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October 8, 2021
File: 21.0056983.00

Mr. George Streit
george.streit@nrgenergy.com
Huntley Power LLC
3500 River Road
Tonawanda, NY 14150

Re: CCR Landfill 2021 Annual Inspection Report
Huntley Generating Station
Tonawanda, New York

Dear Mr. Streit:

GZA GeoEnvironmental of New York (GZA) presents this 2021 Annual Landfill Inspection report to Huntley Power LLC (Huntley) for the existing coal combustion residuals (CCR) landfill units at the Huntley Generating Station landfill 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 257.84), owners/operators of CCR landfill units are required to be inspected on a periodic basis by a qualified professional engineer to check the design, construction, operation and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards.

Document Review

The required periodic inspections presented in the CCR Rule are intended for open and active landfills and are not required for closed or inactive landfills. As such, the active/open ash waste cells for the Huntley Power Site are identified as upper portions of Cells A and D, and all of Cell C. The remaining landfill cells at the Site are considered inactive (i.e., closed) and are not included with this annual inspection report. The limits of the active cells requiring this annual inspection report are shown on the attached figure prepared by Wendel for the 2020 fill progression survey (see **Figure 1**). An area designated as future Cell B (located between Cells A and C) and Cell E (located south of Cell A) have not yet been constructed.

The Huntley Power landfill is currently permitted (ID#9-1464-00089/000010) with the New York State Department of Environmental Conservation (NYSDEC) to accept residual coal ash waste generated from the Huntley Power facility through January 3, 2023. We note that the Huntley Power plant has ceased electrical generation



operations and is in the process of being shut down. A review of Wendel’s 2020 (most recent) fill progression report for the Cells A, C and D indicates the following information.

Landfill Cell	Waste Received in 2020 (cy)	Current Ash Volume (cy)	Volume Remaining (cy)
A	0	509,582	195,958
C	0	417,528	361,515
D	0	537,609	48,051
Totals for A, C & D	0	1,464,719	605,524

cy = cubic yards

NRG indicated that no waste material was placed in any of the active cells since November 27, 2018.

The 2021 weekly landfill inspection forms prepared by Huntley Power Site personnel did not identify any concerns or complaints related to the operation and/or maintenance of the active ash landfill cells.

Site Observations

GZA visited the Huntley CCR Landfill Site on September 8th, 2021 to make observations of the active portions of landfill Cells A, C and D. The following is a summary of our observations made at each active cell.

Cell A: This cell has reportedly received no CCR waste since November 27, 2018. This area was subsequently covered with soil and seeded for use as a temporary cover and no areas of exposed CCR waste were observed. The Cell A side slopes at the lower elevations were observed with final cover systems previously constructed in general accordance with its intended design (side slopes not exceeding 33% or 3 Horizontal: 1 Vertical (3H:1V)) and included intermittent benches and rip-rap lined drainage channels at select locations of the cell. The upper elevations were observed generally consisting of a vegetated temporary cover system with approximate 5% slopes. In general, although there have been slight modifications to the grades and upper slopes of the Cell A, no deficiencies or structural concerns were observed.

Cell C: The 2020 fill progression survey and NRG personnel indicated that Cell C has received no ash waste since November 27, 2018. During our 2021 Site visit, the side slopes and upper portions of the waste areas were observed to be in similar condition to observations made in 2020 although the previously re-graded upper slopes were now observed with a vegetated cover (similar to the upper portions of Cell A) with no observable areas of exposed CCR waste. The recent regrading and installation of a vegetated temporary cover system appears to be in general accordance with intended designs and overall appears to be stable without evidence of structural instability issues (e.g., slumps, cracks, settlement, etc.). The cell side slopes were observed to be no steeper than 3H:1V and no evidence of rainfall runoff erosion rills were observed. We note that the drainage ditch within the



northern perimeter of Cell C was observed being re-worked following sufficient vegetation growth on the temporary soil cover system. Prior to the establishment of vegetation, temporary storm water runoff prevention features (e.g., soil berm, silt fence) were installed to prevent stormwater runoff and appeared to be effective. NRG personnel indicated that drainage ditch modifications were planned for the fall of 2021 to eliminate the need for the temporary stormwater runoff prevention controls.

Cell D: The 2020 fill progression survey and NRG personnel indicated that Cell D has received no ash waste since November 27, 2018. The temporary soil cover system observed on Cell D appears similar to observations made in 2020 with no observable areas of exposed CCR waste. The previous regrading activities and vegetative growth within the cell appears to be in general accordance with intended designs and overall appears to be stable without evidence of structural instability issues (e.g., slumps, cracks, settlement, etc.). The northern, eastern and southern side slopes of Cell D were observed having final cover systems, including interim benches and drainage features. The cell side slopes were observed to be no steeper than 3H:1V. Similar to the northern slope of Cell C, the drainage ditch within the western extent of the northern slope of Cell D was observed being re-worked following sufficient vegetation growth on the temporary soil cover system. Prior to the establishment of vegetation, temporary storm water runoff prevention features (e.g., soil berm, silt fence) were installed to prevent stormwater runoff and appeared to be effective. NRG personnel indicated that drainage ditch modifications were planned for the fall of 2021 to eliminate the need for the temporary stormwater runoff prevention controls.

Overall, the work face areas of the active cells appeared to be graded in general accordance with the proposed design configurations. The side slopes and other areas were observed covered with a sufficient vegetative cover that appears to have been recently mowed and the slopes were observed in good condition with no evidence of actual, or potential for, structural instability or erosion or unsafe conditions. Similar to the most recent annual inspection made at the end of 2020, this inspection identified no areas of concern or areas evident of structural instability. No significant changes pertaining to the design, operation and maintenance have been made to the active landfill cells within the last year with the exception of the recent drainage ditch improvements along the northern slope of Cells C and D. In general, the ongoing maintenance (grass cutting) and temporary cover system over the CCR waste appear to be in compliance with the cell design and permit requirements. With the exception of the recent drainage ditch improvement work being completed along the northern slope of Cells C and D, no areas of exposed CCR waste were observed within Cells A, C and/or D during our 2021 site visit.

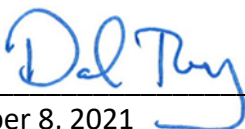


PROFESSIONAL ENGINEER CERTIFICATION

The undersigned registered professional engineer is familiar with the requirements of §257.84 and has visited and examined the Huntley Station Landfill 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 §257.84, and that this Report is adequate for the Huntley Station. This certification was prepared as required by §257.84(b)(2).

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

Company: GZA GEOENVIRONMENTAL OF NEW YORK


Signature: 
Date: October 8, 2021
PE Registration State: New York
PE Registration Number: 081139-1
Professional Engineer Seal:

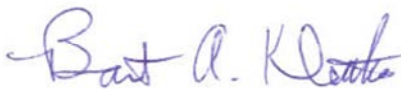


We trust this information satisfies your needs for this project.

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK


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


Bart A. Klettke, P.E.
Principal

Attachments: Figure - 2020 Huntley Fill Progression Survey – General Plan

GENERAL NOTES:

- EXISTING TOPOGRAPHY SHOWN FROM MAPS PREPARED BY STORING & WHEELER, LLC (ENVIRONMENTAL ENGINEERS AND SCIENTISTS) PROVIDED BY NRG.
- UPDATED TOPOGRAPHY IN CELLS C AND D IS BASED ON FIELD SURVEY PERFORMED BY NRG.
- HORIZONTAL & VERTICAL CONTROL REFERENCED TO SITE DATUM(S) PROVIDED BY NRG.
- THROUGH CONVERSATION WITH NRG AND AS OBSERVED/MEASURED IN THE FIELD, NO MATERIAL HAS BEEN PLACED WITHIN CELLS A, C OR D BETWEEN NOVEMBER 2019 AND NOVEMBER 2020.

CELL	TOTAL THEORETICAL WORKING CAPACITY OF CELLS AT PRESENT DEVELOPMENT STAGE (CUBIC YARDS)	TOTAL ASH VOLUME IN CELL (CUBIC YARDS)	ACTUAL USABLE REMAINING AIRSPACE AFTER DEVELOPMENT ON ADJACENT CELLS (CUBIC YARDS)	ASH RECEIVED IN 2020 (CUBIC YARDS) (SEE NOTE #4)
A	573,849	509,582	195,958	0
C	601,927	417,528	361,515	0
D	585,660	537,609	48,051	0
TOTAL	1,761,436	1,464,719	605,524	0

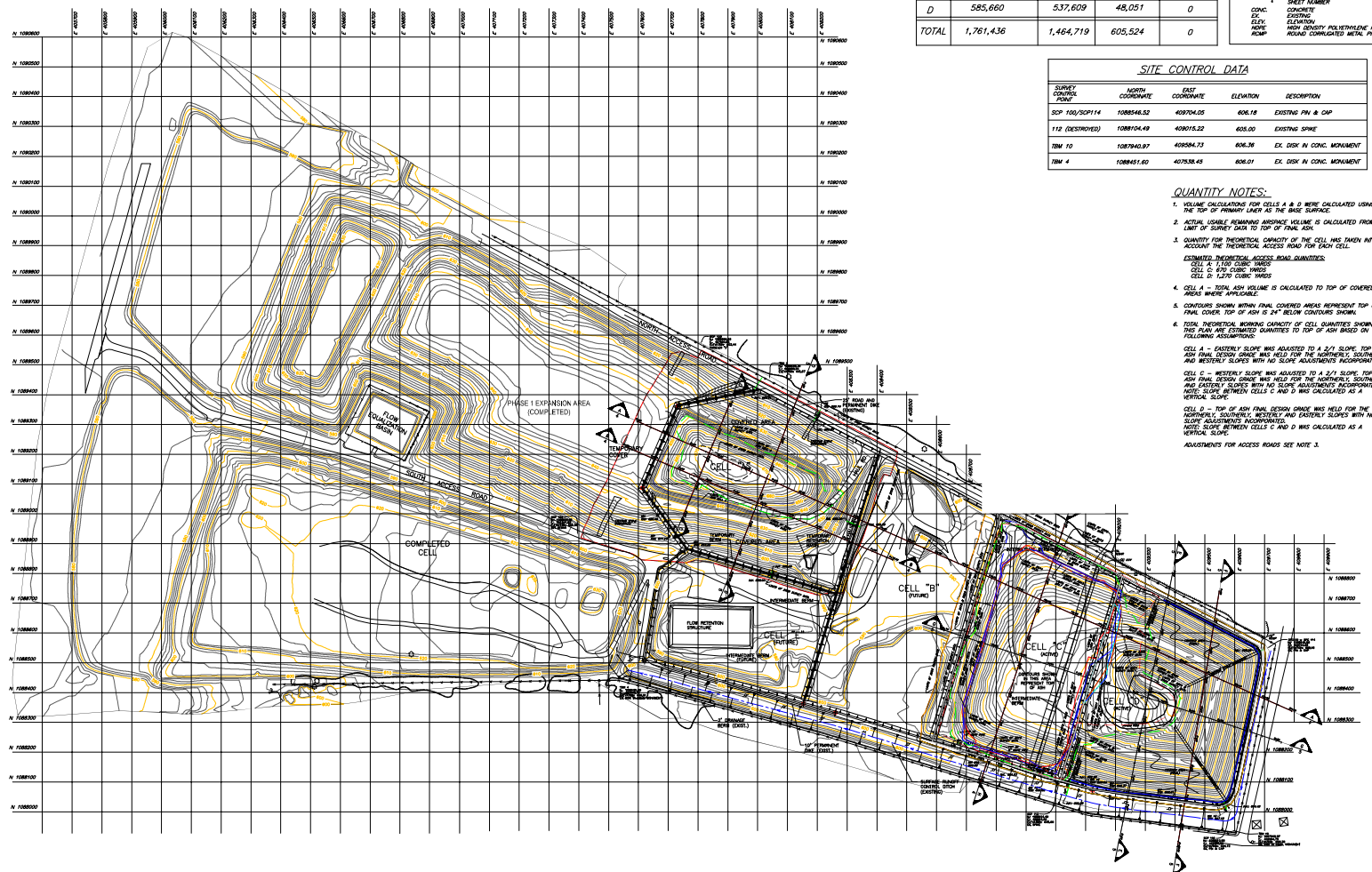
LEGEND:

- LIMIT OF ASH 2019 & 2020 SURVEY DATA
- LIMIT OF ASH 2018 SURVEY DATA
- LIMIT OF ASH 2017 SURVEY DATA
- LIMIT OF ASH 2016 SURVEY DATA
- LIMIT OF ASH 2015 SURVEY DATA
- LIMIT OF ASH 2014 SURVEY DATA
- LIMIT OF 2013 SURVEY DATA
- LIMIT OF 2008 SURVEY DATA
- LIMIT OF 2008 SURVEY DATA
- 10' CONTOUR INTERVAL (SMOOTH)
- 3' CONTOUR INTERVAL (ROUGH)
- SURFACE RUNOFF CONTROL DITCH
- DITCH
- MANHOLE
- CULVERT
- SLOPE DOWN
- SLOPE UP
- UTILITY POLE
- UNKNOWN UTILITY VALVE
- CONTROL POINT
- SECTION NUMBER
- SHEET NUMBER
- CONCRETE
- EXISTING
- ELEVATION
- HIGH DENSITY POLYETHYLENE APE
- ROAD CORNERED METAL PIPE
- RIBB

SITE CONTROL DATA

SURVEY CONTROL POINT	ADDRESS COORDINATE	EAST COORDINATE	ELEVATION	DESCRIPTION
SOP 100/SOP114	1088546.82	409704.05	606.78	EXISTING PIN & CAP
112 (DESTROYED)	1088104.49	409016.22	605.00	EXISTING SPIKE
TBM 10	1087948.97	408884.73	606.38	EX. DISK IN CONC. MONUMENT
TBM 4	1088465.60	407883.45	606.01	EX. DISK IN CONC. MONUMENT

- QUANTITY NOTES:**
- VOLUME CALCULATIONS FOR CELLS A & D WERE CALCULATED USING THE TOP OF PRIMARY LAYER AS THE BASE SURFACE.
 - ACTUAL USABLE REMAINING AIRSPACE VOLUME IS CALCULATED FROM LIMIT OF SURVEY DATA TO TOP OF FINAL ASH.
 - QUANTITY FOR THEORETICAL CAPACITY OF THE CELL WAS TAKEN INTO ACCOUNT THE THEORETICAL ACCESS ROAD FOR EACH CELL.
ESTIMATED THEORETICAL ACCESS ROAD QUANTITIES:
CELL A - 11,133 CUBIC YARDS
CELL C - 475 CUBIC YARDS
CELL D - 1,230 CUBIC YARDS
 - CELL A - TOTAL ASH VOLUME IS CALCULATED TO TOP OF COVERED AREA WHERE APPLICABLE.
 - CONTOURS SHOWN WITHIN FINAL COVERED AREAS REPRESENT TOP OF FINAL COVER TOP OF ASH IS 2" BELOW CONTOURS SHOWN.
 - TOTAL THEORETICAL WORKING CAPACITY OF CELL QUANTITIES SHOWN ON THIS PLAN ARE ESTIMATED QUANTITIES TO TOP OF ASH BASED ON THE FOLLOWING ASSUMPTIONS:
CELL A - EASTERLY SLOPE WAS ADJUSTED TO A 3/4% SLOPE. TOP OF ASH FINAL DESIGN GRADE WAS HELD FOR THE WESTERLY, SOUTHERLY AND WESTERLY SLOPES WITH NO SLOPE ADJUSTMENTS INCORPORATED.
CELL C - WESTERLY SLOPE WAS ADJUSTED TO A 2/3% SLOPE. TOP OF ASH FINAL DESIGN GRADE WAS HELD FOR THE NORTHERLY, SOUTHERLY AND EASTERLY SLOPES WITH NO SLOPE ADJUSTMENTS INCORPORATED. NOTE: SLOPE BETWEEN CELLS C AND D WAS CALCULATED AS A VERTICAL SLOPE.
CELL D - TOP OF ASH FINAL DESIGN GRADE WAS HELD FOR THE NORTHERLY, SOUTHERLY, WESTERLY AND EASTERLY SLOPES WITH NO SLOPE ADJUSTMENTS INCORPORATED. NOTE: SLOPE BETWEEN CELLS C AND D WAS CALCULATED AS A VERTICAL SLOPE.
ADJUSTMENTS FOR ACCESS ROADS SEE NOTE 3.



NO.	BY	DATE