



NRG Texas Power LLC
Limestone Generating Station, Units 1 & 2

Run-On and Run-Off Control System Plan
for the CCR Landfill

Prepared by



Revised by



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Rev. 1

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1 INTRODUCTION AND PURPOSE

Pursuant to 40 CFR 257.81(c), this document provides the revised written run-on and run-off control system plan for NRG Texas Power LLC’s (NRG) Limestone Generating Station. Based on the applicability criteria of 40 CFR 257.81(a), the following CCR landfill and drainage feature are addressed herein:

- Unit 004 Landfill, and
- Unit 002 Storm Water Pond.

Unit 004 Landfill functions as a single unit, but it is subdivided into multiple areas. Run-off from the Unit 004 Landfill is directed to Unit 002 Storm Water Pond via a conveyance ditch within the landfill.

2 RESULTS & CONCLUSIONS

The run-on and run-off control systems were analyzed for the CCR landfill unit to assess how the landfill control systems managed the storm water run-off during the design storm event. Run-on does not reach the landfill because of the diked edges around the perimeter. The areas of the landfill with topsoil cover direct the non-contact storm water to downcomers, which convey the run-off to the perimeter ditch system.

Storm water run-off from the landfill is controlled and managed with the use of a ditch system located within the limits of the landfill, conveying landfill run-off to the Unit 002 Storm Water Pond. The ditch system includes three separate culvert installations, two (C2 and C3) located beneath haul roads leading to the landfill, and one (C1) located beneath the north dike of the Unit 002 Storm Water Pond. Although an additional 36-inch diameter pipe was added into culvert C2, each of the culverts remains undersized for conveying the peak design runoff. Various options may be considered by NRG to meet the drainage criteria, including, but not limited to, reducing the open landfill area that is conveyed by the ditch and culvert drainage system to the Unit 002 Storm Water Pond, increasing the diameter of the culverts or the number of culverts at each location to increase hydraulic capacity, or increasing the ditch capacity through raising the ditch dike height and/or increasing the ditch width.

Unit 002 Storm Water Pond has sufficient capacity to collect and manage the storm water run-off from the Unit 004 Landfill during the design storm event without overtopping since the estimated maximum water level from the design storm event remains lower than the top of dike elevation. The storm water run-off control results, including available storage volume in the landfill ditch, are presented below.

CCR Unit 004 Landfill Run-Off Collection	Total Drainage Area (ac)	Design Storm Event ¹	Total Volume Storm Water Run-off (ac-ft)	Unit 004 Landfill Ditch Storage Capacity (ac-ft)	Unit 002 Storm Water Pond Storage Capacity	Estimated Initial Water Level in Unit 002 Storm Water Pond (ft/ac-ft)	Estimated Maximum Water Level (ft)	Top of Surface Impoundment Dike Elevation (ft)
Unit 002 Storm Water Pond	111.25	25-year, 24-hour	54.33	1.77	99.17	425.65/ ~45.9	433.00	434.00

1- U.S. Department of Commerce. Technical Paper No. 40; Rainfall Frequency Atlas of the United States for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years. Washington, D.C.: U.S. Department of Commerce Weather Bureau. May 1961 (8.5”) (NOAA PFDS storm event 7.6”)

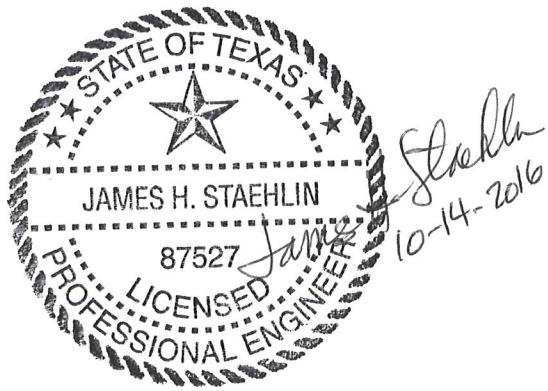
3 CERTIFICATIONS

This initial run-on and run-off control system plan meets the requirements of 40 CFR §257.81.

I certify that this Document was prepared by me or under my supervision and that I am a registered professional engineer under the laws of the State of Texas.

This document is released for use under the authority of James H. Staehlin, Texas PE # 87527 on October 14, 2016. Sargent & Lundy LLC Texas Registered Engineering Firm # F-2202.

Certified by: JAMES H. STAEHLIN Date: 10-14-2016



3 CERTIFICATIONS

This revised run-on and run-off control system plan meets the requirements of 40 CFR §257.81.

I certify that this Document was reviewed and revised by me and that I am a registered professional engineer under the laws of the State of Texas.

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