be present in the surface water runoff and/or leachate flows entering the Ash Disposal Site and Coal Refuse Site impoundments, however quantities are considered "di minimus". These impoundments are not used for long term disposal and are regularly cleaned out as needed (typically one to two times per year). In GZA's opinion the four impoundments associated with the Ash Disposal Site and the six associated with the Coal Refuse Site do not meet the criteria set forth by the U.S. EPA for coal ash impoundments. ***These impoundments were inspected during the site visit and checklists for each have been included in*** **Appendix C for informational purposes.** ***However no further study or discussion herein, of these impoundments, is necessary.***

The remaining four impoundments inspected were Ash Recycle Ponds 1 through 4. According to EME personnel bottom ash slurry from the coal combustion process is sent to three hydrobin/centrifuges adjacent to the generating units. Water and bottom ash are separated in the process and dewatered bottom ash from each hydrobin/centrifuge is hauled to and land filled at the Coal Refuse Site. Residual water from the process, which still contains a low level of CCW residuals, is discharged into the four Ash Recycle Ponds which provide treatment in the form of sedimentation. Decant water from each Ash Recycle Pond passes over a dedicated weir structure and/or through drains beneath the bottom of the Ponds into a wet well. Water in the wells flows to a small pump house, which pumps water back to the plant for re-use in plant processes, as necessary. Excess water is pumped into a baffled concrete settling basin situated between the Ash Recycle Ponds where further treatment, in the form of pH adjustment, is applied. Decant overflow from the concrete settling basin is discharged under NPDES Permit PA0005037, Outfall No. 5 to an un-named stream west of the Ponds. In our opinion the Ash Recycle Ponds qualify as CCW impoundments because of the of the presence of CCWs (albeit low) in the wastewater slurried thereto from the hydrobin/centrifuge treatment system.

1.2.4 Description of Ash Recycle Ponds 1 through 4 and Appurtenances

The following description of Ash Recycle Ponds 1 through 4 and appurtenances is based on conversations with EME personnel, review of design drawings provided by EME,

and field observations by GZA. No previous inspection reports were available for review at the time of GZA's inspection.

Ash Recycle Ponds 1 through 4 were designed by Gilbert Associates, Inc. in 1973. Original ground sloped from east (high) to west (low), which resulted in a majority of the Ponds being incised to form the embankments. The eastern embankment of Ponds 1 and 3, was almost entirely incised, based on original design drawings, while construction of the western embankment of Ponds 2 and 4 required approximately 6 to 8 feet of fill. The four Ponds each have a surface area of 0.6 acres and had an original maximum depth of 11 feet from the top of embankment (elevation 1187 feet) to the bottom of the Pond (elevation 1176 feet). Each Pond had an original storage capacity of about 5 acre-feet. The inside face and bottom of each Pond was constructed with a 2-foot-thick clay liner up to elevation 1186 feet. A 1-foot-thick top course of crushed slag comprises the top of embankment (elevation 1186 to 1187 feet). The aforementioned baffled concrete settling basin was constructed sometime after the construction of the Ponds.

Residual wastewater containing low levels of CCWs flows from the three hydrobin/centrifuges into a 30-inch-diameter manifold and pipe system which extends around the perimeter of the Ponds. Flow into each Pond is controlled via a butterfly valves and T-connections to a 24-inch-diameter pipe which discharges into the end of the each Pond. Water in each Pond percolates through the bottom into two parallel under drains approximately 14-feet apart which run north to south beneath the middle of each Pond. The under drain consists of filtered media around an 8-inch-diameter porous concrete pipe which conveys filtered water to a wet well at the end of each Pond. Water may also enter the wet well via a decant structure at the end of each Pond consisting of a skimmer and baffled weir. Water from the wet well is pumped back to the plant and re-used in plant processes, or pumped into the baffled concrete settling basin situated between the Ash Recycle Ponds where it receives further treatment in the form of pH adjustment, prior to decanted discharge under NPDES Permit PA0005037, Outfall No. 5.

1.2.5 Operations and Maintenance

The Ash Recycle Ponds are operated and maintained by EME personnel. Operations at the Ponds are generally limited to operation of valves to control the discharge of residual wastewater from the hydrobin/centrifuge treatment units into the Ponds and operation maintenance of the wet well pumps, baffled concrete settling basin and pH treatment facility which handle decanted flows from the impoundments. According to EME personnel maintenance of the Ponds includes at least yearly (more often if required) cleanout/dredging of settled out bottom ash from within each Pond. Frequency of cleaning/dredging activity is based on bathymetric surveys of the Ponds. When cleaning/dredging is required at a respective Pond, said Pond is dewatered (via pumping) and bottom ash is subsequently removed via an excavator. The excavated bottom ash is hauled to the Coal Refuse Site for permanent disposal in the landfill. Tree clearing and regrading of slopes are also standard operation procedures according to EME, and are performed as necessary.

Operation and maintenance of the Ash Recycle Ponds is regulated by the EPA under the National Pollutant Discharge Elimination System (NPDES) Permit No. PA 0005037 outfall No. 5. According to EME personnel daily visual inspections are performed by EME personnel and are kept in their internal records. No records were provided to GZA at the time of the inspection.

1.2.6 Size Classification

For the purposes of this EPA-mandated inspection, the size of the dam and its impoundment will be based on United States Army Corps of Engineers (USACE) criteria. Ash Recycle Ponds 1 through 4 respectively in their current configuration each have a maximum height of approximately 11 feet and a storage volume of 5 acre-feet at the top of embankment. According to guidelines established by the USACE, dams with a storage volume between 50 and 1,000 acre-feet and/or a height between 25 and 40 feet are classified as **Small** sized structures. Note Ash Recycle Ponds 1 through 4 are all smaller than the smallest size classification according to USACE guidelines.

According to PADEP guidelines the Ash Recycle Ponds would be considered **Class C (Small)** Structures based on an impoundment volume less than 1,000 acre-feet and/or a height less than 40 feet. Note however that the PADEP does not regulate the Ash Recycle Ponds as dams.

1.2.7 Hazard Potential Classification

Under the EPA classification system, as presented on page 2 of the EPA check list (**Appendix C**) and Definitions section (**Appendix B**), it is GZA's opinion that Ash Recycle Ponds 1 through 4 are each respectively considered **Less Than Low** Hazard potential structures. This hazard potential rating is based on the relatively small impoundment volume and on GZA's opinion that failure of the embankment is not likely to result in loss of human life and environmental damage, if any, would be minimal and limited to the Owner's property. The downstream area beyond the facility property limits is agricultural and sparsely populated. The area downstream of the Ash Recycle Ponds is shown in **Figure 4**. Note the PADEP does not regulate the Ash Recycle Ponds as dams.

1.3 Pertinent Engineering Data

1.3.1 Drainage Area

Based on the design documents and as estimated by GZA, Ash Recycle Ponds 1 through 4 do not receive drainage from the surrounding areas. Wastewater entering the Ponds is controlled by butterfly valves at each discharge location. The only uncontrolled water that enters the impoundments is from direct precipitation. The estimated drainage areas are shown in **Figure 3**.

1.3.2 Impoundment

The Ash Recycle Ponds each have a surface area of approximately 0.6 acres and an original storage volume of 5 acre-feet at the top of embankment, (elevation 1187 feet). The Ponds have an approximate depth of 11 feet from the top of embankment to the bottom of the Pond at elevation 1176 feet. The Ponds are separated by a 24-foot-wide dike traversing north to south and an approximately 100-foot-wide dike (upon which the baffled concrete settling basin and related wet well, pumps and pH treatment system infrastructure are situated) traversing east to west. As previously mentioned, under drain and decant flow from each Pond is pumped to a the baffled concrete settling tank where water is either pumped back into the plant for re-use and/or treated for pH prior to discharge via Outfall No. 5.

1.3.3 Discharges at the Dam Site

Residual waste water from the hydrobin/centrifuge treatment units enters the impoundments at the outside ends (i.e. concrete basin is situated at the inside end). Water in the Pond then percolates through the bottom of the Ponds and into two parallel under drains, or flows through a skimmer and baffled weir into a wet well. The water in the wet well is pumped back to the plant and re-used for plant processes, and/or pumped into the baffled concrete settling basin between the Ash Recycle Ponds for further treatment of pH prior to discharge via Outfall No. 5.

1.3.4 General Elevations (feet)

Elevations are from design drawings and data provided by EME. Elevations for Ash Recycle Ponds 1 through 4 are generally similar and are as follows:

A.	Top of Embankment (Minimum)	1187± feet
B.	Spillway Design Flood Pool (Design)	Unknown
C.	Low Point Along Toe of Embankment	±1176 feet
D.	Downstream Tail Water at Time of Inspection	None
E.	Normal Pool	1184 feet
F.	Spillway Crest	1184 feet
G.	Pool at Time of Inspection	±1184 feet

1.3.5 Design and Construction Records and History

Ash Recycle Ponds 1 through 4 were designed by Gilbert Associates, Inc. Engineers and Consultants in 1973. Based our review of the design drawings provided by EME, the inside face and bottom of each Pond was constructed with a 2-foot-thick clay liner up to elevation 1186 feet. A 1-foot-thick top course of crushed slag comprises the top of embankment (elevation 1186 to 1187 feet). A majority of the Ponds were incised below existing grades. However design drawings note that embankment portions shall be constructed of "suitable material of low permeability (1 x 10^{-5} centimeters/second)…placed in lifts not exceeding 8-inches and compacted to 95 percent of maximum standard proctor density". The aforementioned baffled concrete settling basin was constructed sometime after the construction of the Ponds. Design drawings for this structure were not provided.

1.3.6 Operating Records

No operating records were available for GZA to review at the time of this inspection.

1.3.7 Previous Inspection Reports

No previous inspection reports were available for GZA to review at the time of the inspection.

2.0 INSPECTION

2.1 Visual Inspection

Ash Recycle Ponds 1 through 4 were inspected on May 16, 2011 by C. Brad Nourse and James P. Guarente, P.E. of GZA GeoEnvironmental, Inc. At the time of the inspection the weather was cloudy with occasional rain and temperatures in the 60°s Fahrenheit. Photographs to document the current conditions of the embankments were taken during the inspection and are included in **Appendix D**. At the time of the inspection the water level in each of the Ash Recycle Ponds was at approximately elevation 1184 feet, based on the weir elevation. Underwater areas were not inspected, as this level of investigation was beyond that of GZA's scope of services. Copies of the EPA checklists are included in **Appendix C**.

With respect to our visual inspection there was no evidence of prior releases or failures observed by GZA.

2.1.1 Ash Recycle Pond General Findings

In general, Ash Recycle Ponds 1 through 4 were each found to be in **POOR** condition. An overall site plan showing the Ash Recycle Ponds is provided as **Figure 5**. The location and orientation of photographs provided in **Appendix D** is shown on the Photo Location Plan in **Figure 6A**. The specific concerns are identified in more detail in the sections below.

The four impoundments at the Ash Disposal Site and the six impoundments at the Coal Refuse Site do not meet the criteria set forth by the U.S. EPA for coal ash impoundments as described in Section 1.2.3. ***These ten impoundments associated with the Ash Disposal and Coal Refuse sites were inspected during the site visit and checklists have been included in*** **Appendix C*, however no further discussion is provided below.*** Photographs and selected figures have been included for the impoundments at the Ash Disposal and Coal Refuse sites for reference.

2.1.2 Ash Recycle Pond No. 1

Ash Recycle Pond No. 1 is located at the southeast quadrant of the four Ponds and generally appeared to be in poor condition. Based on original design drawings, the Pond was primarily incised into existing ground forming an embankment between Ash Recycle Ponds 1 and 2. The east side and a majority of the north and south sides abut natural ground. Original design drawings show a two foot thick clay liner at the inside face and bottom of all embankments, however said liner was not visible at any Pond during the inspection.

Moderate sloughing and erosion was observed around most of the inside slope above the waterline (Photos 27 and 28). Inside slopes were generally steeper than the two horizontal to one vertical (2H:1V) slopes specified on the original design drawings, and steeper than 1H:1V in localized areas. Light vegetation was observed growing on the inside slopes. The top of the embankment consisted of crushed bottom ash slag and generally appeared to be in satisfactory condition although minor depressions and ruts were also observed.

Discharge from the hydrobin/centrifuge treatment units enters the impoundment from the south side through a valve and "T" pipe connection (Photos 26 and 29). Water exits the Pond through via the under drain system at the bottom of the Pond and/or through a skimmer and baffled weir into a wet well (Photo 25). Moderate corrosion was observed at the safety railings above the wet well and the railing around the well was partially separated/broken in some spots.

2.1.3 Ash Recycle Pond No. 2

Ash Recycle Pond No. 2 is located at the southwest quadrant of the four Ponds and generally appeared to be in poor condition. The east embankment of Pond 2 is a common embankment/dike separating Ash Recycle Pond No. 2 and 1. During the inspection moderate sloughing and erosion was observed along a majority of the inside face above the water surface (Photos 35 and 36). Typical of the other Ponds, sloughing has lead to overly steep slopes above the waterline, some locally steeper than 1H:1V. Erosion was observed at the outside face of the western embankment, primarily in areas of exposed earth. The embankment was primarily overgrown with woody vegetation, brush and weeds (Photo 32). Areas of shallow standing water were observed locally at the toe of the western embankment (Photo 33). It was unclear whether this was related to seepage through the embankment or ponding of heavy rain received the week prior to this inspection.

Discharge from the hydrobin/centrifuge treatment units enters the impoundment from the south side through a valve and "T" pipe connection. Wastewater exists the Pond via percolation to the under drain system or through a skimmer and baffled weir structure to a wet well similar to the other Ponds. Some moderate corrosion was observed on the safety railings around the wet well.

2.1.4 Ash Recycle Pond No. 3

Ash Recycle Pond No. 3 is located at the northeast quadrant of the four Ponds and generally appeared to be in poor condition. Based on the design drawings, a majority of the Pond, similar to Pond 1, is incised into natural ground. The inside face of the Pond was observed to have moderate erosion, sloughing with slopes locally steeper than 1H:1V (Photos 41 and 42).

Discharge from the hydrobin/centrifuge treatment units enters the impoundment from the north side through a valve and "T" pipe connection. Water exists the Pond via percolation to the under drain system or through a skimmer and baffled weir structure to a wet well similar to the other Ponds. Some brush and vegetation was observed around the wet well at the time of the inspection (Photo 38).

2.1.5 Ash Recycle Pond No. 4

Ash Recycle Pond No. 4 is located at the northwest quadrant of the four Ponds and generally appeared to be in poor condition. The east embankment of Pond 4 is a common embankment/dike separating Ash Recycle Pond No. 4 and 3. The inside slopes were in similar condition as the rest of the Ponds, where moderate erosion and sloughs were observed above the waterline (Photo 46). Erosion was observed at the outside face of the western embankment, primarily where there are

areas of exposed earth. Similar to the outside western face of Pond 2, the embankment was primarily overgrown with woody vegetation, brush and weeds (Photos 49 and 50). Areas of wet/spongy ground were observed locally near the toe. It was unclear whether this was related to seepage through the embankment or saturation from heavy rain received the week prior to this inspection.

Discharge from the hydrobin/centrifuge treatment units enters the impoundment from the north side. through a valve and "T" pipe connection. Wastewater exists the Pond via percolation to the under drain system and through a skimmer and baffled weir structure into a wet well similar to the other Ponds. Some corrosion of the safety railings at the wet well for the decant outflow structure was observed (Photo 47), and the presence of overgrown vegetation was observed along portions of the inside face (Photo 48).

2.1.6 Discharge Pipes and Decant Outflow Structures

Water not pumped back to the plant for re-use is pumped to the aforementioned baffled concrete settling basin situated on the east/west dike at the middle of the four Ponds. At the time of this inspection the concrete basin appeared to be in good condition. Decant water exits the concrete basin via an overflow weir. The outfall is permitted under NPDES No. PA0005037, Outfall No. 5.

2.2 Caretaker Interview

GZA met with Joe Stanek of EME during the site visit on May 16, 2011 and discussed the operations and maintenance procedures, regulatory requirements, and the history of the impoundments since their construction. The observations, descriptions and findings presented herein this report reference our discussions with Mr. Stanek.

According to Mr. Stanek, there has never been a failure or uncontrolled release at either of the four Ponds.

2.3 Operation and Maintenance Procedures

As discussed in Section 1.2.5, EME personnel are responsible for the regular operations and maintenance of the Ponds.

2.4 Emergency Warning System

No emergency action plan has been prepared for Ash Recycle Ponds 1 through 4.

2.5 Hydrologic/Hydraulic Data

No hydrologic or hydraulic data was available for review by GZA at the time of this inspection. GZA did not perform an independent assessment of the hydraulics and hydrology for the Ponds as this was beyond the scope of our services.

2.6 Structural and Seepage Stability

No structural or seepage stability analysis were available for review by GZA at the time of inspection. GZA did not perform an independent assessment of the structural or seepage stability as this was beyond the scope of our services.

3.0 ASSESSMENTS AND RECOMMENDATIONS

3.1 Assessments

In general, the overall condition of each of Ash Recycle Ponds, 1 through 4, was judged to be **POOR** and was respectively found to have the following deficiencies:

General Deficiencies (All Ash Recycle Ponds):

1. Sloughing and erosion observed at numerous locations along the inside slopes above the waterline.
2. Inside slopes above the waterline steeper than the 2H:1V as specified on the original design drawings and locally steeper than 1H:1V.
3. Minor ruts and depressions along the top of the embankments, possibly due to past vehicular travel.
4. Moderate corrosion of the steel railing around individual wet well structures.-
5. Presence of overgrown vegetation above the waterline along portions of the inside slopes.
6. No Geotechnical computations with respect to the embankments' stability were made available to GZA for review.

Deficiencies specific to a particular Pond are described as follows:

Ash Recycle Pond No. 1:

1. In addition to corrosion, part of the railing around the decant intake structure was observed to be broken/disconnected.

Ash Recycle Pond No. 2:

1. Shallow standing water observed near the toe along portions of the west embankment.
2. Overgrown, woody vegetation, brush, small trees/shrubs, and weeds observed along the outside slope of the western embankment with areas of exposed earth.
3. Minor erosion observed at areas of exposed earth on the outside slope of the western embankment.
4. Ruts and depressions observed near the toe of the western embankment.
5. Stumps (with associated below grade root balls) approximately 2- to 4-inches in diameter observed at the outside slope of the western embankment from past vegetative maintenance activities.

Ash Recycle Pond No. 3:

1. Overgrown woody vegetation observed at the southern inside slope near the wet well.

Ash Recycle Pond No. 4:

1. Woody vegetation observed at the southern inside slope.
2. Overgrown woody vegetation, brush, small trees/shrubs and weeds observed along the outside slope of the western embankment with areas of exposed earth.
3. Erosion observed at areas of exposed earth on outside slope of the western embankment.
4. Ruts and depressions observed at the toe of the western embankment and areas of wet spongy ground.

The following recommendations and remedial measures generally describe the recommended approach to address current deficiencies. Prior to undertaking recommended maintenance, repairs, or remedial measures, the applicability of environmental permits needs to be determined for activities that may occur within resource areas under the jurisdiction of the appropriate regulatory agencies.

3.2 Studies and Analyses

GZA recommends the following studies and analyses:

1. Perform a seepage analysis to assess the factor of safety of piping failure, at Ash Recycle Ponds 1 through 4.

2. Perform a geotechnical stability analysis of the Ash Recycle Pond embankments under all applicable loading conditions, including earthquake-induced loading.

3. Investigate cause of shallow standing water/spongy ground at the toe of Pond's 2 and 4 western embankment.

3.3 Recurrent Operation and Maintenance Recommendations

GZA recommends the following operation and maintenance level activities:

1. Monitor sloughing and areas of erosion, ruts or depressions on the embankments and maintain a schedule for addressing deficiencies observed.

2. Monitor shallow standing water and wet spongy ground at the toe of the common western embankment of Ash Recycle Ponds 2 and 4.

3.4 Minor Repair Recommendations

GZA recommends the following minor repairs which may improve the overall condition of the Ponds, but do not alter their current design. The recommendations may require design by a professional engineer and construction contractor experienced in dam construction.

1. Regularly repair sloughs and erosion observed on the embankments. Consideration should be given to providing permanent erosion protection (i.e. revetment matting or similar) as necessary.

2. Clear and grub woody vegetation from outside slope of the western embankments of Ponds 2 and 4 and fill depressions from root balls with compacted sand and gravel. Provide loam as necessary and seed and maintain a healthy grass cover.

3. Re-grade inside and outside slopes of all Ponds as necessary to achieve 2H:1V geometry as specified of the original design drawings. This is best achieved during times when the Ponds are dewatered for cleaning/dredging.

4. Repair railings around wet wells.

3.5 Remedial Measures Recommendations

1. Make provisions to address any deficiencies identified by the above recommended seepage analyses.

3.6 Alternatives

There are no alternatives currently recommended.

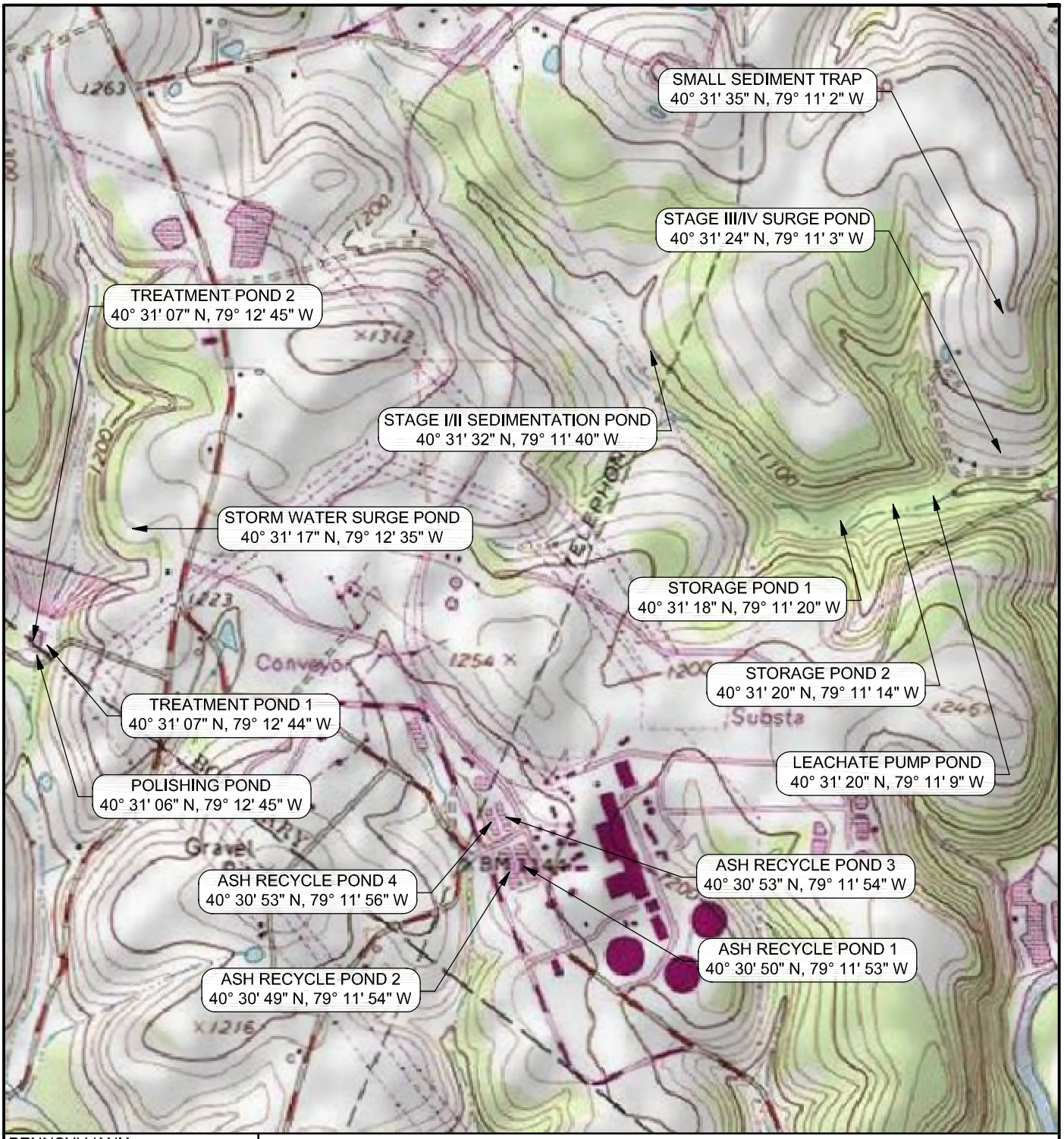
4.0 ENGINEER'S CERTIFICATION

I acknowledge that the management units referenced herein, Ash Recycle Ponds 1 to 4, have been assessed to be in **POOR** condition on May 16, 2011.

James P. Guarente, P.E.
Senior Project Manager

J:\170,000-179,999\170142\170142-30 Round 10\Homer City, PA\Report\Stablity Calc. Edits\2nd Draft Report_text.docx

FIGURES



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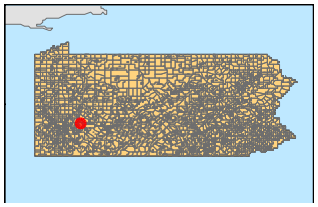

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SCALE IN FEET

HOMER CITY GENERATING STATION
1750 POWER PLANT ROAD
HOMER CITY, PA 15748

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
THE U.S. ENVIRONMENTAL PROTECTION AGENCY RESOURCE AND RECOVERY

LOCUS MAP
COAL COMBUSTION
SURFACE IMPOUNDMENTS

PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIG OR DWG 1
DESIGNED BY: CBN	DRAWN BY: JRC	SCALE: 1":1200'	
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.

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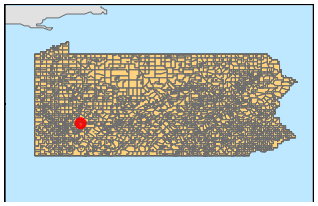

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ORTHO-PHOTO LOCUS MAP
COAL COMBUSTION
SURFACE IMPOUNDMENTS

PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIG OR DWG 2
DESIGNED BY: CBN	DRAWN BY: JRC	SCALE: 1":1200'	
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.

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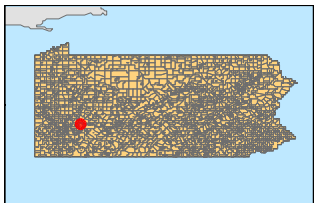

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DOWNSTREAM AREA MAP
COAL COMBUSTION SURFACE IMPOUNDMENTS

PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE 3
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 2500'	
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.

ASH RECYCLE POND 3
40° 30' 53" N, 79° 11' 54" W

ASH RECYCLE POND 4
40° 30' 53" N, 79° 11' 56" W

ASH RECYCLE POND 1
40° 30' 50" N, 79° 11' 53" W

ASH RECYCLE POND 2
40° 30' 49" N, 79° 11' 54" W

LEGEND

- ASH RECYCLE POND 1 DRAINAGE AREA
- ASH RECYCLE POND 2 DRAINAGE AREA
- ASH RECYCLE POND 3 DRAINAGE AREA
- ASH RECYCLE POND 4 DRAINAGE AREA

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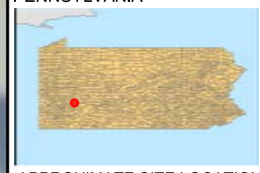

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HOMER CITY GENERATING STATION
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ASH RECYCLE PONDS DRAINAGE AREAS
COAL COMBUSTION SURFACE IMPOUNDMENTS

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PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE 4
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 100'	
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.

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HOMER CITY GENERATING STATION
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ASH RECYCLE PONDS 1 - 4
SITE/FIELD SKETCH
COAL COMBUSTION SURFACE IMPOUNDMENTS

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PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 100'	5
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.

LEGEND

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HOMER CITY GENERATING STATION
1750 POWER PLANT ROAD
HOMER CITY, PA 15748

ASH DISPOSAL AREA
POLISHING POND AND TREATMENT PONDS 1 & 2
COAL COMBUSTION SURFACE IMPOUNDMENTS

PREPARED BY:		PREPARED FOR:	
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PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE 6A
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 50'	
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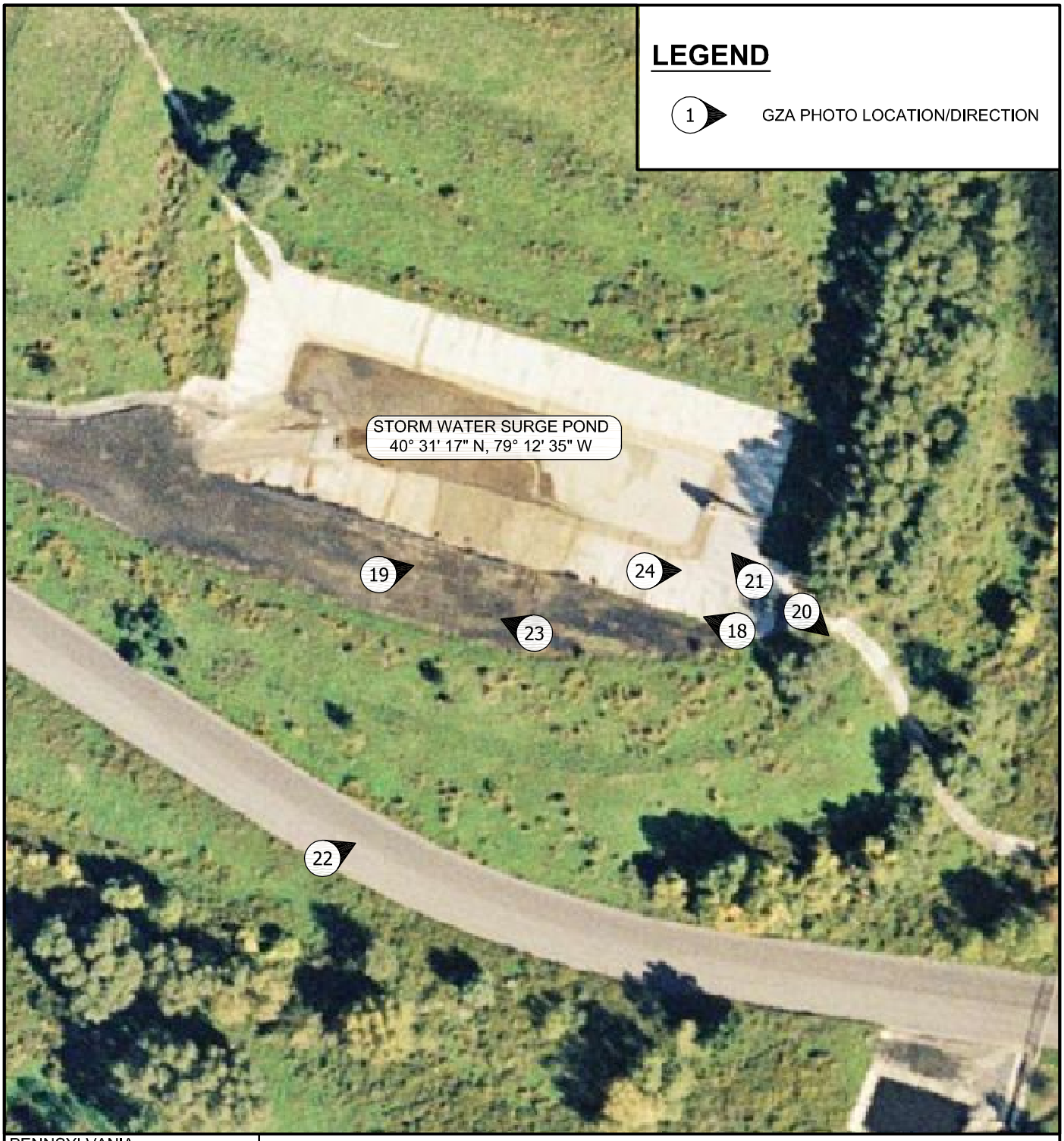

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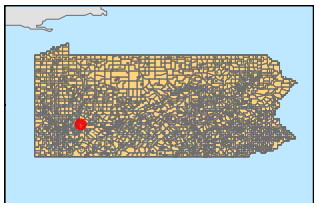

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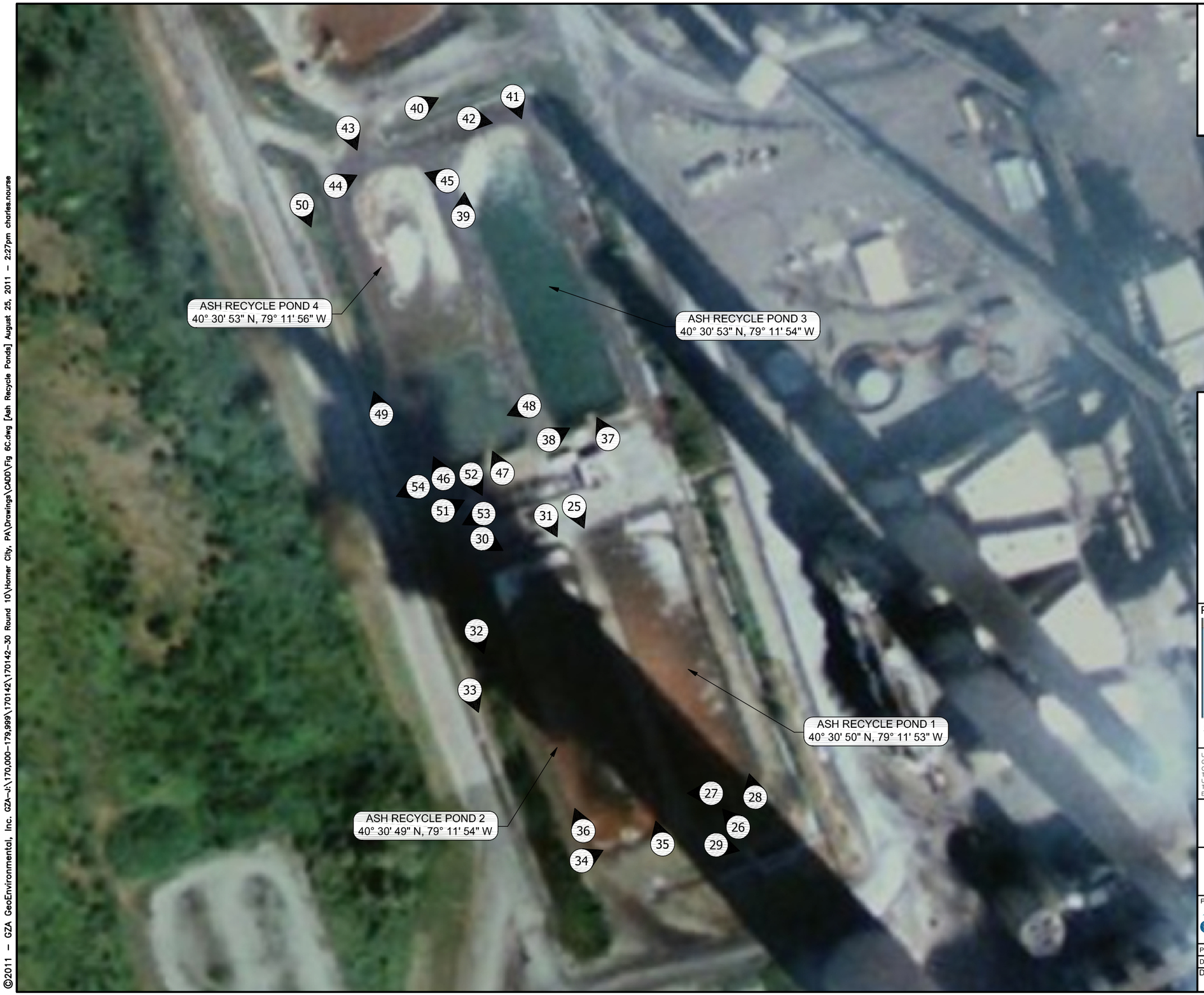
ASH DISPOSAL AREA
STORM WATER SURGE POND
COAL COMBUSTION SURFACE IMPOUNDMENTS

PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE 6B
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 100'	
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.



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HOMER CITY GENERATING STATION
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ASH RECYCLE PONDS 1 THROUGH 4
COAL COMBUSTION SURFACE IMPOUNDMENTS

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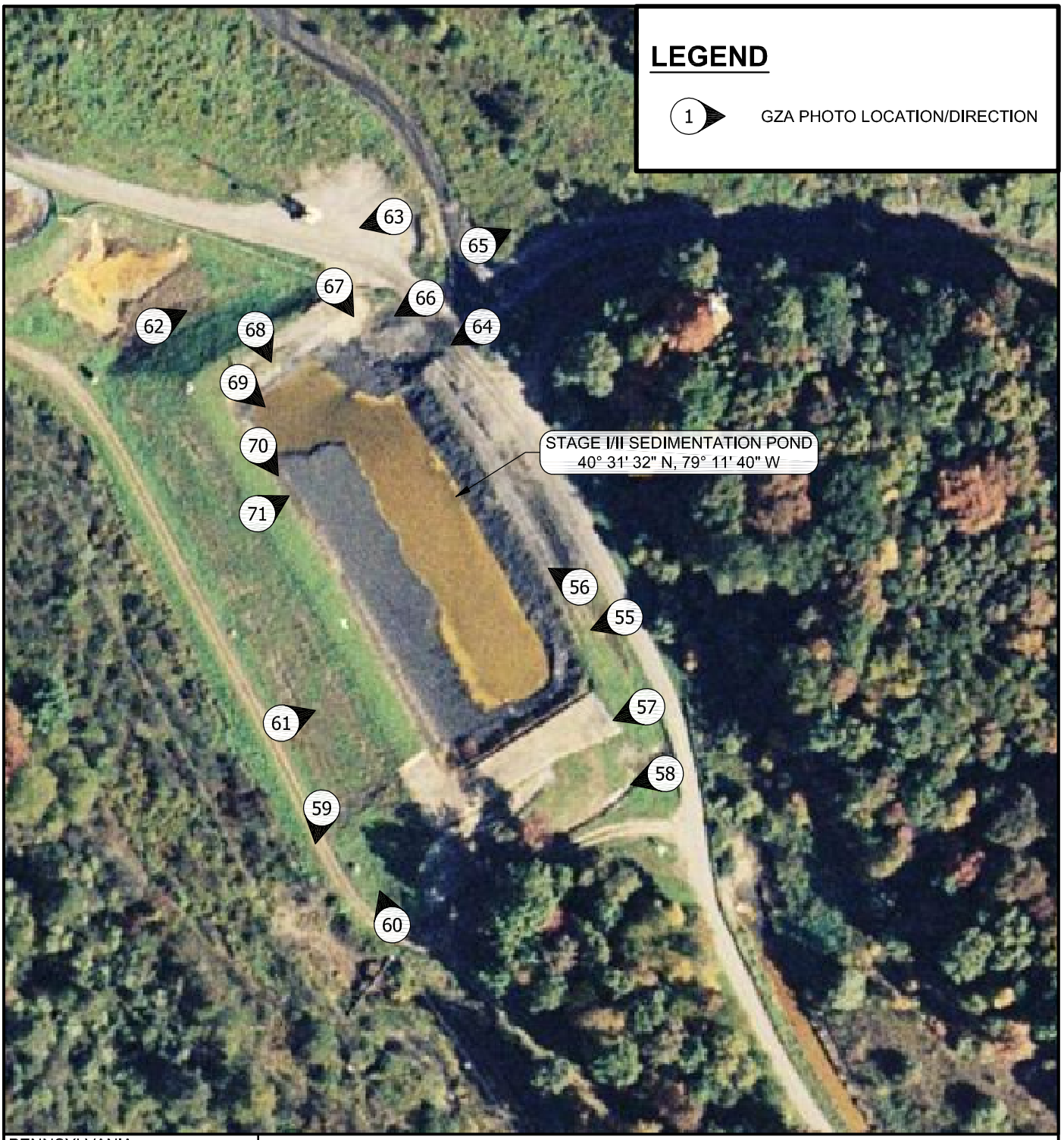
PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE 6C
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 100'	
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.



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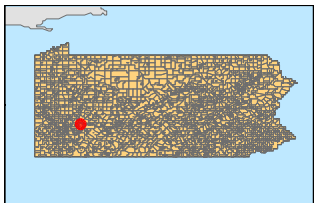

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SCALE IN FEET

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COAL REFUSE SITE
STAGE I/II SEDIMENTATION POND
COAL COMBUSTION SURFACE IMPOUNDMENTS

PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE 6D
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 100'	
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.

LEGEND

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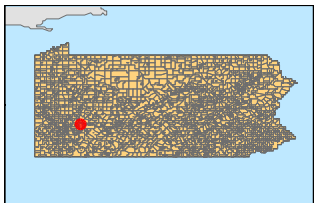

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SCALE IN FEET

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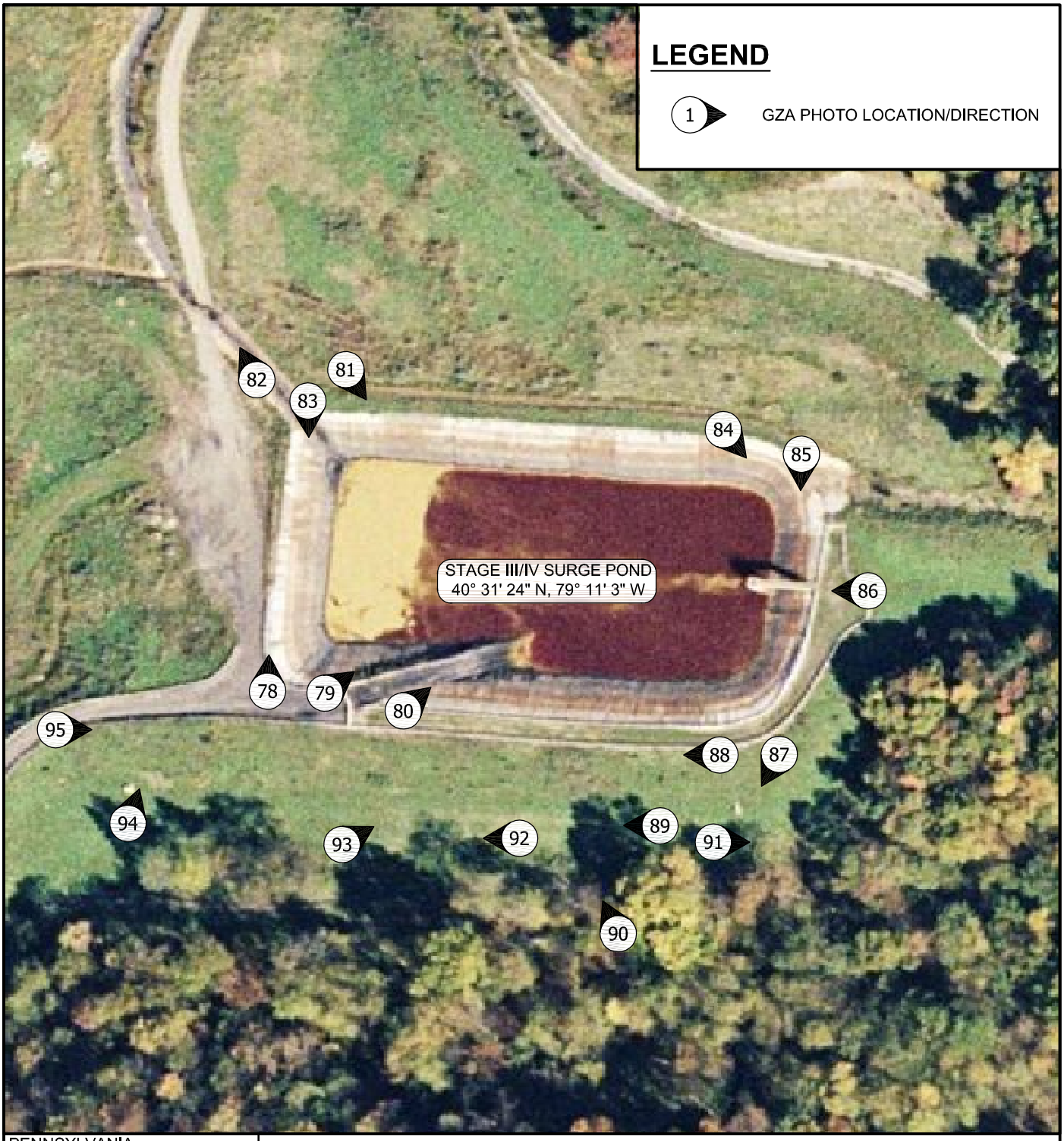
COAL REFUSE SITE
SMALL SEDIMENT TRAP
COAL COMBUSTION SURFACE IMPOUNDMENTS

PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE 6E
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 100'	
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.



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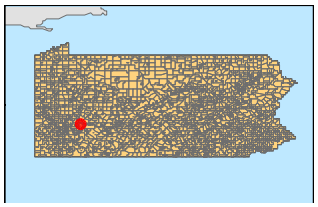

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SCALE IN FEET

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COAL REFUSE SITE
STAGE III/IV SURGE POND
COAL COMBUSTION SURFACE IMPOUNDMENTS

PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE 6F
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 100'	
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.

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0 50 100 200
SCALE IN FEET

PENNSYLVANIA

APPROXIMATE SITE LOCATION

SOURCE:

This map contains the ESRI ArcGIS Online World Topographic Map or Aerial Imagery service, Published February 2011 by ESRI ARCIMS Services. The service was compiled to uniform cartography using a variety of best available sources from several data providers.

HOMER CITY GENERATING STATION
1750 POWER PLANT ROAD
HOMER CITY, PA 15748

COAL REFUSE SITE
STORAGE PONDS 1 & 2
AND LEACHATE PUMP POND
COAL COMBUSTION SURFACE IMPOUNDMENTS

PREPARED BY:	PREPARED FOR:
GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	THE U.S. ENVIRONMENTAL PROTECTION AGENCY RESOURCE AND RECOVERY

PROJ MGR: JPG	REVIEWED BY: JPG	CHECKED BY: CKD	FIGURE
DESIGNED BY: CBN	DRAWN BY: CBN	SCALE: 1" = 100'	6G
DATE: 08-26-2011	PROJECT NO. 170142.30	REVISION NO.	SHEET NO.

APPENDIX A

LIMITATIONS

DAM ENGINEERING & VISUAL INSPECTION LIMITATIONS

1. The observations described in this report were made under the conditions stated herein. The conclusions presented in the report were based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of described services.

2. In preparing this report, GZA GeoEnvironmental, Inc. (GZA) has relied on certain information provided by EME Homer City Generation L.P. (EME), and Federal, state, and local officials and other parties referenced therein. GZA has also relied on other parties which were available to GZA at the time of the inspection. Although there may have been some degree of overlap in the information provided by these various sources, GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this work.

3. In reviewing this Report, it should be realized that the reported condition of the dam is based on observations of field conditions during the course of this study along with data made available to GZA. The observations of conditions at the dam reflect only the situation present at the specific moment in time the observations were made, under the specific conditions present. It may be necessary to reevaluate the recommendations of this report when subsequent phases of evaluation or repair and improvement provide more data.

4. It is important to note that the condition of a dam depends on numerous and constantly changing internal and external conditions, and is evolutionary in nature. It would be incorrect to assume that the present condition of the dam will continue to represent the condition of the dam at some point in the future. Only through continued care and inspection can there be any chance that unsafe conditions may be detected.

5. Water level readings have been reviewed and interpretations have been made in the text of this report. Fluctuations in the level of the groundwater and surface water may occur due to variations in rainfall, temperature, and other factors different than at the time measurements were made.

6. GZA's comments on the hydrology, hydraulics, and embankment stability for the dam are based on a limited review of available design documentation provided by EME Homer City Generation L.P.

7. This report has been prepared for the exclusive use of the US EPA for specific application to the existing dam facilities, in accordance with generally accepted dam engineering practices. No other warranty, express or implied, is made.

8. This dam inspection report has been prepared for this project by GZA. This report is for the owner's broad evaluation and management purposes only and is not sufficient, in and of itself, to prepare construction documents or an accurate bid.

APPENDIX B

DEFINITIONS

COMMON DAM SAFETY DEFINITIONS

For a comprehensive list of dam engineering terminology and definitions refer to references published by the U.S. Army Corps of Engineers, the Federal Energy Regulatory Commission, the Department of the Interior Bureau of Reclamation, or the Federal Emergency Management Agency.

Orientation

Upstream – Shall mean the side of the dam that borders the impoundment.

Downstream – Shall mean the high side of the dam, the side opposite the upstream side.

Right – Shall mean the area to the right when looking in the downstream direction.

Left – Shall mean the area to the left when looking in the downstream direction.

Dam Components

Dam – Shall mean any artificial barrier, including appurtenant works, which impounds or diverts water.

Embankment – Shall mean the fill material, usually earth or rock, placed with sloping sides, such that it forms a permanent barrier that impounds water.

Crest – Shall mean the top of the dam, usually provides a road or path across the dam.

Abutment – Shall mean that part of a valley side against which a dam is constructed. An artificial abutment is sometimes constructed as a concrete gravity section, to take the thrust of an arch dam where there is no suitable natural abutment.

Appurtenant Works – Shall mean structures, either in dams or separate therefrom, including but not be limited to, spillways; reservoirs and their rims; low-level outlet works; and water conduits including tunnels, pipelines, or penstocks, either through the dams or their abutments.

Spillway – Shall mean a structure over or through which water flows are discharged. If the flow is controlled by gates or boards, it is a controlled spillway; if the fixed elevation of the spillway crest controls the level of the impoundment, it is an uncontrolled spillway.

General

EAP – Emergency Action Plan – Shall mean a predetermined (and properly documented) plan of action to be taken to reduce the potential for property damage and/or loss of life in an area affected by an impending dam failure.

O&M Manual – Operations and Maintenance Manual; Document identifying routine maintenance and operational procedures under normal and storm conditions.

Normal Pool – Shall mean the elevation of the impoundment during normal operating conditions.

Acre-foot – Shall mean a unit of volumetric measure that would cover one acre to a depth of one foot. It is equal to 43,560 cubic feet. One million U.S. gallons = 3.068 acre feet.

Height of Dam (Structural Height) – Shall mean the vertical distance from the lowest portion of the natural ground, including any stream channel, along the downstream toe of the dam to the lowest point on the crest of the dam.

Hydraulic Height – means the height to which water rises behind a dam and the difference between the lowest point in the original streambed at the axis of the dam and the maximum controllable water surface.

Maximum Water Storage Elevation – means the maximum elevation of water surface which can be contained by the dam without overtopping the embankment section.

Spillway Design Flood (SDF) – Shall mean the flood used in the design of a dam and its appurtenant works particularly for sizing the spillway and outlet works, and for determining maximum temporary storage and height of dam requirements.

Maximum Storage Capacity – The volume of water contained in the impoundment at maximum water storage elevation.

Normal Storage Capacity – The volume of water contained in the impoundment at normal water storage elevation.

Condition Rating

SATISFACTORY - No existing potential management unit safety deficiencies are recognized. Acceptable performance is expected under all applicable loading conditions (static, hydrologic, seismic) in accordance with the applicable criteria. Minor maintenance items may be required.

FAIR – Acceptable performance is expected under all required loading conditions (Static, hydrologic, seismic) in accordance with the applicable safety regulatory criteria. Minor deficiencies may exist that require remedial action and/or secondary studies or investigations.

POOR – A management unit safety deficiency is recognized for any required loading condition (static, hydrologic, seismic) in accordance with the applicable dam safety regulatory criteria. Remedial action is necessary. POOR also applies when further critical studies or investigations are needed to identify any potential dam safety deficiencies.

UNSATISFACTORY – Considered unsafe. A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution. Reservoir restrictions may be necessary.

Hazard Potential

(In the event the impoundment should fail, the following would occur):

LESS THAN LOW HAZARD POTENTIAL: Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

LOW HAZARD POTENTIAL: Dams assigned the low hazard potential classifications are those dams where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

SIGNIFICANT HAZARD POTENTIAL: Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

HIGH HAZARD POTENTIAL: Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

APPENDIX C

INSPECTION CHECKLISTS

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Polishing Pond (Ash Disposal Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	See note		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	1122' +/-		19. Major erosion or slope deterioration?		✓
3. Decant inlet elevation (operator records)?	N/A		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	1122' +/-		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1126' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?	See	note	Is water exiting outlet flowing clear?	✓	
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?	N/A	
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	N/A		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?	✓		24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
	1. Water treatment facility which is adjacent to the pond is checked by plant personnel daily. At this time a brief visual inspection of the Pond is performed.
	3. Based on observations during our site visit, review of design drawings and discussions with plant personnel, water in the pond flows over a weir set at approximately elevation 1122' +/- and discharges via NPDES permit PA 0005037 Outfall No. 4 into an unnamed stream.
	6.There is no instrumentation associated with the embankments. Instrumentation is present to monitor water quality and related parameters (ie., pH, flow, etc.).
	8. Design drawings are unclear on this matter; however, the impoundment was almost wholly incised below original existing grades.
	17. Localized minor scarps and erosion observed on interior slopes.

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # PA0005037 Outfall No. 4; also part of the facility's permitted Ash Disposal Site PADEP # 300491

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Polishing Pond (Ash Disposal Site)
Impoundment Company EME Homer City Generation L.P.
EPA Region Region III
State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222
Name of Impoundment Polishing Pond (Ash Disposal Site)
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	Nothing is pumped to the impoundment. Flow received is decanted discharge from (Ash Disposal Site) Treatment Ponds Nos. 1 & 2.
Is water or ccw currently being pumped into the impoundment?	_____	X	

IMPOUNDMENT FUNCTION: Impoundment receives decanted discharge from the (Ash Disposal Site) Treatment Ponds Nos. 1 & 2 for temporary detention/settlement of fines prior to decanted discharge to an unnamed stream under NDPES PA 005037 Outfall No. 4.

Nearest Downstream Town : Name Homer City, PA
Distance from the impoundment Rural areas on the outskirts of Homer City, PA approximately 0.25 miles as measured in a straight line on Google Earth.
Impoundment
Location: Longitude 79 Degrees 12 Minutes 45 Seconds
Latitude 40 Degrees 31 Minutes 6 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection, Bureau of Waste Management

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

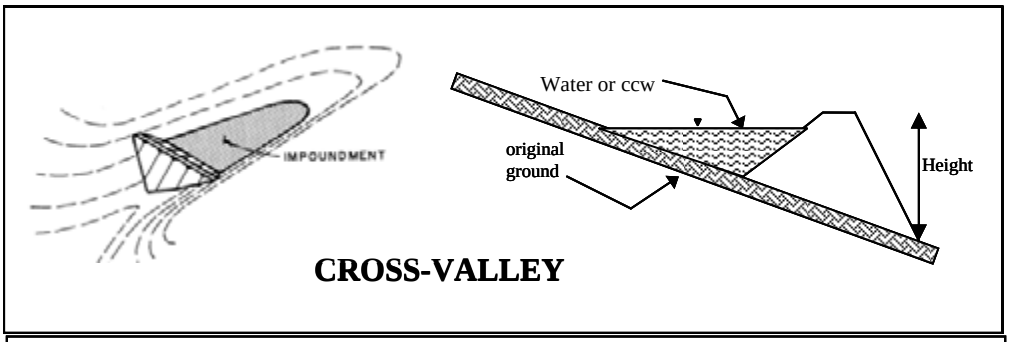
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

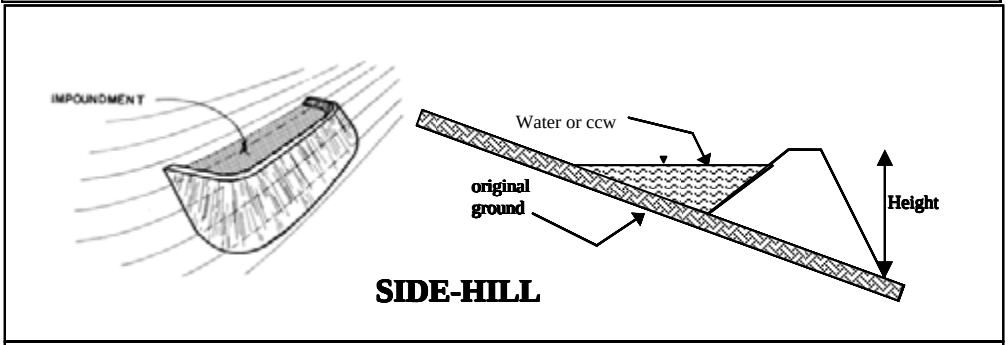
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

The size of almost wholly incised pond is less than one acre with a storage capacity of less than 5 acre-feet and has no contributory drainage area. In our opinion failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and limited to the owner's property.

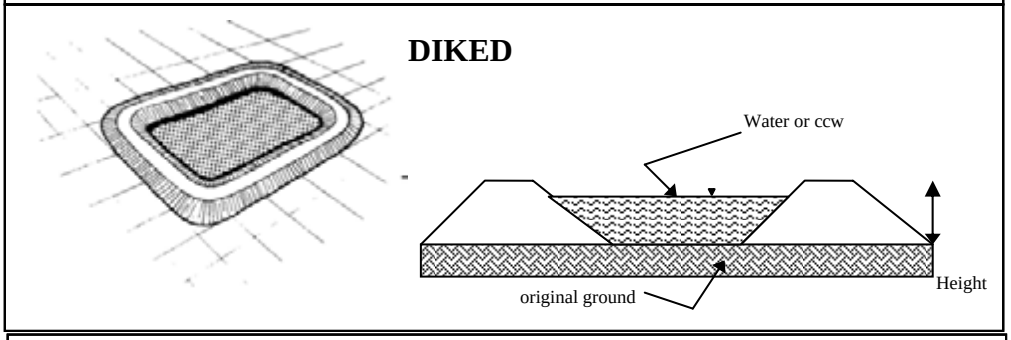
CONFIGURATION:



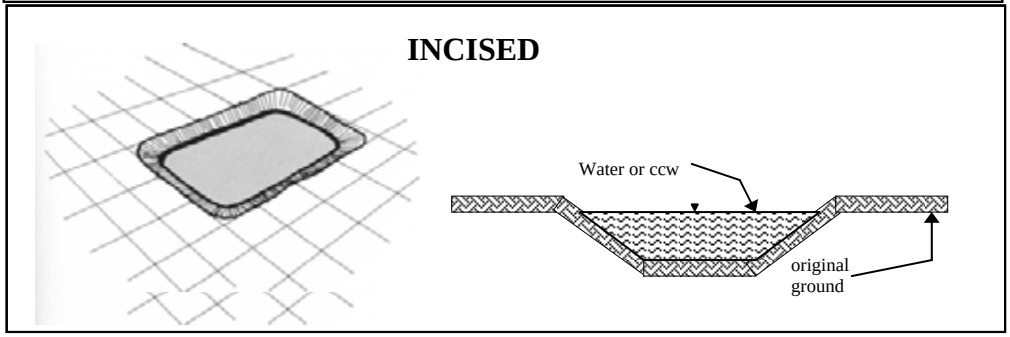
CROSS-VALLEY



SIDE-HILL



DIKED



INCISED

_____ Cross-Valley
_____ Side-Hill
_____ Diked
__X__ Incised (form completion optional)
_____ Combination Incised/Diked

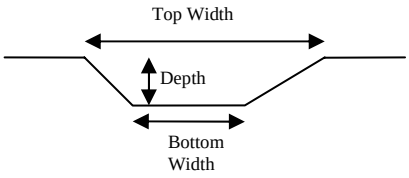
Embankment Height __N/A__ feet Embankment Material __See Note 1__
Pool Area __approximately 0.15__ acres Liner __None__
Current Freeboard __approx. 3__ feet Liner Permeability __N/A__

Note 1: Based on review of original design drawings, the entire area encompassing the limits of Treatment Pond No. 1, No. 2 and the Polishing Pond was incised into natural ground. The common embankment between Treatment Pond No. 1 and No. 2 and the common embankment at the south end of Pond No. 1 and No. 2 which is shared with the north side of the Polishing Pond were likely constructed with natural soils generated from the excavation.

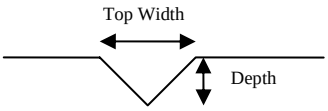
TYPE OF OUTLET (Mark all that apply)

_____ **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
__X__ Rectangular
_____ Irregular

TRAPEZOIDAL

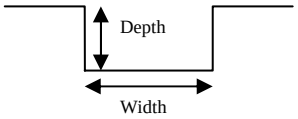


TRIANGULAR

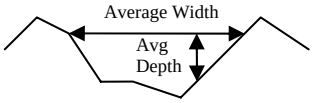


12" +/- depth
24" +/- bottom (or average) width
_____ top width

RECTANGULAR

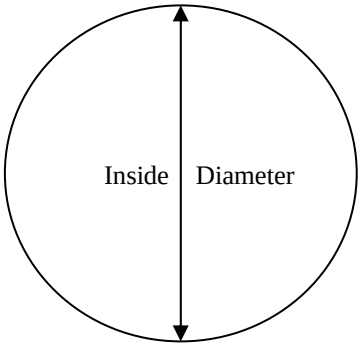


IRREGULAR



_____ **Outlet**

_____ inside diameter



Material
_____ corrugated metal
_____ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Original (circa 1969) design by Gilbert and Associates, Engineers and Consultants, Reading, PA**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Treatment Pond No. 1 (Ash Disposal Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	See note		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	1122' +/-		19. Major erosion or slope deterioration?		✓
3. Decant inlet elevation (operator records)?	1122' +/-		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	N/A		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1126' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?	See	note	Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?	N/A	
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	N/A		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?	✓		24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
1.	Water treatment facility which is adjacent to the Pond is checked by plant personnel daily. At this time a brief visual overview of the Pond is performed.
3.	Based on observations during our site visit, review of design drawings and discussions with plant personnel, water in the pond flows into one of three 12-inch diameter riser pipes (set at approximately elevation 1122' +/-) into the Polishing Pond. From there the water flows over a weir and discharges via NPDES permit PA 0005037 Outfall No. 4 into an unnamed stream.
6.	There is no instrumentation associated with the embankments. Instrumentation is present to monitor water quality and related parameters (ie., pH, flow, etc.).
8.	Design drawings are unclear on this matter; however, the impoundment was almost wholly incised below original existing grades.
17.	Minor localized scarps and erosion observed on interior slopes. Several 8"-diameter rodent holes observed in east side interior slope.
20.	Flow from decant is to adjacent Polishing Pond; outfalls of these riser pipes are submerged.

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # PA0005037 Outfall No. 4; also part of the facility's permitted Ash Disposal Site PADEP # 300491

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Treatment Pond No. 1 (Ash Disposal Site)
Impoundment Company EME Homer City Generation L.P.
EPA Region Region III
State Agency (Field Office) Address DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222
Name of Impoundment Treatment Pond No. 1 (Ash Disposal Site)
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	Nothing is pumped to the impoundment. Flow received is treated discharge from the Ash Disposal Site Water Treatment Facility.
Is water or ccw currently being pumped into the impoundment?	_____	X	

IMPOUNDMENT FUNCTION: Impoundment receives discharge from the Ash Disposal Site Water Treatment Facility for temporary detention/settlement of fines prior to decanted discharge to the Polishing Pond.

Nearest Downstream Town : Name Homer City, PA
Distance from the impoundment Rural areas on the outskirts of Homer City, PA approximately 0.25 miles as measured in a straight line on Google Earth.
Impoundment Location:
Longitude 79 Degrees 12 Minutes 44 Seconds
Latitude 40 Degrees 31 Minutes 7 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection, Bureau of Waste Management.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

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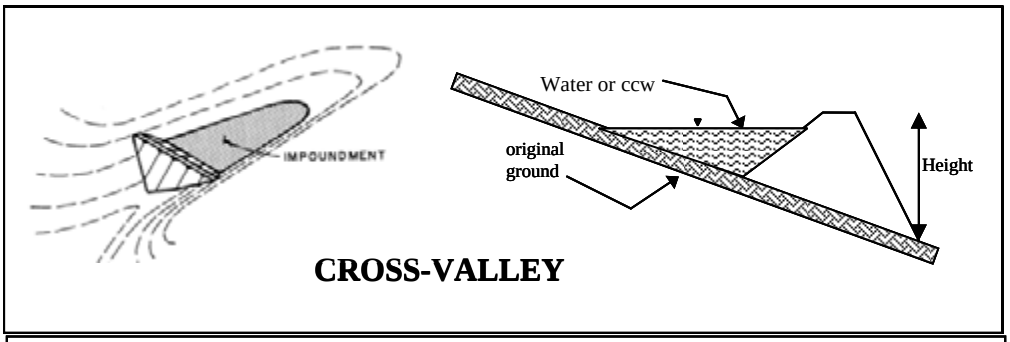
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

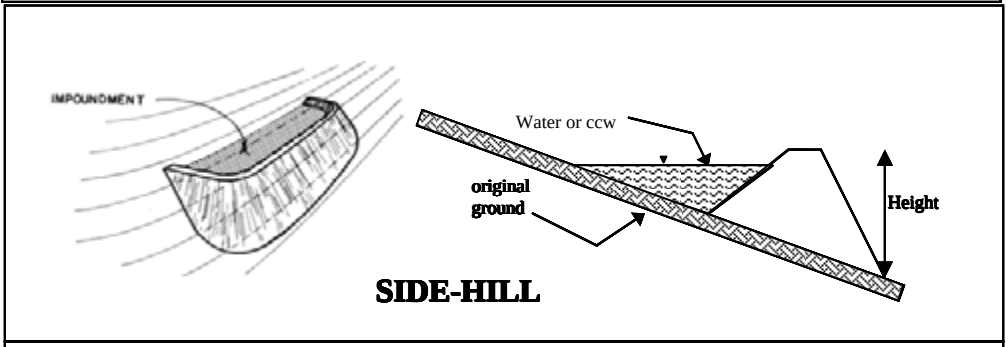
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

The size of almost wholly incised pond is less than one acre with a storage capacity of less than 5 acre-feet and has no appreciable contributory drainage area. In our opinion failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and limited to the owner's property.

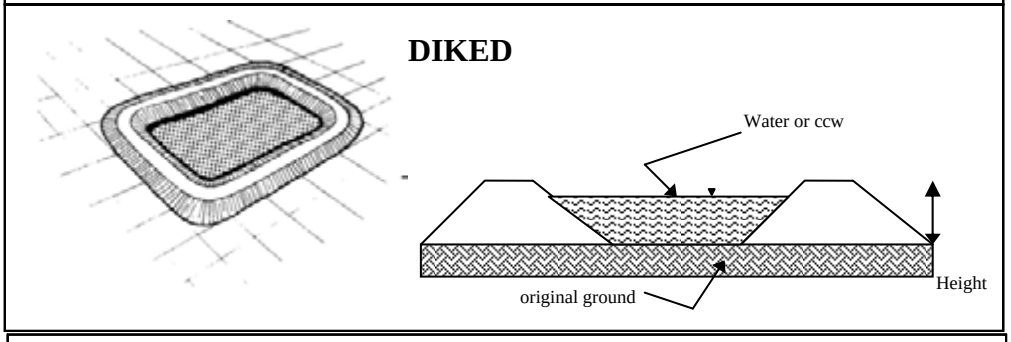
CONFIGURATION:



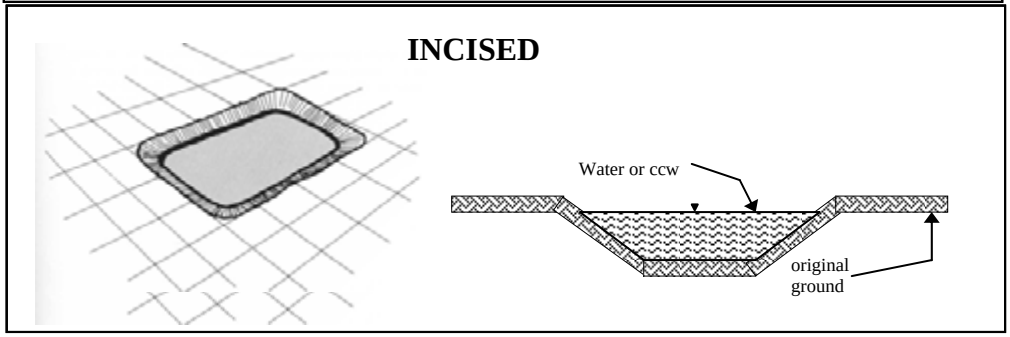
CROSS-VALLEY



SIDE-HILL



DIKED



INCISED

_____ Cross-Valley
_____ Side-Hill
_____ Diked
__X__ Incised (form completion optional)
_____ Combination Incised/Diked

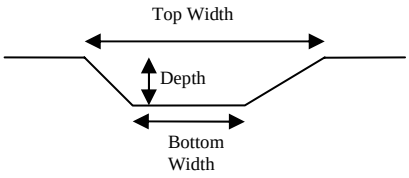
Embankment Height __N/A__ feet Embankment Material __See Note 1__
Pool Area __approximately 0.25__ acres Liner __None__
Current Freeboard __approx. 3__ feet Liner Permeability __N/A__

Note 1: Based on review of original design drawings, the entire area encompassing the limits of Treatment Pond No. 1, No. 2 and the Polishing Pond was incised into natural ground. The common embankment between Treatment Pond No. 1 and No. 2 and the common embankment at the south end of Pond No. 1 and No. 2 which is shared with the north side of the Polishing Pond were likely constructed with natural soils generated from the excavation.

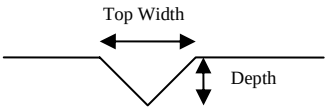
TYPE OF OUTLET (Mark all that apply)

_____ **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

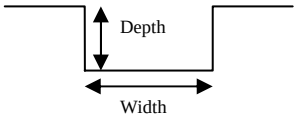


TRIANGULAR

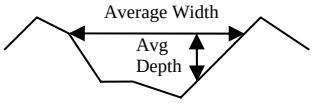


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

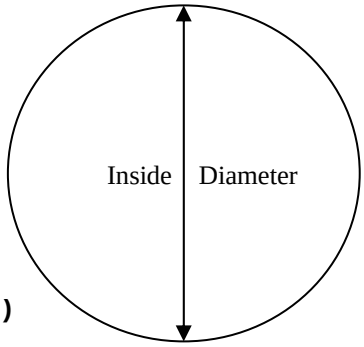


IRREGULAR



__X__ **Outlet**

__12"__ inside diameter



Material
_____ corrugated metal
_____ welded steel
__X__ concrete **(Three 12" dia. outlet pipes total)**
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Original (circa 1969) design by Gilbert and Associates, Engineers and Consultants, Reading, PA**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Treatment Pond No. 2 (Ash Disposal Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	See note		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	1122' +/-		19. Major erosion or slope deterioration?		✓
3. Decant inlet elevation (operator records)?	1122' +/-		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	N/A		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1126' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?	See	note	Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?	N/A	
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	N/A		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?	✓		24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
1.	Water treatment facility which is adjacent to the pond is checked by plant personnel daily. At this time a brief visual inspection of the Pond is performed.
3.	Based on observations during our site visit, review of design drawings and discussions with plant personnel, water in the pond flows into one of three 12-inch diameter riser pipes (set at approximately elevation 1122' +/-) into the Polishing Pond. From there the water flows over a weir which discharges via NPDES permit PA 0005037 outfall No. 4 into an unnamed stream.
6.	There is no instrumentation associated with the embankments. Instrumentation is present to monitor water quality and related parameters (ie., pH, flow, etc.).
8.	Design drawings are unclear on this matter; however, the impoundment was almost wholly incised below original existing grades.
17.	Localized minor scarps and erosion observed on interior slopes.
20.	Flow from decant is to adjacent Polishing Pond; outfalls of these riser pipes are submerged.

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # PA0005037 Outfall No. 4; also part of the facility's permitted Ash Disposal Site PADEP # 300491

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Treatment Pond No. 2 (Ash Disposal Site)

Impoundment Company EME Homer City Generation L.P.

EPA Region Region III

State Agency (Field Office) Address DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222

Name of Impoundment Treatment Pond No. 2 (Ash Disposal Site)

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	Nothing is pumped to the impoundment. Flow received is treated discharge from the Ash Disposal Site Water Treatment Facility.
Is water or ccw currently being pumped into the impoundment?	_____	X	

IMPOUNDMENT FUNCTION: Impoundment receives discharge from the Ash Disposal Site Water Treatment Facility for temporary detention/settlement of fines prior to decanted discharge to the Polishing Pond.

Nearest Downstream Town : Name Homer City, PA

Distance from the impoundment Rural areas on the outskirts of Homer City, PA approximately 0.25 miles as measured in a straight line on Google Earth.

Impoundment Location:
Longitude 79 Degrees 12 Minutes 45 Seconds
Latitude 40 Degrees 31 Minutes 7 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection, Bureau of Waste Management

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

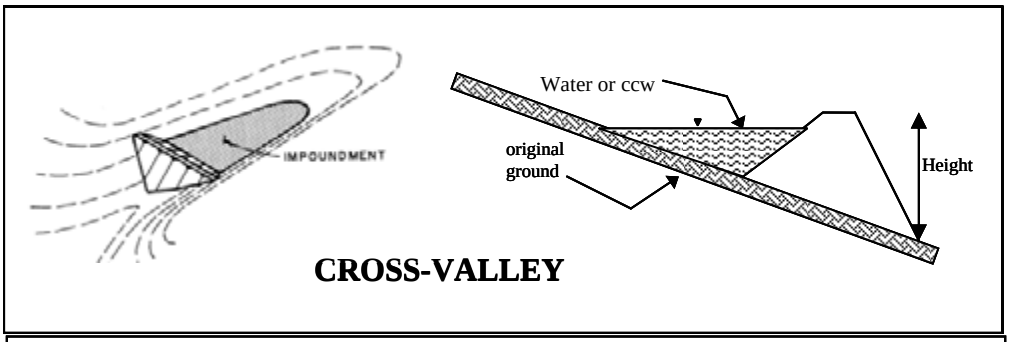
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

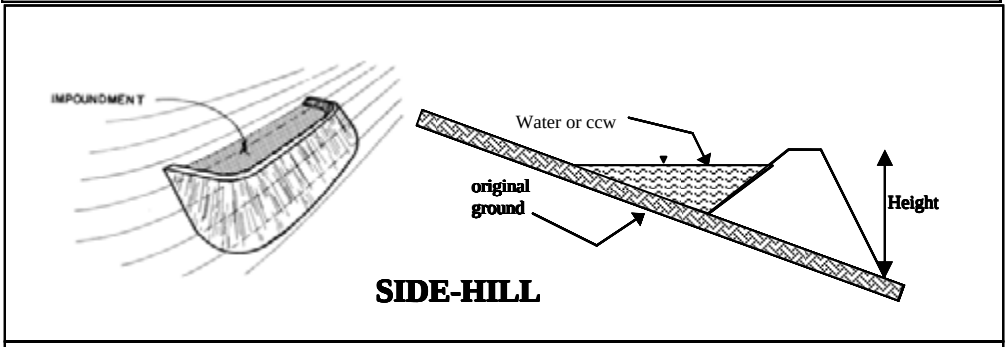
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

The size of almost wholly incised pond is less than one acre with a storage capacity of less than 5 acre-feet and has no contributory drainage area. In our opinion failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and limited to the owner's property.

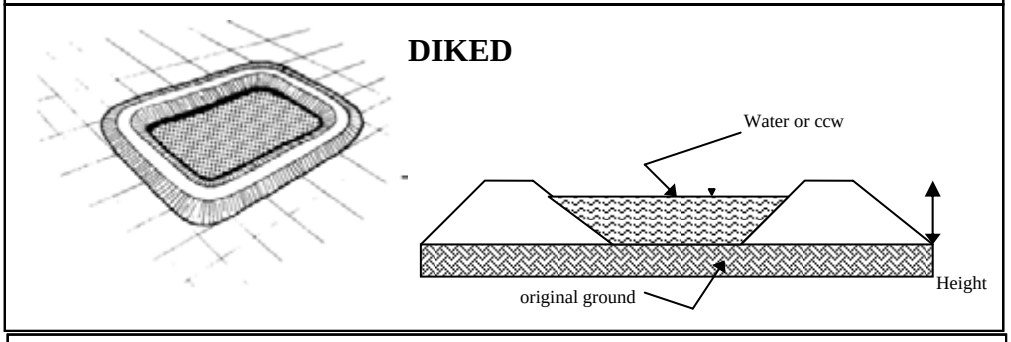
CONFIGURATION:



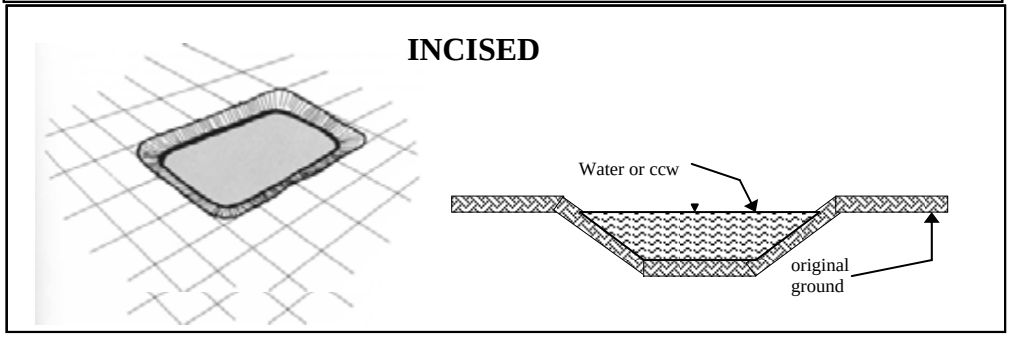
CROSS-VALLEY



SIDE-HILL



DIKED



INCISED

_____ Cross-Valley
_____ Side-Hill
_____ Diked
__X__ Incised (form completion optional)
_____ Combination Incised/Diked

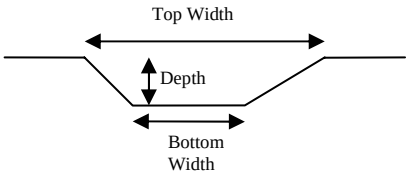
Embankment Height __N/A__ feet Embankment Material __See Note 1__
Pool Area __approximately 0.25__ acres Liner __None__
Current Freeboard __approx. 3__ feet Liner Permeability __N/A__

Note 1: Based on review of original design drawings, the entire area encompassing the limits of Treatment Pond No. 1, No. 2 and the Polishing Pond was incised into natural ground. The common embankment between Treatment Pond No. 1 and No. 2 and the common embankment at the south end of Pond No. 1 and No. 2 which is shared with the north side of the Polishing Pond were likely constructed with natural soils generated from the excavation.

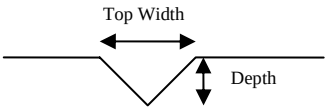
TYPE OF OUTLET (Mark all that apply)

_____ **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

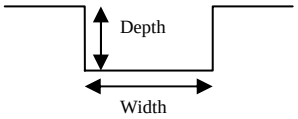


TRIANGULAR

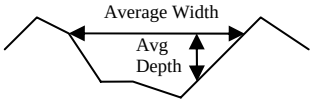


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

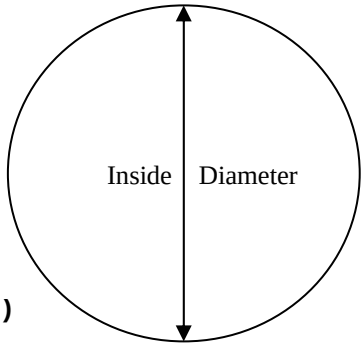


IRREGULAR



__X__ **Outlet**

__12"__ inside diameter



Material
_____ corrugated metal
_____ welded steel
__X__ concrete **(Three 12" dia. outlet pipes total)**
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Original (circa 1969) design by Gilbert and Associates, Engineers and Consultants, Reading, PA**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Stormwater Surge Pond (Ash Disposal Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	✓		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	Fluctuates		19. Major erosion or slope deterioration?		✓
3. Decant inlet elevation (operator records)?	1275' +/-		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	1287' +/-		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1287' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?	N/A		Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)	✓		At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	✓		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?	✓		24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
1.	Monthly inspections by independent consultant.
2.	The pool elevation fluctuates since it operates as a temporary stormwater runoff retention basin. Pool level approximately at elevation 1278' +/- at time of inspection.
4.	Elevation of emergency spillway weir at northeast corner.
5.	Crest lowers (3 feet) to elevation 1287' +/- at emergency spillway. Crest at elevation 1290' +/- in all other areas. Bottom elevation of impoundment at 1275' +/-.
8.	Design drawing information unavailable. Based on observations during site visit, review of an as-built site plan and review of historical aerial photography, it appears that the impoundment was incised into previously placed ash/boiler slag material.
9.	Knee high grass on south slope precluded close inspection (annual mowing happens in June). Occasional moderately sized shrubs scattered over slope.
17.	Occasional cracking of concrete revetment protection observed.
20.	Decant water travels via decant pipe which discharges into the Ash Disposal Site Water Treatment Facility.

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # N/A; part of facility's permitted Ash Disposal Site PADEP # 300491

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Stormwater Surge Pond (Ash Disposal Site)
Impoundment Company EME Homer City Generation L.P.
EPA Region Region III
State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222
Name of Impoundment Stormwater Surge Pond (Ash Disposal Site)
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	
Is water or ccw currently being pumped into the impoundment?	_____	X	(Nothing is pumped to the impoundment. Flow received is via overland sources)

IMPOUNDMENT FUNCTION: Impoundment receives surface water runoff from the Ash Disposal Site which contains fly ash, boiler slag and bottom ash. Runoff enters via a trapezoidal drainage channel for temporary detention/settlement of fines prior to discharge to the Ash Disposal Site Water Treatment Facility which then discharges into Ash Disposal Treatment Ponds Nos. 1 and 2.

Nearest Downstream Town : Name Homer City, PA
Distance from the impoundment Outskirts of Homer City, PA approximately 0.50 miles as measured in a straight line on Google Earth.
Impoundment Location: Longitude 79 Degrees 12 Minutes 35 Seconds
Latitude 40 Degrees 31 Minutes 17 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection, Bureau of Waste Management

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

__X__ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

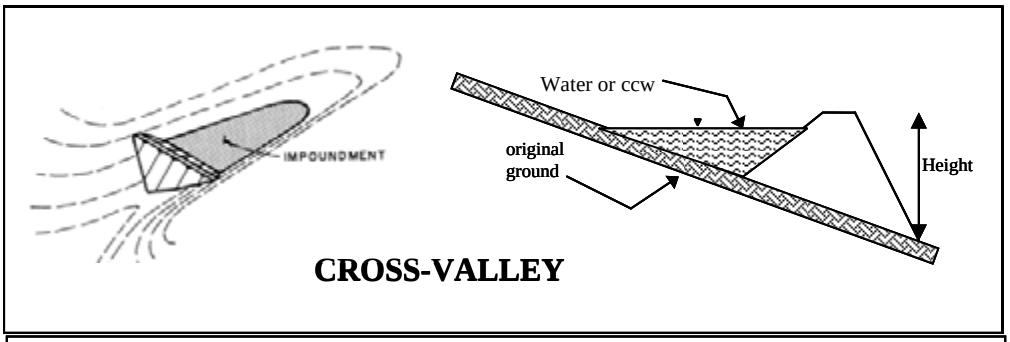
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

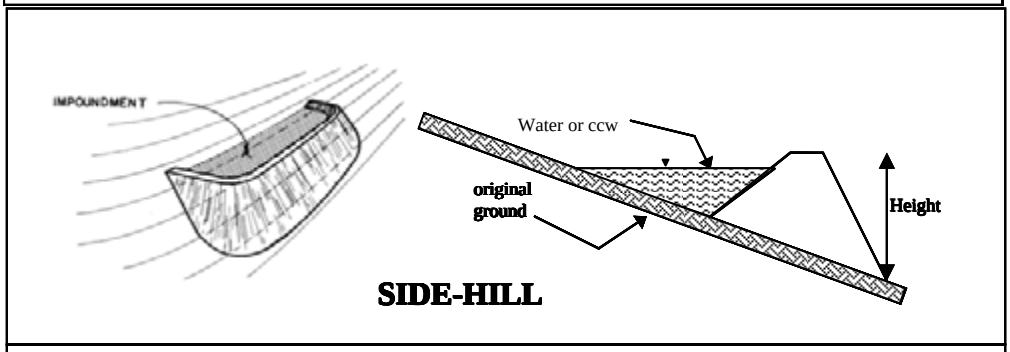
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

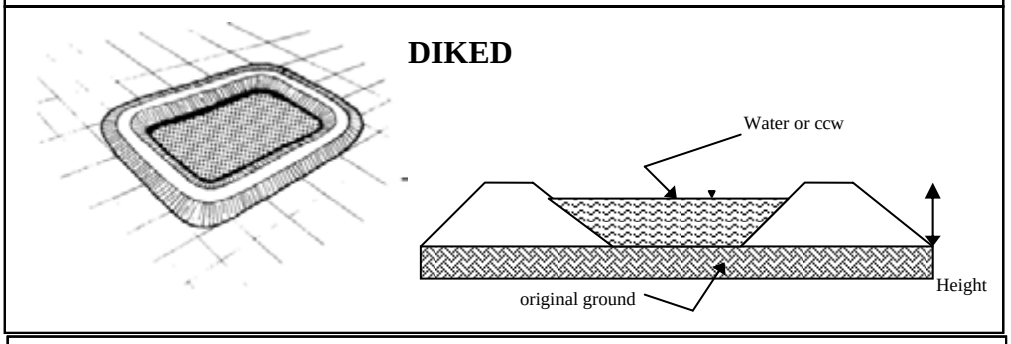
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

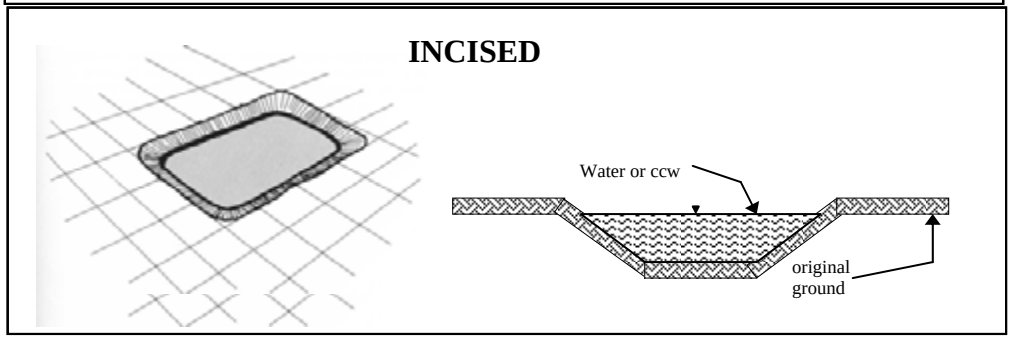
Although the impoundment structure is not currently regulated by the PADEP Bureau of Waterways Engineering, Division of Dam Safety, it appears (based on observations during our site visit and review of available drawings and review of historical aerial photography) that the structure could be considered as a Size C (small), Hazard Classification 3 (low hazard) dam due to its having a maximum embankment height (along the south side) on the order of 35 to 40 feet and a contributory drainage area on the order of 100 acres. Additionally, it appears as though the impoundment was incised into previously placed ash/boiler slag and that said material was likely used to construct the embankment portions. Nevertheless the size of the impoundment is approximately 1.5 acres with a contributory drainage area less than 0.20 square miles and a storage capacity of approximately 17 acre-feet (based on maximum storage height on the order of 15 feet). In our opinion, failure of the impoundment is not likely to result in loss of life and environmental damage would be low and limited to the owner's property.

CONFIGURATION:









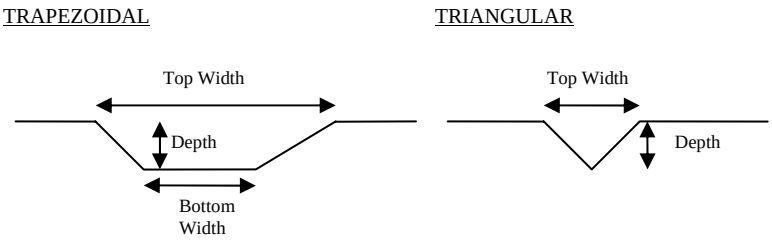
_____ Cross-Valley
__X__ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Unable to locate design drawings depicting embankment cross-section information. Based on observations during the site visit, review of as-built plan and historical aerial photographs, it appears that the impoundment was incised into previously placed ash/boiler slag and that said material was likely used to construct embankment portions.

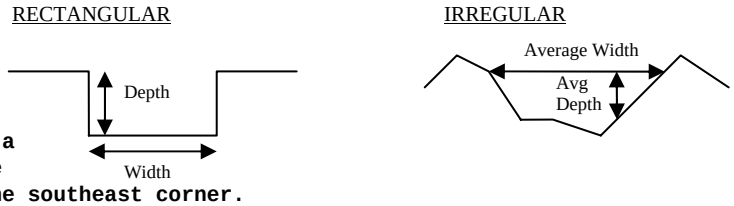
Embankment Height **See Note 1** feet Embankment Material _____
Pool Area **approximately 1.5** acres Liner **See Note 2**
Current Freeboard **See Note 3** feet Liner Permeability **Essentially impermeable**

Note 1: Generally 35 to 40 feet along south side; incised on north side.
Note 2: Layered geosynthetics covered by 6"-thick concrete erosion control revetment with underdrain system.
Note 3: Since the pond operates as a temporary stormwater runoff detention basin, the pool elevation and hence freeboard fluctuates. Freeboard observed at approximately 12 feet at time of inspection.

TYPE OF OUTLET (Mark all that apply)



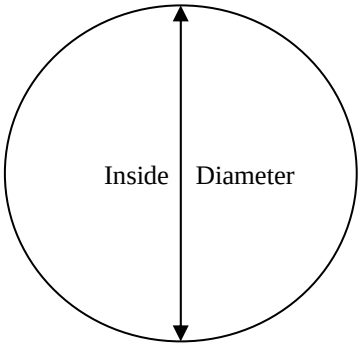
X **Open Channel Spillway**
X Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular



3 depth
22' +/- bottom (or average) width
58' +/- top width
This outlet serves as the pond's Emergency Spillway and consists of a trapezoidally-shaped channel in the concrete revetment protection at the southeast corner. Bottom width of spillway approximately 22 feet at elevation 1287' (3' below crest).

X **Outlet**

8" inside diameter



Material
_____ corrugated metal
_____ welded steel
_____ concrete
X plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES X NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Original (circa 1992) design by Gilbert/Commonwealth, Inc., Reading, PA

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Ash Recycle Pond No. 1	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	Daily		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	1184' +/-		19. Major erosion or slope deterioration?	✓	
3. Decant inlet elevation (operator records)?	See note		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	N/A		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1186' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?		✓	Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?	✓		At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	✓		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?	✓		24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
1.	Inspected daily by plant personnel.
3.	Based on observations during our site visit, review of design drawings and discussions with plant personnel, water in the pond flows over a weir set at approximately elevation 1184'+/- into a pipe which connects to a concrete wet well structure. From there the water flows to a small pump house which pumps water back into the plant for re-use. Excess water is treated (for pH)and allowed to flow through a baffled settling tank over a weir which discharges via NPDES permit PA 0005037 outfall No. 5.
8.	Design drawings are unclear on this matter; however, a significant majority of its impoundment was incised below original existing grades.
10.	Minor cracking on crest; repaired periodically as required.
17.	Minor to moderate scarps on interior slopes; repaired periodically as required.
19.	In general interior slopes above waterline were observed to be in fair to poor condition with cracked, eroded and/or scarped areas.
20.	Flow from decant is to pump house pumping system.

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # PA0005037 Outfall No. 5 INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Ash Recycle Pond No. 1

Impoundment Company EME Homer City Generation L.P.

EPA Region Region III

State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222

Name of Impoundment Ash Recycle Pond No. 1

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	X	_____

IMPOUNDMENT FUNCTION: Impoundment receives wash water from boiler ash separation/ cleaning hydrobin/centrifuge treatment system for temporary detention/settlement of fines prior to decanted flow to an adjacent pump station which pumps the water back into the plant for re-use. Excess water discharges via (NPDES) PA0005037 Outfall No. 5.

Nearest Downstream Town : Name Homer City, PA

Distance from the impoundment Rural areas on the outskirts of Homer City, PA approximately 1.0 mile as measured in a straight line on Google Earth.

Impoundment Location:
Longitude 79 Degrees 11 Minutes 53 Seconds
Latitude 40 Degrees 30 Minutes 50 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection, Bureau of Waste Standards and Facility Regulation.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

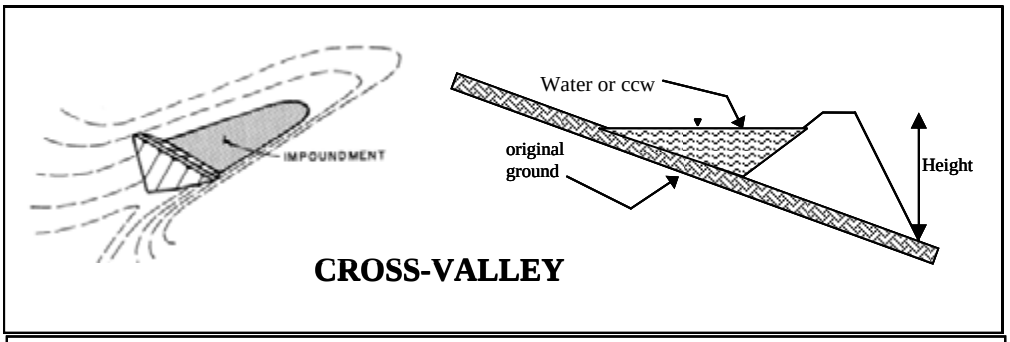
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

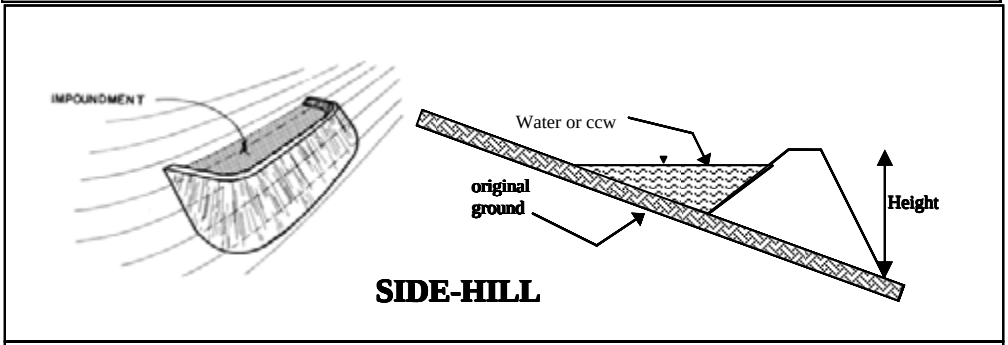
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

The size of the pond is less than one acre with a storage capacity of less than 10 acre-feet and has no contributory drainage area. In our opinion failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and limited to the owner's property.

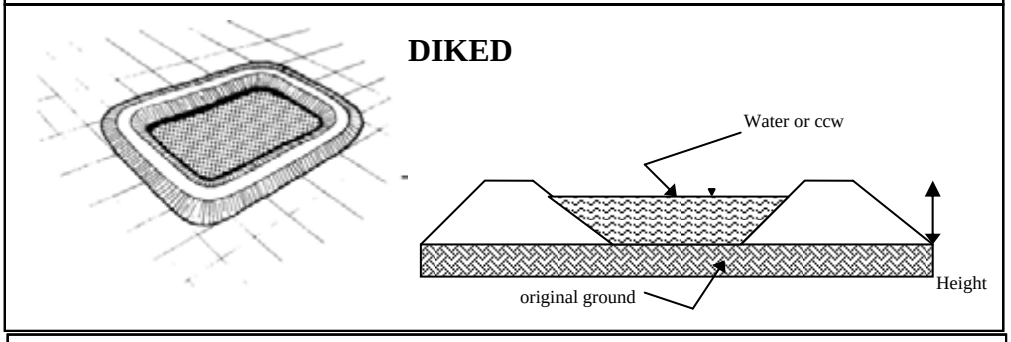
CONFIGURATION:



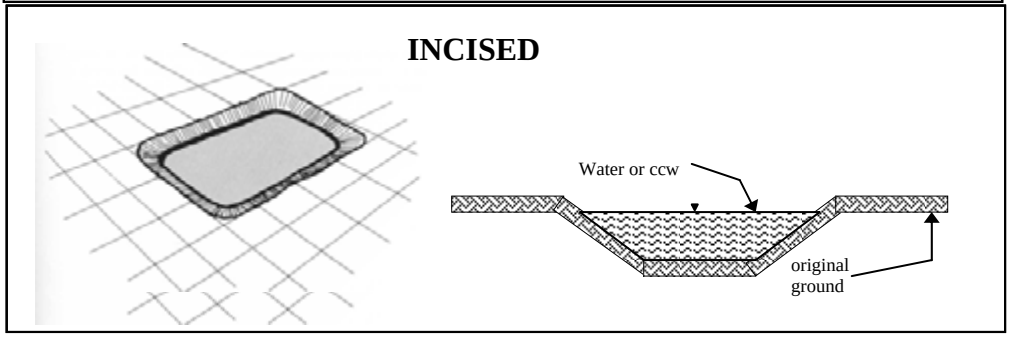
CROSS-VALLEY



SIDE-HILL



DIKED



INCISED

_____ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height **See Note 1** feet
Embankment Material **See Note 2**
Pool Area **approximately 0.6** acres
Liner **See Note 3**
Current Freeboard **approx. 2** feet
Liner Permeability **1 x 10^{-5} cm/sec**

Note 1: Review of design drawings indicates majority of impoundment is incised. Original grade had to be filled approximately 2 feet to construct embankment along the east side which is shared with Ash Recycling Pond No. 2.

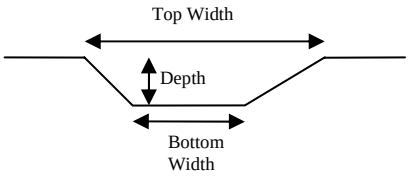
Note 2: Design drawing indicates top portion of the shared embankment may have been constructed using crushed boiler slag.

Note 3: 2-foot thick clay liner with underdrain collection system.

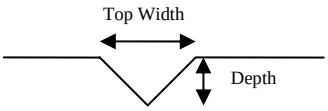
TYPE OF OUTLET (Mark all that apply)

_____ **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

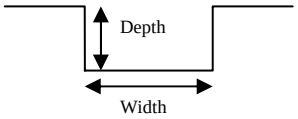


TRIANGULAR

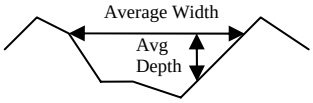


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

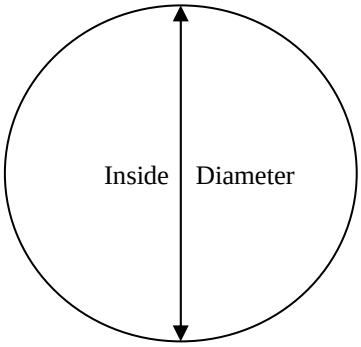


IRREGULAR



__X__ **Outlet**

__24"__ inside diameter **(approximate)**



Material
_____ corrugated metal
__X__ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Original (circa 1973) design by Gilbert Associates, Inc. Engineers and Consultants**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Ash Recycle Pond No. 2	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	Daily		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	1184' +/-		19. Major erosion or slope deterioration?	✓	
3. Decant inlet elevation (operator records)?	See note		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	N/A		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1186' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?		✓	Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)	✓		At isolated points on embankment slopes?	✓	
10. Cracks or scarps on crest?	✓		At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	✓		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?	✓		24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue # Comments

1. Inspected daily by plant personnel.

3. Based on observations during our site visit, review of design drawings and discussions with plant personnel, water in the pond flows over a weir set at approximately elevation 1184'+/- into a pipe which connects to a concrete wet well structure. From there the water flows to a small pump house which pumps water back into the plant for re-use. Excess water is treated (for pH) and allowed to flow through a baffled settling tank over a weir which discharges via NPDES permit PA 0005037 outfall No. 5.

8. Design drawings are unclear on this matter; however, a significant majority of the impoundment was incised below original existing grades.

9. High vegetation and light to moderate small shrub growth on west outside slope.

10. Minor cracking on crest; repaired periodically as required.

17. Minor to moderate scarps on interior slopes; repaired periodically as required.

19. In general interior slopes above waterline were observed to be in fair to poor condition with cracked, eroded and/or scarped areas.

20. Flow from decant is to pump house pumping system.

21. Saturated conditions and shallow standing water observed along a portion of the west outside slope toe. May be a result of recent heavy rainfall. No flow/active seepage observed. All standing water clear.

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # PA0005037 Outfall No. 5 INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Ash Recycle Pond No. 2
Impoundment Company EME Homer City Generation L.P.
EPA Region Region III
State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222
Name of Impoundment Ash Recycle Pond No. 2
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	X	_____

IMPOUNDMENT FUNCTION: Impoundment receives wash water from boiler ash separation/ cleaning hydrobin/centrifuge treatment system for temporary detention/settlement of fines prior to decanted flow to an adjacent pump station which pumps the water back into the plant for re-use. Excess water discharges via (NPDES) PA0005037 Outfall No. 5.

Nearest Downstream Town : Name Homer City, PA
Distance from the impoundment Rural areas on the outskirts of Homer City, PA approximately 1.0 mile as measured in a straight line on Google Earth.
Impoundment Location: Longitude 79 Degrees 11 Minutes 54 Seconds
Latitude 40 Degrees 30 Minutes 49 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection, Bureau of Waste Standards and Facility Regulation.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

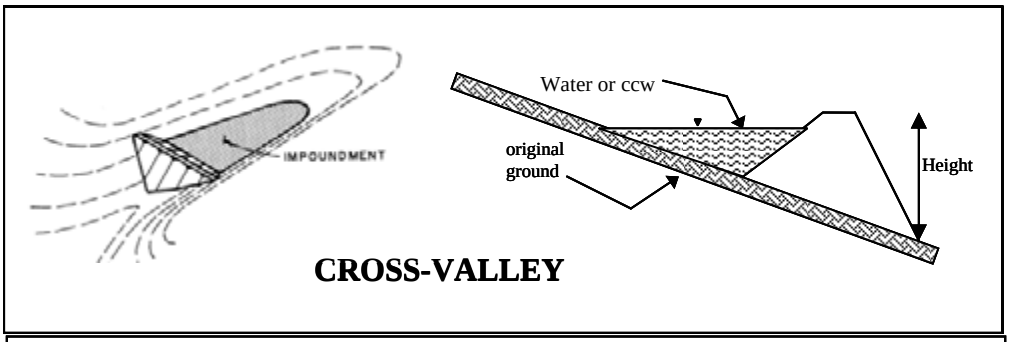
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

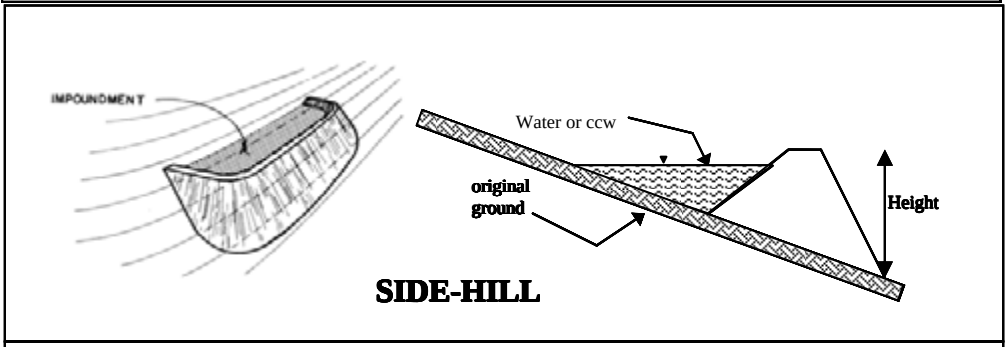
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

The size of the pond is less than one acre with a storage capacity of less than 10 acre-feet and has no contributory drainage area. In our opinion failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and limited to the owner's property.

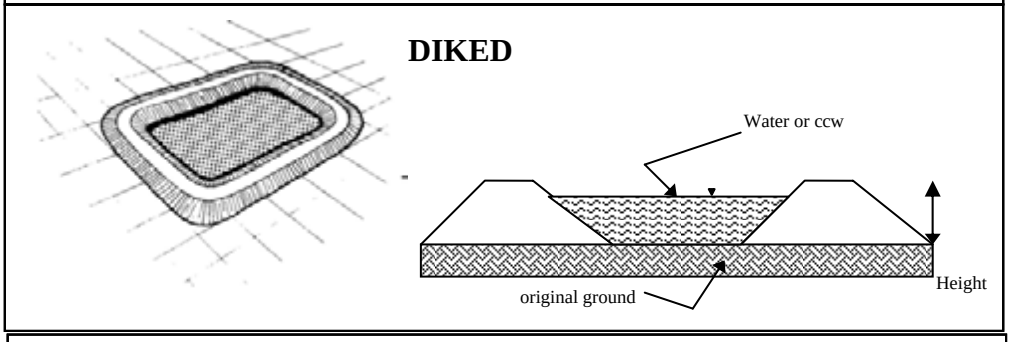
CONFIGURATION:

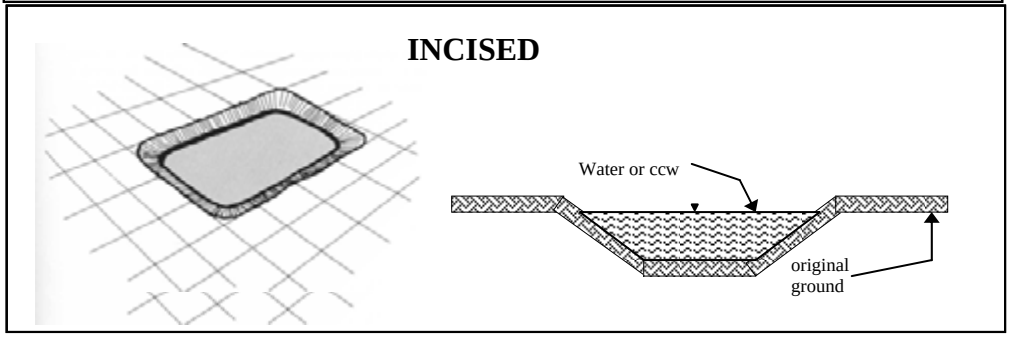


CROSS-VALLEY



SIDE-HILL





_____ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height **See Note 1** feet Embankment Material **See Note 2**
Pool Area **approximately 0.6** acres Liner **See Note 3**
Current Freeboard **approx. 2** feet Liner Permeability **1 x 10^{-5} cm/sec**

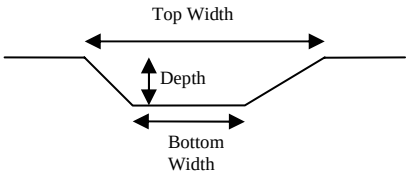
Note 1: Review of design drawings indicates the west half of the impoundment is incised. Original grade had to be filled approximately 2 feet to construct embankment along the east side which is shared with Ash Recycling Pond No. 1. Fills on the order of 8 feet were required to construct west embankment.

Note 2: According to a plant representative the majority of the embankment consists of inorganic earthen material. Design drawing indicates top portions of the shared embankment may have been constructed using crushed boiler slag.
Note 3: 2-foot thick clay liner with underdrain collection system.

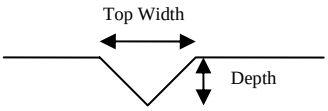
TYPE OF OUTLET (Mark all that apply)

_____ **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

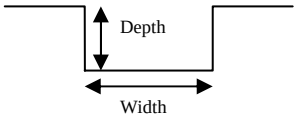


TRIANGULAR

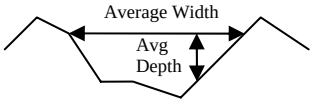


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

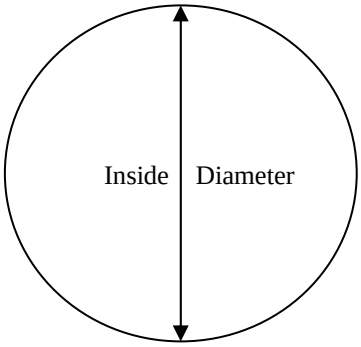


IRREGULAR



__X__ **Outlet**

__24"__ inside diameter **(approximate)**



Material
_____ corrugated metal
__X__ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Original (circa 1973) design by Gilbert Associates, Inc. Engineers and Consultants**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Ash Recycle Pond No. 3	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	Daily		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	1184' +/-		19. Major erosion or slope deterioration?	✓	
3. Decant inlet elevation (operator records)?	See note		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	N/A		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1186' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?		✓	Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?	✓		At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	✓		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?	✓		24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue # Comments

1. Inspected daily by plant personnel.

3. Based on observations during our site visit, review of design drawings and discussions with plant personnel, water in the pond flows over a weir set at approximately elevation 1184'+/- into a pipe which connects to a concrete wet well structure. From there the water flows to a small pump house which pumps water back into the plant for re-use. Excess water is treated (for pH) and allowed to flow through a baffled settling tank over a weir which discharges via NPDES permit PA 0005037 outfall No. 5.

8. Design drawings are unclear on this matter; however, a significant majority of its impoundment was incised below original existing grades.

10. Minor cracking on crest; repaired periodically as required.

17. Minor to moderate scarps on interior slopes; repaired periodically as required.

19. In general interior slopes above waterline were observed to be in fair to poor condition with cracked, eroded and/or scarped areas.

20. Flow from decant is to pump house pumping system.

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # PA0005037 Outfall No. 5 INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Ash Recycle Pond No. 3
Impoundment Company EME Homer City Generation L.P.
EPA Region Region III
State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222
Name of Impoundment Ash Recycle Pond No. 3
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	X	_____

IMPOUNDMENT FUNCTION: Impoundment receives wash water from boiler ash separation/ cleaning hydrobin/centrifuge treatment system for temporary detention/settlement of fines prior to decanted flow into the site's pH treatment system which is re-used inside the plant. Excess water discharges via (NPDES) PA0005037 Outfall No. 5.

Nearest Downstream Town : Name Homer City, PA
Distance from the impoundment Rural areas on the outskirts of Homer City, PA approximately 1.0 mile as measured in a straight line on Google Earth.
Impoundment
Location: Longitude 79 Degrees 11 Minutes 54 Seconds
Latitude 40 Degrees 30 Minutes 53 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection, Bureau of Waste Standards and Facility Regulation.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

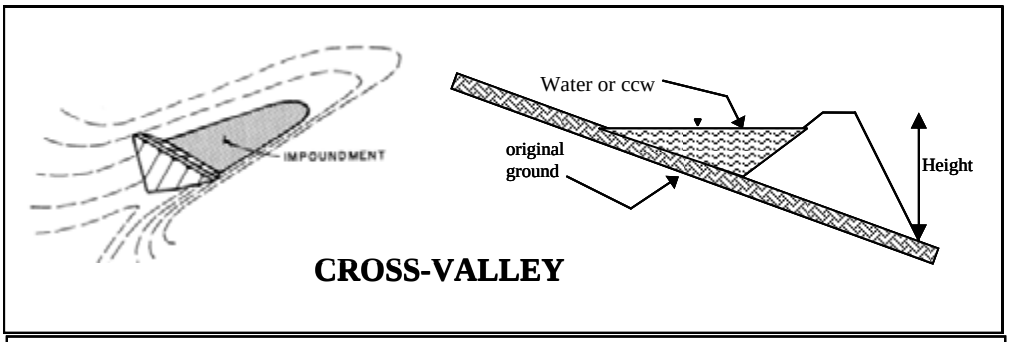
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

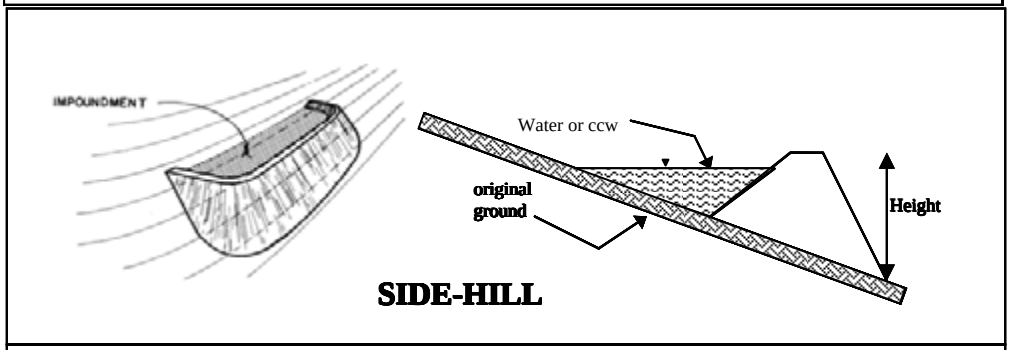
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

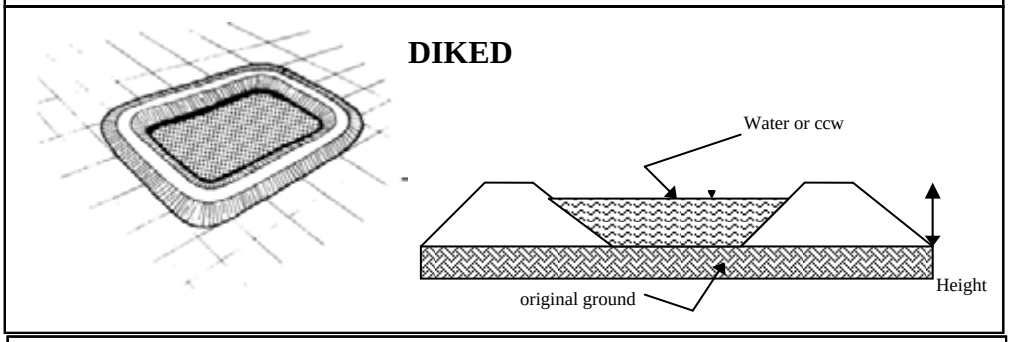
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

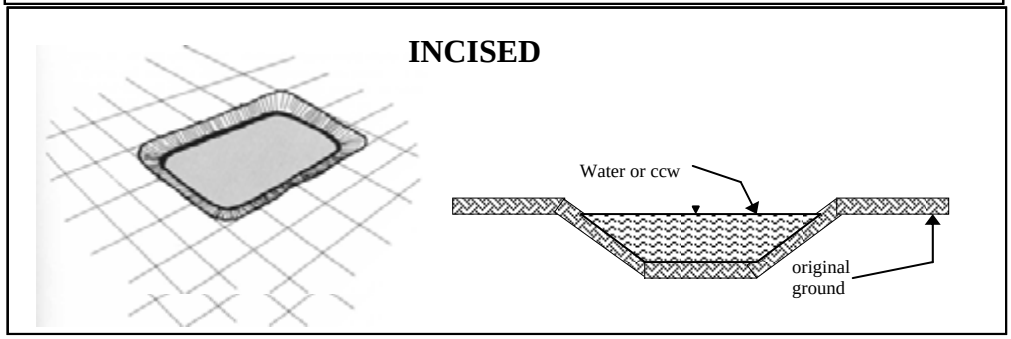
The size of the pond is less than one acre with a storage capacity of less than 10 acre-feet and has no contributory drainage area. In our opinion failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and limited to the owner's property.

CONFIGURATION:









_____ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height **See Note 1** feet Embankment Material **See Note 2**
Pool Area **approximately 0.6** acres Liner **See Note 3**
Current Freeboard **approx. 2** feet Liner Permeability **1 x 10^{-5} cm/sec**

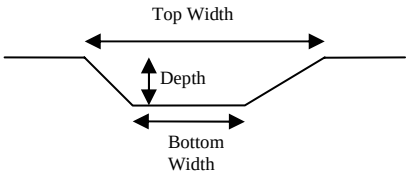
Note 1: Review of design drawings indicates the majority of the impoundment is incised. Original grade had to be filled approximately 2 feet to construct embankment along the east side which is shared with Ash Recycling Pond No. 4.

Note 2: According to a plant representative the majority of the embankment consists of inorganic earthen material. Design drawing indicates top portions of its shared embankment may have been constructed using crushed boiler slag.
Note 3: 2-foot thick clay liner with underdrain collection system.

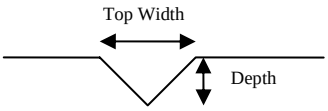
TYPE OF OUTLET (Mark all that apply)

_____ **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

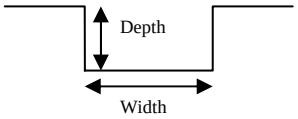


TRIANGULAR

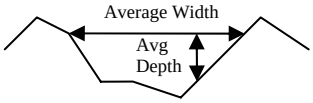


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

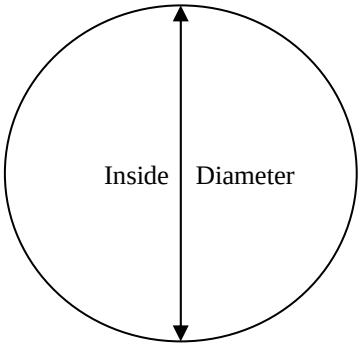


IRREGULAR



__X__ **Outlet**

__24"__ inside diameter **(approximate)**



Material
_____ corrugated metal
__X__ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Original (circa 1973) design by Gilbert Associates, Inc. Engineers and Consultants**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Ash Recycle Pond No. 4	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High / Significant / Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	Daily		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	1184' +/-		19. Major erosion or slope deterioration?	✓	
3. Decant inlet elevation (operator records)?	See note		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	N/A		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1186' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?		✓	Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)	✓		At isolated points on embankment slopes?	✓	
10. Cracks or scarps on crest?	✓		At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	✓		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?	✓		24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
1.	Inspected daily by plant personnel.
3.	Based on observations during our site visit, review of design drawings and discussions with plant personnel, water in the pond flows over a weir set at approximately elevation 1184' +/- into a pipe which connects to a concrete wet well structure. From there the water flows to a small pump house which pumps water back into the plant for re-use. Excess water is treated (for pH) and allowed to flow through a baffled settling tank over a weir which discharges via NPDES permit PA0005037 Outfall No. 5.
8.	Design drawings are unclear on this matter; however, a significant majority of the impoundment was incised below existing grades.
9.	High vegetation and light to moderate small shrub growth on west outside slope.
10.	Minor cracking on crest; repaired periodically as required.
17.	Minor to moderate scarps on interior slopes; repaired periodically as required.
19.	In general interior slopes above waterline were observed to be in fair to poor condition with cracked, eroded and/or scarped areas.
20.	Flow from decant is to pump house pumping system.
21.	Saturated conditions and shallow standing water observed along a portion of the west outside slope toe. May be a result of recent heavy rainfall. No flow/active seepage observed. All standing water clear.

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # PA0005037 Outfall No. 5 INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Ash Recycle Pond No. 4
Impoundment Company EME Homer City Generation L.P.
EPA Region Region III
State Agency (Field Office) Address DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222
Name of Impoundment Ash Recycle Pond No. 4
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No
Is impoundment currently under construction?	_____	X
Is water or ccw currently being pumped into the impoundment?	X	_____

IMPOUNDMENT FUNCTION: Impoundment receives wash water from boiler ash separation/ cleaning hydrobin/centrifuge treatment system for temporary detention/settlement of fines prior to decanted flow into the site's pH treatment system which is re-used inside the plant. Excess water discharges via (NPDES) PA 005037 Outfall No. 5.

Nearest Downstream Town : Name Homer City, PA
Distance from the impoundment Rural areas on the outskirts of Homer City, PA approximately 1.0 mile as measured in a straight line on Google Earth.
Impoundment Location: Longitude 79 Degrees 11 Minutes 56 Seconds
Latitude 40 Degrees 30 Minutes 53 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection, Bureau of Waste Standards and Facility Regulation.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

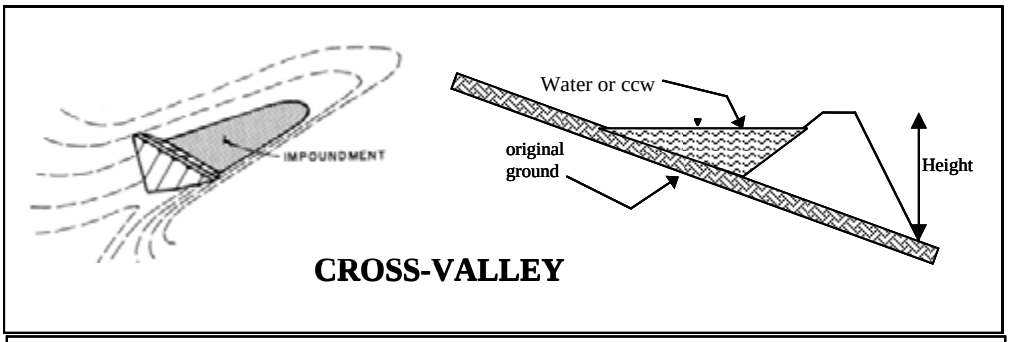
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

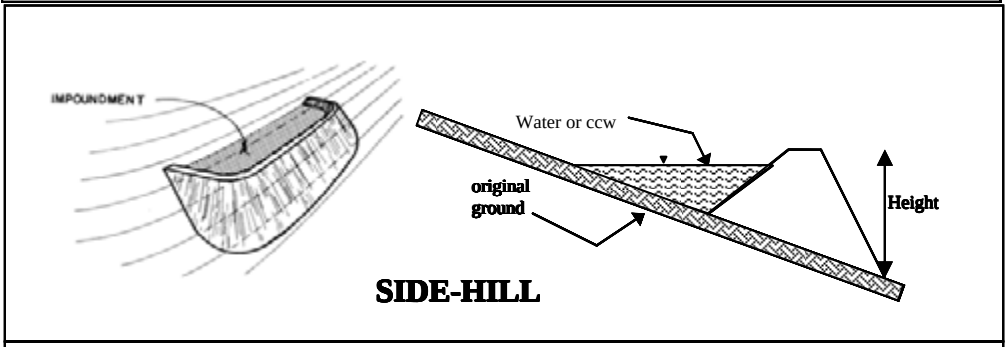
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

The size of the pond is less than one acre with a storage capacity of less than 10 acre-feet and has no contributory drainage area. In our opinion failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and limited to the owner's property.

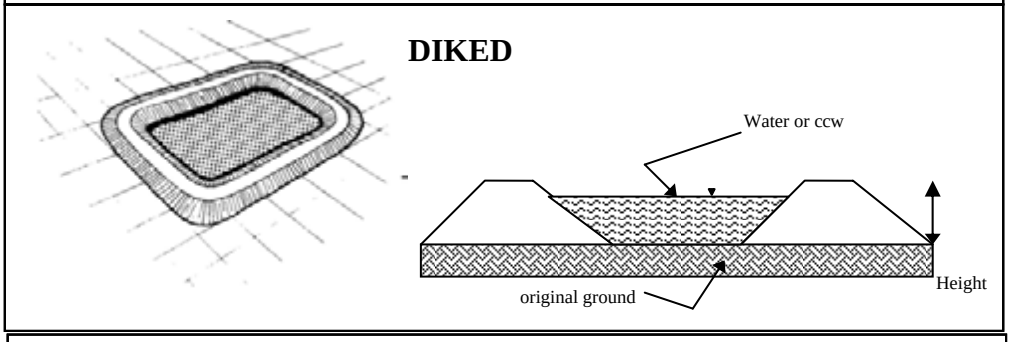
CONFIGURATION:

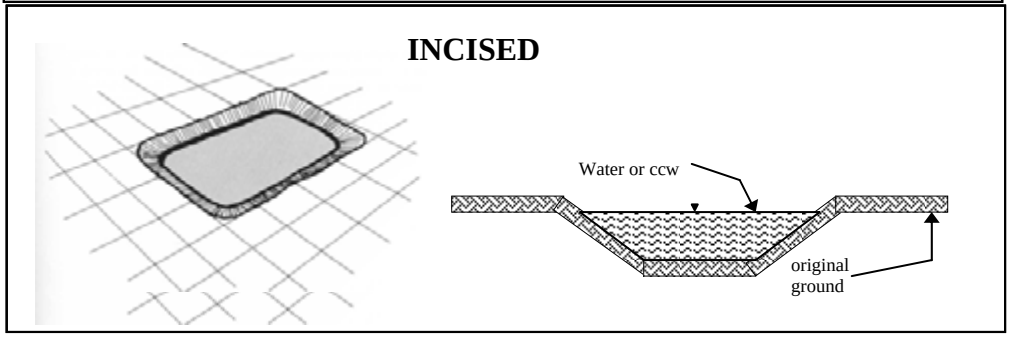


CROSS-VALLEY



SIDE-HILL





_____ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height **See Note 1** feet Embankment Material **See Note 2**
Pool Area **approximately 0.6** acres Liner **See Note 3**
Current Freeboard **approx. 2** feet Liner Permeability **1 x 10^{-5} cm/sec**

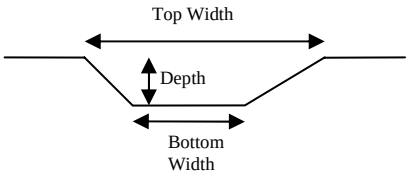
Note 1: Review of design drawings indicates the west half of the impoundment is incised. Original grade had to be filled approximately 2 feet to construct embankment along the east side which is shared with Ash Recycling Pond No. 3. Fills on the order of 8 feet were required to construct west embankment.

Note 2: According to a plant representative the majority of the embankment consists of inorganic earthen material. Design drawing indicates top portions of the shared embankment may have been constructed using crushed boiler slag.
Note 3: 2-foot thick clay liner with underdrain collection system.

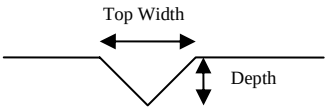
TYPE OF OUTLET (Mark all that apply)

_____ **Open Channel Spillway**
_____ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

TRAPEZOIDAL

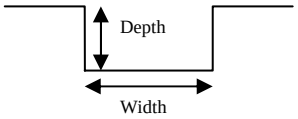


TRIANGULAR

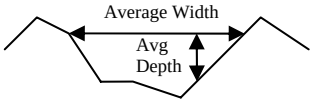


_____ depth
_____ bottom (or average) width
_____ top width

RECTANGULAR

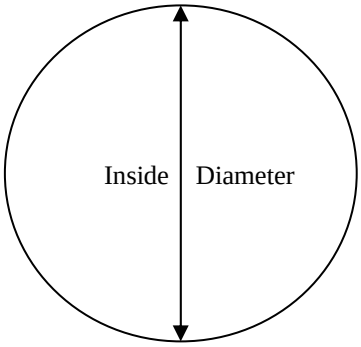


IRREGULAR



__X__ **Outlet**

__24"__ inside diameter **(approximate)**



Material
_____ corrugated metal
__X__ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Original (circa 1973) design by Gilbert Associates, Inc. Engineers and Consultants**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Stage I/II Sedimentation Pond (Coal Refuse Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	✓		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	Fluctuates		19. Major erosion or slope deterioration?	See	note
3. Decant inlet elevation (operator records)?	1100' +/-		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	1109' +/-		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1111' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?	N/A		Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)	✓		At isolated points on embankment slopes?	✓	
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	N/A		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?	✓		22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?		✓	24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
1.	Quarterly inspections by independent consultant. Yearly removal of coal refuse deposits.
2.	The pool elevation fluctuates since it operates as a temporary stormwater runoff retention basin. Pool level approximately at elevation 1101' +/- at time of inspection.
4.	Elevation of emergency spillway weir at northeast corner.
5.	Crest lowers (2 feet) to elevation 1109' +/- at emergency spillway. Crest at elevation 1111' +/- in all other areas. Bottom elevation of impoundment at 1100' +/-.
8.	No design drawings with this information were available, however a significant majority of the impoundment was incised into a hillside presumably below original existing grades.
9.	Knee high grass on west slope precluded close inspection (annual mowing happens in June). Occasional moderately sized shrubs scattered over slope.
15.	Drainage channel at pond's inlet (in the northeast corner) has been eroded down to the top of existing bedrock. Moderate to heavy erosion of impoundment bottom in northeast corner of impoundment associated with the inlet flows.
19.	Minor to moderate erosion observed on interior slopes. Minor erosion/scarps observed on exterior west slope.
20.	Pond almost empty at time of inspection. Water enters outflow pipe via an inverted siphon/sump arrangement. Pipe flow outlets to a stone-lined drainage channel which leads to a drop/inlet which then conveys flow to Storage Pond No. 1.
21.	Saturated conditions and shallow standing water observed along a portion of the west outside slope toe. May be a result of recent heavy rainfall. No flow/active seepage observed. All standing water clear.

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # N/A; part of facility's permitted Coal Ash Refuse Disposal Site PADEP # 32753702

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Stage I/II Sedimentation Pond (Coal Refuse Site)

Impoundment Company EME Homer City Generation L.P.

EPA Region Region III

State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222

Name of Impoundment Stage I/II Sedimentation Pond (Coal Refuse Site)
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	
Is water or ccw currently being pumped into the impoundment?	_____	X	(Nothing is pumped to the impoundment. Flow received is via overland sources)

IMPOUNDMENT FUNCTION: Impoundment receives surface water runoff from the Coal Refuse Site via a trapezoidal drainage channel for temporary detention/settlement of fines prior to discharge to Storage Pond No. 1.

Nearest Downstream Town : Name Homer City, PA

Distance from the impoundment Outskirts of Homer City, PA approximately 0.50 miles as measured in a straight line on Google Earth.

Impoundment Location:
Longitude 79 Degrees 11 Minutes 40 Seconds
Latitude 40 Degrees 31 Minutes 32 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? PADEP Bureau of Mining and Reclamation

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

__X__ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

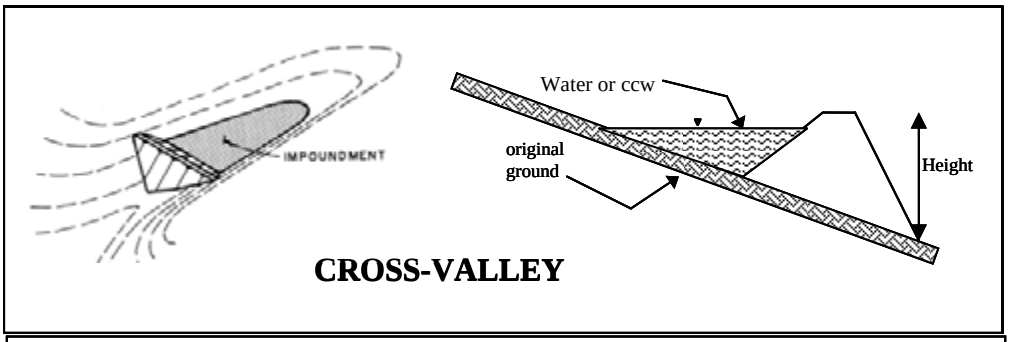
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

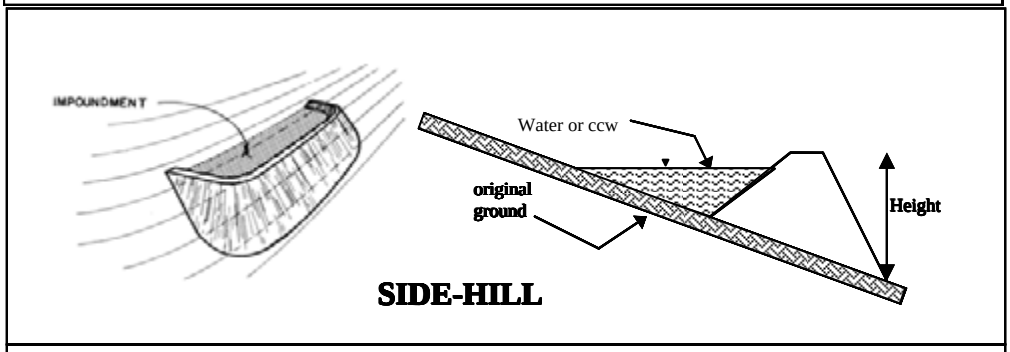
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

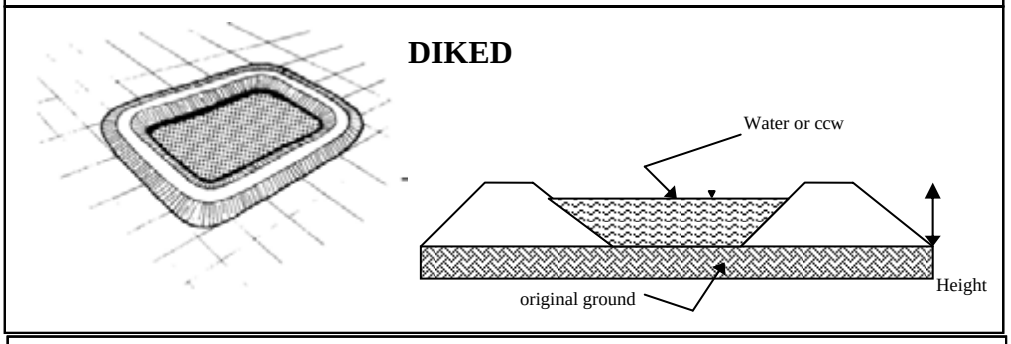
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

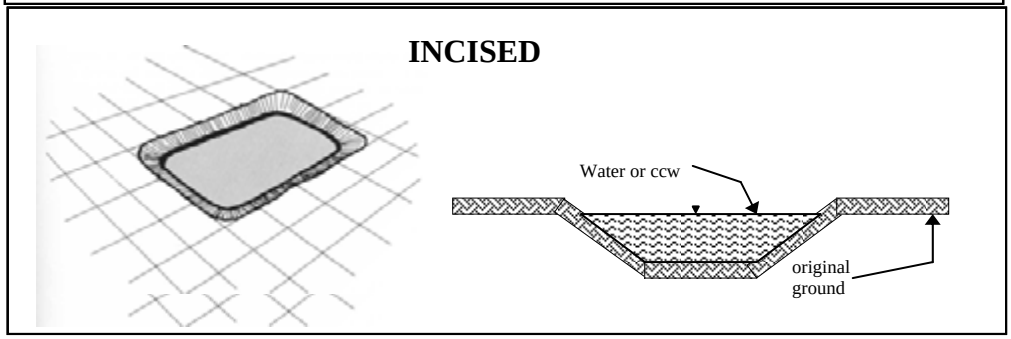
The size of the pond is approximately one acre with a contributory drainage area less than 1 square mile and a storage capacity of approximately 13 acre-feet. In our opinion, failure of the impoundment is not likely to result in loss of life and environmental damage would be minimal and limited to the owner's property.

CONFIGURATION:









_____ Cross-Valley
__X__ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height **See Note 1** feet
Pool Area **approximately 1.0** acres
Current Freeboard **See Note 2** feet

Embankment Material **Unable to locate original design drawings. According to plant representatives, embankment likely constructed using soils excavated during construction of the impoundment.**
Liner **None**
Liner Permeability **N/A**

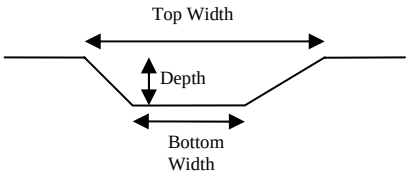
Note 1: Generally 25 to 30 feet along west side; incised on east side.

Note 2: Since the pond operates as a temporary stormwater runoff detention basin,the pool elevation and hence freeboard fluctuates. Freeboard observed at approximately 8 to 10 feet at time of inspection.

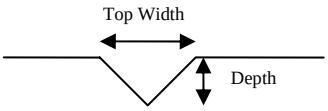
TYPE OF OUTLET (Mark all that apply)

__X__ **Open Channel Spillway**
__X__ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

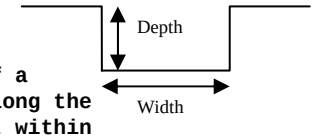
TRAPEZOIDAL



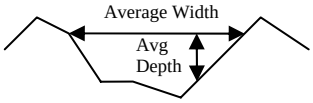
TRIANGULAR



RECTANGULAR



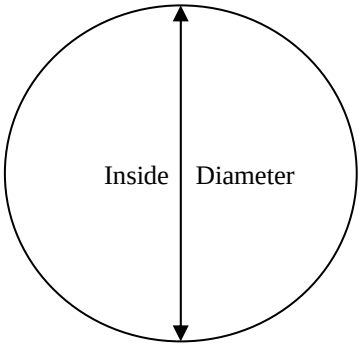
IRREGULAR



0.5' +/- depth
80' +/- bottom (or average) width
_____ top width
_____ **This outlet serves as the pond's Emergency Spillway and consists of a trapezoidally-shaped depression along the south embankment. Embankment crest within limits of emergency spillway covered with concrete revetment erosion protection. Downstream slope has stone rip rap protection.**

__X__ **Outlet**

18' +/- inside diameter



Material
_____ corrugated metal
_____ welded steel
__X__ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Information pertaining to outlet obtained from visual observation during site visit. No design drawings were made available.

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Original design drawings were unavailable.**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Small Sediment Trap (Coal Refuse Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	✓		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	Varies		19. Major erosion or slope deterioration?		✓
3. Decant inlet elevation (operator records)?	N/A		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	1194' +/-		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1198' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?	N/A		Is water exiting outlet flowing clear?		N/A
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	See	note	From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	N/A		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?		✓	24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue # Comments

1. Quarterly inspections by independent consultant.

3. Inlet consists of trapezoidal channel which directs stormwater runoff from Coal Refuse Site to the north end of the sediment pond.

4,5. As measured on Google Earth.

8. Impoundment is incised into ground at the toe of the east edge of the closed portion of the Coal Refuse Site landfill. Portions of the impoundment may have been excavated into/through formerly placed coal refuse material.

20. At the time of inspection there was no water entering or exiting the impoundment as it had drained (to the Stage III/IV Surge Pond) as a result of dry weather conditions over the preceeding few days prior our site visit.

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # N/A; part of facility's permitted Coal Ash Refuse Disposal Site PADEP # 32753702

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Small Sediment Trap (Coal Refuse Site)

Impoundment Company EME Homer City Generation L.P.

EPA Region Region III

State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222

Name of Impoundment Small Sediment Trap (Coal Refuse Site)

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	
Is water or ccw currently being pumped into the impoundment?	_____	X	(Nothing is pumped to the impoundment. Flow received is via overland sources)

IMPOUNDMENT FUNCTION: Impoundment receives surface water runoff from Coal Refuse Site for temporary detention/settlement of fines prior to discharge to a drainage channel leading to Stage III/IV Surge Pond.

Nearest Downstream Town : Name Homer City, PA

Distance from the impoundment Outskirts of Homer City, PA approximately 0.25 miles as measured in a straight line on Google Earth.

Impoundment Location:
Longitude 79 Degrees 11 Minutes 2 Seconds
Latitude 40 Degrees 31 Minutes 35 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection Bureau of Mining and Reclamation.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

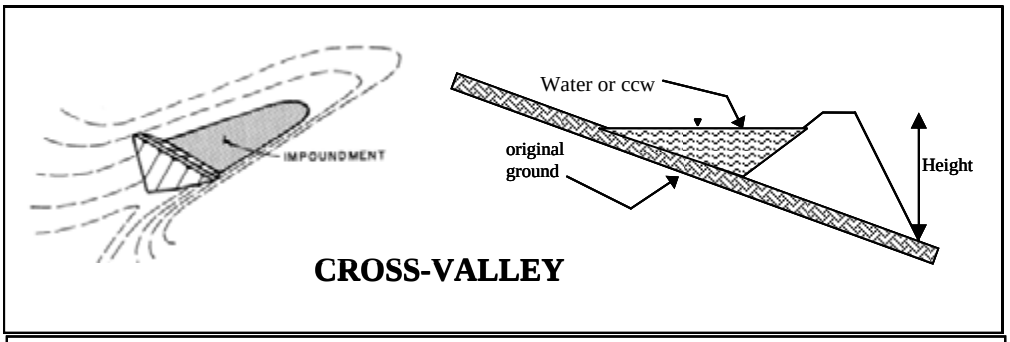
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

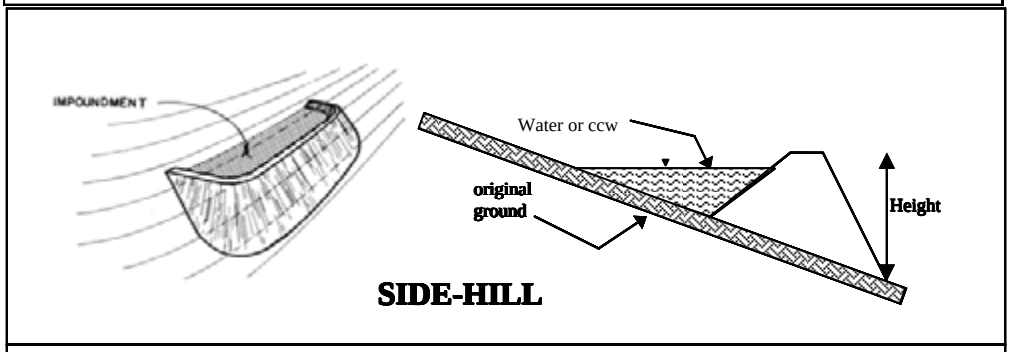
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

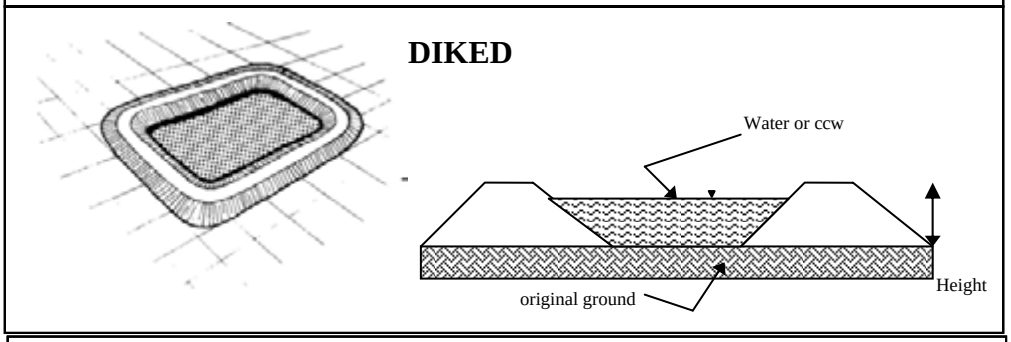
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

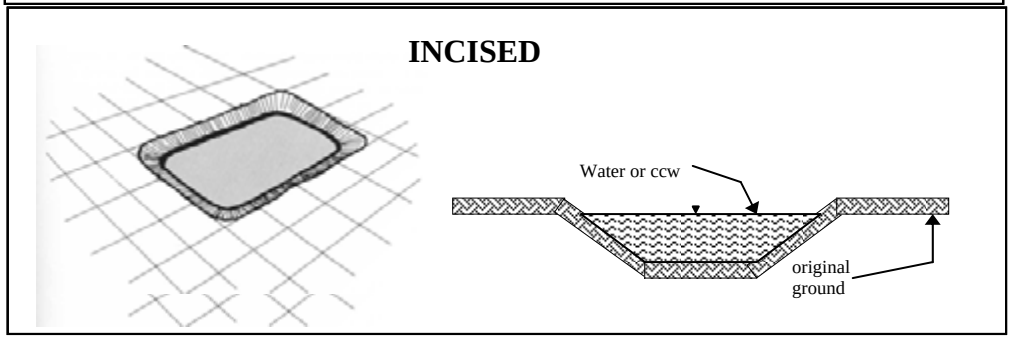
The size of the pond is less than one acre with a storage capacity estimated to be less than 10 acre-feet. In our opinion, failure of the impoundment is not likely to result in loss of human life and environmental damage would be limited to the owner's property.

CONFIGURATION:









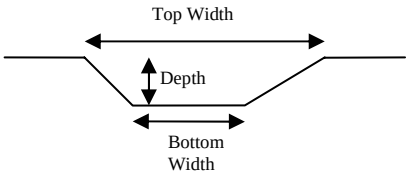
_____ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height ___N/A___ feet Embankment Material__N/A_____
Pool Area _approximately 0.25_ acres Liner _See Note 2_____
Current Freeboard _approx. 3_ feet Liner Permeability _Essentially impermeable

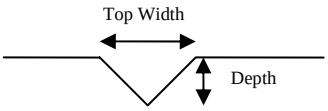
Note 2: Layered geosynthetics covered by a 4" thick concrete erosion control revetment.

TYPE OF OUTLET (Mark all that apply)

TRAPEZOIDAL



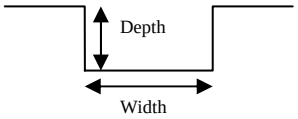
TRIANGULAR



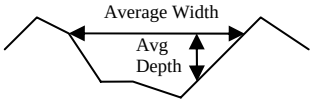
__X__ **Open Channel Spillway**
__X__ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

__3__ depth
__8__ bottom (or average) width
__20__ top width

RECTANGULAR

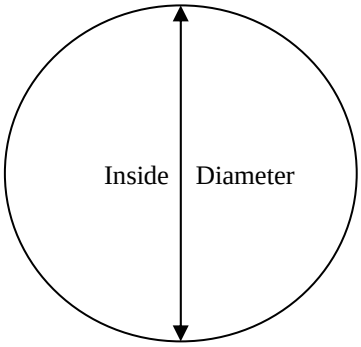


IRREGULAR



__N/A__ **Outlet**

_____ inside diameter



Material
_____ corrugated metal
_____ welded steel
_____ concrete
_____ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By __CME Engineering, Latrobe, PA__

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Stage III/IV Surge Pond (Coal Refuse Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	✓		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	Fluctuates		19. Major erosion or slope deterioration?	See	note
3. Decant inlet elevation (operator records)?	1044.5'		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	1055'		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1055'		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?		✓	Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	✓		From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)	✓		At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	✓		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?		✓
17. Cracks or scarps on slopes?		✓	24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
1.	Quarterly inspections by independent consultant.
2.	The pool elevation fluctuates since it operates as a temporary stormwater runoff retention basin.Pool level approximately at elevation 1046' +/- at time of inspection.
4.	Elevation of emergency spillway weir at northeast corner.
5.	Crest lowers (3 feet) to elevation 1055' at emergency spillway. Crest at elevation 1058' in all other areas. Bottom elevation of impoundment at 1038 feet.
9.	Knee high grass on south slope precluded close inspection (annual mowing happens in June). Occasional moderately sized shrubs scattered over slope. Large (36" +) tree cut near toe but stump and root ball remain.
19.	No major erosion/deterioration observed on south slope. However it appears a moderate cut was made into the toe of the embankment in order to construct a vehicular access road which parallels the bottom of the slope.
20.	Decant water travels via decant pipe which outlets into Storage Pond No. 1. End of pipe submerged at outfall.

U. S. Environmental Protection Agency

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # N/A; part of facility's permitted Coal Ash Refuse Disposal Site PADEP # 32753702

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Stage III/IV Surge Pond (Coal Refuse Site)
Impoundment Company EME Homer City Generation L.P.
EPA Region Region III
State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222
Name of Impoundment Stage III/IV Surge Pond (Coal Refuse Site)
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	
Is water or ccw currently being pumped into the impoundment?	_____	X	(Nothing is pumped to the impoundment. Flow received is via overland sources)

IMPOUNDMENT FUNCTION: Impoundment receives surface water runoff from the Coal Refuse Site (via a Trapezoidal drainage channel from the Small Sediment Trap impoundment) for temporary detention/settlement of fines prior to discharge to Storage Pond No. 1.

Nearest Downstream Town : Name Homer City, PA
Distance from the impoundment Outskirts of Homer City, PA approximately 0.25 miles as measured in a straight line on Google Earth.
Impoundment Location: Longitude 79 Degrees 11 Minutes 3 Seconds
Latitude 40 Degrees 31 Minutes 24 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? PADEP Bureau of Mining and Reclamation and Bureau of Waterways Engineering, Division of Dam Safety

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

_____ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

__X__ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

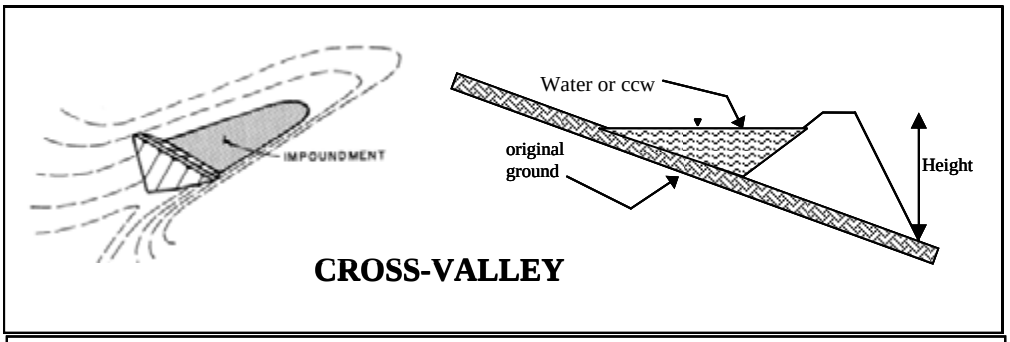
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

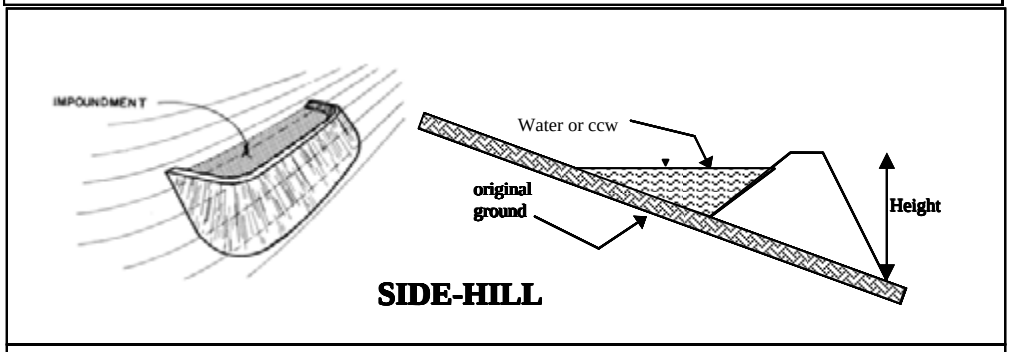
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

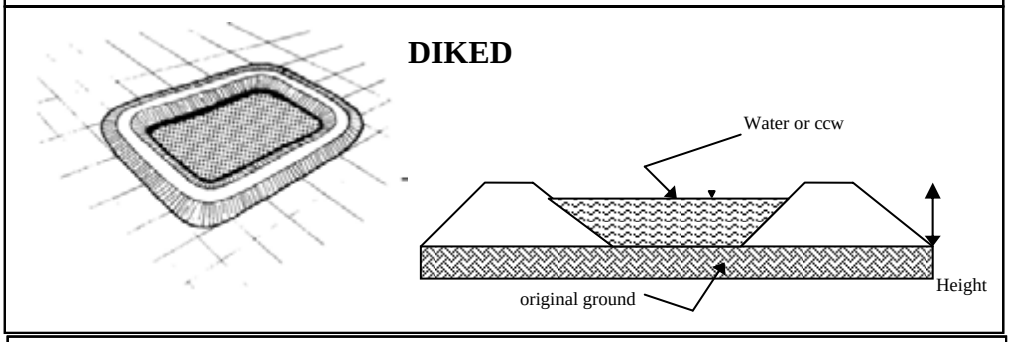
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

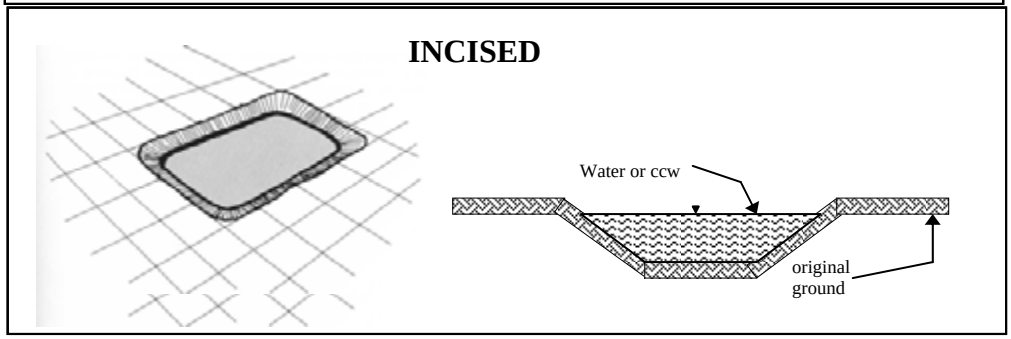
According to review of inspection records provided during the site visit and conversations with a representative of the PADEP Division of Dam Safety, the impoundment is classified by the Division of Dam Safety as a Size C, Hazard Classification 3 dam. This corresponds to a small sized, low hazard potential dam. However, based on our review of existing and proposed grades shown on the original design drawings which show the impoundment partially incised into the existing hillside, it appears the south side embankment is on the order of 45 to 50 feet high. Maximum storage height within the impoundment based on review of the design drawings is only 20 feet. This coupled with our opinion that failure of the impoundment is not likely to result in the loss of human life and environmental damage would be principally limited to the owner's property supports our reasoning for the low hazard rating.

CONFIGURATION:









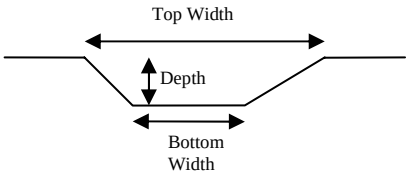
_____ Cross-Valley
__X__ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height **See Note 1** feet
Embankment Material **Original design drawings specified cohesive inorganic soils excavated during construction of the impoundment.**
Pool Area **approximately 1.7** acres
Liner **See Note 2**
Current Freeboard **See Note 3** feet
Liner Permeability **Essentially impermeable**

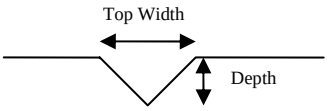
Note 1: Generally 45 to 50 feet along south side; incised on north side.
Note 2: Layered geosynthetics covered by 6"-thick concrete erosion control revetment.
Note 3: Since the pond operates as a temporary stormwater runoff detention basin, the pool elevation and hence freeboard fluctuates. Freeboard observed at approximately 12 feet at time of inspection.

TYPE OF OUTLET (Mark all that apply)

TRAPEZOIDAL



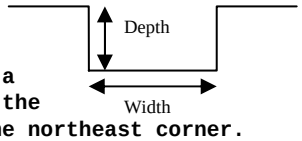
TRIANGULAR



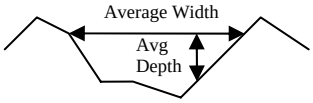
__X__ **Open Channel Spillway**
__X__ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

__3__ depth
__20__ bottom (or average) width
__32__ top width

RECTANGULAR



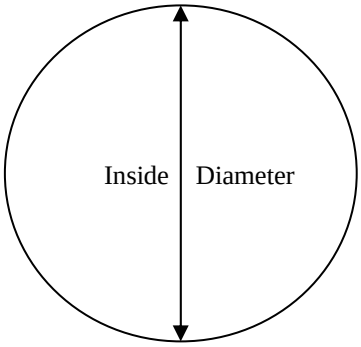
IRREGULAR



This outlet serves as the pond's Emergency Spillway and consists of a trapezoidally-shaped depression in the concrete revetment protection at the northeast corner. Bottom width of spillway approximately 20 feet at elevation 1055' (3' below crest).

__X__ **Outlet**

__12"__ inside diameter



Material
_____ corrugated metal
_____ welded steel
_____ concrete
__X__ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Original (circa 1991) design by Gilbert/Commonwealth, Inc., Reading, PA**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Storage Pond No. 1 (Coal Refuse Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	✓		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	Fluctuates		19. Major erosion or slope deterioration?		✓
3. Decant inlet elevation (operator records)?	1022.14		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	1035		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1035		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?	✓		Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	✓		From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	N/A		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?	See	note
17. Cracks or scarps on slopes?		✓	24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue # Comments

1. Quarterly inspections by independent consultant.

2. The pool elevation fluctuates since it operates as a temporary stormwater runoff retention basin. Pool elevation approximately at 1027' +/- at time of inspection.

6. Instrumentation consists of electronic water level sensors which are regularly monitored.

4. Emergency spillway elevation (at east end of pond).

9. Knee-high vegetation on south embankment slope in need of mowing.

20. Water from pond flows via 10" dia. HDPE pipe (invert elevation 1022.14') into Storage Pond No. 2. At time of inspection, outlet into Storage Pond No. 2 was submerged. Water from Storage Pond No. 1 is also siphoned into Storage Pond No. 2 as conditions warrant.

23. Local stream flows along portion of south side embankment toe. Concrete revetment protection provided along stream channel.

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # N/A; part of facility's permitted Coal Ash Refuse Disposal Site PADEP # 32753702

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Storage Pond No. 1 (Coal Refuse Site)

Impoundment Company EME Homer City Generation L.P.

EPA Region Region III

State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222

Name of Impoundment Storage Pond No. 1 (Coal Refuse Site)

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	
Is water or ccw currently being pumped into the impoundment?	_____	X	(Nothing is pumped to the impoundment. Flow received is via overland sources and outfalls of other impoundments)

IMPOUNDMENT FUNCTION: Impoundment receives decanted effluent from the Coal Refuse Site Stage I/II Sedimentation Pond, and Stage III/IV Surge Pond for temporary detention/settlement of fines prior to gravity and siphon flow to Storage Pond No. 2.

Nearest Downstream Town : Name Homer City, PA

Distance from the impoundment Rural outskirts of Homer City, PA, approximately one mile as measured in a straight line on Google Earth.

Impoundment Location:

Longitude 79 Degrees 11 Minutes 20 Seconds

Latitude 40 Degrees 31 Minutes 18 Seconds

State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection Bureau of Mining and Reclamation.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

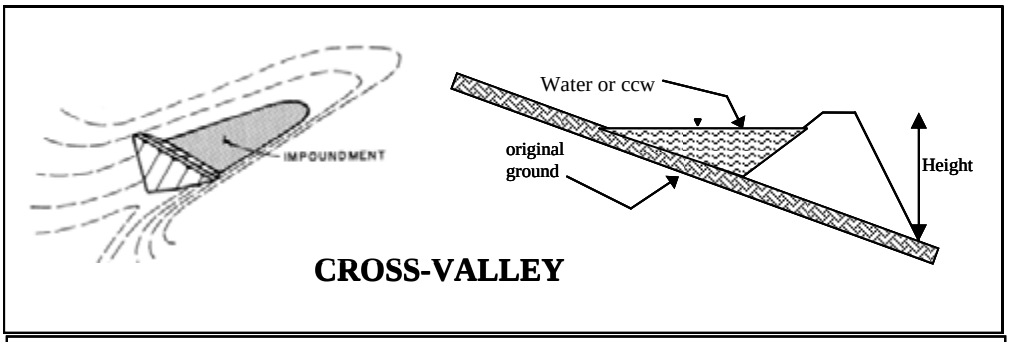
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

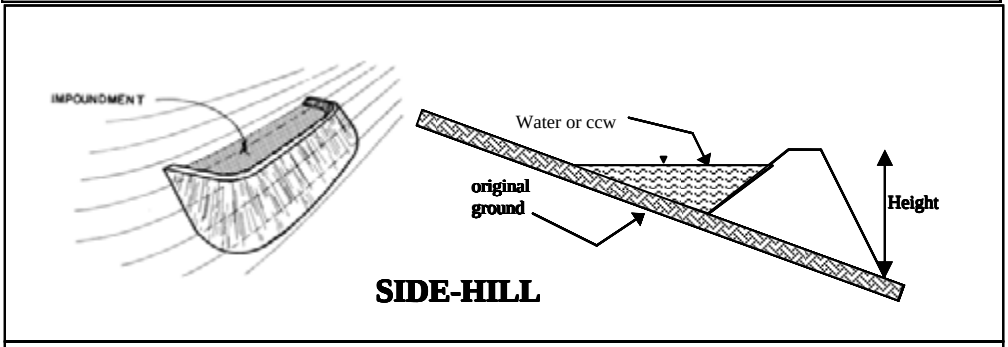
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

The size of the pond is less than 1.5 acres with an estimated storage capacity of less than 10 acre-feet. In our opinion, failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and primarily be limited to the owner's property.

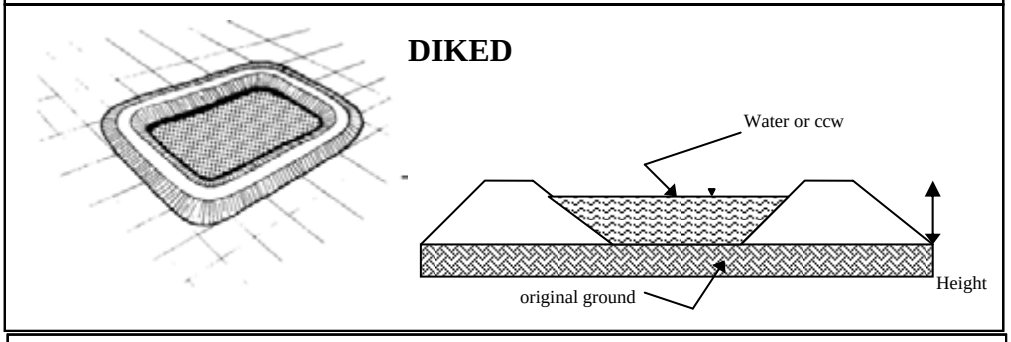
CONFIGURATION:



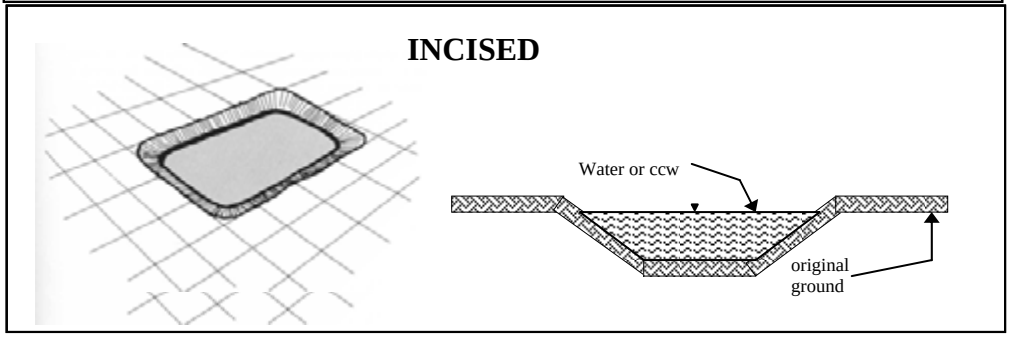
CROSS-VALLEY



SIDE-HILL



DIKED



INCISED

_____ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height **See Note 1** feet
Embankment Material **Inorganic soils**
Pool Area **approximately 1.25** acres
Liner **See Note 2**
Current Freeboard **See Note 3** feet
Liner Permeability **Essentially impermeable**

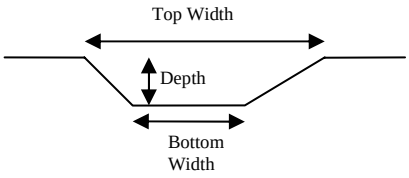
Note 1: Generally 10 to 12 feet in height along south side; incised into small hillside on north side.

Note 2: Layered geosynthetics covered by concrete erosion control revetment.

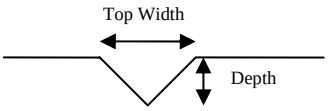
Note 3: Since pond operates as a temporary stormwater runoff retention basin, the pool elevation and hence freeboard fluctuates. Freeboard observed at approximately 10 feet at time of inspection.

TYPE OF OUTLET (Mark all that apply)

TRAPEZOIDAL



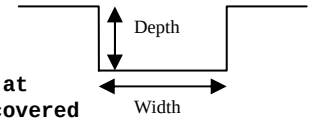
TRIANGULAR



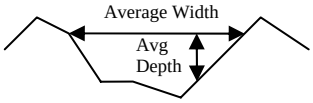
__X__ **Open Channel Spillway**
__X__ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

__2__ depth
__45 +/-__ bottom (or average) width
__50 +/-__ top width

RECTANGULAR



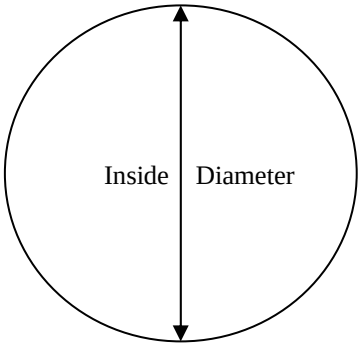
IRREGULAR



_____ **This outlet serves as the pond's emergency spillway. It is located at the east end of pond's revetment covered embankment crest and is two feet lower to allow for emergency overflow into adjacent Storage Pond No. 2.**

__X__ **Outlet**

__10"__ inside diameter



Material
_____ corrugated metal
_____ welded steel
_____ concrete
__X__ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

_____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By **Parsons Energy and Chemicals Group, Inc., Reading, PA**

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Storage Pond No. 2 (Coal Refuse Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	✓		18. Sloughing or bulging on slopes?	✓	
2. Pool elevation (operator records)?	Fluctuates		19. Major erosion or slope deterioration?		✓
3. Decant inlet elevation (operator records)?	1014.76		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	1028' +/-		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1028' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?	✓		Is water exiting outlet flowing clear?	See note	
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	✓		From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?	N/A		From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?	See note	
17. Cracks or scarps on slopes?		✓	24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue #	Comments
1.	Quarterly inspection by independent consultant.
2.	The pool elevation fluctuates since it operates as a temporary stormwater retention basin. Pool elevation approximately at 1022' +/- at time of inspection.
4.	Emergency spillway elevation (along portion of southwest side).
6.	Instrumentation consists of electronic water level sensors which are regularly monitored.
9.	Knee-high vegetation on south embankment slope in need of mowing.
18.	Minor sloughing/bulging observed across concrete revetment covered emergency spillway. Unmowed vegetation precluded close inspection of grassed slope areas.
20.	Water from pond flows via 10" diameter HDPE pipe (invert elevation 1014.76')into the adjacent Leachate Pump Pond. At time of inspection outlet into the Leachate Pond was clear. Water from Storage Pond No. 2 also siphoned into the Leachate Pump Pond as conditions warrant. Siphon discharge during inspection was clear.
23.	Local stream flows along portion of south side embankment toe. Concrete revetment protection provided along stream channel.

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # N/A; part of facility's permitted Coal Ash Refuse Disposal Site PADEP # 32753702

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Storage Pond No. 2 (Coal Refuse Site)

Impoundment Company EME Homer City Generation L.P.

EPA Region Region III

State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222

Name of Impoundment Storage Pond No. 2 (Coal Refuse Site)

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	
Is water or ccw currently being pumped into the impoundment?	X	_____	(Nothing is pumped to the impoundment. Flow received is via decanted effluent from Storage Pond No. 1)

IMPOUNDMENT FUNCTION: Impoundment receives decanted flow from Storage Pond No. 1 for temporary detention/settlement of fines prior to gravity and siphon flow to the Leachate Pump Pond.

Nearest Downstream Town : Name Homer City, PA

Distance from the impoundment Rural outskirts of Homer City, PA, approximately one mile as measured in a straight line on Google Earth.

Impoundment Location:
Longitude 79 Degrees 11 Minutes 14 Seconds
Latitude 40 Degrees 31 Minutes 20 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection Bureau of Mining and Reclamation.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

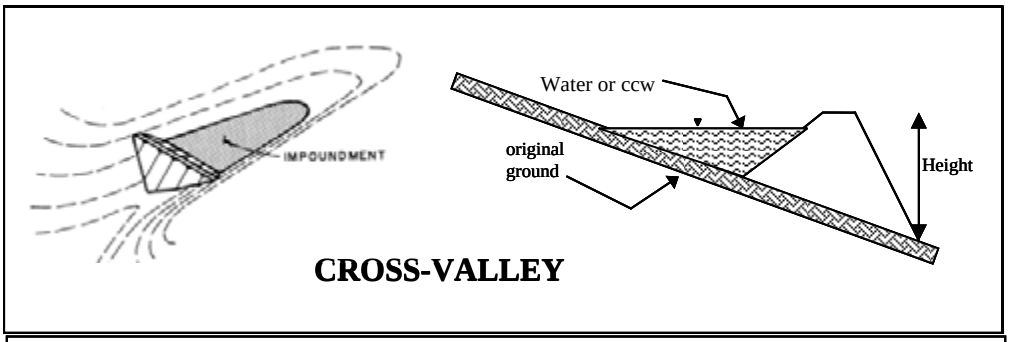
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

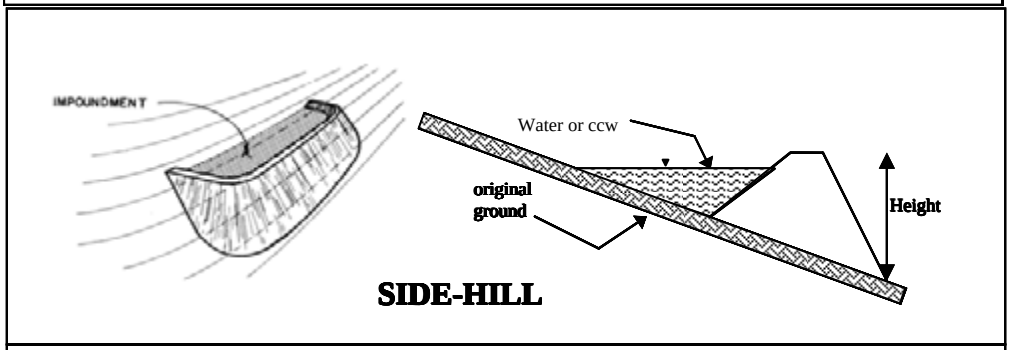
_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

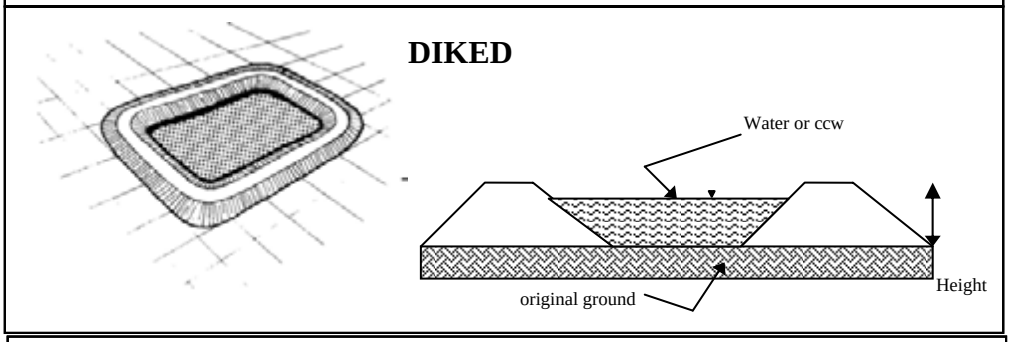
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

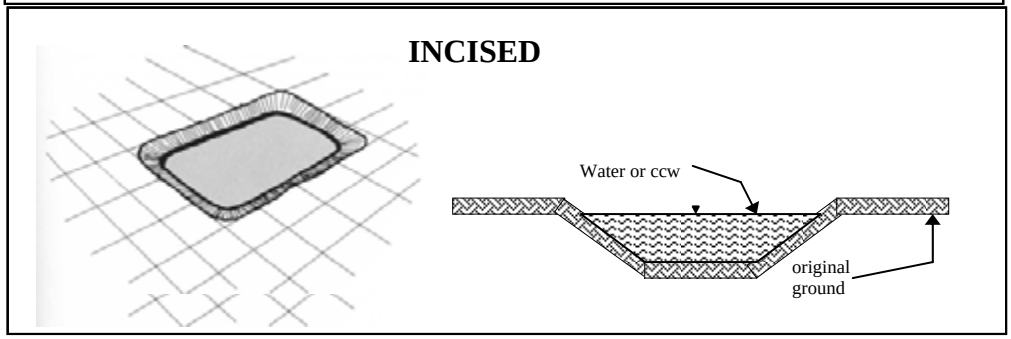
The size of the pond is less than 1.0 acre with an estimated storage capacity of approximately 10 acre-feet. In our opinion, failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and primarily be limited to the owner's property.

CONFIGURATION:









_____ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height **See Note 1** feet
Embankment Material **Inorganic soils**
Pool Area **approximately 1.0** acres
Liner **See Note 2**
Current Freeboard **See Note 3** feet
Liner Permeability **Essentially impermeable**

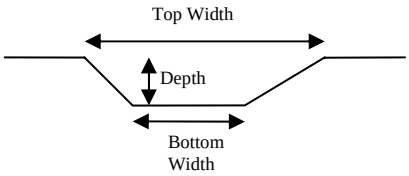
Note 1: Generally 10 feet along south side; incised on north side.

Note 2: Layered geosynthetics covered by concrete erosion control revetment.

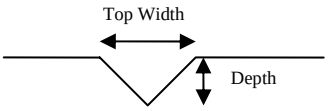
Note 3: Since pond operates as a temporary stormwater runoff retention basin, its pool elevation and hence freeboard fluctuate. Freeboard observed at approximately 8 feet at time of inspection.

TYPE OF OUTLET (Mark all that apply)

TRAPEZOIDAL



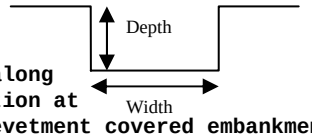
TRIANGULAR



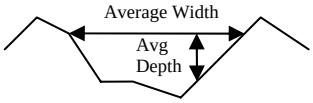
__X__ **Open Channel Spillway**
__X__ Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

__2__ depth
__90 +/-__ bottom (or average) width
__100 +/-__ top width
_____ This outlet serves as the pond's emergency spillway. It is located along an approximately 100-foot wide portion at the southeast side of the pond's revetment covered embankment crest and is approximately two feet lower to allow for emergency overflow. Note concrete revetment protection extends across crest and downslope across width of emergency spillway.

RECTANGULAR

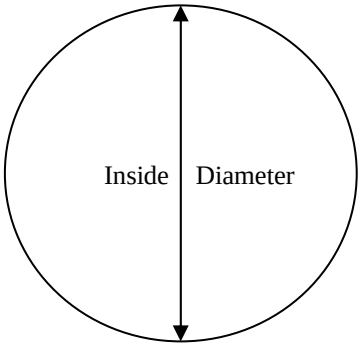


IRREGULAR



__X__ **Outlet**

__10"__ inside diameter



Material
_____ corrugated metal
_____ welded steel
_____ concrete
__X__ plastic (hdpe, pvc, etc.)
_____ other (specify) _____

_____

Is water flowing through the outlet? YES __X__ NO _____

_____ **No Outlet**

_____

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By _____
Parsons Energy and Chemicals Group, Inc., Reading, PA

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name:	Homer City Generating Station	Date:	May 16, 2011
Unit Name:	Leachate Pump Pond (Coal Refuse Site)	Operator's Name:	EME Homer City Generation L.P.
Unit I.D.:		Hazard Potential Classification:	High Significant Low ✓
Inspector's Name:	James P. Guarente, P.E. and C. Brad Nourse (GZA GeoEnvironmental, Inc.)		

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	✓		18. Sloughing or bulging on slopes?		✓
2. Pool elevation (operator records)?	Fluctuates		19. Major erosion or slope deterioration?		✓
3. Decant inlet elevation (operator records)?	~1013' +/-		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	1018' +/-		Is water entering inlet, but not exiting outlet?		✓
5. Lowest dam crest elevation (operator records)?	1018' +/-		Is water exiting outlet, but not entering inlet?		✓
6. If instrumentation is present, are readings recorded (operator records)?	✓		Is water exiting outlet flowing clear?	See	note
7. Is the embankment currently under construction?		✓	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation,stumps, topsoil in area where embankment fill will be placed)?	✓		From underdrain?		✓
9. Trees growing on embankment? (If so, indicate largest diameter below)		✓	At isolated points on embankment slopes?		✓
10. Cracks or scarps on crest?		✓	At natural hillside in the embankment area?		✓
11. Is there significant settlement along the crest?		✓	Over widespread areas?		✓
12. Are decant trashracks clear and in place?		✓	From downstream foundation area?		✓
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?		✓	"Boils" beneath stream or ponded water?		✓
14. Clogged spillways, groin or diversion ditches?		✓	Around the outside of the decant pipe?		✓
15. Are spillway or ditch linings deteriorated?		✓	22. Surface movements in valley bottom or on hillside?		✓
16. Are outlets of decant or underdrains blocked?		✓	23. Water against downstream toe?	See	note
17. Cracks or scarps on slopes?		✓	24. Were Photos taken during the dam inspection?	✓	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue # Comments

1. Quarterly inspections by independent consultant.

2. The pool elevation fluctuates since it essentially operates as a temporary stormwater retention basin. Pool elevation approximately at 1014' +/- at time of inspection.

6. Instrumentation consists of electronic water level sensors which are regularly monitored.

9. Knee-high vegetation on south embankment slope in need of mowing.

12. Mesh screen assembly adjacent to outlet pipe could use upgrade/repair.

20. Water from pond flows via 24" HDPE pipe (invert elevation at approximately 1013' +/-) into the adjacent Leachate Pump Pond Pump House where it is pumped to the site's wastewater treatment facility.

23. Local stream flows along portion of south side embankment toe. Concrete revetment protection provided along stream channel.

Coal Combustion Waste (CCW)
Impoundment Inspection

Impoundment NPDES Permit # N/A; part of facility's permitted Coal Ash Refuse Disposal Site PADEP # 32753702

INSPECTOR James P. Guarente, P.E.
C. Brad Nourse

Date May 16, 2011

Impoundment Name Leachate Pump Pond (Coal Refuse Site)

Impoundment Company EME Homer City Generation L.P.

EPA Region Region III

State Agency (Field Office) Addresss DEP Southwest Regional Office
400 Waterfront Drive, Pittsburgh,PA 15222

Name of Impoundment Leachate Pump Pond (Coal Refuse Site)

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New _____ Update X

	Yes	No	
Is impoundment currently under construction?	_____	X	
Is water or ccw currently being pumped into the impoundment?	X	_____	(Nothing is pumped to the impoundment. Flow received is via gravity flow of decanted effluent from Storage Pond No. 2 and leachate collection system flow from the Coal Refuse Site)

IMPOUNDMENT FUNCTION: Impoundment receives decanted flow from Storage Pond No. 2 and effluent from the Coal Refuse Site leachate collection system for temporary detention/settlement of fines prior to treatment at the site's wastewater treatment facility.

Nearest Downstream Town : Name Homer City, PA

Distance from the impoundment Rural outskirts of Homer City, PA, approximately one mile as measured in a straight line on Google Earth.

Impoundment Location:
Longitude 79 Degrees 11 Minutes 9 Seconds
Latitude 40 Degrees 31 Minutes 20 Seconds
State PA County Indiana

Does a state agency regulate this impoundment? YES X NO _____

If So Which State Agency? Pennsylvania Department of Environmental Protection Bureau of Mining and Reclamation.

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

__X__ **LESS THAN LOW HAZARD POTENTIAL:** Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

_____ **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

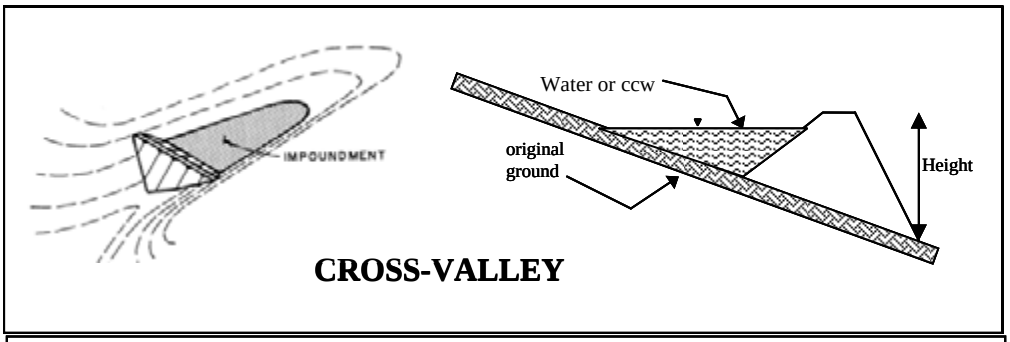
_____ **SIGNIFICANT HAZARD POTENTIAL:** Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

_____ **HIGH HAZARD POTENTIAL:** Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

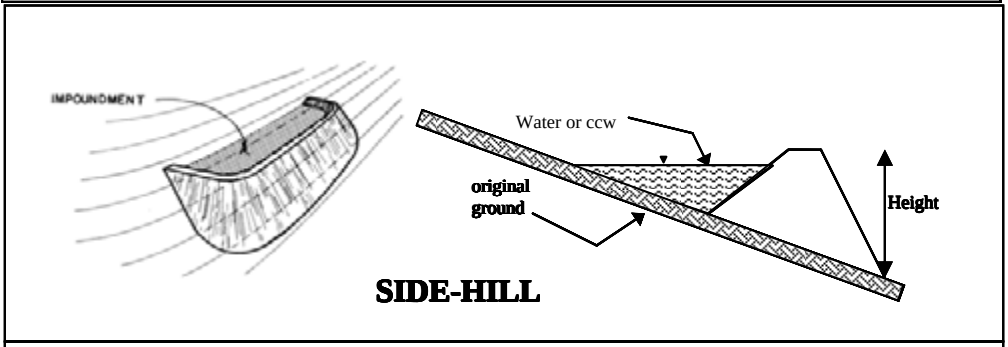
DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

The size of the pond is less than 1.0 acre with an estimated storage capacity of less than 10 acre-feet. In our opinion, failure of the impoundment is not likely to result in loss of human life and environmental damage, if any, would be minimal and primarily be limited to the owner's property.

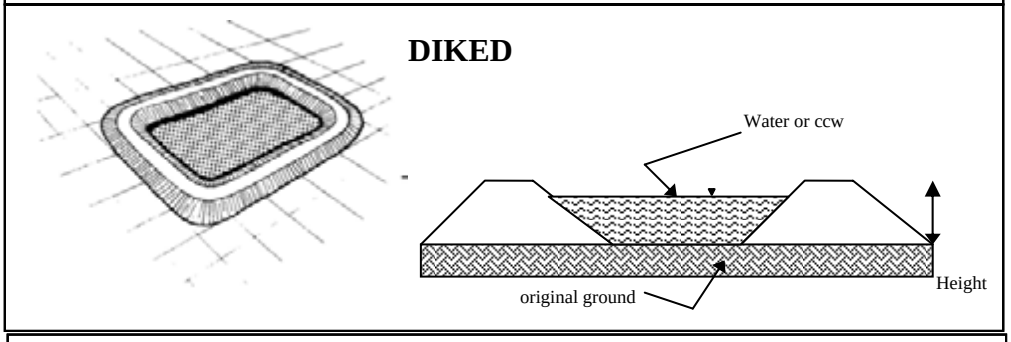
CONFIGURATION:

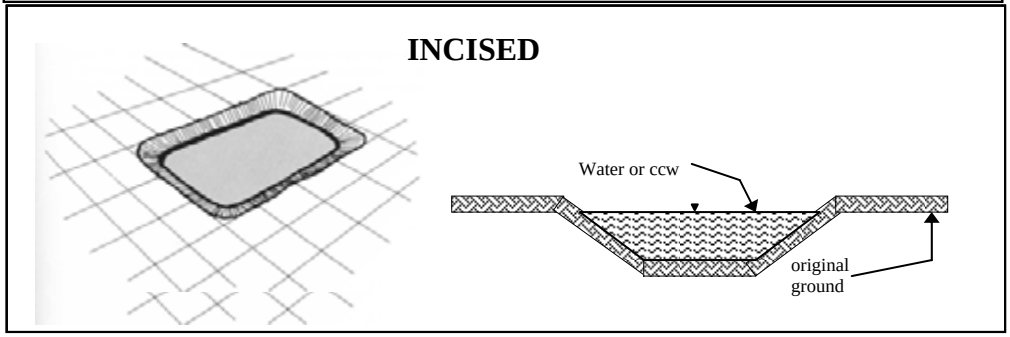


CROSS-VALLEY



SIDE-HILL





_____ Cross-Valley
_____ Side-Hill
_____ Diked
_____ Incised (form completion optional)
__X__ Combination Incised/Diked

Embankment Height **See Note 1** feet Embankment Material **Inorganic soils**
Pool Area **approximately 0.25** acres Liner **See Note 2**
Current Freeboard **See Note 3** feet Liner Permeability **Essentially impermeable**

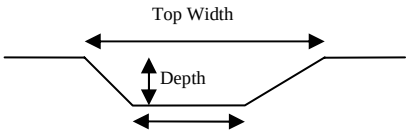
Note 1: Generally 6 to 8 feet along south side; incised on north side.

Note 2: Layered geosynthetics covered by concrete erosion control revetment.

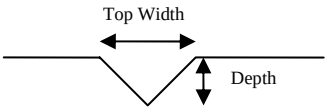
Note 3: Since pond essentially operates as a temporary stormwater retention basin, the pool elevation and hence freeboard fluctuates. Freeboard observed at approximately 5 feet at time of inspection.

TYPE OF OUTLET (Mark all that apply)

TRAPEZOIDAL



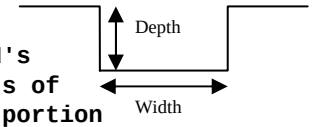
TRIANGULAR



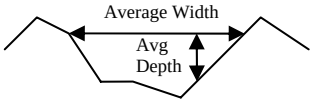
X **Open Channel Spillway**
X Trapezoidal
_____ Triangular
_____ Rectangular
_____ Irregular

1' depth
10' +/- bottom (or average) width
12' +/- top width

RECTANGULAR



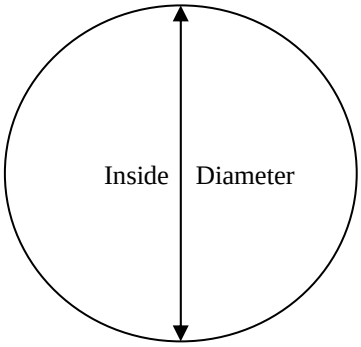
IRREGULAR



This outlet serves at the pond's Emergency Spillway. It consists of an approximately 10-foot-wide portion of the crest at the southwest corner which is approximately one foot lower to allow for emergency overflow into existing manhole which outlets into a local stream.

X **Outlet**

24" inside diameter



Material
_____ corrugated metal
_____ welded steel
_____ concrete
X plastic (hdpe, pvc, etc.)
_____ other (specify) _____

Is water flowing through the outlet? YES X NO _____

_____ **No Outlet**

_____ **Other Type of Outlet** (specify) _____

The Impoundment was Designed By Parsons Energy and Chemicals Group, Inc., Reading, PA

Has there ever been a failure at this site? YES _____ NO ___X_____

If So When? _____

If So Please Describe : _____

Has there ever been significant seepages at this site? YES _____ NO __X__

If So When? _____

IF So Please Describe: _____

Has there ever been any measures undertaken to monitor/lower Phreatic water table levels based on past seepages or breaches at this site? YES _____ NO __X__

If so, which method (e.g., piezometers, gw pumping,...)? _____

If so Please Describe : _____

APPENDIX D

PHOTOS

ASH DISPOSAL SITE
POLISHING POND

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Polishing Pond (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
1	5/16/2011

Direction Photo Taken:
Easterly

Description:
Overview of Polishing Pond from the right abutment.

Photo No.	Date:
2	5/16/2011

Direction Photo Taken:
Northwesterly

Description:
Overview of Polishing Pond from left abutment. Note erosion and scarps on inside slope of Pond's north dike. Note north dike of Polishing Pond also serves as south dike of adjacent Treatment Ponds

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Polishing Pond (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
3	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
View of erosion, scarps and steep grade at (north) inside slope of Polishing Pond.

Photo No.	Date:
4	5/16/2011

Direction Photo Taken:
Southeasterly

Description:
Left (east) side of Polishing Pond dike. Note concrete wall beyond dike serves as (left) training wall for surface water drainage channel.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Polishing Pond (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
5	5/16/2011

Direction Photo Taken:
Northwesterly

Description:
Overview of Polishing Pond Spillway/Weir Structure from downstream side.

Photo No.	Date:
6	5/16/2011

Direction Photo Taken:
Southerly

Description:
Dual culvert crossing situated approximately 60 feet downstream of the Polishing Pond Spillway/Weir Structure.

ASH DISPOSAL SITE
TREATMENT POND #1

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Treatment Pond No. 1 (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
7	5/16/2011

Direction Photo Taken:
Southeasterly

Description:
Overview of Treatment Pond No. 1. Note the incised nature of this pond as well as Treatment Pond No. 2 (right) and the Polishing Pond (beyond the shared south dike).

Photo No.	Date:
8	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
View of north end of Treatment Pond No. 1. Note outfalls from the Ash Disposal Site's Water Treatment Facility (left).

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Treatment Pond No. 1 (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
9	5/16/2011

Direction Photo Taken:
Southwesterly

Description:
Vertical riser intake pipes at the south end of Treatment Pond No. 1. Flow from pipes is discharged to the Polishing Pond (upper left of photo).

Photo No.	Date:
10	5/16/2011

Direction Photo Taken:
Easterly

Description:
View of one of several animal burrows observed on the east side of Treatment Pond No. 1 within inside slope of embankment.

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Treatment Pond No. 1 (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
11	5/16/2011

Direction Photo Taken:
Northerly

Description:
Concrete drainage channel along east side of Treatment Pond No. 1 and the Polishing Pond. Channel collects surface water runoff which is discharged to the un-named stream channel downstream of the Polishing Pond Spillway/Weir Structure.

Photo No.	Date:
12	5/16/2011

Direction Photo Taken:
Southerly

Description:
Overview of common dike separating Treatment Pond Nos. 1 (left) and 2 (right) from north end. Polishing Pond beyond (common) south dike.

ASH DISPOSAL SITE
TREATMENT POND #2

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Treatment Pond No. 2 (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
13	5/16/2011

Direction Photo Taken:
Southerly

Description:
Overview of Treatment Pond No. 2 from north end.

Photo No.	Date:
14	5/16/2011

Direction Photo Taken:
Northerly

Description:
Treatment Pond No. 2 from right abutment of the Polishing Pond. Note Ash Disposal Site Water Treatment Facility (right) which treats leachate collected from the Ash Disposal Site Landfill. Treated leachate discharges into Pond Nos. 1 and 2.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Treatment Pond No. 2 (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
15	5/16/2011

Direction Photo Taken:
Northwesterly

Description:
North end of Treatment Pond No. 2. Note three outfall pipes which discharge treated leachate from the Ash Disposal Site Water Treatment Facility.

Photo No.	Date:
16	5/16/2011

Direction Photo Taken:
Northwesterly

Description:
Overview of west and north inside slopes of Treatment Pond No. 2. Note how the Pond has been incised below original existing grade. Polishing Pond in the foreground.

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Treatment Pond No. 2 (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
17	5/16/2011

Direction Photo Taken:
Westerly

Description:
Vertical (three) intake riser pipes at the south end of Treatment Pond No. 2.

ASH DISPOSAL SITE
STORM WATER SURGE POND

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stormwater Surge Pond (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
18	5/16/2011

Direction Photo Taken:
Westerly

Description:
Overview of the Stormwater Surge Pond associated with the Ash Disposal Site from the Emergency Spillway, looking westerly.

Photo No.	Date:
19	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
View of the Stormwater Surge Pond's east and south inside slopes. Note Emergency Spillway outlet and Concrete Intake Structure.

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stormwater Surge Pond (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
20	5/16/2011

Direction Photo Taken:
Easterly

Description:
Concrete erosion control revetment lining the Stormwater Surge Pond Emergency Spillway discharge channel.

Photo No.	Date:
21	5/16/2011

Direction Photo Taken:
Northwesterly

Description:
Concrete Intake/Gate Structure at the Stormwater Surge Pond as viewed from the Emergency Spillway. Note closed portion of the Ash Disposal Site Landfill. Based on our review of available drawing information and historical aerial photography, it appears as though the Surge Pond was incised into (the hillside of) previously placed ash/boiler slag.

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stormwater Surge Pond (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
22	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
Outside (southern) slope of the Stormwater Surge Pond impoundment. Note shrubs, small trees and high vegetation on slope.

Photo No.	Date:
23	5/16/2011

Direction Photo Taken:
Westerly

Description:
Overview of crest at the south side of the Stormwater Surge Pond.

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stormwater Surge Pond (Ash Disposal Site), Homer City, PA	170142.30

Photo No.	Date:
24	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
Crack observed in concrete erosion control revetment matting at transition from Emergency Spillway crest to the overflow discharge channel.

ASH RECYCLE PONDS (1 THROUGH 4)

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
25	5/16/2011

Direction Photo Taken:
Southerly

Description:
Overview of Ash Recycle Pond No. 1 from the north end. Note skimmer in foreground.

Photo No.	Date:
26	5/16/2011

Direction Photo Taken:
Northerly

Description:
Outfall from bottom ash treatment system into Ash Recycle Pond No. 1 at the south end.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
27	5/16/2011

Direction Photo Taken:
Northwesterly

Description:
View of common dike separating Ash Recycle Pond Nos. 1 and 2 from the south side. Note erosion, scarps and over steep slopes (i.e. greater than 2H:1V).

Photo No.	Date:
28	5/16/2011

Direction Photo Taken:
Northerly

Description:
Incised portion along east side of Ash Recycle Pond No. 1.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
29	5/16/2011

Direction Photo Taken:
Easterly

Description:
Pipe works/valve system for distribution of effluent from the Bottom Ash Hydrobin/Centrifuge Treatment System into the Ash Recycle Ponds.

Photo No.	Date:
30	5/16/2011

Direction Photo Taken:
Southeasterly

Description:
Intake weir/structure at the north end of Ash Recycle Pond No. 2.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
31	5/16/2011

Direction Photo Taken:
Southerly

Description:
Overview of Ash Recycle Pond No. 2. Note shared dike separating Ash Recycle Pond Nos. 1 and 2.

Photo No.	Date:
32	5/16/2011

Direction Photo Taken:
Southerly

Description:
Outside slope of embankment along west side of Ash Recycle Pond No. 2. Note shrubbery and high vegetation on slope. Bottom ash used for re-surfacing the crest. Presumably the majority of the embankments below are of earthen material.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
33	5/16/2011

Direction Photo Taken:
Northerly

Description:
Standing water observed at the toe of the west side embankment associated with Ash Recycle Pond No. 2.

Photo No.	Date:
34	5/16/2011

Direction Photo Taken:
Easterly

Description:
Outfall into Ash Recycle Pond No. 2 from the Plant's Bottom Ash Hydrobin/Centrifugal Treatment System. Note said system can be seen in the upper left of this photo.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
35	5/16/2011

Direction Photo Taken:
Northerly

Description:
Overview of Ash Recycle Pond No. 2 from the south end. Note erosion, scarps and steep inside face along the separation common dike separating Ash Recycle Pond Nos. 1 and 2.

Photo No.	Date:
36	5/16/2011

Direction Photo Taken:
Northerly

Description:
Inside slope along west side embankment of Ash Recycle Pond No. 2. Note steep face, erosion and scarping.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
37	5/16/2011

Direction Photo Taken:
Northerly

Description:
Overview of Ash Recycle Pond No. 3 from the south end. Note coal storage pile in background.

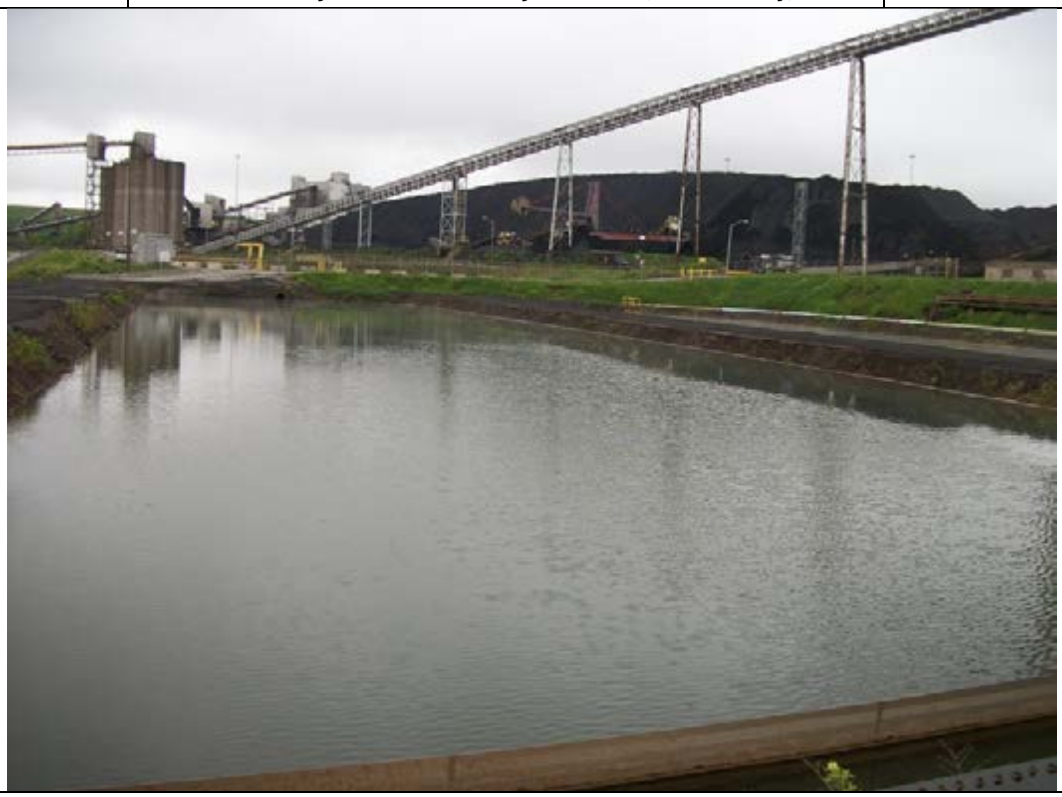


Photo No.	Date:
38	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
Intake structure and skimmer at south end of Ash Recycle Pond No. 3.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
39	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
North end of Ash Recycle Pond No. 3 as viewed from the common dike separating Pond Nos. 3 and 4. Note outfall from Bottom Ash Hydrobin/Centrifuge Treatment System at center of photo. Ramp into pond in foreground allows for equipment access during annual cleaning.

Photo No.	Date:
40	5/16/2011

Direction Photo Taken:
Easterly

Description:
View of pipe works/distribution network associated with the Bottom Ash Hydrobin/Centrifuge Treatment System.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
41	5/16/2011

Direction Photo Taken:
Southerly

Description:
East side of Ash Recycle Pond No. 3 depicting erosion, scarps and near vertical slopes.

Photo No.	Date:
42	5/16/2011

Direction Photo Taken:
Easterly

Description:
Northeast corner of Ash Recycle Pond No. 3. Note surface/stormwater drainage pipe outfall through the embankment.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
43	5/16/2011

Direction Photo Taken:
Southeasterly

Description:
Overview of Ash Recycle Pond No. 4 from the northwest side.

Photo No.	Date:
44	5/16/2011

Direction Photo Taken:
Easterly

Description:
View of outfall from the Bottom A Hydrobin/Centrifuge Treatment System into Ash Recycle Pond No. 4. Note erosion along common dike separating Ash Recycle Pond Nos. 3 and 4.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
45	5/16/2011

Direction Photo Taken:
Westerly

Description:
View of northern portion of Ash Recycle Pond No. 4. Note near vertical, partially eroded inside slope along portions of the north end.

Photo No.	Date:
46	5/16/2011

Direction Photo Taken:
Northerly

Description:
Overview of Ash Recycle Pond No. 4 along the inside slope of the west side embankment as viewed from the south end.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
47	5/16/2011

Direction Photo Taken:
Northerly

Description:
Close-up of intake/weir structure at the south end of Ash Recycle Pond No. 4.

Photo No.	Date:
48	5/16/2011

Direction Photo Taken:
Southwesterly

Description:
Overview of skimmer and intake/weir structure at the south end of Ash Recycle Pond No. 4.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
49	5/16/2011

Direction Photo Taken:
Northerly

Description:
View of outside slope along the west embankment at Ash Recycle Pond No. 4. Note bottom ash used as surface treatment along crest. Presumably (based on discussion with Plant Representatives and review of available drawings) the embankment is formed of earthen material.

Photo No.	Date:
50	5/16/2011

Direction Photo Taken:
Southerly

Description:
Toe and area beyond along the west embankment slope associated with Ash Recycle Pond No. 4. Note moderate shrubbery and high vegetation along the slope. Wet areas and shallow standing water observed locally along the toe, possibly due to recent heavy rains in the week(s) prior to our site visit.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
51	5/16/2011

Direction Photo Taken:
Easterly

Description:
Overview of the Pump House overflow treatment basin located in the middle area between the ends of the Ash Recycle Ponds.

Photo No.	Date:
52	5/16/2011

Direction Photo Taken:
Southerly

Description:
Skimmer and discharge weir at the Pump House overflow treatment basin for the Ash Recycle Ponds. Decanted flow from the Ponds not re-used inside the Plant is by-passed to this basin before outletting via NPDES Permit #0005037, Outfall No. 5.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Ash Recycle Ponds, Homer City, PA	170142.30

Photo No.	Date:
53	5/16/2011

Direction Photo Taken:
Westerly

Description:
Catch basin/weir type surface/stormwater intake which connects to the pipe carrying discharge from the Ash Recycle Pump House treatment basin to No. 5.

Photo No.	Date:
54	5/16/2011

Direction Photo Taken:
Westerly

Description:
Close-up of catch basin/weir type surface/stormwater intake shown in the preceding photo.

COAL REFUSE SITE
STAGE I & II SEDIMENTATION POND

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	ENE Homer City Station Stage I/II Sedimentation Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
55	5/16/2011

Direction Photo Taken:
Southerly

Description:
Upstream face of the southern embankment and emergency spillway. Note capped concrete pipe intake structure near the middle of the embankment.

Photo No.	Date:
56	5/16/2011

Direction Photo Taken:
Northwesterly

Description:
Overview of the impoundment from the eastern side. According to Plant Representatives the impoundment was in the process of being cleaned in the days before our site visit. However work was delayed due to recent heavy rainfall.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	ENE Homer City Station Stage I/II Sedimentation Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
57	5/16/2011

Direction Photo Taken:
Southwesterly

Description:
Emergency Spillway weir with concrete revetment erosion protection. Revetment transitions to stone riprap protection on outside slope/toe portions.

Photo No.	Date:
58	5/16/2011

Direction Photo Taken:
Westerly

Description:
View of southern embankment and stone riprap protection associated with the Emergency Spillway. Note grass and shrub intrusion between/through riprap.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	ENE Homer City Station Stage I/II Sedimentation Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
59	5/16/2011

Direction Photo Taken:
Southerly

Description:
Un-named brook down gradient of the Emergency Spillway.

Photo No.	Date:
60	5/16/2011

Direction Photo Taken:
Northwesterly

Description:
Western embankment as viewed from the south. Presence of high/overgrown vegetation precluded close visual inspection of slope. Annual mowing normally takes place in June.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	ENE Homer City Station Stage I/II Sedimentation Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
61	5/16/2011

Direction Photo Taken:
Easterly

Description:
Outside slope along the western embankment. Note minor to moderate erosion and scarping.

Photo No.	Date:
62	5/16/2011

Direction Photo Taken:
Easterly

Description:
Toe of western embankment as viewed from the west. Note standing water at toe possibly the result of heavy rain fall during the previous week.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	ENE Homer City Station Stage I/II Sedimentation Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
63	5/16/2011

Direction Photo Taken:
Westerly

Description:
Outside slope of western embankment.

Photo No.	Date:
64	5/16/2011

Direction Photo Taken:
Westerly

Description:
Overview of surface water drainage channel entering the Stage I/II Sedimentation Pond at the northeastern corner. Drainage channel serves as the impoundment's intake

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	ENE Homer City Station Stage I/II Sedimentation Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
65	5/16/2011

Direction Photo Taken:
Easterly

Description:
Concrete revetment-lined drainage swale which routes surface water runoff and drainage from the Coal Refuse Site to the northeastern corner of the Stage I/II Sedimentation Pond..

Photo No.	Date:
66	5/16/2011

Direction Photo Taken:
Westerly

Description:
Inside slope of western embankment. Note minor to moderate erosion and raveling of slope.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	ENE Homer City Station Stage I/II Sedimentation Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
67	5/16/2011

Direction Photo Taken:
Southeasterly

Description:
Overview of impoundment as viewed from near the northeastern corner of the embankment. Note Emergency Spillway at the (far) southern end.

Photo No.	Date:
68	5/16/2011

Direction Photo Taken:
Southeasterly

Description:
Inside slope along the western embankment.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	ENE Homer City Station Stage I/II Sedimentation Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
69	5/16/2011

Direction Photo Taken:
Easterly

Description:
Overview of impoundment from the northwestern corner of the impoundment. Note left side of photo depicts the nature of the impoundment's incised/side hill construction.

Photo No.	Date:
70	5/16/2011

Direction Photo Taken:
Southeasterly

Description:
View of crest and outside slope along western embankment.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	ENE Homer City Station Stage I/II Sedimentation Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
71	5/16/2011

Direction Photo Taken:
Easterly

Description:
Inflow channel into Stage I/II Sedimentation Pond at the northeast corner. Surface/stormwater runoff from the Coal Refuse Site (beyond) flows into the impoundment via the concrete revetment-lined drainage channel (along left).

COAL REFUSE SITE
SMALL SEDIMENT TRAP

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Small Sediment Trap (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
72	5/16/2011

Direction Photo Taken:
Southerly

Description:
Overview of the Small Sediment Trap looking southwesterly.

Photo No.	Date:
73	5/16/2011

Direction Photo Taken:
Northerly

Description:
Northern end of the Small Sediment Trap. Note Coal Refuse Site landfill at left side of picture.

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Small Sediment Trap (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
74	5/16/2011

Direction Photo Taken:
Westerly

Description:
Overflow concrete revetment-lined outlet channel at the south end of the Small Sediment Trap. Channel routes flow to the Stage III/IV Surge Pond.

Photo No.	Date:
75	5/16/2011

Direction Photo Taken:
Southwesterly

Description:
Discharge channel from the Small Sediment Trap looking southwesterly.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Small Sediment Trap (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
76	5/16/2011

Direction Photo Taken:
Northerly

Description:
Overview of the Small Sediment Trap at the Coal Refuse Site. Inside slopes protected with concrete revetment erosion control matting. Note incised nature of the impoundment.

Photo No.	Date:
77	5/16/2011

Direction Photo Taken:
Northerly

Description:
Access road adjacent to the east side of the impoundment.

COAL REFUSE SITE
STAGE III & IV SURGE POND

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stage III/IV Surge Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
78	5/16/2011

Direction Photo Taken:
Northerly

Description:
Inside face of the western embankment. Note closed portion of the Coal Refuse Site landfill on the hillside above left. Discharge channel from Small Sediment Trap just left of access road. Channel outlets into the northwest corner of the impoundment.

Photo No.	Date:
79	5/16/2011

Direction Photo Taken:
Easterly

Description:
Overview of the Stage III/IV Surge Pond as viewed from the southwest. Note Emergency Spillway at the northeast (far) corner.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stage III/IV Surge Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
80	5/16/2011

Direction Photo Taken:
Easterly

Description:
Access roadway into the pond viewed from the southwest Roadway provides access for equipment during annual cleaning/maintenance.

Photo No.	Date:
81	5/16/2011

Direction Photo Taken:
Easterly

Description:
Overview of the Stage III/IV Surge Pond from the Northwest.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stage III/IV Surge Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
82	5/16/2011

Direction Photo Taken:
Northerly

Description:
Concrete revetment-lined discharge channel from the Small Sediment Trap.

Photo No.	Date:
83	5/16/2011

Direction Photo Taken:
Southerly

Description:
Inside slope along at the west side. Inside slope and bottom of pond protected by concrete revetment erosion control matting.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stage III/IV Surge Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
84	5/16/2011

Direction Photo Taken:
Southeasterly

Description:
Emergency Spillway at the northeast corner of the impoundment. Note concrete revetment transitions to stone riprap lined discharge channel beyond.

Photo No.	Date:
85	5/16/2011

Direction Photo Taken:
Southerly

Description:
Catwalk and concrete intake structure as viewed from the Emergency Spillway.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stage III/IV Surge Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
86	5/16/2011

Direction Photo Taken:
Westerly

Description:
Catwalk to top of intake structure at the east end of the Stage III/IV Surge Pond.

Photo No.	Date:
87	5/16/2011

Direction Photo Taken:
Southwesterly

Description:
Manhole structure on the south embankment slope. Outfall pipe from concrete intake structure passes through this manhole on its way to its outfall into Storage Pond No. 1.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stage III/IV Surge Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
88	5/16/2011

Direction Photo Taken:
Westerly

Description:
Crest and outside slope of the south embankment looking west.

Photo No.	Date:
89	5/16/2011

Direction Photo Taken:
Westerly

Description:
Outside slope of south embankment from mid-slope looking west. Presence of knee-high vegetation precluded close visual inspection of slope. Annual mowing generally takes place in June.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stage III/IV Surge Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
90	5/16/2011

Direction Photo Taken:
Northerly

Description:
Surge Pond underdrain system outlet at base of south embankment.

Photo No.	Date:
91	5/16/2011

Direction Photo Taken:
Easterly

Description:
South embankment toe looking east. Note presence of high vegetation and shrubbery. Also note that a portion of the embankment toe was apparently removed to construct access road.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stage III/IV Surge Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
92	5/16/2011

Direction Photo Taken:
Westerly

Description:
Overview of the south embankment from the toe, looking west. Note high vegetation on slope and apparent cut into embankment toe to construct access roadway.

Photo No.	Date:
93	5/16/2011

Direction Photo Taken:
Northerly

Description:
Large tree stump observed near western end at toe of the south embankment.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	EME Homer City Station Stage III/IV Surge Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
94	5/16/2011

Direction Photo Taken:
Northerly

Description:
Outfall from surface/stormwater runoff collection system associated with closed portion of the Coal Refuse Site landfill. Location of outfall is at the far west end of the Stage III/IV Surge Pond's south embankment..

Photo No.	Date:
95	5/16/2011

Direction Photo Taken:
Easterly

Description:
View of outside slope along the south embankment as viewed from the west.

COAL REFUSE SITE
STORAGE POND #1

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 1, (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
95	5/16/2011

Direction Photo Taken:
Westerly

Description:
Overview of the Storage Pond No. 1 from the northeast.

Photo No.	Date:
96	5/16/2011

Direction Photo Taken:
Westerly

Description:
Inside face of the southern embankment. Note sonar water level indicator above pool. Also note partially incised nature of impoundment..

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 1, (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
97	5/16/2011

Direction Photo Taken:
Easterly

Description:
Overview of Storage Pond No. 1 from the western end. Note the northern portion of the pond is incised. Revetment protection at east end lowered approximately 2 feet and serves as pond's Emergency Spillway which discharges into Storage Pond No. 2.

Photo No.	Date:
98	5/16/2011

Direction Photo Taken:
Southwesterly

Description:
Overview of the western end of the Storage Pond No. 1.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 1, (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
99	5/16/2011

Direction Photo Taken:
Northerly

Description:
Inside face of western end of pond. HDPE pipe at left conveys decanted flow from the Stage I/II Sedimentation Pond. Pipe in foreground conveys flows entering nearby stormwater collection system.

Photo No.	Date:
100	5/16/2011

Direction Photo Taken:
Southerly

Description:
Pipe casing penetrating Storage Pond No. 1 at the southwestern end. According to Plant Representatives, this pipe serves as a casing for the pipe in the foreground of the previous photo.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 1, (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
101	5/16/2011

Direction Photo Taken:
Easterly

Description:
Crest of southern embankment from the west end. Pipes on top of the crest are not active.

Photo No.	Date:
102	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
Outside face of southern embankment. Note presence of knee-high vegetation and shrubbery precluded close visual inspection.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 1, (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
103	5/16/2011

Direction Photo Taken:
Southwesterly

Description:
Outside face of southern embankment looking southwest. Note concrete revetment erosion protection along slope and extending to the banks of the un-named stream at left.

Photo No.	Date:
104	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
Downstream slope of southern embankment. Note un-named stream along toe of slope and concrete revetment erosion control matting along stream bank.

COAL REFUSE SITE
STORAGE POND #2

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 2 (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
105	5/16/2011

Direction Photo Taken:
Westerly

Description:
Overview of Storage Pond No. 2 from the eastern end. Note Emergency Spillway from Storage Pond No. 1 at far (west) end.

Photo No.	Date:
106	5/16/2011

Direction Photo Taken:
Southerly

Description:
View of outside embankment at east end.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 2 (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
107	5/16/2011

Direction Photo Taken:
Westerly

Description:
South end crest, inside slope and approximately 100-foot-wide Emergency Spillway. Note two PVC pipes in foreground. These serve as supplemental siphons to convey effluent to adjacent Leachate Pump Pond. A similar set-up is used to siphon water from Storage Pond No. 1 into Storage Pond No. 2.

Photo No.	Date:
108	5/16/2011

Direction Photo Taken:
Northerly

Description:
View of crest of eastern embankment. Note PVC siphons pipes.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 2 (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
109	5/16/2011

Direction Photo Taken:
Westerly

Description:
Emergency Spillway as viewed from the east. Concrete revetment erosion protection matting extends over the crest and down the outside slope.

Photo No.	Date:
110	5/16/2011

Direction Photo Taken:
Southwesterly

Description:
Concrete revetment erosion control protection matting over the outside face of the Emergency Spillway for Storage Pond No. 2. Matting extends down the outside slope to the banks of the adjacent un-named stream.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 2 (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
111	5/16/2011

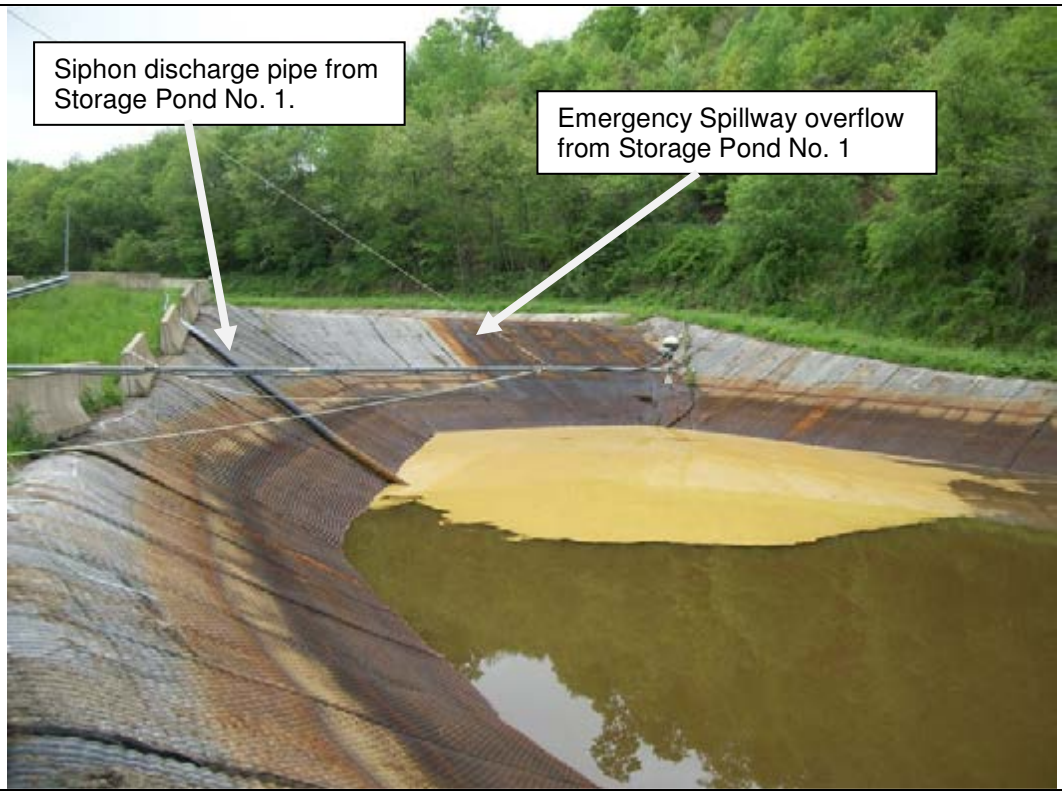
Direction Photo Taken:
Easterly

Description:
Inside face of the southern embankment viewed from the west.

Photo No.	Date:
112	5/16/2011

Direction Photo Taken:
Westerly

Description:
View of inside slopes at western end of Storage Pond No. 2. Note west end also serves as Emergency Spillway overflow from Storage Pond No. 1. Discharge pipe from Storage Pond No. 1 siphon can also be seen.



Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 2 (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
113	5/16/2011

Direction Photo Taken:
Southerly

Description:
Valve operators at the southwestern end of Storage Pond No. 2 which apparently control flow within the 10-inch-diameter poly-ethylene pipe leading form Storage Pond No. 1 to Storage Pond No. 2.

Photo No.	Date:
114	5/16/2011

Direction Photo Taken:
Northerly

Description:
Crest of Emergency Spillway at common dike separating Storage Pond Nos. 1 and 2.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Storage Pond No. 2 (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
115	5/16/2011

Direction Photo Taken:
Easterly

Description:
Overview of Storage Pond No. 2 as viewed from the Storage Pond No. 1 Emergency Spillway.

Photo No.	Date:
116	5/16/2011

Direction Photo Taken:
Easterly

Description:
Overview of Storage Pond No. 1 and Emergency Spillway from the northwestern end.

COAL REFUSE SITE
LEACHATE PUMP POND

GZA GeoEnvironmental, Inc.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Leachate Pump Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
117	5/16/2011

Direction Photo Taken:
Westerly

Description:
Overview of Leachate Pump Pond from the northeast. Note pump house structure at right side. Decanted flow from the Leachate Pump Pond is pumped to the Site's Wastewater Treatment System.

Photo No.	Date:
118	5/16/2011

Direction Photo Taken:
Southerly

Description:
Inside face along the southern embankment.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Leachate Pump Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
119	5/16/2011

Direction Photo Taken:
Westerly

Description:
Inside face and crest of northern portion of the pond. Pump house structure and east embankment of Storage Pond No. 2 beyond.

Photo No.	Date:
120	5/16/2011

Direction Photo Taken:
Easterly

Description:
Overview of pond from western end as taken near the pump house. South embankment for the Stage III/IV Surge Pond at upper left of picture.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Leachate Pump Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
121	5/16/2011

Direction Photo Taken:
Easterly

Description:
Concrete revetment erosion control matting along outside face of the southern embankment and lining the banks of the un-named stream.

Photo No.	Date:
122	5/16/2011

Direction Photo Taken:
Westerly

Description:
Outside face of southern embankment as viewed from the east. Overgrown vegetation and previously cut brush at toe of slope. Note pipe conveys water from Leachate Pond Pump House structure to the Site's Wastewater Treatment Plant.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Leachate Pump Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
123	5/16/2011

Direction Photo Taken:
Northerly

Description:
Overview of inside face at northeast corner of the Leachate Pump Pond. Flow into pond is discharge from the Coal Refuse Site landfill leachate collection system.

Photo No.	Date:
124	5/16/2011

Direction Photo Taken:
Northwesterly

Description:
Overview of the inside face of the northern portion of the pond.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Leachate Pump Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
125	5/16/2011

Direction Photo Taken:
Northerly

Description:
Siphon outfall from Storage Pond No. 2 discharging into the west end of the Leachate Pump Pond.

Photo No.	Date:
126	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
Gravity flow outlet pipe from Storage Pond No. 2. Note flow is supplemented by PVC siphon pipes depicted in the previous photo.

Client Name:	Site Location:	Project No.
U.S. Environmental Protection Agency	Homer City Station Leachate Pump Pond (Coal Refuse Site), Homer City, PA	170142.30

Photo No.	Date:
127	5/16/2011

Direction Photo Taken:
Northeasterly

Description:
Intake pipe to the Leachate Pump Pond Pump House at the northwestern corner of the pond. Note mesh screen which mitigates leave/debris from entering intake.

Photo No.	Date:
128	5/16/2011

Direction Photo Taken:
Easterly

Description:
Sonar water level indicator above the Pump House intake pipe.

APPENDIX E

REFERENCES

PREVIOUS REPORTS AND REFERENCES

The following is a list of drawings and related information that was located during the file review, or was referenced in previous reports.

1. EME Homer City Generation L.P., Request for Information Under Section 104(e) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C 9604(e), February 2010.

2. Pennsylvania DEP, Inspection Report – Residual Waste Landfill, 2010 to 2011 (various reports)

3. Pennsylvania DEP, Coal Refuse – Inspection Report, 2009 to 2001 (various reports)

The following references were utilized during the preparation of this report and the development of the recommendations presented herein.

1. USACE, "Recommended guidelines for safety inspection of dams," EM 1110-2-106, 1979.

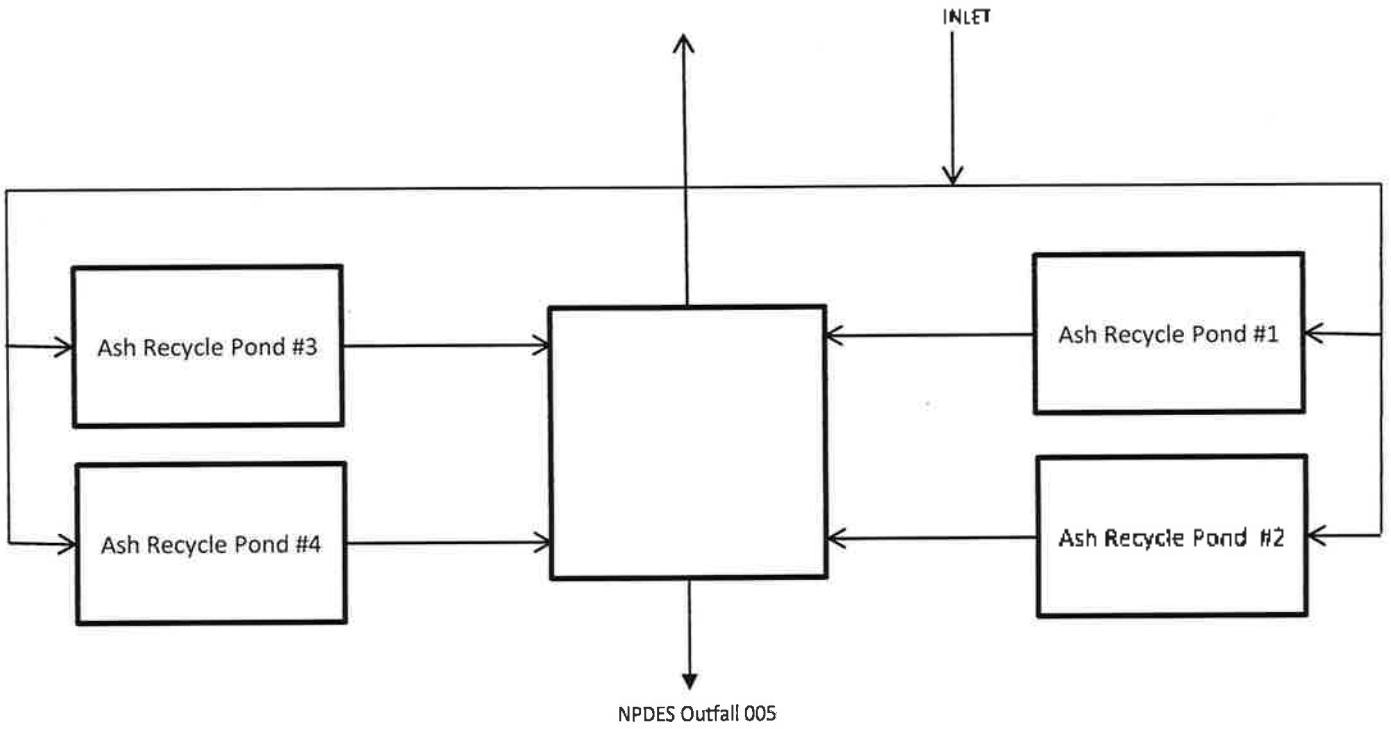
2. FEMA, "Federal Guidelines for Dam Safety," May 2005.

3. Pennsylvania Code Title 25, Chapter 105, Dam Safety and Waterway Management

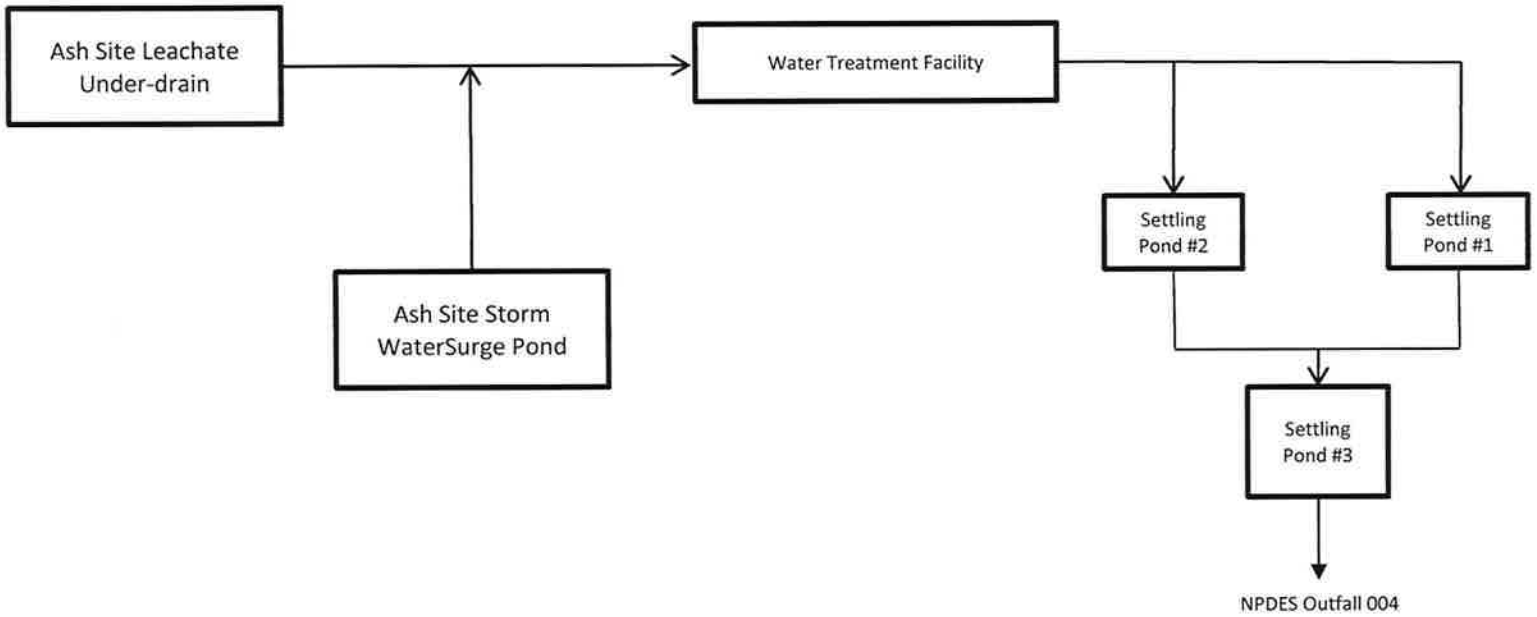
APPENDIX F

SELECTED RECORD INFORMATION

ASH RECYCLE SYSTEM FLOW CHART

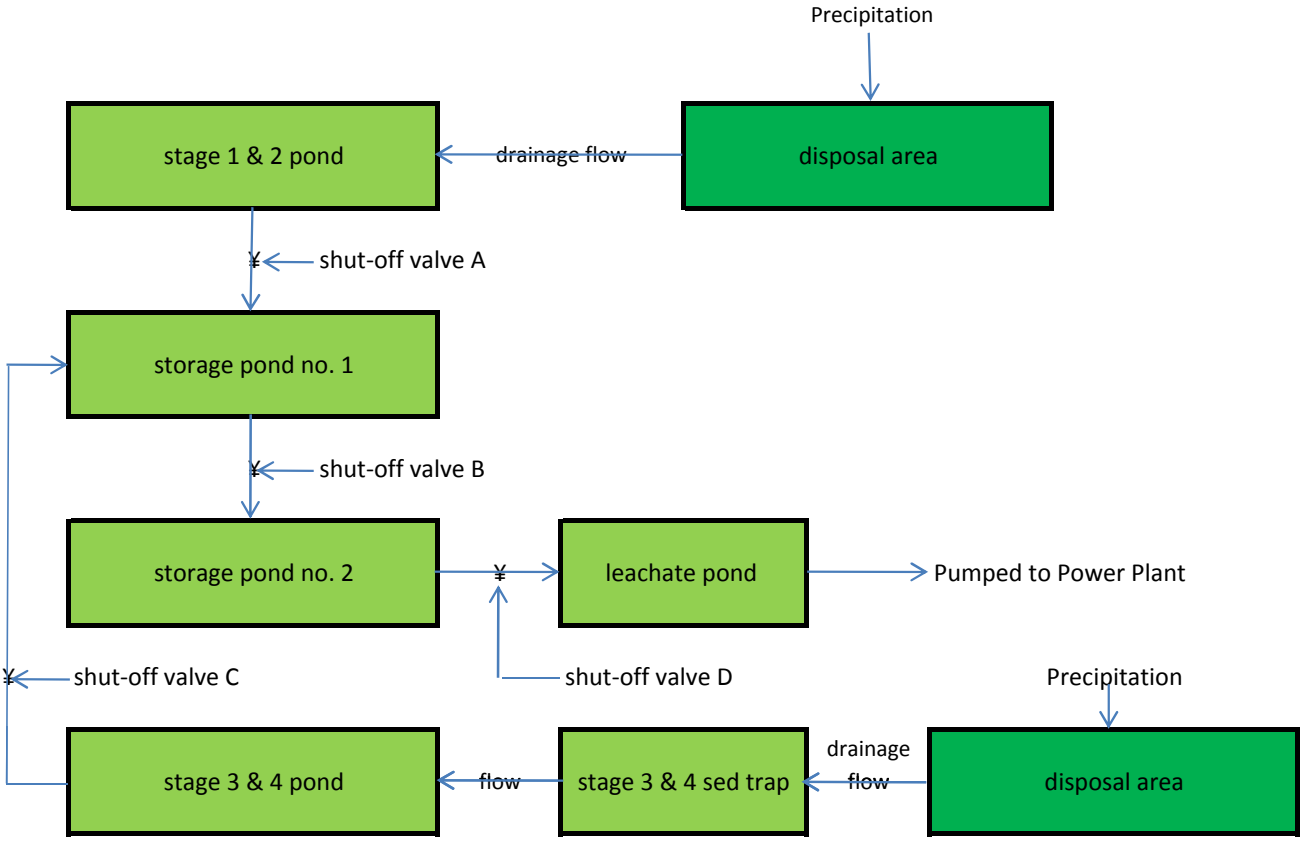


ASH DISPOSAL SITE FLOW CHART



EME Homer City Generation L.P.

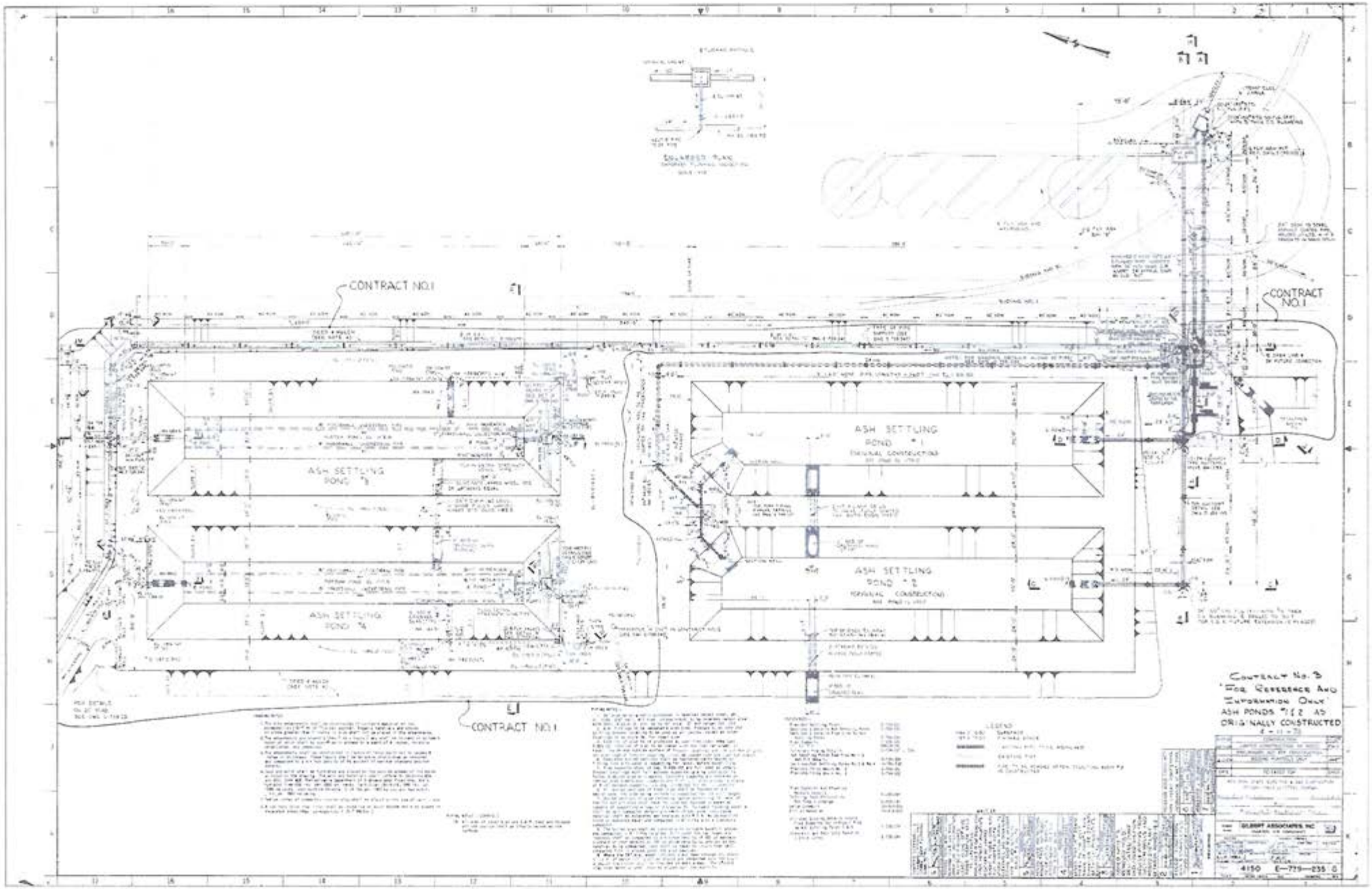
Flow Diagram and Operational Description of the Coal Refuse Pond System

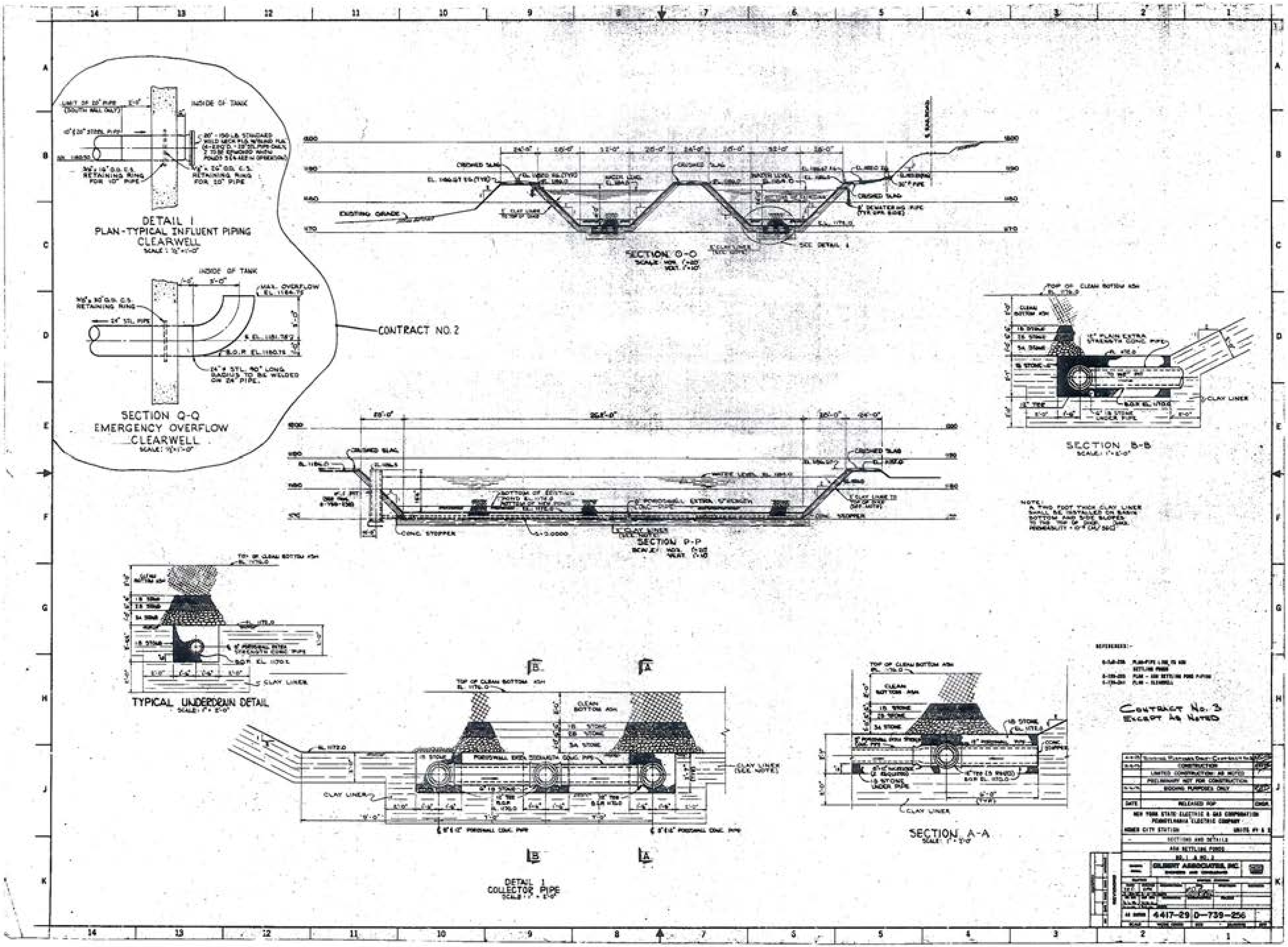


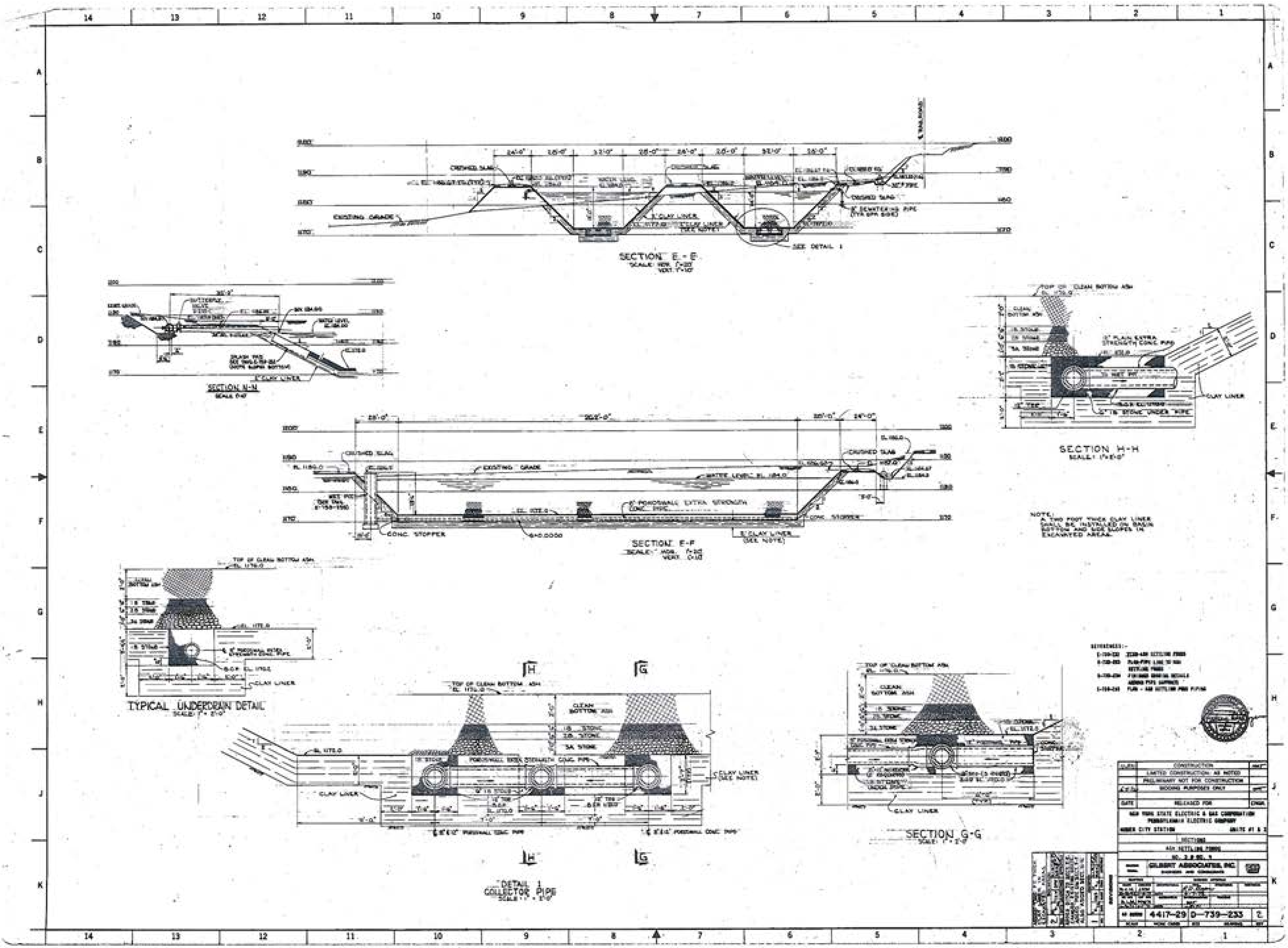
Operational Sequence

Drainage from precipitation events at the disposal area is directed to the pond and pumping system

1. Under normal circumstances all valves are open and all drainage flows to the leachate pond
2. When storage pond no. 2 fills valve B will close and storage pond 1 will fill
3. When storage pond no. 1 fills, valves C and A will close and stage 1 & 2 and Stage 3 & 4 ponds will fill
4. When storage pond no. 2 empties valve B will open to drain storage pond no. 1
5. When storage pond no. 1 empties valves C and A will open to drain stage 1 & 2 and stage 3 & 4 ponds
6. Valve D will open and close to keep the leachate pond within the pumping range


CONTRACT NO.1
CONTRACT NO.1
CONTRACT NO.1
ASH SETTLING POND #1
ORIGINAL CONSTRUCTION
ASH SETTLING POND #2
ORIGINAL CONSTRUCTION
ASH SETTLING POND #3
ASH SETTLING POND #4
CONTRACT NO.1
FOR REFERENCE AND INFORMATION ONLY
ASH PONDS #1 & #2 AS ORIGINALLY CONSTRUCTED
GILBERT ASSOCIATES, INC.
4150 E-779-235 0


DETAIL 1
PLAN-TYPICAL INFLUENT PIPING
CLEARWELL
INSIDE OF TANK
SECTION Q-Q
EMERGENCY OVERFLOW
CLEARWELL
CONTRACT NO. 2
CRUSHED SLAG
EXISTING GRADE
WATER LEVEL
SECTION O-O
SEE DETAIL 1
SECTION P-P
CONC. STOPPER
SECTION B-B
CLAY LINER
TYPICAL UNDERDRAIN DETAIL
CLEAN BOTTOM ASH
SECTION A-A
DETAIL 1
COLLECTOR PIPE
CONTRACT No. 3
EXCEPT AS NOTED
CONSTRUCTION
BIDDING PURPOSES ONLY
NEW YORK STATE ELECTRIC & GAS CORPORATION
PENNSYLVANIA ELECTRIC COMPANY
SECTIONS AND DETAILS
ASH SETTLING PONDS
GILBERT ASSOCIATES, INC.
4417-29
D-739-256


SECTION E-E
SCALE: HOR. 1"=20' VERT. 1"=10'
CRUSHED SLAG
EXISTING GRADE
3' CLAY LINER
SEE DETAIL 1
SECTION N-N
SECTION H-H
SCALE: 1"=1'-0"
CLAY LINER
SECTION F-F
EXISTING GRADE
CONC. STOPPER
NOTE:
A TWO FOOT THICK CLAY LINER SHALL BE INSTALLED ON BASIN BOTTOM AND SIDE SLOPES IN EXCAVATED AREAS.
TOP OF CLEAN BOTTOM ASH
CLAY LINER
TYPICAL UNDERDRAIN DETAIL
SCALE: 1"=2'-0"
CLEAN BOTTOM ASH
1B STONE
2B STONE
3A STONE
CLAY LINER (SEE NOTE)
SECTION G-G
DETAIL 1
COLLECTOR PIPE
LIMITED CONSTRUCTION AS NOTED
PRELIMINARY NOT FOR CONSTRUCTION
BIDDING PURPOSES ONLY
RELEASED FOR
NEW YORK STATE ELECTRIC & GAS CORPORATION
PENNSYLVANIA ELECTRIC COMPANY
SECTIONS
GILBERT ASSOCIATES, INC.
4417-29
D-739-233
2