



Proactive by Design

GEOTECHNICAL  
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ECOLOGICAL  
WATER  
CONSTRUCTION  
MANAGEMENT

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October 12, 2018  
File: 21.0056811.00

Mr. George Streit  
[George.Streit@nrg.com](mailto:George.Streit@nrg.com)  
Huntley Power LLC  
3500 River Road  
Tonawanda, NY 14150

Re: 2018 CCR Surface Impoundment Annual Inspection Report  
Huntley Generating Station  
Tonawanda, New York

Dear Mr. Streit:

GZA GeoEnvironmental of New York (GZA) presents this 2018 Annual Inspection Report to Huntley Power LLC (Huntley) for the existing coal combustion residuals (CCR) surface impoundment at the Huntley Generating Station located in Tonawanda, New York (Site). This annual inspection is required by the United States Environmental Protection Agencies (USEPA) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, as presented in the Federal Register Volume 80 No 74 dated April 17, 2015. In accordance with the CCR Rule (40 CFR §257.83), CCR surface impoundments are required to be inspected on a periodic basis by a qualified professional engineer to ensure the design, construction, operation and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards.

The required periodic inspections presented in the CCR Rule are intended for the existing CCR surface impoundment at the Site which is identified as the South Settling Pond. We note that two asphalt lined containment basins (identified as North and South Equalization Basins) located adjacent to the South Settlement Pond to the west do not receive CCR and therefore are not included as part of the annual inspection. The limits of the South Settling Pond are shown on the attached Figure 1.

### Site Observations

GZA visited the Huntley Power Plant to make observations of the South Settling Pond on September 12, 2018. We note that the Huntley Plant ceased electrical generation operations and as a result, CCR sluice water was eliminated from being discharged into the pond by late March 2016. Additionally, with the exception of occasional sump water generated from stormwater collection systems inside the plant building, non-CCR water (e.g., water associated with fire suppression, HVAC systems, etc.) is no longer discharged into the pond. The rate of sump water discharge is sporadic or



negligible when compared to an estimated  $1,500\pm$  gallons per minute (gpm) of non-CCR water discharged to the pond in 2016. We note the original discharge rate into the pond when the plant was operational was estimated at about  $6,800\pm$  gpm of CCR sluice water and non-CCR water. In general, our observations of the Huntley South Settlement Pond were similar to those made during our previous 2016 inspection where no significant changes or modifications (with the exception of the reduced or negligible sump water flow) were apparent.

The following discussion addresses the requirements for the annual inspection report by a qualified professional engineer as indicated by the CCR Rule section §257.83 (b)(2) (i) through (vii).

- (i) No changes to the overall geometry of the south settlement pond (including sidewalls and outfall structures) were observed during our recent Site visit as compared to our previous observations of 2017. However, we note that the water level was observed to be lower than previous years.
- (ii) GZA observed instrumentation equipment consisting of a measurement rod at the south settlement pond outlet which is used to measure outflow volume. The rod was reportedly installed in September 2015 and was set to record water levels above the outfall invert elevation (approximately 569 feet above mean sea-level) to calculate the flow rate based on the outfall pipe specifics (e.g., diameter, slope, wetted perimeter, etc.). Since its installation, flow rates were periodically determined based on the measured water levels and since the CCR and most non-CCR water no longer flows into the impoundment, the current flow rate has been reportedly ranging between about 1,044 and 137,000 gallons per day (gpd) (about 1 to 95 gpm) and averaging about 57,554 gpd (40 gpm) which is similar flows to 2017 although a significant reduction from 2016. At the time of our 2018 Site visit, the water flowing through the outfall was observed similar to 2017 observations with the water level at the bottom of the installed measurement rod.
- (iii) As part of historic operations when the Huntley Plant was actively generating electricity, typical O&M practices included routinely dredging accumulated CCR from the northern portion of the pond for eventual off-Site disposal. However, depth measurements of accumulated CCR were not routinely made within the extents of the pond. Because the plant significantly reduced and eventually eliminated CCR sluice water discharge into the pond in 2016, elevational changes pertaining to the accumulated CCR are anticipated to be unchanged from that of the previous year and the surface water elevation appears to have decreased from previous years due to the reduced flow rate of the non-CCR water into the pond. Previous records indicated water elevation (el.) of  $570\pm$  for the south settlement pond when CCR sluice water was being discharged as compared to the recent approximate measurements of el.  $569\pm$  associated with the reduced/negligible flow rate of occasional non-CCR sump water. The outfall pipe invert was recently measured at 568.92 ft.



- (iv) Based on the elimination of CCR and most non-CCR sluice water into the settlement pond over the past couple years, the storage capacity is not anticipated to have changed significantly from the previous year. As previously indicated, routine measurements or surveys of the pond were not made to determine storage capacity although previous studies have estimated an approximate design storage capacity of about 43± acre-feet for the South Settling Pond.
- (v) The facility had historically dredged accumulated CCR from the northern portion of the pond on a weekly basis. The recovered CCR was stockpiled adjacent to the pond to drain free liquids prior to final disposal at the facilities off-site ash landfill. This process generally resulted in a negligible net gain of CCR within the South Settling Pond. CCR accumulation in the pond is assumed to have ceased once the facility eliminated the CCR sluice water discharging into the Pond. A review of available documentation indicated the entire pond area was last dredged in December 2008 in which a reported volume of 20,177 cy of CCR was removed for disposal. The dredging reportedly used a bottom-scrape target elevation of 564.5 feet. Based on the approximate 200,000 sf area of the pond and the anticipated volume of CCR waste accumulation since the December 2008 dredging, the anticipated volume of water remaining in the pond during our inspection was estimated at about 2.4 million gallons and about 23,000 cubic yards of CCR (similar to the 2017 estimate).
- (vi) During the time of our Site observations, no indication of actual or potential structural weaknesses of the surface water impoundment were observed that would be considered disruptive or having the potential to disrupt the operation and safety of the CCR unit.
- (vii) During this 2018 annual inspection, we identified no changes that may affect the stability or operation on the impoundment structure within the past year. With the exception of the discharge flow reduction (due to previous elimination of most non-CCR sluice water and subsequent reduction of the surface water elevation relative to the invert elevation of the outfall pipe) the South Settlement Pond appears to have been unchanged and in similar condition to the observations made in 2017.

Overall, the South Settling Pond, the only remaining surface impoundment located at the Huntley Power Plant, was observed to be constructed, operated and maintained in general accordance with the proposed design configurations, and the side slopes and other areas were observed in good condition with no evidence of actual or potential structural instability.

#### **PROFESSIONAL ENGINEER CERTIFICATION**

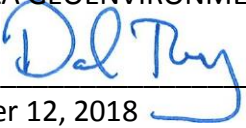
The undersigned registered professional engineer is familiar with the requirements of §257.83 and has visited and examined the Huntley Station South Settling Pond surface impoundment or has supervised examination of the facilities by appropriately qualified personnel. The undersigned registered



professional engineer attests that this Annual Inspection Report has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and meets the requirements of §257.83, and that this Report is adequate for the Huntley Station. This certification was prepared as required by §257.83(b)(2).

Name of Professional Engineer: Daniel J. Troy, P.E.

Company: GZA GEOENVIRONMENTAL OF NEW YORK

Signature: 

Date: October 12, 2018

PE Registration State: New York

PE Registration Number: 081139-1


Professional Engineer Seal:

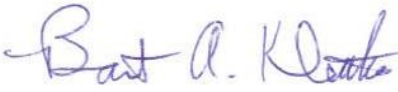


We trust this information satisfies your needs for this project.

Sincerely,

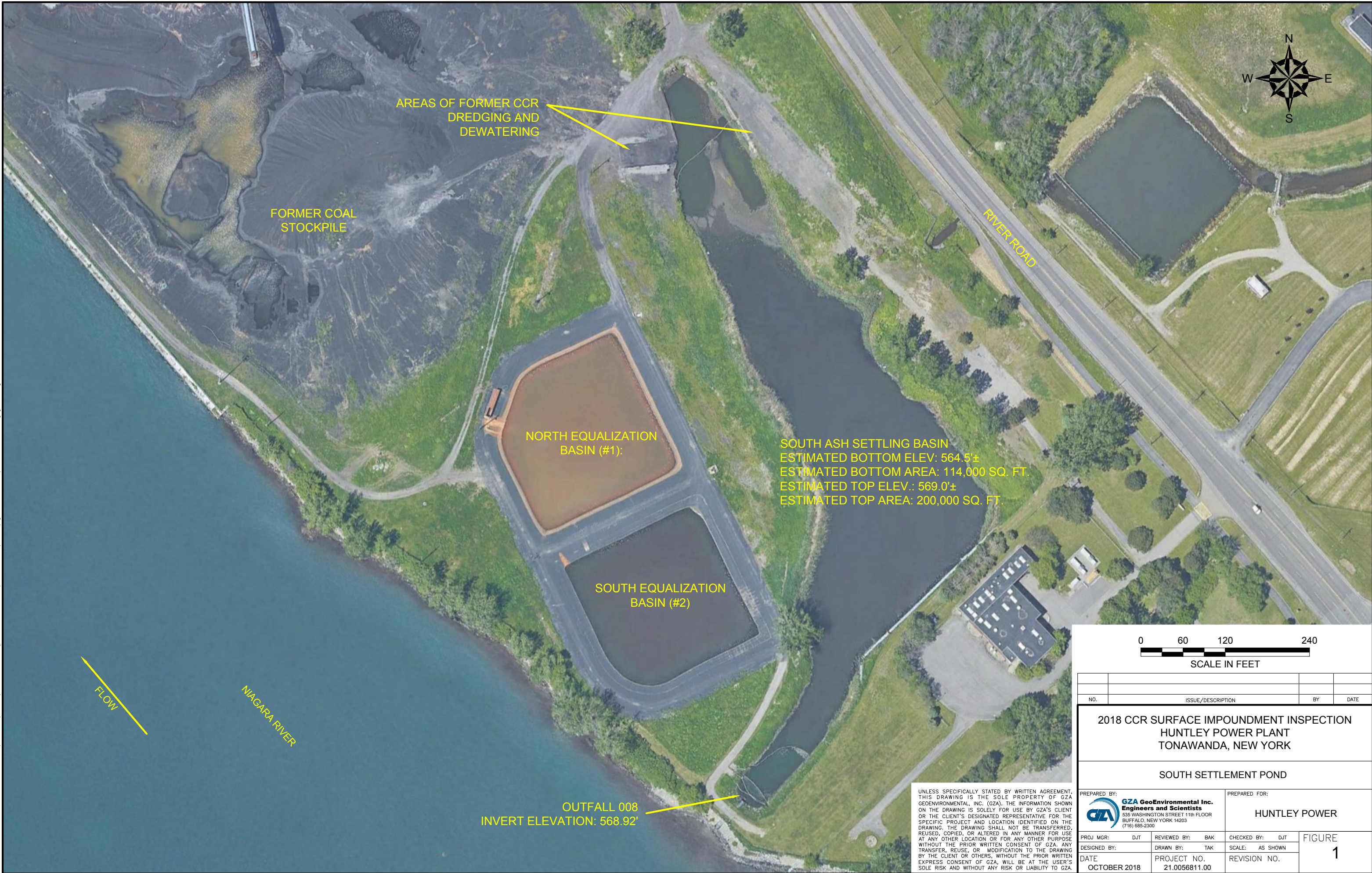
GZA GEOENVIRONMENTAL OF NEW YORK

  
Daniel J. Troy, P.E.  
Senior Project Manager

  
Bart A. Klettke, P.E.  
Principal

Attachments: Figure 1 – Huntley Power South Settling Pond

© 2017 - GZA GeoEnvironmental of NY GZA-K:\PROJECTS\56811\_NRG\_Huntley\_CCR\_Services\_2017\Site Annual Inspection\Figure 1 Annual Inspection\_Oct\_2018.dwg [FIGURE 1] October 02, 2018 -- 9:37am theodore.luthe



AREAS OF FORMER CCR  
DREDGING AND  
DEWATERING

FORMER COAL  
STOCKPILE

NORTH EQUALIZATION  
BASIN (#1):

SOUTH ASH SETTLING BASIN  
ESTIMATED BOTTOM ELEV: 564.5'±  
ESTIMATED BOTTOM AREA: 114,000 SQ. FT.  
ESTIMATED TOP ELEV.: 569.0'±  
ESTIMATED TOP AREA: 200,000 SQ. FT.

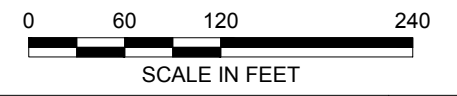
SOUTH EQUALIZATION  
BASIN (#2)

OUTFALL 008  
INVERT ELEVATION: 568.92'

FLOW

NIAGARA RIVER

RIVER ROAD



NO.	ISSUE/DESCRIPTION	BY	DATE

2018 CCR SURFACE IMPOUNDMENT INSPECTION  
HUNTLEY POWER PLANT  
TONAWANDA, NEW YORK

SOUTH SETTLEMENT POND

PREPARED BY: <b>GZA GeoEnvironmental Inc.</b> <b>Engineers and Scientists</b> <small>535 WASHINGTON STREET 11th FLOOR          BUFFALO, NEW YORK 14203          (716) 685-2300</small>		PREPARED FOR: <b>HUNTLEY POWER</b>	
PROJ MGR: DJT	REVIEWED BY: BAK	CHECKED BY: DJT	<b>FIGURE</b> <b>1</b>
DESIGNED BY:	DRAWN BY: TAK	SCALE: AS SHOWN	
DATE OCTOBER 2018	PROJECT NO. 21.0056811.00	REVISION NO.	

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