

January 14, 2016
File: 21.0056757.01

Mr. Kevin Schroeder
Kevin.schroeder@nrgenergy.com
Huntley Power LLC
Tonawanda, NY 14150



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

Dear Mr. Schroeder:

535 Washington Street
11th Floor
Buffalo, New York
14203
716-685-2300
Fax: 716-685-3629
www.gza.com

GZA GeoEnvironmental of New York (GZA) presents this 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 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 open and active landfills only and are not required for closed or inactive landfills. As such, the active ash waste cells for the Huntley Power Site are identified as Cells A, C and D. The remaining landfill cells at the Site are considered inactive (i.e., closed) and are not included with the 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 2014 fill progression survey.

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. A review of the 2014 fill progression report for the Cells A, C and D (completed by Wendel, dated February 4, 2015) indicates the following information.

Landfill Cell	Waste Received (cy)	Current Ash Volume (cy)	Volume Remaining (cy)
A	0	498,994	206,546
C	31,126	382,913	396,150
D	305	544,837	40,823
Totals for A,C & D	31,431	1,426,744	643,519

cy = cubic yards

Site Observations

GZA visited the Huntley CCR Landfill Site on December 2nd, 2015 to make observations of the active landfill cell areas. The following is a summary of our observations made at each active cell.



Cell A: This cell apparently has not received waste ash in several years, evidenced by the type of ash observed and the extent of vegetation growth at the top and along the sides of the access roads. The cell A side slopes at the lower elevations were observed to be 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 generally observed with areas of exposed ash waste and tall grasses at the edges of the access road. These areas will likely require some grading prior to construction of a final cover system, however these areas were observed as stable and without evidence of structural deficiencies. The observed vegetation reportedly grew naturally (i.e. not purposely seeded) along the upper side slopes (away from the access road) and had been allowed to spread for several years. Prior to construction of the final cap system for Cell A, the existing vegetation will be required to be removed and disposed to allow for proper grading and cover system construction.

Cell C: This cell appears to have been receiving the majority waste ash for several years as indicated by facility personnel and reported fill progression results. The construction of the landfill 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 generally observed as not steeper than 33% (3 Horizontal:1 Vertical). No significant vegetative growth was observed over this Cell due to on-going construction activities.

Cell D: This cell appears to have recently received small volumes of waste ash as indicated by facility personnel and reported fill progression results. The construction of the landfill 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.). Additionally, only the upper portions of the cell were observed as active and the northern, eastern and southern side slopes were observed with final cover systems, including interim benches and drainage features. The cell side slopes were generally observed not steeper than 3H:1V. No significant vegetative growth was observed over this Cell due to on-going construction activities.

The haul roads leading to the active work face areas of each cell were generally observed in good condition with little evidence of erosion or instability. Observations of the work face side slopes and newly graded ash waste identified no areas of actual or potential structural weaknesses. Additionally, there was no disruptive or potentially disruptive conditions observed within the waste placement operation areas.

Overall, the active work face areas appeared to be graded 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. Because this annual inspection is the first

one as required by the newly required CCR Rule, no comparisons to past annual inspections can be made.

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: January 14, 2016

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

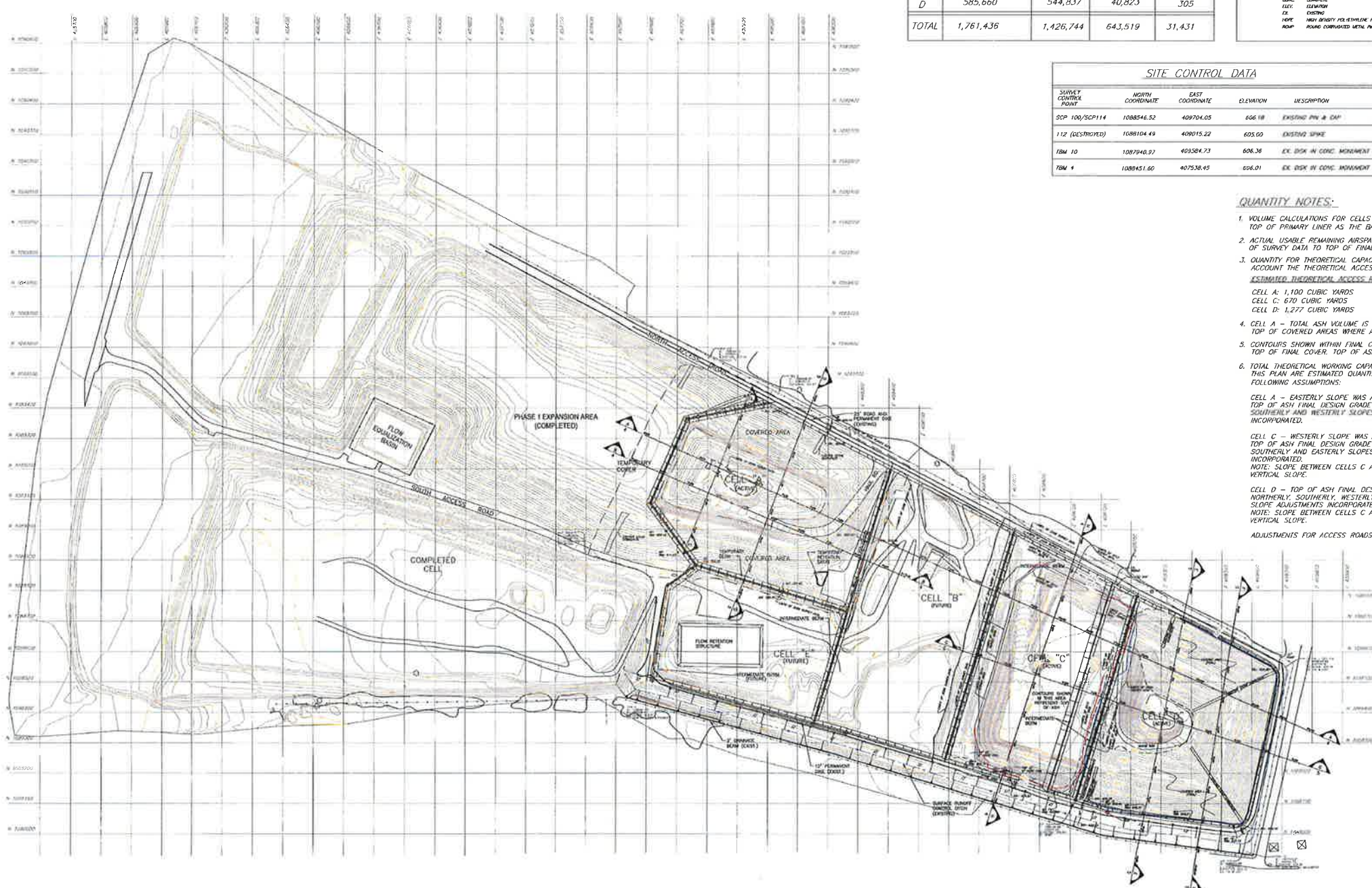


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Attachments: Figure - General Plan for 2014 Fill Progression Survey



GENERAL NOTES:

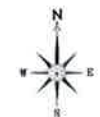
- EXISTING TOPOGRAPHY SHOWN FROM MAPS PREPARED BY STEVENS & WHEELER, LLC ENVIRONMENTAL ENGINEERS AND SCIENTISTS, PROVIDED BY NRG.
- UPDATED TOPOGRAPHY IN CELL C IS BASED ON FIELD SURVEY PERFORMED BY WENDEL IN DECEMBER 2014.
- HORIZONTAL & VERTICAL CONTROL REFERENCED TO SITE DATA(S) PROVIDED BY NRG.

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 OF ADJACENT CELLS (CUBIC YARDS)	ASH RECEIVED IN 2014 (CUBIC YARDS)
A	573,849	498,994	206,546	0
C	601,927	382,913	396,150	31,126
D	585,660	544,837	40,823	305
TOTAL	1,761,436	1,426,744	643,519	31,431

LEGEND:

- LIMIT OF ASH 2014 SURVEY DATA
- LIMIT OF ASH 2013 SURVEY DATA
- LIMIT OF ASH 2012 SURVEY DATA
- LIMIT OF ASH 2011 SURVEY DATA
- LIMIT OF ASH 2010 SURVEY DATA
- 10' CONTOUR INTERVAL (UNADJUSTED)
- 2' CONTOUR INTERVAL (ADJUSTED)
- SURFACE PLANNY CONTROL DATA

MANHOLE
 CULVERT
 STORM DRAIN
 UTILITY POLE
 UTILITY LINE
 DRAINAGE UTILITY VALVE
 CENTER POINT
 SECTION MARKER
 SHEET MARKER
 CONCRETE STRUCTURE
 UTILITY
 EXISTING
 PROPOSED
 ROAD
 ROAD



SITE CONTROL DATA

SURVEY CONTROL POINT	NORTH COORDINATE	EAST COORDINATE	ELEVATION	DESCRIPTION
SOP 100/SCP114	1088546.52	409704.05	606.18	EXISTING PIN & CAP
112 (DESTROYED)	1088104.49	40915.22	605.00	EXISTING SPIKE
TBM 10	1087940.37	403284.73	606.36	EX. DISK IN CONE. MONUMENT
TBM 4	1088451.60	407538.45	606.01	EX. DISK IN CONE. MONUMENT

QUANTITY NOTES:

- VOLUME CALCULATIONS FOR CELLS A & D WERE CALCULATED USING THE TOP OF PRIMARY LINER 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 HAS TAKEN INTO ACCOUNT THE THEORETICAL ACCESS ROAD FOR EACH CELL.
- ESTIMATED THEORETICAL ACCESS ROAD QUANTITIES:**
- CELL A: 1,100 CUBIC YARDS
 - CELL C: 670 CUBIC YARDS
 - CELL D: 1,277 CUBIC YARDS
- CELL A - TOTAL ASH VOLUME IS CALCULATED TO TOP OF COVERED AREAS WHERE APPLICABLE.
 - CONTOURS SHOWN WITHIN FINAL COVERED AREAS REPRESENT TOP OF FINAL COVER. TOP OF ASH IS 24" 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 2/1 SLOPE. TOP OF ASH FINAL DESIGN GRADE WAS HELD FOR THE NORTHERLY, SOUTHERLY AND WESTERLY SLOPES WITH NO SLOPE ADJUSTMENTS INCORPORATED.
 CELL C - WESTERLY SLOPE WAS ADJUSTED TO A 2/1 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.



HUNTLEY POWER, LLC
ENGINEERING SERVICES

ANNUAL FILL PROGRESSION SURVEY FOR THE HUNTLEY LANDFILL

RECORD DRAWING



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NO.	REVISIONS	DATE

HUNTLEY
2014 FILL PROGRESSION SURVEY
GENERAL PLAN

DATE: 1/9/2015
SCALE: AS SHOWN
DRAWN BY: BCS
CHECKED BY: JCS
PROJECT NO: 415412
SHEET NO: