

2020 Annual Inspection Report

for Compliance with the Coal
Combustion Residuals Rule
(40 CFR Part 257)

Valmont Station

*1800 North 63rd Street
Boulder, Colorado 80301*

January 18, 2021



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Certification

Valmont Station CCR Unit 2020 Annual Inspection for Compliance with the Federal Coal Combustion Residuals Rule

I hereby certify that the Coal Combustion Residuals (CCR) unit (i.e. the landfill) at Valmont Station meets the inspection and operation standards specified in 40 CFR Part 257.84(b) of the Federal CCR Rule. The Valmont Station is owned by the Public Service Company of Colorado (PSCo), an Xcel Energy Company.

I am duly licensed Professional Engineer under the laws of the State of Colorado.



Brian Brown, PE

Colorado PE License 41644

License renewal date October 31, 2021

1 Introduction

On April 17, 2015 the U.S. Environmental Protection Agency (EPA) published regulations under Subtitle D of the Resources Conservation and Control Act (RCRA) meant to control the safe disposal of coal combustion residuals (CCR) generated by coal fired electric utilities. The rule defines a set of requirements for the disposal and handling of CCR within CCR units (defined as either landfills or surface impoundments). As specified in 40 CFR 257.84(b), *“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.”* Valmont Station has one (1) CCR landfill subject to the inspection requirements.

This is the annual inspection report for the existing Valmont CCR landfill. This report must be completed and placed into the facility operating record no later than January 18, 2021.

The requirements of the annual inspection include:

- A review of available information regarding the status and condition of the CCR unit - §257.84 (B)(1)(i),
- A visual inspection of the CCR unit to identify signs of distress or malfunction - §257.84 (B)(1)(ii),
- An inspection report that includes the following:
 - Changes in geometry since the last inspection - §257.84 (B)(2)(i)
 - Approximate volume of CCR in unit at time of inspection - §257.84 (B)(2)(ii)
 - Appearance of actual or potential structural weakness of the CCR unit - §257.84 (B)(2)(iii)
 - Any other changes which may have affected the stability or operation of the CCR unit since the last inspection - §257.84 (B)(2)(iv)

2 Site Inspection

In accordance with §257.84(b)(ii), a site inspection of the Valmont CCR Landfill was conducted by an independent Professional Engineer on November 13, 2020. The inspection was conducted by Brian Brown and Hailey Tatum of HDR Engineering Inc. (HDR) and Chris Acton (PSCo). This site inspection was performed well in advance of the CCR submittal deadline to ensure that the inspection was completed prior to snow covering the ground.

The weather during the site visit was sunny with temperatures around 60 degrees Fahrenheit. The site was free of snow cover.

3 Review of Available Information

Numerous documents pertaining to the site operation and structural integrity were reviewed including:

1. Valmont Landfill Cells D and E Design Modification and Closure Plan, March 2018, HDR Engineering Inc. Document not reviewed again since the document is unchanged.
2. Available Weekly CCR Landfill Inspection Forms (per Section 257.84(a)). All items of note in the weekly inspection forms have been identified in this report.
3. Topographic Map based on multiple sources. See Figure 1, General Note 1 for sourcing and dates.

Review of the above documents did not contain any indications of continuing operational, safety, or structural concerns regarding the CCR landfill.

4 Visual Inspection

The site inspection included walking or driving the entire perimeter of the landfill, the interior access road, and select intermediate elevations along the exterior fill embankment.

The site inspection included an evaluation of the following landfill features:

1. Landfill side slope toe of slope;
2. Landfill side slope benches;
3. Riprapped stormwater drainage conveyance channels on southwest side (Areas Q1 and A-3) of landfill and east end (Area B1) of landfill; and
4. Most recent CCR fill areas (in 2018) (Area D1, C1, E1, and A2).

The following are the findings of the site inspection:

The landfill side slopes showed no signs of operational, functional, or active structural concerns. Areas of erosion are noted below:

- The landfill side slopes along the south and west side of Area Q1 have minimal vegetation cover. Despite the presence of regular benches to slow the stormwater flow, these areas show signs of minor rill erosion of varying depth. These areas require continued monitoring and may require additional topsoil cover and revegetation to minimize future rill erosion.
- The western and southern side slopes of landfill areas Q1 and A3 have numerous active prairie dog burrows. The prairie dogs have begun to dig up ash, resulting in exposed ash at the entrances to the burrows. These are no structural concerns but the burrowed ash

does create containment concerns. PSCo reported that in the past it has implemented routine maintenance to re-cover the exposed ash and attempt to discourage prairie dog burrowing through the soil cover, but with limited success. PSCo reported that it is working on developing a more effective mitigation plan, including outreach to organizations experienced in managing unwanted or disruptive prairie dog colonies, and intends to begin implementation of this plan in 2021. These burrows should continue to be monitored as they can impact local slope stability and become conduits for stormwater flow.

- The southern slopes of Area A-2 show very small (less than 1-inch separation) tension cracks approximately 1-2 ft back from the top of the slope. The run of tension cracks is about 15' in total length comprised of multiple minor separate parallel cracks. This area should be monitored for movement.
- Erosion was observed along the interior access road between cells C-1 and B-1, specifically the south facing bank along the steep embankment. This area shows no signs or active erosion but should be monitored.
- Isolated areas of exposed ash was noted along the northern side of cell C-1. This appears to be a case of inadequate initial cover depth and wind erosion. Rill erosion was not noted in area. Additional cover should be placed of these areas.
- Northwest of the 'Emergency Ash Holding Area' there is approximately a 10 ft by 10 ft area of exposed ash requiring additional cover. The cause or source of this ash is undetermined but no structural or erosion concerns were apparent. Additional cover should be placed to cover exposed ash.
- It was observed that PSCo installed hay bales to reduce concentrated flow on south slope of Area A-2. The down-gradient runout of this area was apparently seeded and mulched. Vegetation germination was not apparent.
- Riprap down chute on south side of Area A-1 has become undermined by erosion. Bedding and riprap should be rebuilt or other measures to address erosion from concentrated flow. The soil cover has not been eroded to the point that ash is exposed.
- There was no standing water observed in the ash cells.

5 Changes in Geometry

The Federal CCR Rules require that site geometry changes be identified since the last inspection. Since there was no landfill activity since December, 2018, the site footprint has not changed.

6 Approximate CCR Volume

The CCR within the disposal area as of November 2015 was estimated by PSCo based on volume estimates that utilized topographic surveys, disposal records, ash generation volumes, and extrapolation of generation volumes. The total combined volume of CCR deposited within

the landfill through November 2018 is estimated to be 1,509,960 CY cubic yards, assuming one cubic yard of CCR/coal material equates to one ton. No CCR was deposited in the landfill between December 2018 and November 2020.

7 Appearance of Structural Weakness

Based on the site inspection, the landfill has no apparent structural weaknesses. Per Section 4 above, continued monitoring and minor repairs should be implemented as needed to address tension cracks, rill erosion, prairie dog burrows, and apparent localized sloughing to prevent development of areas of structural weakness.

8 Changes Affecting Stability or Operation

The Federal CCR Rule requires that changes that affect site stability or operation be identified since the last inspection. Since the last annual inspection, there were no observed nor reported operational changes or site conditions that indicate issues of stability or safety, except as noted above.

Appendix A – Landfill Site Maps

Attachments:

CCR Jan 2020 Annual Report Fig 1

