

**ANNUAL INSPECTION REPORT  
ASH SURGE BASIN AND BYPASS BASIN  
POWERTON STATION  
18 JANUARY 2016**

Pursuant to 40 CFR 257.83(b), Geosyntec Consultants (Geosyntec) performed an annual inspection of the Ash Surge Basin and Bypass Basin at the Powerton Station in Pekin, Illinois (see Figure 1). The inspection included a review of available information regarding the status and condition of the CCR units, a visual inspection of the CCR units, including hydraulic and appurtenant structures, and preparation of this inspection report. The visual inspection was performed by Ms. Jane Soule, P.E., on 13 November 2015. A summary of the inspection findings is presented below and in Tables 1 and 2 following the text.

**1. Changes in Geometry - §257.83(b)(2)(i)**

This is the initial annual inspection and, as such, there have not been previous annual inspections. Therefore, no changes in geometry from previous inspections could be assessed.

**2. Instrumentation – §257.83(b)(2)(ii)**

Geosyntec did not observe and is not aware of instrumentation associated with the hydraulic structures, impoundment embankments, or slope performance related to the Bypass Basin or Ash Surge Basin.

**3. Capacity and Impounded Volume – §257.83(b)(2)(iii) through (v)**

The capacity and impounded volume of the Ash Surge Basin and Bypass Basin and estimated depth of impounded water and CCR are presented in Tables 1 and 2, respectively. These volumes and depths were estimated using existing topographic maps and the observations made during the 13 November 2015 inspection.

Because this is the initial annual inspection, the maximum and minimum height of water and CCR in the units since the last inspection could not be assessed.

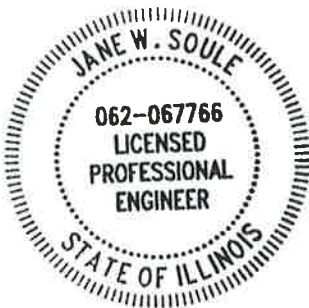
**4. Structural/Operational Observations - §257.83(b)(2)(vi)**

Geosyntec did not identify any site conditions that indicate an actual or potential structural weakness. The following conditions were identified during the inspection that have the potential to disrupt the operation and safety of the CCR units and appurtenant structures:

- The outlet flume for the Bypass Basin overflow pipe, located along the southern slope of the Ash Surge Basin was observed to be partially filled with CCR. At the time of inspection (13 November 2015), the Bypass Basin was not actively receiving CCR. Although the potential to disrupt pond operations and safety is minimal, Geosyntec recommends removal of CCR deposits from this pipe as soon as feasible and prior to active operation of the Bypass Basin. Documentation of the CCR removal should be prepared in accordance with 40 CFR 257.83(b)(5). The documentation should be placed in the operating record and on the CCR web site, and notice should be provided to the State Director per 40 CFR 257.83(b)(5), 257.105(g)(7), 257.106(g)(6), and 257.107(g)(6).
- At the time of the inspection (13 November 2015), the northern and eastern downstream slopes of the Ash Surge Basin and eastern and southern downstream slopes of the Bypass Basin had been recently cleared and had no substantial vegetative cover. Geosyntec personnel, under the direction of a qualified engineer, observed during a site visit on 14 December 2015 that these slopes had been seeded and covered with erosion control blankets subsequent to the initial annual inspection. Weekly qualified person inspections will document ongoing vegetative conditions on these slopes; no additional corrective measures are recommended at this time.

**5. Other Changes – §257.83(b)(2)(vii)**

This is the initial annual inspection and there have not been previous annual inspections. Therefore, no changes affecting the operation or stability of the units could be assessed.



  
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Jane W. Soule, P.E.

Illinois Professional Engineer No. 052-067766

Expiration Date: 11/30/2017

**Table 1: Inspection Summary – Ash Surge Basin**

<b>Category</b>	<b>Regulation Reference</b>	<b>Evaluation</b>	<b>Recommended Action</b>
Changes In Geometry	§257.83(b)(2)(i)	Not Applicable <sup>(1)</sup>	None
Instrumentation	§257.83(b)(2)(ii)	None	None
Water Depth Estimate	§257.83(b)(2)(iii)	10.5 feet <sup>(2)</sup>	None
CCR Depth Estimate	§257.83(b)(2)(iii)	10.5 feet <sup>(3)</sup>	None
Estimated Storage Capacity <sup>(4)</sup>	§257.83(b)(2)(iv)	92.1 acre-feet 148,500 cy	None
Impounded Water Volume Estimate	§257.83(b)(2)(v)	59.6 acre-feet 96,200 cy	None
Impounded CCR Volume Estimate	§257.83(b)(2)(v)	5.3 acre-feet 8,500 cy	None
Structural/Operational Observations	§257.83(b)(2)(vi)	None Observed	None
Other Changes	§257.83(b)(2)(vii)	Not Applicable <sup>(1)</sup>	None

Notes:

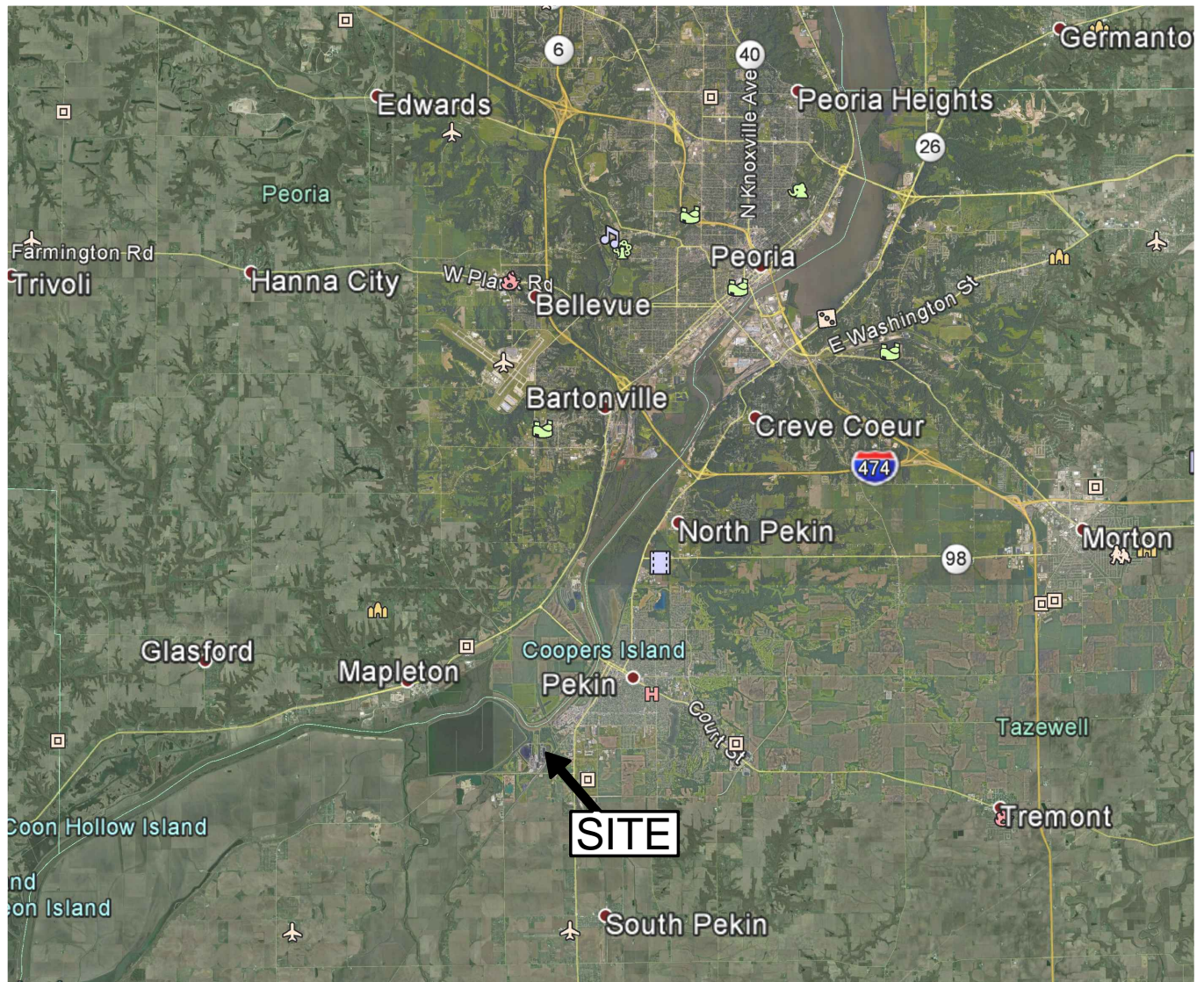
1. This report documents the initial annual inspection.
2. Estimated maximum depth of water at the time of the inspection. The maximum and minimum depths since the last inspection are not applicable since this is the initial annual inspection.
3. Estimated maximum depth of CCR at the time of the inspection. The maximum and minimum depths since the last inspection are not applicable since this is the initial annual inspection.
4. Capacity was computed using computer-aided design computation methods based on 2013 topography by NRT within the basin footprint and a maximum pool elevation of 466 feet, based on the estimated invert elevation of the spillway.

**Table 2: Inspection Summary – Bypass Basin**

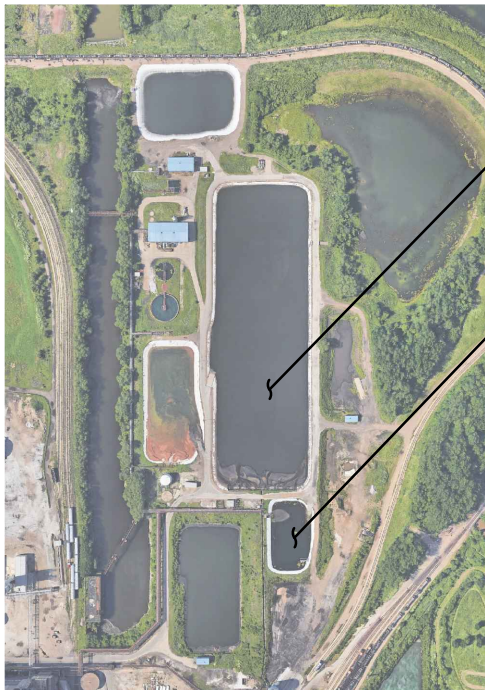
Category	Regulation Reference	Evaluation	Recommended Action
Changes In Geometry	§257.83(b)(2)(i)	Not Applicable <sup>(1)</sup>	None
Instrumentation	§257.83(b)(2)(ii)	None	None
Water Depth Estimate	§257.83(b)(2)(iii)	1 foot <sup>(2)</sup>	None
CCR Depth Estimate	§257.83(b)(2)(iii)	4 feet <sup>(3)</sup>	None
Estimated Storage Capacity <sup>(4)</sup>	§257.83(b)(2)(iv)	5.1 acre-feet 8,170 cy	None
Impounded Water Volume Estimate	§257.83(b)(2)(v)	0.43 acre-feet 690 cy	None
Impounded CCR Volume Estimate	§257.83(b)(2)(v)	0.07 acre-feet 120 cy	None
Structural/Operational Observations	§257.83(b)(2)(vi)	Accumulated CCR within overflow pipe has potential to disrupt operations	Accumulated CCR within overflow pipe should be removed prior to active operation
Other Changes	§257.83(b)(2)(vii)	Not Applicable <sup>(1)</sup>	None

Notes:

1. This report documents the initial annual inspection.
2. Estimated maximum depth of water at the time of the inspection. The maximum and minimum depths since the last inspection are not applicable since this is the initial annual inspection.
3. Estimated maximum depth of CCR at the time of the inspection. The maximum and minimum depths since the last inspection are not applicable since this is the initial annual inspection.
4. Capacity was computed using computer-aided design computation methods based on 2011 topography by NRT within the basin footprint and a maximum pool elevation of 466.75 feet, based on the crest of the vertical riser component of the overflow pipe.



VICINITY MAP



SITE PLAN

ASH SURGE BASIN

BYPASS BASIN



NOT TO SCALE

REFERENCE: GOOGLE, 2016.

VICINITY MAP AND SITE PLAN  
 POWERTON STATION  
 PEKIN, ILLINOIS



DATE: JANUARY 2016

PROJECT NO. SW0251

FIGURE

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