

**Coal Combustion Residual (CCR) Landfill
2017 Annual Inspection**

**Twin Oaks Power Generating Station
Robertson County, Texas**

January 8, 2018

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1.0 Introduction

The following Annual Landfill Inspection is intended to fulfill the requirements of Coal Combustion Residual (CCR) Rule §257.84 - *Inspection Requirements for CCR Landfills* (40 CFR §257.84). This report contains the inspection findings, observations, and photographic descriptions of the onsite CCR landfill located at the Twin Oaks Generating Station near Bremond, Texas.

The onsite inspection of the ash landfill was completed by Mr. John J. Tayntor, P.E. on December 18, 2017, and conducted in general accordance with 40 CFR §257.84(b).

2.0 General Landfill Information

The Twin Oaks Power (TOP) utility landfill disposes of Coal Combustion Residuals (CCR's) from combustion of the lignite fuel source from the adjacent power generating station. Near the time of the inspection (December 18, 2017) the CCR landfill contained an approximate volume of 10.0 million cubic yards of placed and compacted ash by-product material [40 CFR §257.84(b)(2)(ii)].

At the time of the landfill inspection, earthwork activities associated with the lateral expansion area were ongoing.

3.0 Landfill Inspection and Observations

3.1 Operating Record Review

In accordance with 40 CFR §257.84(b)(i) the weekly landfill inspection reports in the facility operating record were reviewed for any documented changes in the landfill geometry or overall condition. The weekly inspection documentation did not report any issue or change that would signify distress of the landfill. The review of the operating record was conducted prior to field inspection of the ash landfill. In addition, a meeting was held with the qualified person conducting the weekly inspections to identify any areas of concern, none were noted. A review of the initial annual landfill inspection report was conducted prior to the inspection.

3.2 Ash Landfill Inspection

Ambient ground conditions at the time of the inspection were varied, ranging between soft and saturated to firm and dry. Based on information gathered by the National Weather Service (Bremond and Waco Area, Texas), the general area received approximately 39 inches of rainfall for 2017, slightly below average for the region.

Near the time of the inspection the ash landfill had an approximate volume of 10.0 million cubic yards of placed and compacted ash. Earthwork activities associated with the lateral expansion area were ongoing. Any pooled storm water in the lateral expansion construction area will be discharged in accordance with the authorized TPDES permit, as appropriate.

The inspection [40 CFR §257.84(b)] of the ash landfill consisted of walking along the landfill toe and crest. Slope lengths were traversed and inspected for any existing signs or potential signs of distress, or areas of concern, or areas of instability requiring corrective action or additional observation. The top of the landfill was traversed and inspected for any ponding of storm water, subsidence, cracking or similar areas of potential distress caused by differential movement or settlement in the ash fill. No visible signs of slope creep, longitudinal cracking or wedge failures were noted during the inspection. Inspection of the toes did not reveal any evidence of bulging, displacement, or subsidence that may signal potential distress, indicate actual distress or actual structural slope failure. At the time of the inspection, no existing conditions were noted that could potentially disrupt the safe operation of the landfill. No areas of erosion were noted along the slope lengths; that would require additional monitoring or immediate corrective action or cause landfill or slope instability.

Activities were proceeding per engineering plans to upgrade storm water drainage capacity from that approved by the Texas Commission on Environmental Quality (TCEQ) to those required by 40 CFR §257.82. During the inspection, there was no observation of uncontrolled releases of ash from perimeter drainage ditches.

Photographs obtained during the inspection are contained in the Appendix of this inspection report.

3.3 Final Discussion

Based on observations during the inspection on December 18, 2017, the ash landfill at the TOP Generating Station appears to be stable with no signs of distress, structural weakness and no current activities that may jeopardize the safety of the landfill. Per the review of the facility's operating record, weekly landfill inspections are being conducted as required and being completed by a qualified person.

Construction activities at the landfill will be ongoing as weather and subgrade conditions allow. These activities include completion of the lateral expansion of the landfill and enhancement of the landfill's drainage capacity as per 40 CFR §257.82.

4.0 Annual CCR Landfill Inspection

By means of this certification, (i) I am familiar with the requirements of 40 CFR §257.84(b) – *Inspection Requirements for CCR Landfills*, (ii) visited and examined the facility, (iii) and the 2017 Annual CCR Landfill Inspection Report for the Twin Oaks Power onsite CCR Landfill has been prepared to the best of my knowledge in accordance with 40 CFR §257.84(b).

By:  _____

Dated: January 8, 2018



TBPE Firm Registration No. F-16721
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Appendix

Landfill Inspection Photographs



Photo No. 1 – Top of west slope, view north.



Photo No. 2 – West side slope (mid-slope), view south.



Photo No. 3 – South side slope, view southeast.



Photo No. 4 – South side slope, view west.



Photo No. 5 – East side slope, view north.



Photo No. 6 – Storm water Pond 003, view north.



Photo No. 7 – East side slope (west of Pond 003), view south.



Photo No. 8 – East side slope, perimeter drainage ditch, view south.



Photo No. 9 – North Side Slope, lateral expansion area, view northwest.



Photo No. 10 – Active disposal area, view southwest.



Photo No. 11 – Active disposal area, view northwest.



Photo No. 12 – Landfill top, view southwest.



Photo No. 13 – Landfill top, view northwest.



Photo No. 14 – Milled CCR for beneficial reuse, view east.