



Annual Inspection Report
for
Coal Combustion Residuals Landfill

City Water, Light & Power
FGDS Disposal Facility- Unit 2
Springfield, Sangamon County, Illinois

January 2025

1. INTRODUCTION.....	1
2. BACKGROUND.....	1
3. GEOMETRY OF THE STRUCTURE.....	2
4. APPROXIMATE VOLUME OF CONTAINED CCR.....	2
5. STRUCTURAL CONDITION OF CCR UNIT.....	2
6. OTHER CHANGES.....	3

APPENDICES

Appendix A – Site Map

Appendix B – Annual Inspection Report

1. INTRODUCTION

City Water, Light and Power (CWLP) Flue Gas Desulfurization Sludge (FGDS) Development Landfill was issued Permit No. 1995-243-LFM on November 9, 1995. The active areas of Unit 2 have been developed and operated pursuant to the initial permit and subsequent permit modifications. Unit 2 is a non-hazardous special waste landfill that receives coal combustion residuals (CCR) .

An annual inspection was conducted as required by 40 CFR Part 257.84. This inspection included two items:

- 257.84(b)(1)(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*
- 257.84(b)(1)(ii) *A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.*

Unit 1 Landfill, which was filled to capacity and closed in February 1993, is not included in this report. Since the landfill ceased receiving CCR prior to October 19, 2015, the above items are not applicable to the Unit 1 landfill as specified under 40 CFR Part 257.50(d).

The following documents were reviewed:

- Engineering Design Drawings (August 1976 – January 2017)
- Phase 1 – Cell 3 Construction Report for the (CWLP) FGDS Landfill (September 1993)
- Weekly and Monthly Inspection Reports (October 2015 – December 2024)
- Historical Aerial Photographs and Contour Maps (April 1995 – April 2024)
- CCR Landfill Location Restrictions – Unstable Areas (March 2024)

The visual inspections were performed on December 19, 2024 and January 21, 2025. This report includes the results of the annual inspection (see Appendix B), as well as all information required under 40 CFR Part 257.84(b)(2).

2. BACKGROUND

The CWLP Flue Gas Desulfurization Sludge (FGDS) Disposal Facility – Unit 2, is an existing CCR landfill located in the City of Springfield, Sangamon County, Illinois. The landfill is used for the disposal of on-site generated flue gas desulfurization sludge, bottom ash, fly ash, lime sludge and other minor waste water treatment sludge.

The CCR landfill consists of 22.3 acres of disposal area divided into two units. The “in-place” net disposal capacity is estimated at 1,162,275 cubic yards, excluding daily, intermediate, and final cover, as well as protective soils. The maximum final elevation shall be approximately 608 feet above mean sea level.

CWLP has been permitted by the Illinois Environmental Protection Agency to landfill materials generated from power plant and water treatment activities into the CCR landfill since 1980. In February 1993, Unit 1 was filled to capacity and closed in accordance with 35 Illinois Administrative Code (Ill. Adm. Code) 807 regulations. The Unit 1 final cover system consists of a three-foot thick recompacted clay liner underlying a three-foot thick vegetative layer. Unit 2 was modified to meet the applicable requirements of 35 Ill. Adm. Code Parts 811 and 812 via Permit No. 1995-243-LFM.

In 2024, disposal to the landfill of Solids from the Generating Facilities Wastewater Treatment Plant began. Less than 1,000 cubic yards annually is expected.

3. GEOMETRY OF THE STRUCTURE

At the time of the inspection, one cell of Unit 2 has been constructed and is currently the only active portion of the CCR landfill. The active cell, which is approximately 3.5 acres, is rectangular and is located in the northwest portion of Unit 2. The constructed wall sections of Unit 2 bound the cell to the north and west. Constructed containment berms bound the cell to the east and south. A site map drawing containing an aerial photograph and approximate boundaries for all of the CWLP CCR Units, including Unit 2 and the active cell, can be found in Appendix A.

No changes to the geometry of the structure have been made since the initial construction of the active cell of the CCR landfill.

4. APPROXIMATE VOLUME OF CONTAINED CCR

The approximate volume of CCR contained in the unit at the time of the inspection is 85,100 cubic yards.

5. STRUCTURAL CONDITION OF CCR UNIT

The Report of Stability Analysis documents a detailed foundation and mass stability study, which was conducted prior to the approval of design and construction of the CCR landfill. The analysis considered site materials and design components and was compared to the minimum standards stated in 35 Ill. Adm. Code 811.304. These standards require that:

- The foundation of the landfill has sufficient strength to support the weight of the landfill and that loading will not cause a failure of the liner or leachate collection system;
- Settlement caused by the weight of the landfill will not cause a failure of the liner or leachate collection system;
- The landfill is designed to achieve the applicable safety factors against bearing capacity failure;
- The landfill is designed to achieve the applicable safety factors against slope failures;
- All applicable safety factors are met at both short and long term conditions; and

- The potential for earthquake or blast induced liquefaction is considered in regards to the stability and integrity of the landfill as well as to features outside of the landfill that could affect the landfill.

It was determined by the study that the minimum safety factors were exceeded for bearing capacity and slope stability for both short- and long-term conditions. Loading was not expected to cause failure of the liner or leachate collection system. Seismic risk was determined to be negligible for the site location.

Settlement was determined to be expected under the full weight of the landfill. However, it was determined that a properly constructed compacted clay liner would not fail under the expected settlement conditions, nor would settlement cause structural failure to the leachate collection piping. It was recommended that leachate collection points be located in the area of greatest expected settlement in order to mitigate the effects on the leachate collection process.

Visual inspections of the CCR landfill are performed on a weekly basis in accordance with 40 CFR 257.84(a)(1)(i) for the purpose of identifying appearances of actual or potential structural weaknesses and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit. No visual indications of any such items have been observed for the CCR landfill during any of the weekly inspections over the past year.

The CCR Landfill Location Restrictions – Unstable Areas report prepared in 2024 included a Breakthrough, Pillar and Floor Failure Analysis and found any underground coal mine pillars would support the site with a safety factor exceeding 1.5.

6. OTHER CHANGES

No changes to the exterior berms of the facility have been made that would affect the stability or operation since the initial construction of the active cell of the CCR landfill.

In September of 2024, the south interior waste berm and southern half of the east interior waste berm were raised to match the northern half of the east interior waste berm.

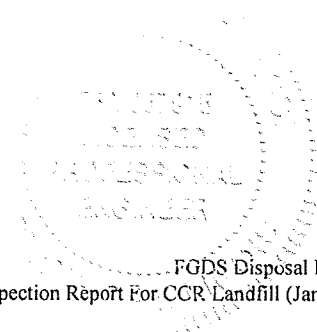
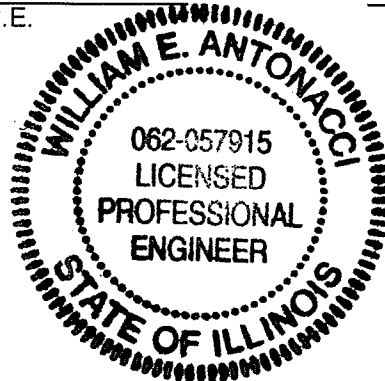
7. STATEMENT

This annual inspection of the Unit 2 CCR landfill was completed in accordance with the requirements under 40 CFR Part 257.84.

William E. Antonacci
 William E. Antonacci, P.E.

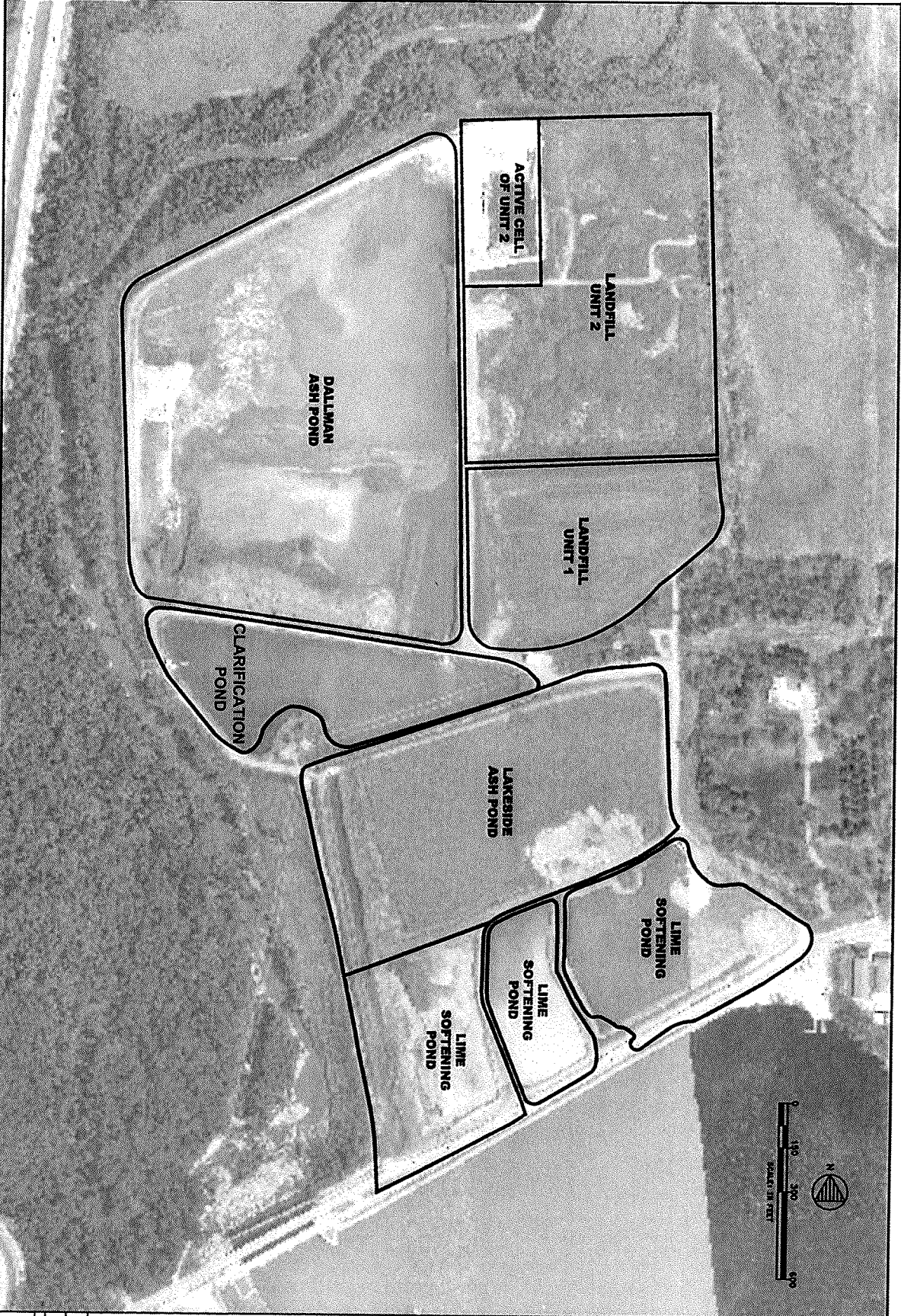
1-22-25

Date



APPENDIX A

Site Map



CHLP COAL RESIDUAL COMBUSTION UNITS
 PLANS PREPARED FOR
CITY, WATER, LIGHT & POWER
 SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

ANDREWS ENGINEERING, INC.
 3300 GINGER CREEK DRIVE
 SPRINGFIELD, ILLINOIS 62711-7233
 PH: 618-789-2324 FAX: 618-789-9495
 PONTIAC, IL • LOMBARD, IL • POKANOKUS, IN • WASHINGTON, MO
 PROFESSIONAL ENGINEERS AND LAND SURVEYORS FIRM #18-0215141
 APPROVED BY: PMV DESIGNED BY: PMV DRAWN BY: MPH

NO.	DATE	REVISIONS DESCRIPTION	BY

DATE: JANUARY 2016
 PROJECT NO: 10011
 SHEET NUMBER: **FIG. 1**

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APPENDIX B

Annual Inspection Report

City Water, Light, and Power
Coal Combustion Residual Units

35 IAC 845 Annual Inspection Form

Date December 19, 2024 Time 9:00 AM

Inspector(s) / Position: BILL ANTONACCI

Site Conditions:

Sky: CLOUDY Ground Moisture: SATURATED Temperature: 32° F Precipitation: TRACE

Berms – Landfill Unit 2:

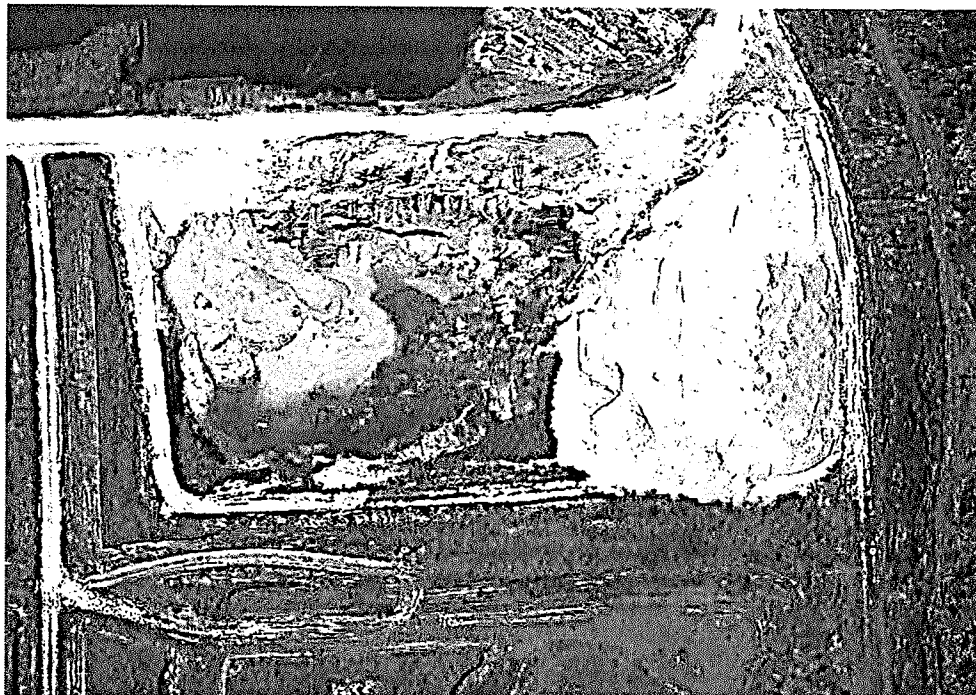
Conditions Limiting Visibility:

- Snow Cover
- Vegetation
- Other _____
- None

Observations:

- Erosion / Gullies
- Cracking / Sloughing
- Seeps / Damp Areas
- Signs of Creep
- Failed/eroded vegetation >100sq ft.
- Sudden drop in impoundment level
- Actual or potential structural weakness
- Improper operation of overtopping control
- Visible release
- No observed problems

Describe findings. Identify locations on attached map. Attach additional pages if necessary.



City Water, Light, and Power Coal Combustion Residual Units

35 IAC 845 Annual Inspection Form

Berms – Dallman Ash Pond

Conditions Limiting Visibility:

- Snow Cover
- Vegetation

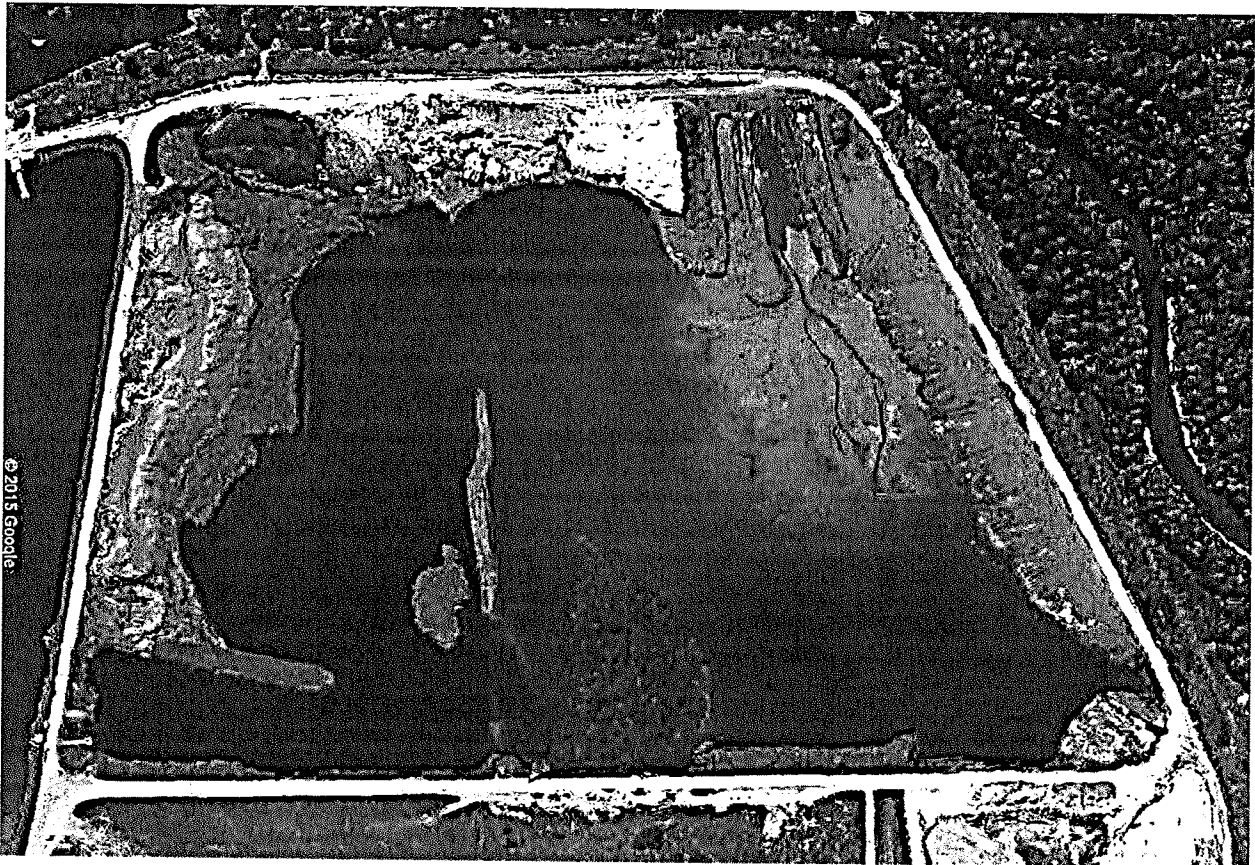
- Other _____
- None

Observations:

- Erosion / Gullies
- Cracking / Sloughing
- Seeps / Damp Areas
- Signs of Creep
- Failed/eroded vegetation >100sq ft.

- Sudden drop in impoundment level
- Actual or potential structural weakness
- Improper operation of overtopping control
- Visible release
- No observed problems

Describe findings. Identify locations on attached map. Attach additional pages if necessary.



City Water, Light, and Power Coal Combustion Residual Units

35 IAC 845 Annual Inspection Form

Berms – Lakeside Ash Pond

Conditions Limiting Visibility:

- Snow Cover
- Vegetation

- Other _____
- None

Observations:

- Erosion / Gullies
- Cracking / Sloughing
- Seeps / Damp Areas
- Signs of Creep
- Failed/eroded vegetation >100sq ft.

- Sudden drop in impoundment level
- Actual or potential structural weakness
- Improper operation of overtopping control
- Visible release
- No observed problems

Describe findings. Identify locations on attached map. Attach additional pages if necessary.



City Water, Light, and Power Coal Combustion Residual Units

35 IAC 845 Annual Inspection Form

Berms – Lime Softening Ponds

Conditions Limiting Visibility:

- Snow Cover
- Vegetation

- Other _____
- None

Observations:

- Erosion / Gullies
- Cracking / Sloughing
- Seeps / Damp Areas
- Signs of Creep
- Failed/eroded vegetation >100sq ft.

- Sudden drop in impoundment level
- Actual or potential structural weakness
- Improper operation of overtopping control
- Visible release
- No observed problems

Describe findings. Identify locations on attached map. Attach additional pages if necessary.



City Water, Light, and Power
Coal Combustion Residual Units

35 IAC 845 Annual Inspection Form

Areas of Previous Repair(s):

Location: LAKESIDE ASH POND - NORTH BERM FAR EAST SIDE

Description of Repair: Seepage occurs after spring rains. The seepage is contained in a ditch at the toe of the berm. The water then reports to the Clarification Pond. There were five or six rain events that caused seepage.

Effectiveness of Repair:

- Problem completely remedied
- Problem partially remedied (explain below):
The water is contained. Due to the minimal quantity, the seepage has not worsened in 8 years. With Lakeside Ash Pond no longer receiving flows from the plant, the seepage flows have greatly decreased
- Problem not remedied (explain below):
- Progression of trouble into new area (explain):

Areas of Previous Repair(s):

Location: LAKESIDE ASH POND - NORTH BERM WEST HALF

Description of Repair: Animal dens are completely filled with clay and compacted. There were approximately five instances/locations.

Effectiveness of Repair:

- Problem completely remedied
- Problem partially remedied (explain below):
- Problem not remedied (explain below):
- Progression of trouble into new area (explain):

