

Consulting
Engineers and
Scientists

January 18, 2016
Project 1600630

Ms. Dawn DeJardin
Fuel & By Products Analyst
Wisconsin Public Service Corporation
700 North Adams Street, P.O. Box 19001
Green Bay, Wisconsin 54307-9001

**Re: Landfill Inspection Report for the Weston Disposal Site No. 3
Wisconsin Public Service Corporation
Town of Knowlton, Marathon County, Wisconsin**

Dear Ms. DeJardin:

GEI Consultants, Inc. (GEI) is pleased to provide this landfill inspection report for the Wisconsin Public Service Corporation (WPS) Weston Disposal Site No. 3. The inspection was completed to comply with *40 CFR 257 Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments* and specifically with *§ 257.84(b) Annual inspections by a qualified professional engineer.*

§ 257.84 Inspection Requirements for CCR Landfills

(b) Annual inspections by a qualified professional engineer.

(1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

(i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person and results of previous annual inspections); and

(ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

(2) *Inspection report.* The qualified professional engineer must prepare a report following each inspection that addresses the following:

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

(ii) The approximate volume of CCR contained in the unit at the time of the inspection;

(iii) 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

(iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

Background

The landfill is located in the E 1/2 of the NW 1/4 and W 1/2 of the NE 1/4, Section 23, Township 26 North, Range 7 East, Town of Knowlton, Marathon County, Wisconsin. The landfill is permitted by the Wisconsin Department of Natural Resources (WDNR) under License No. 3067. Figure 1 – Site Location Figure, shows the location of the landfill relative to the Weston Power Plant. The landfill was originally permitted by the WDNR on October 20, 1986, with the issuance of a Conditional Plan of Operation Approval. The original facility was licensed and approved to consist of 8 cells covering 35 acres and having a total design capacity of 873,000 cubic yards. Former Cell 1 was constructed and placed into operation with the construction documentation approval on December 18, 1990. However, due to WPS's beneficial use program, the former cell was only partially filled and remained dormant.

Due to the completion of a new generating unit at Weston Power Plant, change in air regulations, and the installation of improved air pollution control technologies, WPS identified the need for additional disposal capacity for coal combustion residuals (CCR). In 2011, WPS began a permitting effort to expand the Weston Disposal Site No. 3 from a 35-acre, 873,000 cubic yard landfill to a 57.6-acre, 4,075,500 cubic yard landfill. The new expanded landfill was permitted December 11, 2014, with the issuance of a Conditional Plan of Operation Approval by the WDNR. Cells 1 and 2 were constructed during the 2015 construction season, with final completion of the new landfill cells and installation of a new leachate force main, storage tank, and load-out system in late December 2015. The construction of Cells 1 and 2 of the new landfill included the removal and off-site disposal of all CCR from the Former Cell 1 at a licensed municipal solid waste landfill.

GEI was retained to perform an annual inspection of the landfill in compliance with § 257.84(b) *Annual inspections by a qualified professional engineer*. The inspection was performed on January 12, 2016. Copies of the site location figure and landfill inspection photo log are appended to this letter-report and constitute the entirety of the report.

Site Inspection

The landfill site inspection was performed on January 12, 2016, by Mr. John Trast of GEI. The inspection included a meeting with WPS personnel and the construction contractor to discuss the landfill construction, the removal of CCR from the original Cell 1, and the new management systems; and observation of the newly constructed landfill cells, perimeter slopes, and storm water management features for the site. As part of the construction of Cells 1 and 2, all CCR that were disposed of in Former Cell 1 of the original landfill were removed and disposed off-site at a licensed municipal solid waste landfill and the compacted clay liner was excavated and stockpiled on site. So, as of the date of the inspection, the following are the observed conditions:

- (i) Cells 1 and 2 of the new landfill are constructed including the composite base liner, leachate collection system, leachate force main, storage tank, load-out facility, storm water ponds, and access roads;
- (ii) No CCR have been placed in Cells 1 or 2;
- (iii) The perimeter slopes of Cells 1 and 2 appear to be in good condition with no signs of instability, structural weakness, significant erosion, woody vegetation, or animal burrows; and,
- (iv) As of the date of the inspection, all CCR previously placed in Former Cell 1 of the landfill were removed and disposed off-site in a licensed municipal solid waste landfill; the compacted clay base liner system of the Former Cell 1 was excavated and stockpiled on-site; Cells 1 and 2 of the new landfill were constructed including new composite base liner, leachate collection, transfer, storage, and load-out systems were installed; and, once approved for use by the WDNR will be placed into operation.

Conclusion

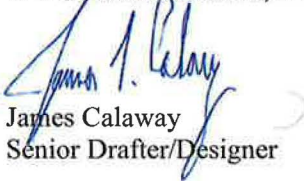
On January 12, 2016, staff from GEI completed an annual inspection of the WPS Weston Disposal Site No. 3 in compliance with § 257.84(b) *Annual inspections by a qualified professional engineer*. Cells 1 and 2 of the landfill were recently constructed along with a leachate force main, storage tank, and load-out facility. The construction documentation report has not been approved by the WDNR so the landfill has not been placed into operation and there are no CCR on-site. As part of the construction of Cell 1 and 2, all CCR previously placed in the landfill were removed and disposed of off-site at a licensed municipal solid waste landfill. The perimeter slopes of Cells 1 and 2, although snow covered appeared to be in good condition with no significant erosion, no woody vegetation, no animal burrows, and no areas of instability or structural weakness.

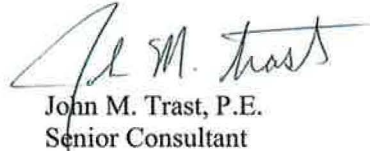
The inspection was completed by John, M. Trast, P.E. I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of ch. A-E 4, Wisconsin Administrative Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wisconsin Administrative Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wisconsin Administrative Code and 40 CFR 257.

If you have any questions regarding the landfill inspection or this report please contact me at 920-455-8299.

Sincerely,

GEI CONSULTANTS, INC.


James Calaway
Senior Drafter/Designer


John M. Trast, P.E.
Senior Consultant

Attachments:

Figure 1 - Site Location Figure
Landfill Inspection Photo Log

Copy to:

Mr. Thomas Jansen
We Energies
333 West Everett Street
Milwaukee, Wisconsin 53203



JXT:cah

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KNOWLTON, WISCONSIN

11 MILES TO WESTON POWER PLANT

BALSAM ROAD

I 39 / US HWY 51

PRIVATE ACCESS ROAD

CTH C

LEGNER ROAD

WESTON DISPOSAL SITE NO. 3

JOHNSON CREEK ROAD

MILL LANE



NOT TO SCALE

WISCONSIN PUBLIC SERVICE
TOWN OF KNOWLTON, WISCONSIN



WESTON DISPOSAL SITE NO. 3
SITE LOCATION FIGURE

Project 1600630

January 15, 2016

Fig. 1

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Photo 1 - WDS No. 3 looking north along perimeter berm at the Cell 1 Leachate Extraction Vault P1A



Photo 2 - WDS No. 3 looking south along perimeter berm at the Cell 1 Leachate Extraction Vault P1B.



Photo 3 - WDS No. 3 looking south along perimeter berm at storm water pond 2 and emergency access.



Photo 4 - Looking south from the south perimeter berm at storm water pond 3.



Photo 5 - WDS No. 3 looking north from South perimeter berm at the Cell 2.



Photo 6 - WDS No. 3 looking at Leachate Extraction Vault P2A.



Photo 7 - WDS No. 3 looking north from South perimeter berm at the Cell 2



Photo 8 - WDS No. 3 looking Leachate Extraction Vault P2B.



Photo 9 - WSD No. 3 looking at exterior slope of the South perimeter berm.



Photo 10 - WSD No. 3 Aerial Photo looking northeast, showing Cells 1 and 2 during construction (11/24/2015).