

To: Coal Combustion Residuals (CCR) Rule Compliance Data and Information File

From: Zach Homolka, Fremont Department of Utilities

Date: February 28, 2025

Subject: Run-on and Run-off Controls for CCR Landfills (40 CFR §257.81)

The final rule to regulate the disposal of coal combustion residuals (CCR) as solid waste under subtitle D of the Resource Conservation and Recovery Act (RCRA) was published in the Federal Register, Volume 80, NO 74 on Friday, April 17, 2015 (CCR Rule). This final rule was effective on October 14, 2015 and is self-implementing. It is understood that the Fossil Fuel Combustion Ash (FFCA) Monofill owned and operated by the City of Fremont's Department of Utilities (FDU) and authorized by the Nebraska Department of Environment and Energy (NDEE) under Nebraska Solid Waste Permit No. NE0203777 is regulated under this rule as a CCR landfill, by definition. CCR Landfills are collectively regulated by reference as "CCR Units".

Under the CCR Rule, run-on and run-off controls for landfills must meet the requirements under §257.81, in summary, as follows:

1. The owner or operator of an existing or new CCR landfill or any lateral expansion of a CCR landfill must design, construct, operate, and maintain:
 - a. A run-on control system to prevent flow onto the active portion of the CCR unit during the peak discharge from a 24-hour, 25-year storm; and
 - b. A run-off control system from the active portion of the CCR unit to collect and control at least the water volume resulting from a 24-hour, 25-year storm.
 - c. Run-off from the active portion of the CCR unit must be handled in accordance with the surface water requirements under §257.3.
2. Run-on and Run-off control system plan; initial plan and revisions to the plan:
 - a. To demonstrate compliance with the CCR Rule, the owner or operator must prepare an initial and perform periodic review and revisions to the plan every five years or any time changes substantially affect the plan.

The CCR Rule requirements imposed by this rule and referenced above have been met by FDU through the NDEE FFCA permitting process. The permit is renewed every five years and the most recent was issued by NDEE effective July 16, 2021 (NE0203777). A permit renewal application will be reviewed and submitted to the permitting authority no less than 180-days prior to expiration. Any necessary changes to the already approved run-on and run-off system will be amended as needed.

Applicable excerpts pertaining to run-on and run-off controls from FDU's CCR Unit permit are attached to this memo. The permit application containing these requirements has been reviewed and certified by a Nebraska Certified Professional Engineer and approved by NDEE.

**PERMIT RENEWAL APPLICATION FOR FOSSIL FUEL
COMBUSTION ASH DISPOSAL AREA**

**FREMONT DEPARTMENT OF UTILITIES
FOSSIL FUEL COMBUSTION ASH DISPOSAL SITE**

Initial Submittal Date: January 15, 2016

**Updated Submittal Date: December 15, 2020
by SCS Engineers**

**PREPARED FOR:
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FDU is currently seeking clarification and approval from the NDEE for inclusion of this use in the Power Plant's National Pollution Discharge Elimination System (NPDES) permit. If use of leachate in the Power Plant service water system is not allowed under a NPDES permit, then discharge from the leachate pond to the Power Plant service water system will not occur. A current copy of the NPDES permit for the Power Plant is included in Appendix O - Calculations of this permit application.

B.8.d. Leachate Recirculation within Ash Monofill

FDU may utilize the evapotransporative property of additional surface area within the limits of the lined ash monofill by applying leachate to the disposed ash material. FDU will ensure that leachate does not fall outside of the lined area (e.g. no drift or overspray) and may recirculate up to 15,480 gallons per day. See Appendix E – Leachate Management Plan for additional detail.

B.8.e. Contingency Leachate Management Plan

If the leachate cannot be pumped to the Power Plant, leachate will be pumped into tanker trucks for transport to the FDU wastewater treatment plant. A letter from the wastewater treatment plant authorizing discharge can be found as Attachment 1 in Appendix E – Leachate Management Plan. The leachate pond pump or the sump pumps will be used for loading the tanker trucks. FDU may choose to install permanent piping to allow leachate to be pumped directly into the sanitary sewer system.

B.9 Run-on and Run-off

The Monofill's containment berms provide a physical diversion barrier precluding storm water run-on. The elevation of the containment berms is 1,182 feet amsl, and the highest recorded surface water elevation at the Power Plant is below 1,178 feet amsl.

During ash disposal operations and prior to overall ash disposal grades reaching the top of the containment berms, a portion of the storm water run-off from active disposal areas will be collected in the leachate collection system and pumped to the leachate retention pond. Storm water that has ponded above the ash and has not infiltrated into the leachate collection system will be pumped or drained into the leachate retention pond.

During Phase 1 operations, the western portion of storm water run-off will be diverted to the liner transition berm between Phases 1 and 2. This area has adequate storage capacity to retain a 25-year, 24-hour storm event. Accumulated storm water retained by the liner transition berm will be pumped into the leachate retention pond.

When ash elevations in the Phase(s) near the containment berm's elevation (i.e. filling begins "above grade") and approach closure, a drainage ditch within the perimeter of the Monofill will be constructed at the edge of the ash to prevent storm water run-off. When necessary, construction of the flat bottom ditch along the containment berm as illustrated in Appendix A, Figure 3 will begin. Figure 3 illustrates the grading and elevations to be maintained for the Phase 1 ditch to direct storm water run-off to the broad-crested weir. Stormwater collected in the interior perimeter ditches will be drained over the broad-crested weir into the leachate retention pond.

When the ditch is constructed, the 8 inches of crushed rock and protective cover soil in the weir should be removed to drop the weir crest elevation to 1180.83, and the weir can be graded to maintain the one foot drop to the leachate retention pond. The grade of the ditch will be maintained to prevent ponding.

Stormwater from the Monofill interior perimeter drainage ditch will be pumped or drained to the leachate retention pond. The interior drainage ditch diverts storm water run-off to the south and west ends of the Phase 1 Monofill and the east end of the Phase 2 Monofill. A portion of the storm water will be pumped and/or drained (using broad-crested weir) into the leachate retention pond. The capacity of the drainage ditches, storm water pumps, and broad-crested weir for storm water management were calculated based on a peak discharge from a 25-year storm. The profile and slope of the broad-crested weir will be checked against the original drawings when ash reaches the crest of the containment berms (see Appendix A, Figure 3 for Phase 1 drainage) to ensure the broad-crested weir will not overtop during the design storm event. The Phase 1 perimeter ditch will be graded to drain towards the transition area and the broad-crested weir. Broad-crested weir will be modified as necessary to permit drainage to the leachate retention pond.

The final cover for Phases 1 and 2 will be graded to minimize infiltration and erosion of cover material. As illustrated in Drawing C-2, the final cover for Phase 1 will be graded with an approximate 7 percent slope from the top of the Phase down to the crest of the containment berm along the north side of the Phase. The final cover will be graded with an approximate 2 percent slope on the south side of the Phase. As shown in Drawing C-3, the final cover for Phase 2 will be similarly graded. Graded slopes are specified to promote consistent surface water run-off without excessive erosion. Re-grading will occur as required during construction and after completion to avoid ponding and to maintain cover material integrity.