Prepared for:

FirstEnergy Generation, LLC
76 South Main St
Akron, Ohio 44308

2019 ANNUAL INSPECTION REPORT

W.H. Sammis Coal Plant South Pond
Stratton, Ohio

Prepared by:

10211 Wincopin Circle, 4th Floor
Columbia, Maryland 21044

January 2020

2019 Annual Inspection Report
CCR Unit: W. H. Sammis South CCR Impoundment

Certification:

I, **William M. Steier**, a registered professional engineer in the state of **OHIO** certify that this Annual Inspection Report fulfils the minimum requirements of 40 CFR §257.83(b)(1) through §257.83(b)(5). This certification is based on my review of operational information and/or data provided (but not independently verified for accuracy) by FirstEnergy about the CCR Unit and inspection of the CCR Unit.

Printed Name: William M. Steier

PE License Number: E-80611 State: OHIO

Signature:

Date: 1/6/2020

Seal: Stamp:

Geosyntec consultants

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1. INTRODUCTION

1.1 Organization and Terms of Reference

Geosyntec Consultants (Geosyntec) has prepared this inspection report for FirstEnergy Generation, LLC (FirstEnergy) for the existing W.H. Sammis Coal Plant South Pond (South Pond) in Stratton, Ohio for compliance with the Federal Coal Combustion Residuals (CCR) Rule. In this Annual Inspection Report, the specific requirements of 40 Code of Federal Regulations (CFR) §257.83(b)(1) and (2) for annual inspection and reporting for CCR surface impoundments are identified and addressed.

1.2 Site Location

The South Pond is located at the W. H. Sammis Plant (Plant) in Stratton, Jefferson County, Ohio. The Plant can be found on the United States Geological Survey (USGS) 7.5-minute topographic map for the Wellsville Quadrangle (**Figure 1**). The Plant is located adjacent to Ohio State Route 7 and the Ohio River. The South Pond is located in the southeast quadrant of the generating facility.

1.3 Impoundment Description and Permit Status

The South Pond was initially constructed in 1959, and modified in 1971, 2010, and 2017. The pond is used for temporary storage of CCR (primarily bottom ash) and treatment of other wastewater produced by plant operations. The South Pond is typically in service for approximately six to nine months (depending on the volume of CCR and waste produced by the Plant's generating units) before being taken out of service for cleaning, at which time the adjacent North Pond is used for temporary storage of CCR and plant wastewater. General maintenance activities are performed when the pond is out of service.

Water and CCR enter at the northeast corner of the pond and flow in a counter-clockwise direction around the perimeter of the pond to the southeast corner where water passes through a concrete outlet riser fitted with a fixed-elevation stainless steel v-notch weir to control the pond elevation. The maximum water elevation is controlled by a 12-inch high-density polyethylene (HDPE) culvert set in the northern embankment of the pond.

Water passes from the base of the outlet riser into a buried 24-inch diameter reinforced concrete pipe (RCP). A control valve capable of stopping discharge through the 24-inch RCP is located within a valve box immediately downstream of the outlet riser. Water discharging through the 24-inch RCP passes through an approximately 600 ft long culvert buried within the eastern embankment of the South Pond. This culvert consists of multiple segments separated by manholes. The segments are constructed of either 24-inch RCP that has been sealed with a synthetic liner, or 30-inch solid wall plastic pipe, constructed of HDPE. This culvert intersects a 48-inch diameter RCP stormwater discharge pipe that passes along the northern side of the Sammis Plant North Pond. The 48-inch RCP discharges through a headwall structure located immediately adjacent to

State Route 7 and passes through a culvert beneath the road, discharging into the Ohio River at the upstream side of the New Cumberland Lock and Dam. A site plan identifying the primary features of the South Pond is presented in **Figure 2**.

Combined stormwater and South Pond effluent discharge at the headwall of the 48-inch diameter RCP, which is a permitted discharge point under the Ohio Environmental Protection Agency (OEPA), National Pollutant Discharge Elimination System (NPDES), Permit No. 0IB00010.

2. CCR RULE REQUIREMENTS FOR ANNUAL INSPECTION REPORT

2.1 Annual Inspection by a Qualified Engineer

As described in §257.83 (b)(1) of the CCR Rule, an annual inspection by a qualified professional engineer is required for CCR surface impoundments subject to structural stability assessment under §257.73(d) or §257.74(d).

2.2 Inspection Report

As described in §257.83(b)(2) of the CCR Rule, each inspection report must address, at a minimum, the information specified in paragraphs (b)(2)(i) through (vii) of §257.83, repeated below.

(i) Any changes in geometry of the impounding structure since the previous annual inspection;

(ii) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection;

(iii) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;

(iv) The storage capacity of the impounding structure at the time of inspection;

(v) The approximate volume of the impounded water and CCR at the time of the inspection;

(vi) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures; and

(vii) Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.

2.3 Compliance with Annual Inspection Report Requirements

Sections 3 and 4 of this report present the results of the annual inspection and the documentation required by §257.83(b)(1) and (2). Section 5 of this report presents our recommendations to address conditions observed during the annual inspection.

The table below summarizes the information and documentation required to be included in the annual inspection report and the corresponding section of this report where the requirement is addressed.

RULE SECTION	RULE REQUIREMENT	LOCATION WHERE ADDRESSED IN DOCUMENT
§257.83(b)(1)(i)	Review of Available Information	Section 3.2
§257.83(b)(1)(ii)	Visual Inspection of the CCR Unit	Section 3.3
§257.83(b)(1)(iii)	Visual Inspection of Hydraulic Structures	Section 3.4
§257.83(b)(2)(i)	Changes in Geometry	Section 4.2
§257.83(b)(2)(ii)	Location and Type of Instrumentation	Section 4.3
§257.83(b)(2)(iii)	Depth of Impounded Water	Section 4.4
§257.83(b)(2)(iv)	Storage Capacity of the Impounding Structure	Section 4.4
§257.83(b)(2)(v)	Approximate Volume of Water and CCR	Section 4.4
§257.83(b)(2)(vi)	Appearances of Actual or Potential Structural Weakness	Section 4.5
§257.83(b)(2)(vii)	Additional Changes Affecting Stability or Operation of Impounding Structure	Section 4.6

3. ANNUAL INSPECTION

3.1 Overview

The 2019 annual inspection of the Sammis South Pond CCR Surface Impoundment was performed by Mr. Andrew Stallings under the supervision of Mr. William Steier, P.E., both of Geosyntec Consultants. The inspection included a thorough review of available information and visual inspection of the impoundment and appurtenant features. In the following sections, a summary and evaluation of the results of the inspection is presented.

3.2 Review of Available Information

3.2.1 History of Construction

The report, *History of Construction, W.H. Sammis Coal Plant North and South Ponds, Stratton, OH* (Geosyntec 2016a) and the 2018 annual inspection report (Geosyntec, 2018), were reviewed prior to preparation of this report. Those reports provided background information on instrumentation and stage-storage curves for the pond.

3.2.2 Weekly Inspections

Weekly inspections of the South Pond are conducted by FirstEnergy staff and are documented on FirstEnergy's standard form, *Federal CCR 7-Day Inspection Form – CCR Impoundments*. In preparation of this annual report, Geosyntec reviewed the fourth quarter 2018 through third quarter 2019 weekly inspection reports. The following is a summary of the notable inspection findings based on information recorded by FirstEnergy.

- Areas of erosion, ranging from 3 to 6 inches deep, are present along the interior slopes of the north, south, and west embankments.
- Areas of erosion, ranging from 3 to 6 inches deep, are present along the exterior slopes of the south and east embankments.
- Concrete spalling on the outlet riser.

3.3 Visual Inspection of CCR Unit

Visual inspection of the South Pond was performed on 1 October 2019. At the time of the inspection, the pond was active and was less than 25 percent full of CCR (based on discussions with FirstEnergy staff). During the site walk Geosyntec was escorted by Eric Akenhead of FirstEnergy. Weather at the time of the inspection was partly cloudy with fog and ground conditions were moist. The total precipitation recorded at Pittsburgh International Airport (station, KPIT), the closest airport to the site, over the 5 days preceding the inspection was 1.7 inches.

The visual inspection was performed by walking around the perimeter of the South Pond and making careful observation of the pond embankment, interior and exterior sideslopes, embankment top, concrete discharge structure, and headwall. Observations were documented on FirstEnergy's standard form, *Federal CCR 7-Day Inspection Form – CCR Impoundments*. A copy of the 2019 annual inspection form including names of the persons who participated in the site walk is provided in **Appendix A**.

Observations pertaining to erosion, seepage and deterioration of the concrete outlet riser were each recorded on the inspection form. The following is a summary of the conditions observed.

Erosion: Erosion rills and gullies (3-in. to 6-in. deep) were identified on the interior and exterior slopes of the pond. The observed erosion is located on the north, south, east, and west interior slopes. Erosion was also observed on the south and east exterior slopes. The erosion appears to be the result of concentrated flow of stormwater runoff entering the pond from adjacent impervious areas. The interior slopes of the pond are not vegetated. The exterior slopes of the pond are stabilized with a thin gravel veneer.

Sloughing: Shallow sloughing of the gravel surface protection (i.e., gravel veneer sliding at the interface with underlying soil) was observed on the east exterior slope. The upper part of the slope is bare of gravel and the gravel is amassing at the base of the slope against the chain-link fence. The slough is not a structural stability issue. However, the slough does leave the upper part of the slope susceptible to surface erosion.

Seepage: Standing water/wet soil conditions were observed within the ditch-line parallel to the toe of the eastern embankment. Water within the channel appeared clear.

3.4 Visual Inspection of Hydraulic Structures

Visual inspection of the hydraulic structures at the South Pond was performed in conjunction with visual inspection of the pond described in Section 3.3. The visual inspection included observation of outlet riser, the valve box containing the discharge control valve, and headwall of the 48-inch-diameter RCP culvert which passes through the northeastern corner of the Sammis Plant North Pond.

A summary of our observations made during visual inspection of the accessible portions of the hydraulic structures is presented below.

Headwall of the 48-inch Diameter RCP Culvert: The concrete block headwall and area around the outlet were observed. At the time of our 1 October 2019 annual inspection, the 48-inch diameter RCP was flowing approximately one-third full. No signs of seepage were observed above the water line and no changes were observed in previously identified cracks at the outlet pipe.

Eddy currents flowing along the concrete block headwall, created by water entering at a ninety-degree angle from a channel adjacent to the pond outlet, were observed. The flows appear to be consistent with observations made during the previous two years.

Voids between blocks of the concrete block headwall, at elevations above the water line, were observed; no signs of seepage or erosion were present. Per recommendations from the Ohio Department of Natural Resources (OHDNR) Dam Safety Program inspection (carried out on 18 June 2019 for the North Pond), larger voids between concrete blocks were filled with brick, concrete, and mortar in August 2019. Polyvinyl chloride (PVC) drainage pipes were installed through the new concrete to allow for drainage.

Outlet Riser Structure: A V-notch weir plate was installed in March 2017 at the outlet riser structure to replace the previously existing weir blocks and define the acceptable range of water levels within the pond under normal operating conditions. In August 2017, the height of the V-notch weir was modified to 689.2 feet to lower the normal operating level of water in the pond.

The surface of the concrete on the upper portion of the outlet riser is observed to be spalling. It was noted in 2016 to have deteriorated, exposing steel reinforcement. Steel plates have been attached to sides of the upper portion of the outlet riser to reinforce the structure. This condition appears to remain unchanged since the 2017 and 2018 inspections.

Discharge Control Valve: The discharge control valve is neither secured, nor placarded to convey contact information for responsible personnel. FirstEnergy staff indicated the valve was operational.

Staff Gauge: A staff gauge with whole foot and inch markings is affixed to the interior of the concrete outlet riser. The staff gauge appeared to be in good condition.

Ungated Overflow: A 12-inch diameter HDPE overflow pipe is set within the northern embankment separating the South and North Ponds. The overflow pipe allows flow from the South Pond into the North Pond. Because the North Pond overflow outlet is at a lower elevation than the South Pond overflow pipe, flow is not expected to occur from the North Pond into the South Pond through this overflow pipe. The ungated overflow appeared to be in good condition.

4. ANNUAL INSPECTION REPORT METRICS

4.1 Overview

The annual inspection report is required to document specific metrics as specified in paragraphs (b)(2)(i) through (vii) of §257.83 of the CCR Rule. The following sections address each of the required metrics.

4.2 Changes in Geometry

No changes in geometry were observed in the South Pond since the 2018 Annual Report.

4.3 Instrumentation

FirstEnergy employs the use of piezometers at the South Pond to monitor water elevation within the embankment.

Ten piezometers, all less than 12 feet (ft) in depth, were installed in the east embankments of the North and South Ponds and in the south embankment of the South Pond in February 2009 (GAI, 2009). Piezometers identified as P-5 through P-10 are located within the eastern and southern embankments of the South Pond. The remaining piezometers are installed within the eastern embankment of the North Pond. Piezometer P-8 is noted to be frost-heaved and broken, and is therefore no longer monitored. The piezometers were installed approximately at the crest and toe of the downstream slopes of the embankments. The purpose of the piezometers is to monitor the water elevations in the embankments in support of stability analyses. The piezometer locations are shown in **Figure 3**.

Piezometer data is compiled in a Microsoft Excel spreadsheet which was transmitted from FirstEnergy to Geosyntec via email on 1 October 2019. Between October 2018 and September 2019, several increasing trends in water level elevation in piezometers associated with the South Pond were seen during this period. Increases of 7.1 ft and 4.4 ft were observed at piezometers P-5 and P-6, respectively, between March and September 2019. Based on discussions with FirstEnergy staff, this corresponds to the time period when the pond was most recently put into service. Geosyntec compared piezometric levels with computations prepared for the Periodic Safety Factor Assessment (Geosyntec 2016e). The maximum recorded water levels between October 2018 and September 2019 are approximately equal to or below the piezometric levels previously analyzed and found to represent a stable slope condition.

4.4 Capacity and Impounded Volume

4.4.1 Overall Capacity

The storage capacity of the pond is estimated using a stage-storage curve obtained from the *History of Construction Report* (Geosyntec 2016b) and updated with information related to the construction of the weir plate during 2017. Storage volumes associated with key elevations, including the elevation of the ungated overflow pipe, and the elevation of the top of embankment are each presented on the Stage-Storage Curve presented in **Appendix B**. Survey elevations presented on the graph are obtained from the report, *Construction Completion Report, Stormwater and North Pond Discharge Pipe Replacement* (Geosyntec 2016c). The calculated maximum storage volume, equivalent to the storage at the embankment crest (elevation 696.6 ft), is approximately 60.0 acre-feet (ac-ft).

The South Pond is operated as a settling basin for CCR produced as part of the plant operations. Based on discussions with FirstEnergy staff at the time of the 2019 inspection, the pond had been put into service earlier in 2019 and was less than 25 percent full of CCR. FirstEnergy regularly removes CCR from the basin through a process of excavating solids and removing them from the site for disposal at a permitted facility. This process reestablishes the storage volume in the basin. Consequently, minimum depth of water and CCR within the pond is zero, and the maximum storage is controlled by the elevation of the weir plate. The elevation for the weir plate is 689.2 ft. which results in a maximum CCR storage volume of approximately 28.5 ac-ft.

4.4.2 Minimum, Maximum, and Present Volume at the Time of Inspection

The approximate combined volume of CCR and free water contained within the pond at the time of the annual inspection is estimated using information from plant personnel in conjunction with the stage-storage data presented in **Appendix B**. Using the staff gauge affixed to the interior of the concrete outlet riser, water was measured to be at 10 ft – 8 in., which corresponds to an estimated water surface elevation of 690.02 ft or a storage volume (water plus CCR) of approximately 31.1 ac-ft.

It is noted that direct measurement of the impounded CCR elevation is not typically performed by FirstEnergy operations staff. Rather, operations staff routinely monitor the pond effluent characteristics (i.e., total suspended solid concentration), which provides an indirect indication of the volume of CCR stored within the Pond according to the following relationship. Increase in the CCR storage volume results in an increase in total suspended solids in the pond effluent. FirstEnergy manages the volume of CCR impounded in the pond by monitoring the effluent characteristics to ensure suspended solids concentration does not exceed the NPDES permit limit. As discussed in the previous section, normal operating procedures are to periodically remove accumulated CCR from the pond to reestablish storage capacity.

4.5 Structural Weakness

Potential structural weakness in surface impoundments can be identified by distress in the embankment slopes, embankment crest, and/or hydraulic structures. Along the embankment crest, indicators of structural weakness could include cracking, ponding, and subsidence. Along the embankment slopes, indicators of structural weakness could include cracking, seepage or excessive moisture, uneven slope inclinations (including sinkholes, depressions, slumps, scarps, or bulge), animal burrows, excessive or lacking vegetative cover, and excessive erosion. Indicators of potential structural weakness in hydraulic structures could include cracking, misalignment, leakage, or blockages.

During the 2019 annual inspection, Geosyntec carefully observed the top and sideslopes of the pond embankments. Since the 2017 and 2018 inspections, no apparent changes in the geometry of these area was apparent. Geosyntec also observed the gravel roadway located along the crest of the eastern embankment, and no apparent distress or settling of the area was observed.

As discussed in Section 3.3 of this report, erosion is present on the north, south, east, and west interior slopes and south and east exterior slopes at the South Pond and FirstEnergy is taking steps to remediate the condition. FirstEnergy should continue to monitor erosion as part of the weekly inspection routine. The extent of the erosion observed can be addressed as a maintenance issue during periods when the pond is out of service and does not contribute to structural weakness of the embankment.

As discussed in Sections 4.3 of this report, piezometric levels are generally equal to or below piezometric levels previously analyzed with computations prepared for the Periodic Safety Factor Assessment (Geosyntec 2016e). The conditions were evaluated and found to be acceptable. As described in Section 5 of this report, continued routine observations and instrument monitoring are recommended.

No other visual indicators of structural weakness were observed.

4.6 Other Changes

Per recommendations from the OHDNR Dam Safety Program inspection, larger voids between concrete blocks were filled with brick, concrete, and mortar during August 2019. PVC drainage pipes were installed through the new concrete to allow for drainage.

Riprap was added to the interior divider berm since the previous annual inspection was performed in October 2018. Riprap was added to mitigate the potential for “short circuiting” of effluent across the interior divider berm.

There were no other modifications to the South Pond in 2019.

5. RECOMMENDATIONS

Based on the review of information provided by FirstEnergy, the results of previous inspections of the South Pond, and the results of our inspection performed in compliance with the CCR Rule, Geosyntec has developed the recommendations below. Geosyntec developed these recommendations to provide FirstEnergy with specific action items to allow for the continued safe operation of the South Pond.

- Remediate erosion along the north, south, east, and west interior slopes and the south and east exterior slopes in conjunction with the regular maintenance activities performed when the South Pond is out of service.

- Remediate the shallow sloughing of the gravel surface protection (i.e., gravel veneer sliding at the interface with underlying soil) on the east exterior slope in conjunction with the regular maintenance activities performed when the South Pond is out of service.

- Continue to visually monitor the eddy currents at the discharge effluent outlet as part of on-going routine inspections and notify FirstEnergy Engineering of any signs that the flows may be resulting in erosion at the effluent outlet headwall and block wall area.

- Continue to visually monitor the existing voids at the headwall of the 48-inch diameter RCP for evidence of seepage, erosion, or changes in void configuration. Visually monitor the new PVC drainage pipes for evidence of drainage or sediment erosion.

- Continue to visually monitor the condition of the outlet riser structure concrete for evidence of changes in condition.

- Continue to visually monitor the wet soils and water at the toe of the eastern embankment as part of on-going routine inspections. Notify FirstEnergy Engineering if the quantity of water increases or if turbidity (visible cloudiness, presence of sediment particles) are observed, which could be an indicator of seepage and internal erosion of the embankment.

- Continue to monitor water levels within the piezometers for any increase in elevation above the maximum recorded elevations in 2019. Notify FirstEnergy Engineering if higher water levels are observed.

- Secure the discharge control valve against unauthorized operation and provide contact information for personnel who are responsible for operation of the valve.

6. REFERENCES

First Energy Generation, LLC (2015). "Federal CCR 7-Day Inspection Form – CCR Impoundment, Rev. 0." Station: W. H. Sammis Power Station, CCR Unit: South Pond (OEPA 01B0010*ND).

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Ohio Department of Natural Resources, Division of Water Resources (2019). "Dam Safety Inspection Report, Sammis Station North Bottom Ash Pond Dam, File Number: 0405-009, Class II, Jefferson County, Inspection Date: 18 June 2019."

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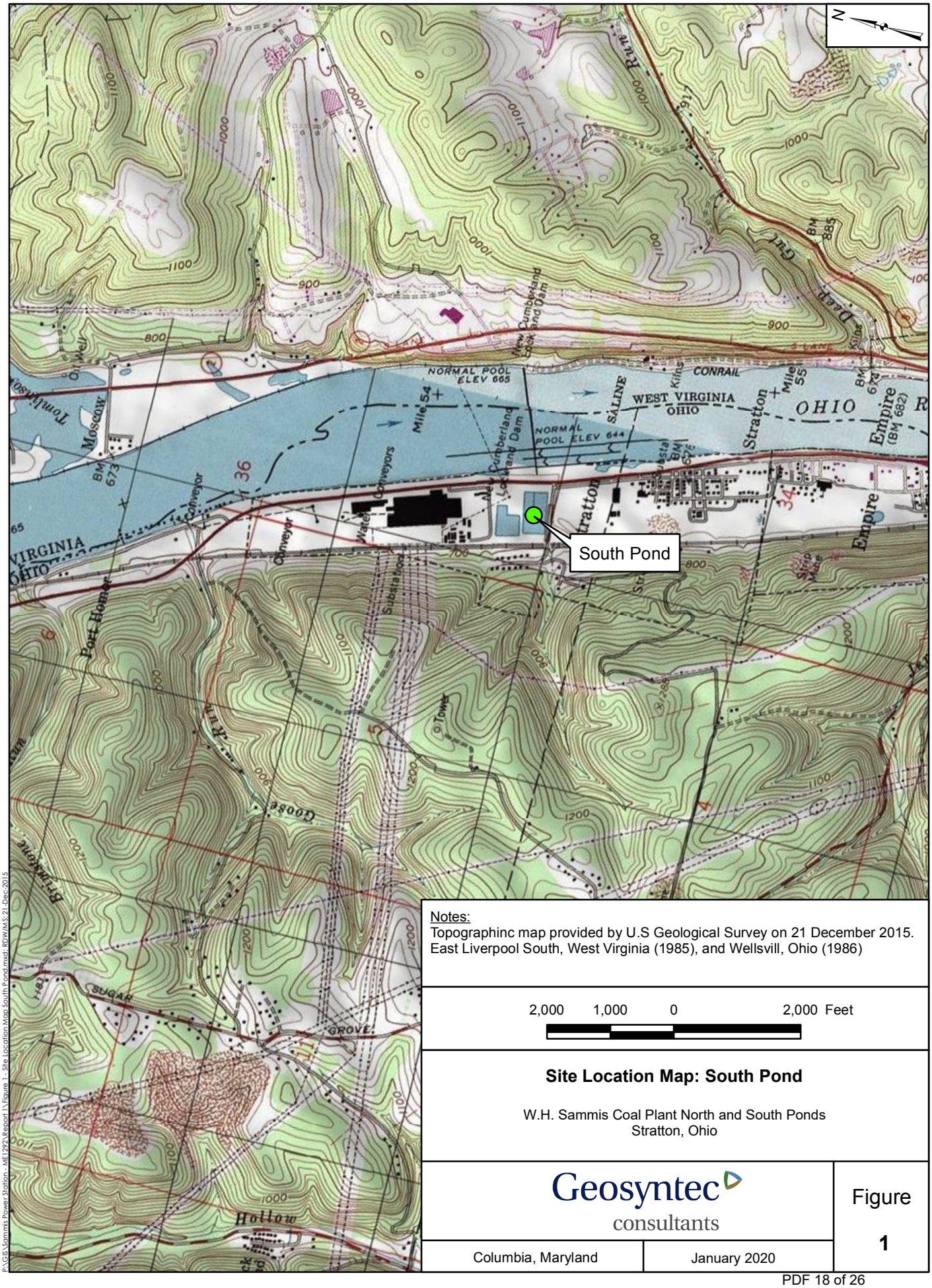
FIGURES



Notes:
Topographinc map provided by U.S Geological Survey on 21 December 2015.
East Liverpool South, West Virginia (1985), and Wellsvill, Ohio (1986)

Site Location Map: South Pond

W.H. Sammis Coal Plant North and South Ponds
Stratton, Ohio

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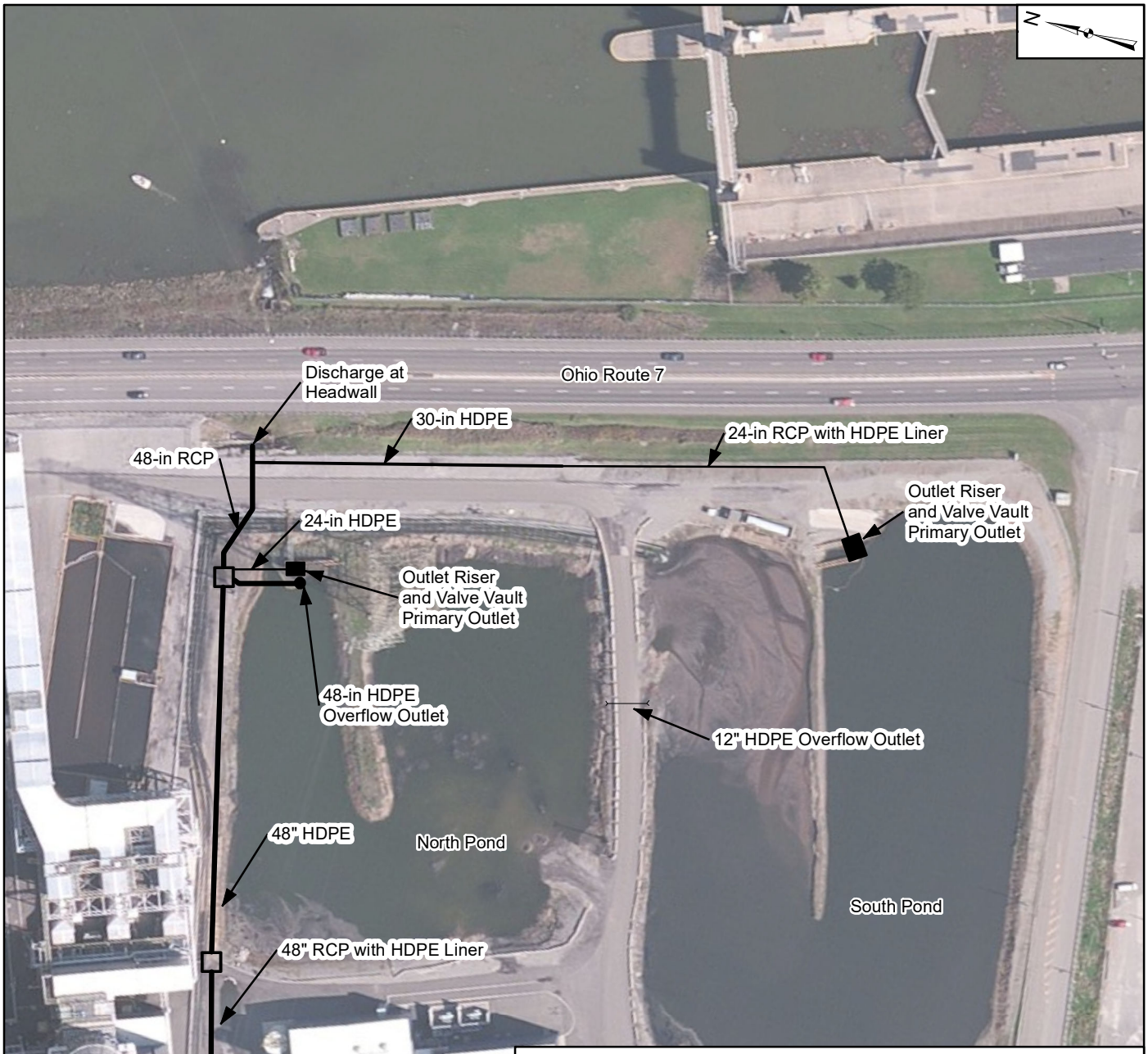
Figure 1

P:\GIS\Sammis Power Station - ME1292\Report 1\Figure 1 - Site Location Map South Pond.mxd: RDW/MS: 21-Dec-2015



Legend

- Manhole
- 24 inch pipe
- 30 inch pipe
- 48 inch pipe

Notes:
RCP - Reinforced Concrete Pipe
HDPE - High-Density Polyethylene

1. Aerial imagery accessed via ArcGIS Online and provided by the United Stated Department of Agriculture on 13 October 2016. Image is dated 24 October 2014.
2. All pipe and structure locations are approximate.

150 75 0 150 Feet

Site Plan: North and South Ponds

W.H. Sammis Coal Plant North and South Ponds
Stratton, Ohio

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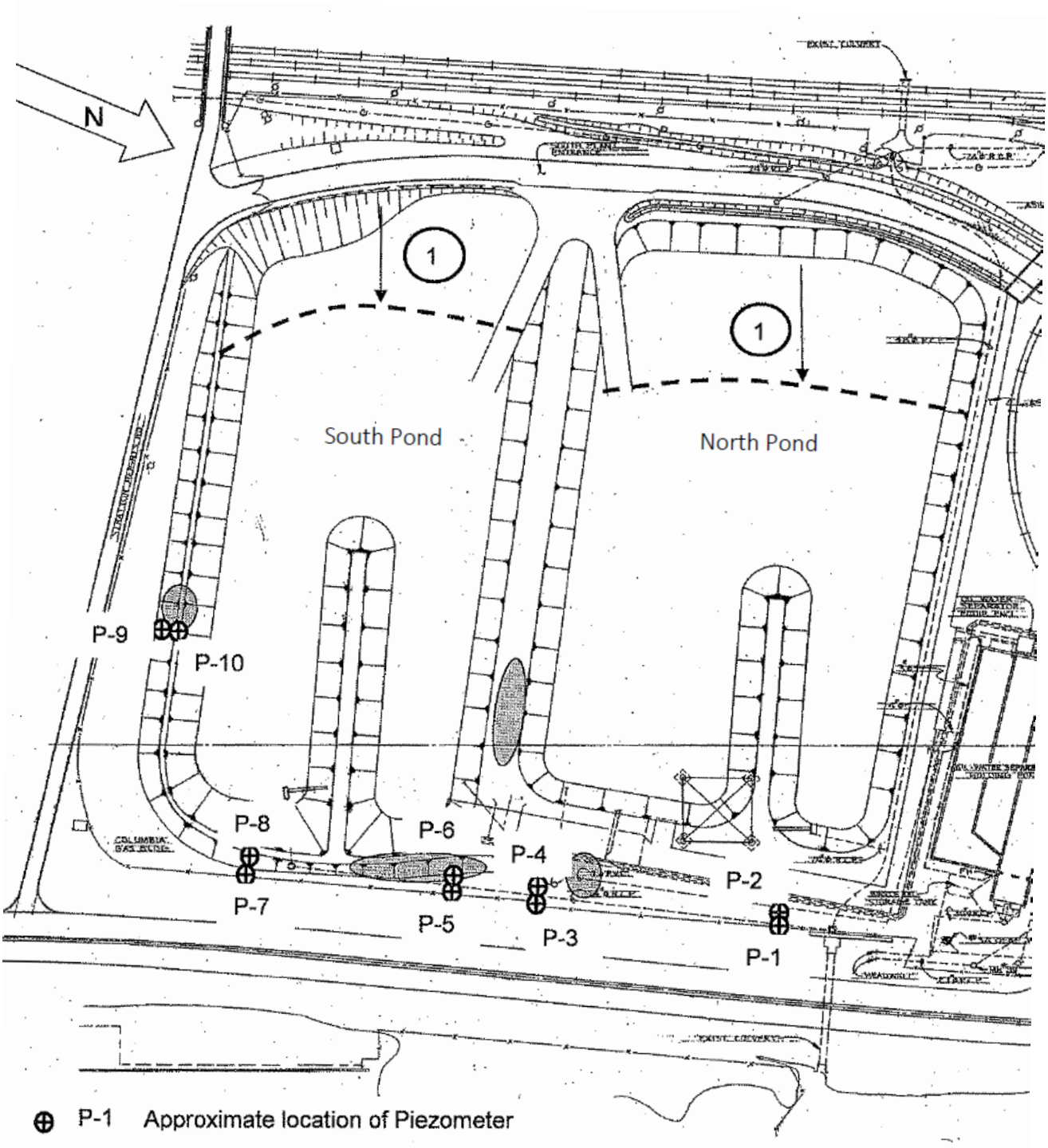
Figure 2

P:\GIS\Sammis Power Station - ME1292\Report 1\Figure 2 - Site Plan_N&S Ponds.mxd; MSY/RDW; 13-Oct-2016



Piezometer Locations

W.H. Sammis Coal Plant North and South Ponds
Stratton, Ohio

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Figure 3

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APPENDIX A

2019 Annual Inspection Form

Federal CCR 7-Day Inspection Form - CCR Impoundments

Station: W. H. Sammis Power Station

CCR Unit: South Pond (OEPA 0IB0010*ND)

Date: 10/1/2019

Inspector(s): Andrew Stallings (Geosyntec), Eric Akenhead (FE)

Weather Conditions: Partly cloudy, fog, Mid-70s

Ground Conditions: Moist

Purpose of Inspection [§257.83(a)(1)(i)-(iii)]: At intervals not exceeding 7 days, inspect for any appearances of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit; inspect the discharge of all outlets of hydraulic structures which pass underneath the base of the surface impoundment or through the dike of the CCR unit for abnormal discoloration, flow or discharge of debris or sediment; and at intervals not exceeding 30 days monitor all CCR instrumentation.
Please refer to the attached figure to mark location of any identified conditions.

CCR UNIT FEATURE	Yes	No	NA	Location ID # or map identifier
Impoundment Influent Conditions				
1) Any signs of deterioration of influent structure(s) (pipes)?		X		
2) Any signs of obstruction to flow of influent structure(s)?		X		
Embankment Upstream Slope Conditions				
3) Any signs of surface cracking?		X		
4) Any signs of surface movement? If yes, please categorize		X		
4a) Sloughing (sliding of materials in sheets)			X	
4b) Sliding			X	
4c) Sinking			X	
5) Any signs of erosion rills greater than 3 inches?	X			Rills and gullies generally line up with
6) Any signs of erosion gullies greater than 6 inches?	X			gaps in Jersey barriers. See #1 on map.
7) Any signs of wave erosion?		X		
8) Any signs of damage to embankment protective cover?		X		
9) Any woody vegetation present?		X		
10) Any signs of holes or animal burrows?		X		
11) Does protective cover obscure/prevent observations?		X		
Embankment Crest Conditions				
12) Any signs of surface cracking?		X		
13) Any signs of depressions or sunken areas?		X		
14) Any woody vegetation present?		X		
15) Any signs of holes or animal burrows?		X		
16) Does protective cover obscure/prevent observations?		X		
Embankment Downstream Slope Conditions				
17) Any signs of surface cracking?		X		
18) Any signs of surface movement? If yes, please categorize		X		
18a) Sloughing (sliding of materials in sheets)	X			Shallow slough of gravel surface
18b) Sliding			X	protection. See #2 on map.
18c) Sinking			X	

Federal CCR 7-Day Inspection Form - CCR Impoundments

Station: W. H. Sammis Power Station CCR Unit: South Pond (OEPA 0IB0010*ND) Date: 10/1/2019

CCR UNIT FEATURE	Yes	No	NA	Location ID # or map identifier
Embankment Downstream Slope Conditions (cont'd)				
19) Any signs of erosion rills greater than 3 inches?	X			See #3 on map.
20) Any signs of erosion gullies greater than 6 inches?	X			See #3 on map.
21) Any signs of damage to embankment protective cover?		X		
22) Any signs of seepage?		X		
23) Any woody vegetation present?		X		
24) Any signs of holes or animal burrows?		X		
25) Does protective cover obscure/prevent observations?		X		
Impoundment Discharge Structure Conditions (as observed from bank if located in water)				
26) Any signs of deterioration of discharge structure?	X			Concrete is spalling/damaged on the exterior upper portion of riser. Condition appears unchanged from previous two years of inspections. Monitor for any change in condition. See #4 on map.
27) Any signs of obstruction of flow into discharge structure?		X		
Impoundment Discharge Effluent Structure Conditions				
28) Any signs of deterioration of discharge effluent structure (pipe, trough)		X		
29) Any signs of obstruction to discharge effluent structure?		X		
30) Any signs of discolored discharge or excessive sediment at effluent outlet?		X		
31) Any signs of seepage or flow around outside of discharge effluent outlet?		X		At the discharge effluent outlet, inflow from an adjacent channel is creating eddy currents. Monitor for any change in condition. See #5 on map.
32) Any signs of improper operation of discharge effluent structure/outlet?		X		
Impoundment Emergency Spillway				
33) Any signs of deterioration of spillway construction material?		X		
34) Any signs of obstruction in spillway?		X		
Fugitve Dust Controls				
35) Any signs CCRs above water surface are causing fugitive dust emissions?		X		
Other				
36) Any nontypical operations occuring at facility? If yes, please describe.		X		

Additional Comments: Larger voids between recycled concrete blocks were filled with brick/concrete/mortar with PVC drainage pipes penetrating the concrete. No signs of seepage or erosion are present at the block wall. Monitor for any change in condition. See #6 on map.

Standing water observed in ditch parallel to toe of eastern embankment. Water appeared clear, and likely from recent precipitation event. See #6 on map. Water level at 10'8" on staff gauge. Less than 25 percent full of ash.

Individual Completing Form: Andrew Stallings (Print) _____ (Sign)

Federal CCR 7-Day Inspection Form - CCR Impoundments

Station: W. H. Sammis Power Station CCR Unit: South Pond (OEPA 0IB0010*ND) Date: 10/1/2019

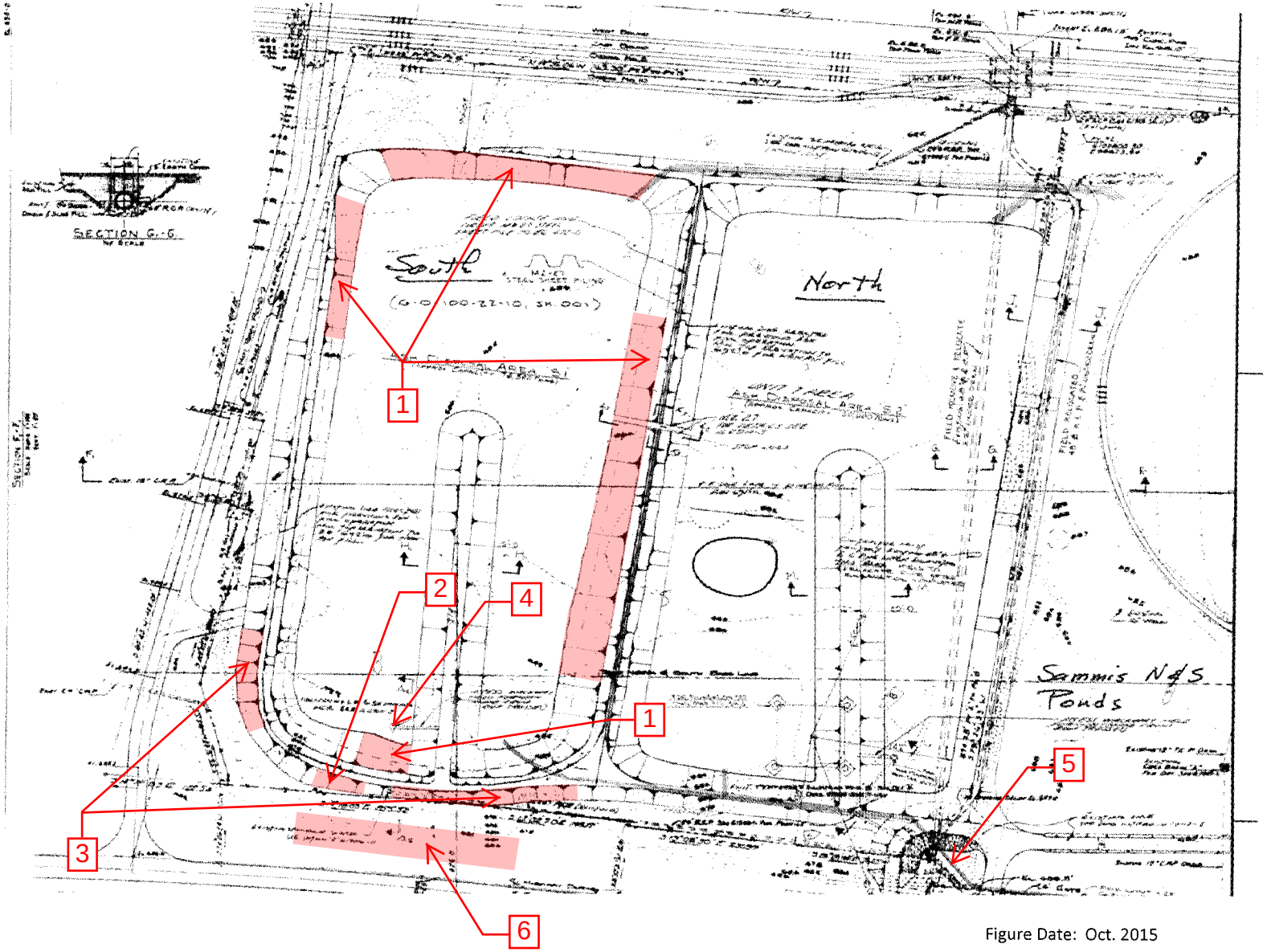


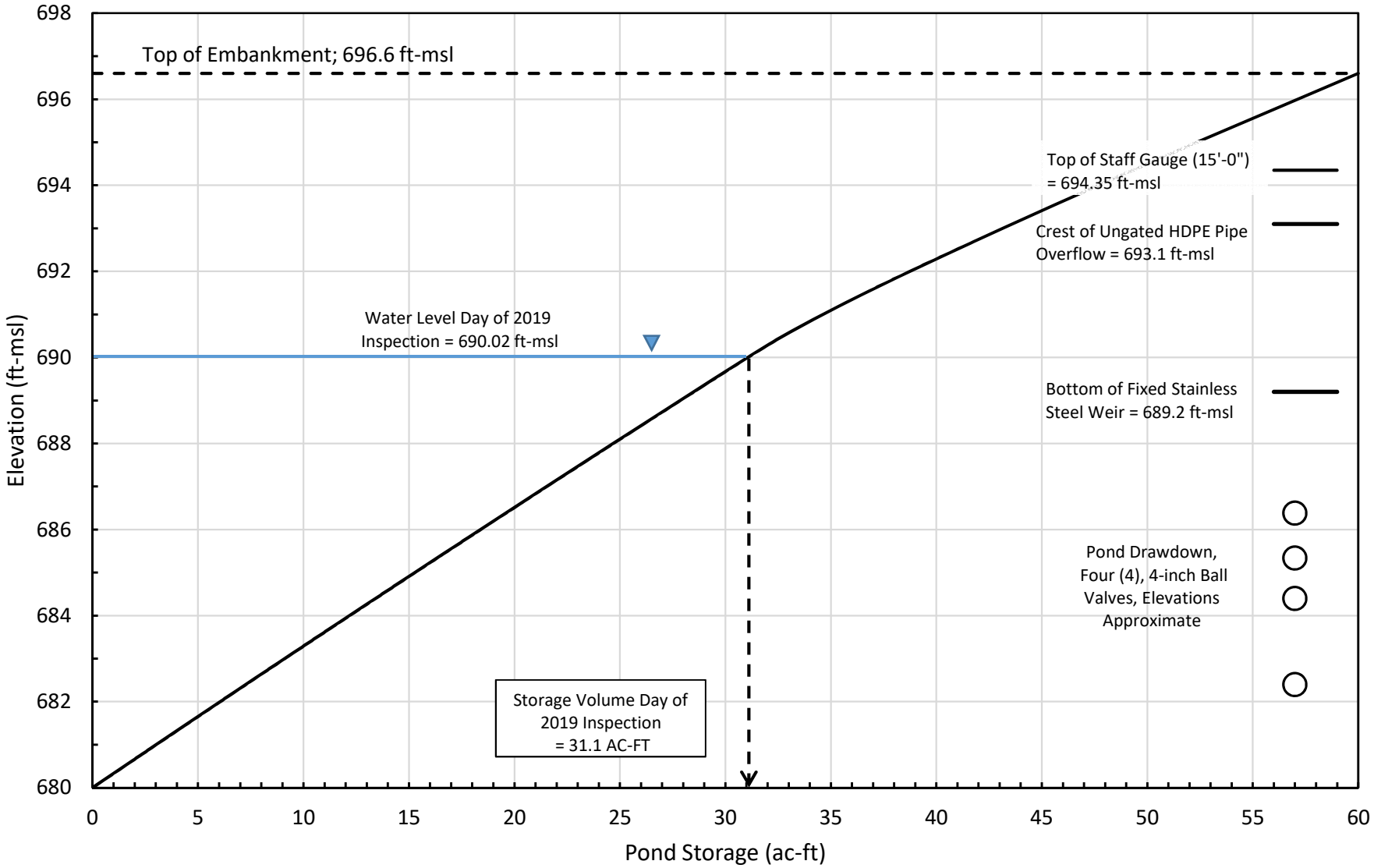
Figure Date: Oct. 2015

APPENDIX B

South Pond Stage-Storage Curve

Stage-Storage Curve

FirstEnergy W.H. Sammis Coal Plant
South Pond Impoundment



Curve is based on elevation-area data presented in the report,
Inflow Design Flood Control System Plan, W.H. Sammis Coal Plant North and South Ponds (Geosyntec, 2016d).