NRG Texas Power LLC
W. A. Parish Station, Units 5, 6, 7, & 8

Run-On and Run-Off Control System Plan for CCR Landfill Unit 001

Prepared by

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Revised by

TRC

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1 PURPOSE

Pursuant to 40 CFR 257.81(c), this document serves as the revised written run-on and run-off control system plan for the existing coal combustion residual (CCR) landfill, Unit 001, at NRG Texas Power LLC's (NRG) W. A. Parish Station. Based on the applicability criteria of 40 CFR 257.81(a), the following cells, which make up Unit 001, are addressed herein:

- Cell 1C,
- Cell 2A,
- Cell 2B, and
- Cell 3.

2 RESULTS

Federal CCR Rule References: 40 CFR 257.81(b) and 40 CFR 257.81(c)(1)

The in-place run-on and run-off control systems for the existing CCR landfill Unit 001 were analyzed to assess their performances during the required design storm event. Each cell is designed with diked perimeters to prevent storm water run-on. Moreover, each cell is designed with a run-off detention pond for collecting and controlling storm water run-off from the active portion of each cell. After a storm event, the detention ponds in Cells 1C, 2A, and 2B are each successively pumped into Cell 3 using mobile manual pumps. The water is then discharged from Cell 3's detention pond to Smithers Lake through Texas Pollution Discharge Elimination System (TPDES) permitted Outfall #004. The storm water run- off control analysis results, including the available storage volume in each detention pond, are presented in Table 1.

Table 1: CCR Landfill Run-On and Run-Off Controls Analysis Results

CCR Landfill Cell	Total Drainage Area[1] (ac)	Design Storm Event[3]	Volume of Run-On (ac-ft)	Volume of Run-Off (ac-ft)	Detention Pond Storage Capacity[2] (ac-ft)	Available Freeboard After Design Event (ft)	Are Dikes Overtopped?
Cell 1C	18.45	25-year, 24 hour	0	14.48	17.44	1.25	No
Cell 2A	8.05	25-year, 24 hour	0	6.06	6.14	0.75	No
Cell 2B	48.00	25-year, 24-hour	0	36.14	47.06	>1.5	No
Cell 3	29.60	25-year, 24-hour	0	18.04	57.67	6.25	No

Notes:

1) Total drainage area includes the detention pond within each cell.
2) Volume of storage available from the normal water surface elevation of the detention pond to the top of cell dike elevation.
3) NOAA Atlas 14, Volume 11, Version 2 from NOAA Hydrometeorological Design Studies Center, Precipitation Frequency Data Server (PFDS)

3 CONCLUSIONS

Federal CCR Rule References: 40 CFR 257.Sl(a)(l) and 40 CFR 257.81(a)(2)

During the peak discharge from a 25-year, 24-hour design storm event, the run-on control system prevents flow onto the active portion of the landfill cells. Furthermore, the run-off control systems from the active portion of each cell within Unit 001 have the capacities to collect and control the rainfall resulting from a 25-year, 24-hour storm event without overtopping the perimeter dikes.

4 CERTIFICATIONS

Federal CCR Rule Reference: 40 CFR 257.81(c)(5)

Th is run-on and run-off control system plan meets the requirements of 40 CFR 257.81(c).

I certify that this document was reviewed/revised by me or under my supervision and that I am a registered professional engineer under the laws of the State of Texas.

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Date: 11/8/22

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