Texas Commission on Environmental Quality

Waste Permits Division Correspondence Cover Sheet

Date: 12/15/2022
Facility Name: Martin Lake Steam Electric Station
Permit or Registration No.: CCR105

Nature of Correspondence:
☐ Initial/New
☒ Response/Revision to TCEQ Tracking No.: 27220868 (from subject line of TCEQ letter regarding initial submission)

Affix this cover sheet to the front of your submission to the Waste Permits Division. Check appropriate box for type of correspondence. Contact WPD at (512) 239-2335 if you have questions regarding this form.

Table 1 - Municipal Solid Waste Correspondence

Applications	Reports and Notifications
☐ New Notice of Intent	☐ Alternative Daily Cover Report
☐ Notice of Intent Revision	☐ Closure Report
☐ New Permit (including Subchapter T)	☐ Compost Report
☐ New Registration (including Subchapter T)	☐ Groundwater Alternate Source Demonstration
☐ Major Amendment	☐ Groundwater Corrective Action
☐ Minor Amendment	☐ Groundwater Monitoring Report
☐ Limited Scope Major Amendment	☐ Groundwater Background Evaluation
☐ Notice Modification	☐ Landfill Gas Corrective Action
☐ Non-Notice Modification	☐ Landfill Gas Monitoring
☐ Transfer/Name Change Modification	☐ Liner Evaluation Report
☐ Temporary Authorization	☐ Soil Boring Plan
☐ Voluntary Revocation	☐ Special Waste Request
☐ Subchapter T Disturbance Non-Enclosed Structure	☐ Other:
☐ Other:	

Table 2 - Industrial & Hazardous Waste Correspondence

Applications	Reports and Responses
☐ New	☐ Annual/Biennial Site Activity Report
☐ Renewal	☐ CPT Plan/Result
☐ Post-Closure Order	☐ Closure Certification/Report
☐ Major Amendment	☐ Construction Certification/Report
☐ Minor Amendment	☐ CPT Plan/Result
☒ CCR Registration	☐ Extension Request
☐ CCR Registration Major Amendment	☐ Groundwater Monitoring Report
☐ CCR Registration Minor Amendment	☐ Interim Status Change
☐ Class 3 Modification	☐ Interim Status Closure Plan
☐ Class 2 Modification	☐ Soil Core Monitoring Report
☐ Class 1 ED Modification	☐ Treatability Study
☐ Class 1 Modification	☐ Trial Burn Plan/Result
☐ Endorsement	☐ Unsaturated Zone Monitoring Report
☐ Temporary Authorization	☐ Waste Minimization Report
☐ Voluntary Revocation	☐ Other:
☐ 335.6 Notification	
☐ Other:	

Renee Collins
Sr. Director
Environmental Services
Renee.collins@luminant.com

Luminant
6555 Sierra Drive.
Irving, TX 75039

T 214.875.8383
C 214.406.2452
F 214.875.8699

Delivered Electronically via IHWPER@tceq.texas.gov

December 15, 2022

Texas Commission on Environmental Quality
Industrial and Hazardous Waste Permits Section - MC-130
12100 Park 35 Circle
Austin, TX 78753

RE: Response to Email NOD New Registration No. CCR105
Luminant Generation Company LLC – Tatum, Rusk County
Industrial Solid Waste Registration No. 31277
EPA Identification No. TXD000821306
Tracking No. 27220868; RN102583093/CN603256413

Luminant Generation Company LLC has prepared written responses for the deficiencies identified in the "Email NOD - New Registration – Luminant Generation Company LLC Registration No. CCR105" received via email from TCEQ on September 22, 2022. The written responses are in Table 1. Updated application and appendix revisions are attached for review.

If you have any questions or require any additional information, please contact Eric Chavers at 903-389-6062 or by e-mail at eric.chavers@luminant.com.

Sincerely,

Renee Collins

Attachments: CCR105 Application-Revision 2
CCR105 Application Revision 2 REDLINE
APPENDIX E-Revision 1
APPENDIX F-Revision 1
APPENDIX G-Revision 1
APPENDIX H-Revision 1

cc with attachments:

Ruben Meza (ruben.meza@tceq.texas.gov)
Daniella Ortiz de Montellano (daniela.ortiz-demontellano@tceq.texas.gov)

Table 1 - NOD Summary and Response
Registration No. CCR105 - Luminant Generation Company LLC
Application Deficiencies - Technical NOD 2

ID[1]	App. Section	App. Sub Section	Location[2]	Citation	Deficiency Description/Resolution	Response
1	V	V.26.A.5	TCEQ-20870, p. 38; Section V.26.A.5	Application Instructions, 30 TAC §352.231(a) & (b), & 30 TAC §352.731	Provide a dike certification (TCEQ-20870 version 09-27-2021) form.	In October 2016, the initial certified Periodic Hazard Potential Classification Assessments, Periodic Structural Stability Assessments, and Periodic Safety Factor Assessments were completed for all Martin Lake CCR surface impoundments as required by 40 CFR 257.73(a), 257.73(d), and 257.73(e). In October 2021, the certified 5-Year Updates to these assessments were completed as required by 40 CFR 257.73 and 30 TAC 352.731, which identified no structural deficiencies. The most recent 2021 5-Year Assessment Updates are located in APPENDIX E. Based on the conclusion in the certified 5-year updates that no structural deficiencies exist, the facility is submitting these documents in lieu of the Dike Certification.
2	V	V.26.B	[App. E]	30 TAC §352.711(a)(1)(B) & 40 CFR §257.70(c)	Revise the application to indicate that the liner systems for the West Ash Pond (WAP), East Ash Pond (EAP), and New Scrubber Pond (NSP) are alternative composite liners.	The narrative in Section V.26.B. has been updated to reflect that the EAP and WAP have been retrofitted with a alternative composite liner and the NSP is currently being retrofitted with an alternative composite liner.
3	V	V.26.B	[App. E]	30 TAC §352.711(a)(1)(B) & 40 CFR §257.70(c)	Provide an equivalency determination for the lower component (e.g., GCL) of the liner system for the EAP, WAP, and NSP.	Equivalency determination memos for the EAP, WAP, and NSP are provided in APPENDIX E. These are mentioned in 26.B.2.
4	V	V.26.B	[App. E]	30 TAC §352.711(b) & 40 CFR §257.71(b)	Provide a P.E. certification indicating whether the EAP, WAP, NSP, and Permanent Disposal Pond 5 (PDP-5) meet the requirements of 40 CFR §257.70(c).	The liner equivalency detemination memos provided in APPENDIX E provide certification for the EAP, WAP, and NSP. As discussed in Section 26.B., Luminant has submitted a P.E. certified Alternative Liner Demonstration (ALD) per 257.71(d) for PDP-5 to EPA for review. A copy of the ALD Application and ALD Demonstration are in APPENDIX E. To date, no decision has been made by EPA on the ALD.
5	V	V.26.B	[App. E]	40 CFR §257.71(d)(2)(vii)	Provide a statement that the facility will place the EPA's final decision relating to the alternate liner demonstration for PDP-5 in the operating record.	Luminant will place a copy of the EPA's decision relating to the Alternate Liner Demonstration for PDP5 in the facility operating record when final. This statement has also been added to the narrative in V.26.B.
6	V	V.26.G	[App. E]	30 TAC §352.731(a) & 40 CFR §257.73(a)(1)	Indicate whether permanent identification markers have been placed on or adjacent to each CCR unit and designed as specified.	Permanent identification markers have been placed on or adjacent to each CCR unit as specified in 30 TAC 352.731(a) and 40 CFR 257.73(a)(1).

7	VI	VI.27.B	[App. F, Groundwater Monitoring (GWM) System Certification for the A-1 Landfill, Ash Pond Area, and PDP-5]	40 CFR §257.91(b)(1)	Revise the Groundwater (GW) Potentiometric Surface Maps to ensure that each map depicts GW flow directions.	The "2021 Annual Groundwater Monitoring and Corrective Action Report-Revision 1" for A1 Landfill, the Ash Pond Area, and PDP-5 includes potentiometric surface contour maps that indicate flow direction. The revised reports are in APPENDIX F. In the reports for A1 Landfill and the Ash Ponds, see Attachment 3, Figures 1 and 2. In the report for PDP-5, see Attachment 2, Figures 1 and 2.
8	VI	VI.27.C	[App. F, GWM System Certification for PDP-5]	30 TAC §352.261(b)(3) & 40 CFR §257.91(b)	Provide a plan view drawing depicting the section lines represented by the cross-sectional drawings for PDP-5.	The missing cross-section location map (figure 2) can be found in "Groundwater Monitoring System Certification-Addendum No. 1" for PDP-5 located in APPENDIX F. Also included in this addendum are updated cross-sections that were not available at the time of the previous report.
9	VI	VI.27.C	[App. F, GWM Plan for PDP-5, Table 2]	40 CFR §257.91(f)	Provide a P.E. certification for PDP-27, PDP-28, and PDP-29 (PDP-5). Provide all applicable information to support the conclusion.	Wells PDP-27, PDP-28, and PDP-29 are not in the CCR groundwater monitoring program. These wells were inadvertently included in Section 2.1 of the Groundwater Monitoring Plan. These wells have been removed from Section 2.1 in the "Groundwater Monitoring Plan-Revision 2" for PDP-5 located in APPENDIX F.
10	VI	VI.27.C	[App. F, Assessment of Corrective Measures, A1 Area Landfill, Dated Sep 2019, pg. 6]	40 CFR §257.91(a) and (f)	Revise the Groundwater Monitoring (GWM) Certification for the A1 Area Landfill to indicate that BMW-27 has changed from a downgradient to an upgradient GWM well. Include all applicable information to support the conclusion and P.E seals as applicable.	CCR groundwater monitoring well BMW-27 is considered a downgradient well for the purpose of monitoring groundwater at the A1 Area Landfill. It is classified as a downgradient well in the Groundwater System Certification Report and 2022 addendum, Annual Groundwater Monitoring and Corrective Action Reports since the original report in 2017, and Groundwater Monitoring Plan for the A1 Area Landfill. Text within the 2019 Assessment of Corrective Measures (ACM) report indicated that BMW-27 may be reclassified as an upgradient well because it is generally located on the upgradient side of the site, but figures included in the ACM depicted BMW-27 as a downgradient well. The well continues to be considered a downgradient well within the CCR groundwater monitoring network at the site.
11	VI	VI.28	[App. F, GWM Plan for the A1 Area Landfill, Ash Pond Area, and PDP-5]	40 CFR §257.93(a)(2) & (a)(5)	Address sample shipment and QA/QC procedures.	"Groundwater Monitoring Plan-Revision 2" reports for A1 Landfill, the Ash Pond Area, and PDP5 have been updated to address sample shipment and QA/QC procedures. The revised plans are in APPENDIX F.
12	VI	VI.28	[App. F GWM Plan for the A1 Area Landfill, Ash Pond Area, and PDP-5]	40 CFR §257.93(c)	Revise to ensure that the rate and direction of groundwater flow will be determined each time groundwater is sampled.	"Groundwater Monitoring Plan-Revision 2" reports for A1 Landfill, the Ash Pond Area, and PDP5 have been updated to ensure the rate and direction of groundwater flow are determined for each sampling event. The revised plans are in APPENDIX F.

13	VI	VI.28	[App. F, GWM Plan for the A1 Area Landfill] Page 14; "Use of interwell data…from upgradient or background monitoring wells."	40 CFR §257.93(f)	Revise to specify the name of the approved statistical method that is used.	"Groundwater Monitoring Plan-Revision 2" reports for A1 Landfill, the Ash Pond Area, and PDP5 have been updated to specify the name of the statistical method used. The revised plans are in APPENDIX F.
14	VI	VI.29	Table VI.C-1	Application Instructions, 30 TAC §352.231(b), & 40 CFR §257.94 Appendix III	Add and complete attached "Table VI.C-1 – Groundwater Detection Monitoring Parameters.", if applicable. This table was inadvertently omitted in the application form.	Table VI.C-1 has been inserted into application and completed.
15	VI	VI.29.B	[App. F]	Application Instructions, 40 CFR §257.93(d)	Provide a background evaluation report for each CCR Unit (e.g., A1 Area Landfill, PDP-5, and the Ash Pond Area) which discusses the establishment of background concentrations of Appendix III and IV constituents.	Background data was derived from the eight independent sampling events required under 40 CFR 257.93(d). A summary of the background monitoring program is found in Section 3.0 of the "2017 Annual Groundwater Monitoring Report" for A1 Landfill, Ash Pond Area, and PDP-5. Background water quality data is summarized in Tables 3 and 4 and laboratory analytical reports are located in Appendix A of the 2017 reports. The additional reports are located in APPENDIX F.
16	VI	VI.29.C	[App. F, 2021 GW Monitoring Reports]	30 TAC §352.281(b)	Provide laboratory reports for the 2021 groundwater monitoring sampling events for each CCR unit (e.g., A1 Area Landfill, PDP-5, and the Ash Pond Area).	"2021 Annual Groundwater Monitoring and Corrective Action Report-Revison 1" reports for A1 Landfill, the Ash Pond Area, and PDP5 have been updated to include analytical lab data for each sampling event. The revised reports are in APPENDIX F.
17	VI	VI.29.C	[App. F, 2021 GW Monitoring Reports]	30 TAC §352.281(b)	Revise to include a discussion explaining how the GW was evaluated for all CCR units. Include statistical methods used, whether any data was removed and justification for removal, any charts or graphs used, which GW monitoring wells experienced SSIs, and the constituents and associated concentrations which triggered the SSIs.	"2021 Annual Groundwater Monitoring and Corrective Action Report-Revison 1" reports for A1 Landfill, the Ash Pond Area, and PDP5 have been updated to include additional evaluation data as requested. The revised reports are in APPENDIX F.
18	VI	VI.29 & VI.30	[App. F, GWM Plan for the A1 Area Landfill, Ash Pond Area, and PDP-5; and the Statistical Analysis Plan for the A1 Area Landfill, Ash Pond Area, and PDP-5]	40 CFR §257.94(e)(2) & §257.95(g)(3)(ii)	Revise to indicate that all Alternate Source Demonstrations associated with detection and assessment monitoring will require a certification from a P.E.	"Groundwater Monitoring Plan-Revision 2" reports for A1 Landfill, the Ash Pond Area, and PDP5 have been updated to indicate that all Alternate Source Demonstrations associated with detection and assessment monitoring will require a certification from a P.E. The revised plans are in APPENDIX F.

19	VI	VI.30	[App. F, GWM Plan for the A1 Area Landfill, Ash Pond Area, and PDP-5]	30 TAC §352.901(a) & §352.951(b)	Provide groundwater protection standards for cobalt, lithium, and molybdenum	Groundwater protection standards for cobalt, lithium, and molybdenum have been added to the "Groundwater Monitoring Plan-Revision 2" reports for A1 Landfill, the Ash Pond Area, and PDP5. The updated standards are located in Section 1.2.5. The revised plans are in APPENDIX F.
20	VI	VI.30.H	Table VI.D-2	Application Instructions & 30 TAC §352.231(b)	Replace title of "Table VI.D.2 – Groundwater Detection Monitoring Parameters" with "Table VI.D-2 – Groundwater Assessment Monitoring Parameters" and complete if applicable.	Table VI.D-2 has been inserted into application and completed.
21	VII	VII.31	[App. G: Closure Plan, A1 Landfill]	40 CFR §257.102(b)(1)(vi) & (f)(1)	Revise closure schedule to state that closure will be completed within six months of initiating closure and an estimate of the year that closure activities will be completed.	"Closure Plan-Addendum No.1" for A1 Landfill includes revised closure schedule and an estimate of the year closure activities will be complete in Section 3.0. The addenda are in APPENDIX G.
22	VII	VII.31	[App. G, Closure Plan for the Ash Pond Area and PDP-5]	40 CFR §257.102(f)(1)(ii)	Revise closure schedule to ensure that closure will be completed within 5 years of initiating closure and that an estimate of the year that closure activities will be complete is provided.	"Closure Plan-Addendum No.1" for the Ash Pond Area and PDP-5 include revised closure schedules and an estimate of the year closure activities will be complete in Section 3.0. The addenda are in APPENDIX G.
23	VII	VII.31	[App. G, Closure Plan for the A1 Area Landfill, Ash Pond Area, and PDP-5]	40 CFR §257.102(d)(3)(i)(A)	Provide a discussion regarding Appendix B, HELP Model Output. Please ensure to discuss the purpose and results of the evaluation.	"Closure Plan-Addendum No. 1" for A1 Landfill, Ash Pond Area, and PDP-5 deletes the HELP model evaluations in the 2016 Closure Plan and replaces them with infiltration evaluations for the new cap/cover system.
24	VII	VII.31	[App. G, Closure Plan for A1 Area Landfill]	40 CFR §257.102(d)(1)(iii)	Revise slope stability analysis for the A1 Area Landfill to provide an evaluation for the interface between each component of the final cover system (e.g., erosion layer/infiltration layer, infiltration layer/clay layer, and the clay layer/subgrade).	Each of the layers in the A1 Landfill cap system consists of soil and the underlying ash is similar to a sandy soil - there are no geosynthetic components in the landfill cap. Each of the cap soil layers will be scarified, moistened and tied-in to subsequent lifts and layers per design specifications, such that there will be no slip plane between soil layer interfaces. When evaluating a cap system composed of geosynthetics, evaluation of interface friction between layers of synthetic-to-synthetic or soil-to-synthetic is appropriate; however, interface slope stability failure is NOT a concern for caps that consist only of soil without a geosynthetic component and an interface failure evaluation is therefore not required for the A1 Landfill soil cap.
25	VII	VII.31	[App. G, Closure Plan for A1 Area Landfill, Ash Pond Area, and PDP-5]	40 CFR §257.102(d)(1)(iii)	Revise the slope stability analysis for the final cover system associated with the A1 Area Landfill, Ash Pond Area, and PDP-5 to include site specific geotechnical data, final cover materials testing data, and final design criteria.	"Closure Plan-Addendum No. 1" for A1 Landfill, Ash Pond Area, and PDP-5 include statements to confirm that the slope stability of the cover system will be modeled using site-specific geotechnical data during design of the final closure. The addenda are in APPENDIX G.

26	VII	VII.31	[App. G, Closure Plan for A1 Area Landfill, pg. 4; App. G, Closure Plan for A1 Area Landfill, App. C, Slide 7.0 – Cap/Cover System Slope Stability Model Output]	40 CFR §257.102(d)(3)(i)	Revise the application to ensure that the thickness of the final cover infiltration layer is consistent. In addition, revise the final cover slope stability analysis to ensure the correct infiltration layer thickness is used.	"Closure Plan-Addendum No. 1" for the A1 Landfill addresses the modication in final cover thickness as approved by TCEQ in 2019 and includes an updated settlement evalaution.
27	VII	VII.31	[App. G, Closure Plan for A1 Area Landfill, Ash Pond Area, and PDP-5]	30 TAC §352.4, 40 CFR §257.102(b), & (d)(3)(i)(D)	Revise application to include a settlement analysis for the final cover system. The analysis must be signed and sealed by a P.E..	"Closure Plan-Addendum No. 1" for A1 Landfill, Ash Pond Area, and PDP-5 include the addition of a cap settlement evaluation signed and sealed by a P.E. The addenda are in APPENDIX G.
28	VII	VII.31	[App. G, Closure Plan for the Ash Pond Area and PDP-5]	30 TAC §352.1231, 40 CFR §257.102(d)(3)(iii), & §257.103(f)(2)	a. Provide an equivalency determination for the alternate final cover proposed for the Ash Pond Area and PDP-5.	"Closure Plan-Addendum No. 1" for the Ash Pond Area and PDP-5 include the addition of equivalency determinations for the proposed alternative final cover systems. The addenda are in APPENDIX G.
					b. Provide status of EPA's review or determination of a demonstration for site-specific alternative deadlines to initiate closure application for Ash Pond Area and PDP-5.	On January 11, 2022, EPA issued a letter stating the site-specific alternative deadline demonstration was deemed complete thus tolling the cease receipt date until a final decision is issued on the demonstration. To date, no decision has been made by EPA.
29	VII	VII.31	[App. G, Closure Plan for the Ash Pond Area and PDP-5]	40 CFR §257.102(e)	Revise the application to address initiation of closure with respect to the Ash Pond Area and PDP-5.	"Closure Plan-Addendum No. 1" for the Ash Pond Area and PDP-5 address the initiation of closure in Section 3.0. The addenda are in APPENDIX G.
30	VII	VII.31	[App. G, Closure Plan for A1 Area Landfill, Ash Pond Area, and PDP-5]	40 CFR §257.102(g), (h), & (i)	Revise application to address the cited regulations.	"Closure Plan-Addendum No. 1" for A1 Landfill, Ash Pond Area, and PDP-5 address the required closure notifications in Section 3.0. The addenda are in APPENDIX G.
31	VII	VII.31 & VII.32	[App. G, Closure and Post Closure Plan for the Ash Pond Area]	40 CFR §257.102(d)(iii)(1)(A)	Revise the Closure and Post Closure Care Plan for the Ash Pond Area to ensure that the liner systems for the WAP, EAP, and NSP are consistent with the rest of the application.	"Closure Plan-Addendum No.1" and "Post Closure Plan-Addendum No.1" for the Ash Pond Area and PDP-5 both include updated and consistent final cap/cover system configurations. The addenda are in APPENDIX G.
32	VII	VII.31 & VII.32	[App. G, Closure and Post Closure Plan for the Ash Pond Area]	40 CFR §257.102(b)(1)(v)	Revise to specify the surface area for each unit (e.g., EAP, WAP, and NSP).	"Closure Plan-Addendum No.1" and "Post Closure Plan-Addendum No.1" for the Ash Pond Area each specify the surface area of each unit. The addendum is in APPENDIX G.
33	VII	VII.32	[App. H: Financial Assurance]	30 TAC §352.1101(a) & (b)	Revise Post-Closure Care Cost Estimate to base it in current dollars (2021 dollars) and include the year in terms of dollars that the estimate was made. Remove any post-closure care plan and cost information not applicable to this facility.	A) The "Post Closure Care Cost Estimate" located in APPENDIX H is based on 2021 dollars as noted in Section 2.0 and footnoted in Table 1. B) The "Post Closure Care Cost Estimate" located in APPENDIX H has been updated to only include the Martin Lake facility.

34	VII	VII.34	[App. H: Financial Assurance]	30 TAC §352.1101	Provide a statement that a Financial Assurance mechanism will be provided within 90 days if a registration is issued. For assistance, contact Mr. Mark Stoebner, Financial Analyst at mark.stoebner@tceq.texas.gov.	Luminant Generation Company LLC will provide an acceptable financial assurance mechanism per 30 TAC 352.1101 no more than 90 days after the executive director's approval of the registration.

[1] Deficiency ID – Key: Use this numbered ID to identify the NOD response.
[2] Location of deficiency in submittal/application. Items in square brackets [ ] refer to applicant's supplemental information submitted as attachments/appendices to the application form.

Texas Commission on Environmental Quality

Registration Application for Coal Combustion Residuals (CCR) Waste Management

I. General Information

1. Reason for Submittal

Type of Registration Application

☐ New ☐ Major Amendment ☐ Minor Amendment

☒ Notice of Deficiency (NOD) Response ☐ Transfer ☐ Name Change

☐ Other

2. Application Fees

☒ $150 Application Fee

Payment Method

☐ Check ☒ Online through ePay portal <www3.tceq.texas.gov/epay/>

If paid online, enter ePay Trace Number: 582EA000467516

3. Facility Information

Facility information must match regulated entity information on the Core Data Form.

Applicant: ☐ Owner ☐ Operator ☒ Owner/Operator

Facility TCEQ Solid Waste Registration No: 31277

Facility EPA ID: TXD000821306

Regulated Entity Reference No. (if issued): RN102583093

Facility Name: MARTIN LAKE STEAM ELECTRIC STATION

Facility (Area Code) Telephone Number: 214-875-8338

Facility physical street address (city, state, zip code, county): 8850 FM 2658 N, TATUM, TX, 75691, RUSK

Facility mailing address (city, state, zip code, county): 6555 Sierra Dr, Irving, TX 75039

Latitude (Degrees, Minutes Seconds): 32° 15’ 35”

Longitude (Degrees, Minutes Seconds): 94° 34’ 13”

4. Publicly Accessible Website

Provide the URL address of a publicly accessible website where the owner or operator of a CCR unit will post information.
https://www.luminant.com/ccr/

5. Facility Landowner(s) Information

Facility landowner(s) name: Luminant Generation Company LLC

Facility landowner mailing address: 6555 Sierra Dr

City: Irving State: TX Zip Code: 75039

(Area Code) Telephone Number: 214-875-8338

Email Address (optional):

6. CCR Waste Management Unit(s)

☒ Landfill Unit(s) ☒ Surface Impoundment(s)

For each existing landfill, new landfill and lateral expansion, existing surface impoundment, and new surface impoundment and lateral expansion(s) provide information on type of waste, the registered unit(s) in which they are managed, and sampling and analytical methods.

Submit the following tables:

Table I.6. – CCR Waste Management Units

Table I.6.A. – Waste Management Information

Table I.6.B. – Waste Managed in Registered Units

Table I.6.C. – Sampling and Analytical Methods

7. Description of Proposed Activities or Changes to Existing Facility

Provide a brief description of the proposed activities if application is for a new facility, or the proposed changes to an existing facility or registration conditions, if the application is for an amendment.

Luminant Generation Company LLC (Luminant) owns/operates the Martin Lake Steam Electric Station (MLSES), which is located approximately 5 miles southeast of the town of Tatum in Rusk County, Texas. The MLSES consists of three coal-fired units with a combined operating capacity of approximately 2,250 megawatts. Coal combustion residuals (CCR) including fly ash, bottom ash, and flue gas desulfurization sludge (scrubber sludge) are generated as part of MLSES unit operation. The Texas Commission on Environmental Quality (TCEQ) Solid Waste Registration Number (SWR No.) for the MLSES is 31277. CCR is managed in one onsite landfill, A-1 Landfill, and four surface impoundments, New Scrubber Pond (NSP), West Ash Pond (WAP), East Ash Pond (EAP), and Permanent Disposal Pond 5 (PDP-5).

The A-1 Landfill is the primary disposal facility for CCR generated at the MLSES. The A1 Landfill is located approximately 2.5 miles southeast of the MLSES. CCR is transported to the landfill in rail cars, off loaded and placed within the active areas at the landfill. The A-1 Landfill is listed on the Notice of

Registration (NOR) for the MLSES as Unit No. 002 and is regulated as a Class 2 non-hazardous industrial solid waste landfill.

The WAP and EAP receive sluice water from bottom ash dewatering bins and other process wastewater sources that typically include bottom ash fines. The ponds are cleaned periodically as part of ongoing operations. The material removed from the WAP and EAP is sent to the A-1 Landfill for disposal.

The NSP is used to manage scrubber sludge and discharge from the sludge thickener sumps, the plant yard sumps, and stormwater management areas. Water collecting in the NSP serves as wet-well make-up water as well as emergency make-up water in the scrubber area.

PDP-5 is primarily used to manage excess liquids including stormwater and excess process wastewater from both the New Scrubber Pond and Bottom Ash Ponds.

8. Primary Contact Information

Contact Name: Renee Collins Title: Sr. Director Environmental Services

Contact mailing address: 6555 Sierra Drive
City: Irving County: Dallas State: TX Zip Code: 75039
(Area Code) Telephone Number: 214-875-8338

Email Address (optional):

9. Notice Publishing

Party responsible for publishing notice:
☒ Applicant ☐ Consultant ☐ Agent in Service

Contact Name: Renee Collins Title: Sr. Director, Environmental Services

Contact mailing address: 6555 Sierra Drive
City: Irving County: Dallas State: TX Zip Code: 75039
(Area Code) Telephone Number: 214-875-8338

10. Alternative Language Notice

Is an alternative language notice required for this application? For determination, refer to Alternative Language Checklist on the Public Notice Verification Form (TCEQ-20244-Waste-NORI).

☒ Yes ☐ No

11. Public Place Location of Application

Name of the Public Place: Rusk County Clerk's Office
Physical Address: 115 North Main Street, Room 206
City: Henderson County: Rusk State: TX Zip Code: 75652
(Area code) Telephone Number: 903-657-0330

Name of the Public Place: Tatum Public Library
Physical Address: 335 Hood Street

City: Tatum County: Panola State: TX Zip Code: 75691
(Area code) Telephone Number: 903-947-2211

12. Ownership Status of the Facility

☐ Corporation ☐ Limited Partnership
☐ Sole Proprietorship ☐ General Partnership ☒ Other (specify): Limited Liability Corporation

Does the Site Owner (Permittee/Registrant) own all the CCR units and all the facility property?

☒ Yes ☐ No

13. Property / Legal Description Information

Provide a legal description and supporting documents of the property where the management of CCR waste will occur; including a survey plat and a boundary metes and bounds description (30 TAC §352.231(g)).

Submit the following documents:

a. Property Legal Description
b. Property Metes and Bounds Description
c. Metes and Bounds Drawings
d. On-Site Easements Drawings

See APPENDIX A for Property/Legal Description Information and Property Owner Affidavit for A1 Landfill, Ash Pond Area, and PDP-5.

14. Operator Information

Identify the entity who will conduct facility operations, if the owner and operator are not the same.

Operator Name:

Operator mailing address:

City: State: Zip Code:

(Area Code) Telephone Number:

Email Address (optional):

15. Confidential Documents

Does the application contain confidential documents?

☐ Yes ☒ No

If "Yes", cross-reference the confidential documents throughout the application and submit as a separate attachment in a binder clearly marked "CONFIDENTIAL."

16. Permits and Construction Approvals

Permit or Approval	Received	Pending	Not Applicable
Hazardous Waste Management Program under the Texas Solid Waste Disposal Act	☒	☐	☐
Underground Injection Control Program under the Texas Injection Well Act	☐	☐	☒
National Pollutant Discharge Elimination System Program under the Clean Water Act and Waste Discharge Program under Texas Water Code, Chapter 26	☒	☐	☐
Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA). Nonattainment Program under the FCAA	☐	☐	☒
National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA	☐	☐	☒
Other (describe):	☐	☐	☐
Other (describe):	☐	☐	☐
Other (describe):	☐	☐	☐

17. Legal Authority

The owner and operator of the facility shall submit verification of their legal status with the application. This shall be a one-page certificate of incorporation issued by the secretary of state. The owner or operator shall list all persons having over a 20% ownership in the facility.

See APPENDIX A for Certificate of Authority

18. TCEQ Core Data Form

The TCEQ requires that a Core Data Form (TCEQ-10400) be submitted on all incoming applications, unless a Regulated Entity and Customer Reference Number has been issued by the TCEQ and no core data information has changed. For more information regarding the Core Data Form, call (512) 239-5175 or visit the TCEQ Website.

See APPENDIX A for TCEQ Core Data Form

19. Other Governmental Entities Information

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

☐ Yes ☒ No

Local Government Jurisdiction (If Applicable)
Within City Limits of: N/A
Within Extraterritorial Jurisdiction of: N/A

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing or disposal of municipal or industrial solid waste?

☐ Yes ☒ No If "Yes", provide a copy of the ordinance or order as an attachment.

20. Attachments

Does the application include the following?

General Maps	☒ Yes	☐ No
General Topographic Map	☒ Yes	☐ No
Facility Layout Map	☒ Yes	☐ No
Surrounding Features Map	☒ Yes	☐ No
Process Flow Diagram	☒ Yes	☐ No
Land Ownership Map	☒ Yes	☐ No
Land Ownership List	☒ Yes	☐ No
Pre-printed Mailing Labels	☒ Yes	☐ No

Maps and drawings shall be legible and easily readable by eye without magnification. Scales and paper size shall be chosen based on the type of map submitted, the land area covered, and the amount of detail to be shown. See instructions for details regarding maps and drawings to be submitted in application.

See APPENDIX A for Attachments detailed in Item 20

21. Verification of Compliance

Does the owner and operator verify that the design, construction, and operation of CCR landfill(s) and surface impoundment(s) meets the requirements of 30 TAC §352.231(f) (30 TAC §352.2; 40 CFR §257.52, and 40 CFR §§257.3-1 – 257.3-3).

☒ Yes ☐ No

As requested by TCEQ, please see the "Response to TCEQ CCR Unit Registration Comments" memorandums for A1 Landfill, Ash Ponds and PDP5 provided by Golder in APPENDIX A.

II. Location Restrictions and Geology

See Instructions and Technical Guidance

22. Location Restrictions

Submit certifications and technical reports demonstrating compliance of CCR unit(s) with applicable location restrictions (30 TAC 352, Subchapter E) and comply with 30 TAC §352.231(d) and 30 TAC §352.4 for submission of engineering and geoscientific information.

A. **Placement above the uppermost aquifer** (30 TAC §352.601) (40 CFR §257.60). For those CCR units whose base is less than five feet above the upper limit of the uppermost aquifer, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.60(a) – (c).

B. **Wetlands** (30 TAC §352.611) (40 CFR §257.61). For CCR units located in wetlands, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.61(a) – (c).

C. **Fault areas** (30 TAC §352.621) (40 CFR §257.62). For CCR units located within 200 feet of the outermost damage zone of a fault, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.62(a) – (c).

D. **Seismic impact zones** (30 TAC §352.631) (40 CFR §257.63). For CCR units located in a seismic impact zone, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.63(a) – (c).

E. **Unstable areas** (30 TAC §352.641) (40 CFR §257.64). For CCR units located in unstable areas, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.64(a) – (d).

Location Restriction Demonstration reports for A1 Landfill, Ash Pond Area, and PDP-5 are located in APPENDIX B.

23. Geology Summary Report

Submit a summary of the geologic conditions at the facility, including the relation of the geologic condition to each CCR unit. The summary must include enough information and data and include sources and references for the information. Include all groundwater monitoring data required by 40 CFR Part 257, Subpart D, (30 TAC §352.241, §352.601, §352.621, §352.631, and §352.641) and submitted in accordance of 30 TAC §352.4.

Note: Previously prepared documents may be submitted but must be supplemented or updated as necessary to provide the requested information (30 TAC §352.241(b)).

For Geology Summary, please refer to "Groundwater Monitoring System Certification" reports for A1 Landfill, Ash Pond Area, and PDP-5 located in APPENDIX F. The Local Geology and Hydrogeology summary is located in Section 2.2 of each report.

All groundwater monitoring data summarized in "2020 Annual Groundwater Monitoring and Corrective Action Report" for A1 Landfill, Ash Pond Area, and PDP-5 located in APPENDIX F.

III. Fugitive Dust Control Plan

24. Fugitive Dust Control Plan

A. Submit a copy of the CCR Fugitive Dust Control Plan (30 TAC §352.801) (40 CFR §257.80(b)), or the most recently amended plan. The initial plan or subsequent amended plan must be certified by a qualified Texas licensed professional engineer (Texas P.E.) that the plan meets the requirements of 30 TAC Chapter 352.

B. Submit the most recent Annual CCR Fugitive Dust Control Report (30 TAC §352.801) (40 CFR §257.80(c)) and include the report information.

CCR Fugitive Dust Control Plan and Annual CCR Fugitive Dust Control Report located in APPENDIX C.

IV. Landfill Criteria

See Instructions and Technical Guidance – No. 30 Coal Combustion Residuals Landfill

25. Landfill(s) for CCR Waste

Provide the following information below if there is a landfill; if there is more than one landfill, separate information is required for each landfill.

A. Landfill Characteristics

Describe the design, installation, construction, and operation of the landfill and submit a completed Table IV.A. – Landfill Characteristics.

The A1 Landfill is an above grade landfill surrounded by earthen embankments constructed of mine spoil that extend approximately 10 to 20 feet or more above surrounding grade. The bottom of the A1 LF is lined with a 1-foot thick compacted bottom liner consisting of clay-rich mine spoil scarified and re-compacted to achieve an in-place permeability of 1 x 10-7 cm/sec or less. The interior faces of the earthen embankments are constructed with a 3-foot thick compacted mine spoil liner designed to achieve an in-place permeability of 1x10-7 cm/sec or less. The landfill footprint is underlain by low permeability, clay-rich mine spoil 70 to 100 feet in thickness.

B. Liner Design

1. For existing landfills, provide attachments describing how the facility will comply with 30 TAC 352, Subchapter F (Design Criteria).

   A1 Landfill is an Existing CCR Landfill as defined by the CCR rule. There are no design criteria for existing CCR Landfills in either the state or federal CCR rule. 30 TAC 352, Subchapter F or 40 CFR 257.70

2. For new landfills or lateral expansions of existing landfills, submit pages describing how the facility will comply with 30 TAC §352.261 and 30 TAC §352.701.

3. Complete Table IV.B. - Landfill Liner System and specify the type of liner used for the landfill.

4. Provide attachments describing the design, installation, and operation of the liner and leak detection system. The description must demonstrate that the liner and leak detection system will prevent discharge to the land, groundwater, and surface water. Submit a quality assurance project plan (QAPP) to ensure that each analysis is performed appropriately.

   See “A-1 Disposal Area Expansion Registration Notification and Technical Report”. Design, installation, and operation details can be found in Appendix IV. of the registration package. The “Hydrogeological/Geotechnical Evaluation” referenced in the registration package contains soils testing. Both documents can be found in APPENDIX D.

C. Leachate Collection and Removal

Submit design information and description of leachate collection and removal system in accordance with 30 TAC §352.701.

Complete Table IV.C. - Landfill Leachate Collection System

N/A

D. Design of Liner and Leachate Collection and Removal System.

For a new landfill or lateral expansion of a CCR landfill, provide a qualified Texas P.E. certification and technical report that the design of the liner and the leachate collection and removal system meets the requirements of 30 TAC §352.711.

N/A

E. Run-on and Run-off Controls

At time of application, attach pages describing how the facility will comply with the run-on and run-off system plan for an existing, new, or lateral expansion of a CCR landfill information. Provide a qualified Texas P.E. certification and technical report that the run-on and run-off control system plans meet the requirements of 30 TAC §352.811.

"Run-on and Run-off Control System Plan" for A1 Landfill is located in APPENDIX D.

F. Inspection for Landfills

At time of application, attach pages describing how the facility will comply 30 TAC §352.841 and complete Table IV.D. – Inspection Schedule for Landfills. For existing CCR landfills, provide the most recent inspection report. All CCR landfills and any lateral expansions of a CCR landfill must be inspected for any structural weakness, malfunction, deterioration conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit, or any other conditions which may cause harm to human health and environment at a frequency specified in 40 CFR §257.84(a) and (b).

The 2021 Annual CCR Landfill inspection report is located in APPENDIX D.

V. Surface Impoundment Criteria

See Instructions and Technical Guidance – No. 31 Coal Combustion Residuals Surface Impoundment

26. Surface Impoundment(s) for CCR Waste

Provide the following information below if there is a surface impoundment; if there is more than one surface impoundment, separate information is required for each surface impoundment.

A. General Surface Impoundment(s) Characteristics

Provide information about the characteristics of the surface impoundment(s): incised, surface area (acres), storage volume (acres-feet), and depth (feet).

For all surface impoundment(s), include the following information:

1. Complete Table V.A. - Surface Impoundments Characteristics. List the surface impoundment(s) to be registered as a CCR unit(s), the wastes managed in each unit, and the rated capacity or size of each unit.
2. Describe the surface impoundment(s) and provide a plan view drawing with cross-sections, if available.

   See "History of Construction" and "History of Construction-Addendum No.1" reports in APPENDIX E. The "History of Construction" report contains current information on PDP-5 and historical information on the other impoundments. The "History of Construction-Addendum No. 1" report contains updated descriptions and drawings of the East Ash Pond, West Ash Pond, and New Scrubber Pond.

Please note that the EAP was retrofitted in 2020 and the WAP was retrofitted in 2021. The NSP is currently being retrofitted. This retrofit schedule corresponds to the schedule outlined in the November 25, 2020, request to the U.S. EPA for approval of a site-specific alternative deadline to initiate closure pursuant to 40 C.F.R. § 257.103(f)(1). Updated drawings and as-builts for these retrofits can be found in the" History of Construction-Addendum No. 1". A copy of the "Martin Lake CCR Surface Impoundments Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline" document is located in APPENDIX G. This document is discussed further in Section 26.B.

3. Specify the minimum freeboard to be maintained and the basis of the design to prevent overtopping resulting from normal or abnormal operation; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error. Show that adequate freeboard will be available to prevent overtopping from a 100-year, 24-hour storm.

   Per the updated "Inflow Design Flood Control System Plan" located in APPENDIX E, all ponds managed with recommended 2 feet of freeboard will adequately manage the design flood. See Sections 2.4 and 3.0 for these recommendations and results.

4. Waste Flow
   Describe the means that will be used to immediately shut off the flow of waste to the impoundment in the event of liner failure or to prevent overtopping.

   All inflows that enter the surface impoundments are pumped into the units under controlled conditions. There are no gravity or uncontrolled inflows. Pumps will be immediately removed from service to shut off flows to the impacted impoundment.

5. Dike Construction ☒ Yes ☐ No

   If Yes, submit the dike certification (located at the end of the application).

   In October 2016, the initial certified Periodic Hazard Potential Classification Assessments, Periodic Structural Stability Assessments, and Periodic Safety Factor Assessments were completed for all Martin Lake CCR surface impoundments as required by 40 CFR 257.73(a), 257.73(d), and 257.73(e). In October 2021, the certified 5-Year Updates to these assessments were completed as required by 40 CFR 257.73 and 30 TAC 352.731, which identified no structural deficiencies. The most recent 2021 5-Year Assessment Updates are located in APPENDIX E. Based on the conclusion in the certified 5-year updates that no structural deficiencies exist, the facility is submitting these documents in lieu of the Dike Certification.

   The structural integrity of the dike system must be certified by a qualified Texas P.E. before the registration is issued. If the impoundment is not being used, the dike system must be certified before it can be put into use. The certification must be sealed by a qualified Texas P.E., along with the engineering firm's name and registration number (30 TAC §352.4).

   A report shall accompany the dike certification which summarizes the activities, calculations, and laboratory and field analyses performed in support of the dike certification. Describe the design basis used in construction of the dikes. A QAPP should be included in the report to ensure that each analysis is performed appropriately and include:

   (1) Slope Stability Analysis

   (2) Hydrostatic and Hydrodynamic Analysis

   (3) Storm Loading

(4) Rapid Drawdown

Earthen dikes should have a protective cover to minimize wind and water erosion and to preserve the structural integrity of the dike. Describe the protective cover used and describe its installation and maintenance procedures.

B. Liner Design

For surface impoundment(s), provide information about how the facility will comply with 30 TAC §352.711 for existing CCR surface impoundments. For new and lateral expansion of CCR surface impoundments provide information on how the facility will comply with 30 TAC §352.261, and 30 TAC §352.721, see Instructions and Technical Guidance No. 31 Coal Combustion Residuals Surface Impoundment. The qualified Texas P.E. must certify that the design of the liner complies with the requirements of 30 TAC Chapter 352 and 40 CFR Part 257, Subpart D, where required.

Is the CCR surface impoundment unlined? ☐ Yes ☐ No

See discussion below.

If "Yes", the CCR unit is subject to the closure requirements under 30 TAC Chapter 352 and 40 CFR §257.101(a) to retrofit or close. A notification must be prepared stating that an assessment of corrective measures has been initiated.

On November 25, 2020, Luminant Generation Company LLC (Luminant) submitted a request to the U.S. Environmental Protection Agency (EPA) for approval of a site-specific alternative deadline to initiate closure pursuant to 40 C.F.R. § 257.103(f)(1) for the Ash Pond Area and PDP-5. On January 11, 2022, EPA issued a letter stating the site-specific alternative deadline demonstration was deemed complete thus tolling the cease receipt date until a final decision is issued on the demonstration. The "Martin Lake CCR Surface Impoundments Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline" document submitted is located in APPENDIX G. As discussed above in Section 26.A.2., the EAP was retrofitted with an alternative composite liner in 2020 and the WAP was retrofitted with an alternative composite liner in 2021. The NSP is currently being retrofitted with an alternative composite liner.

On, November 25, 2020, Luminant also submitted an Alternate Liner Demonstration (ALD) application to EPA pursuant to 40 C.F.R. § 257.57(d)(i) for PDP-5. The subsequent ALD demonstration was submitted on November 30, 2021. On January 11, 2022, EPA issued a letter stating the ALD Application was deemed complete thus tolling the cease receipt date until a final decision is issued on the ALD demonstration. The "Alternate Liner Demonstration Application" and the "Alternate Liner Demonstration" are located in APPENDIX E. If the ALD is approved by USEPA, PDP-5 would be considered a lined impoundment. Luminant will place a copy of the EPA's decision relating the Alternative Line Demonstration for PDP-5 in the facility's operating record when final.

1. Complete Table V.B. - Surface Impoundment Liner System for each surface impoundment to be registered.
2. Describe the design, installation and operation of liner and leak detection components. The description must demonstrate that the liner and leak detection system will prevent discharge to the land and surface water. Submit a QAPP report to ensure that each analysis is performed appropriately.

   A "Soil & Liner Evaluation Report (SLER)" for PDP-5 is located in Appendix K of the "Alternate Liner Demonstration Application" located in APPENDIX E. The "Alternative Liner Demonstration" is also included for review.

   Liner Equivalency Demonstrations for the EAP, WAP, and NSP have been provided in APPENDIX E.

   See the "Construction Completion and Construction Quality Assurance Report" for further information on the retrofitted EAP and WAP in APPENDIX E.

The NSP is currently being retrofitted. Construction drawings can be found in the "History of Construction-Addendum No. 1" report that indicate the installation of an alternative composite liner. A "Construction Completion and Construction Quality Assurance Report" will be completed following completion of the retrofit.

3. For new or laterally expansions of existing surface impoundments, provide a subsurface soil investigation report that must include:

   a. A description of all borings drilled, at the unit location, to test soils and characterize groundwater;

   b. A unit map drawn to scale showing the surveyed locations and elevations of the borings, including location of permanent identification markers ((30 TAC §352.731) and (40 CFR §257.73(a)(1));

   c. Cross-sections prepared from the borings depicting the generalized strata at the unit;

   d. Boring logs, including a description of materials encountered, and any discontinuities such as fractures, fissures, slickensides, lenses or seams;

   e. A description of the geotechnical data and the geotechnical properties of the subsurface soil materials, including the suitability of the soils and strata for the intended uses; and

   f. A demonstration that all geotechnical tests were performed in accordance with industry practices and recognized procedures.

   N/A

C. Hazard Potential Classification

Provide the current hazard potential classification assessment and associated documentation, as required by 30 TAC §352.731 or §352.741 and 40 CFR §257.73(a)(2) or §257.74(a)(2). The qualified Texas P.E. must certify that the initial hazard potential classification and any subsequent periodic classification was conducted in accordance with the requirements of 30 TAC Chapter 352, where required.

Hazard Potential Classification: LOW

See "Hazard Potential Classification Assessment" located in APPENDIX E

D. Emergency Action Plan for High or Significantly High Hazard Potential

Provide the current Emergency Action Plan that has been certified by a qualified Texas P.E. and includes the following requirements from 30 TAC 352, Subchapter F and 40 CFR §257.73(a)(3)(i)(A) - (E) or 40 CFR §257.74 (a)(3)(i)(A) - (E). The qualified Texas P.E. must certify that the written Emergency Action Plan and any subsequent amendment of the plan complies with the requirements of 30 TAC 352, Subchapter F, where required.

Complete Table V.J. - Inspection of Surface Impoundments

N/A

E. Inflow Design Flood Control System Plan

Describe how the surface impoundment(s) system will manage stormwater run-on away from the surface impoundment(s) (30 TAC §352.821 and 40 CFR §257.82(a) and (c)). Stormwater run-on must be diverted away from a surface impoundment, based on the hazard potential. Where dikes are used to divert run-on, they must be protected from erosion. Include all analyses used to calculate run-on volumes. Provide the inflow design flood control system plan. Provide qualified Texas P.E. certification that the initial and periodic inflow design flood control system plans meet the requirements of 30 TAC §352.821, where required.

See "Inflow Design Flood Control System Plan" located in APPENDIX E.

F. History of Construction for Existing CCR Surface Impoundment(s), or the Design and Construction Plans for New and Lateral Expansions

Provide information on the history of construction for each existing CCR surface impoundment (30 TAC §352.731 and 40 CFR §257.73(c)) or the design and construction plans for new and lateral expansions of each CCR surface impoundment (30 TAC §352.741) and (40 CFR §257.74(c)).

See "History of Construction" report in APPENDIX E.

G. Structural Stability Assessment

Provide the most recent structural stability assessment of the surface impoundments. Include the combined capacity of all surface impoundment spillways with calculations; the peak discharge the unit must meet for all combined spillways; probable maximum flood-high hazard, 1,000-yr-significant high hazard, 100-yr-low hazard; identify if there were any structural stability deficiencies in last assessment; identify how these deficiencies were managed and corrected; and qualified Texas P.E. certification. The structural stability assessment must include all information required in 30 TAC §352.731 for existing surface impoundments or 30 TAC §352.741 for new or laterally expanding surface impoundments.

See "Structural Stability Assessment" located in APPENDIX E.

H. Safety Factor Assessment

The current safety factor assessment must be submitted with the application. It must include documentation that demonstrates whether the calculated factors of safety for each CCR surface impoundment achieve the minimum safety factors specified in 30 TAC 352, Subchapter F and 40 CFR §257.73(e)(1)(i) - (iv) and 40 CFR §257.74(e)(1)(i) - (iv) for the critical cross-section of the embankment. The critical cross-section is the cross-section anticipated to be the most susceptible to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments must be supported by appropriate engineering calculations and certified by a qualified Texas P.E.

See "Safety Factor Assessment" located in APPENDIX E.

VI. Groundwater Monitoring and Corrective Action (30 TAC 352, Subchapter H)

See Instructions and Technical Guidance – No. 32 Coal Combustion Residuals Groundwater Monitoring and Corrective Action

27. Groundwater Monitoring System

A. Complete Table VI.A. - Unit Groundwater Detection Monitoring System.

B. Provide a map showing location of wells, groundwater elevations, and groundwater flow direction.

See Groundwater Potentiometric Surface Maps in Appendix C of the "Groundwater Monitoring System Certification" reports for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F. Updated potentiometric surface maps are also available in the "2021 Annual Groundwater Monitoring and Corrective Action Report-Revision 1" reports for each unit in APPENDIX F.

C. Provide attachments describing how the facility will comply with the requirements in 30 TAC §352.911 and provide a certification by a qualified Texas P.E or qualified Texas P.G. that the groundwater monitoring system design and construction meet the requirements of 30 TAC Chapter 352.

See "Groundwater Monitoring System Certification" reports for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F.

Provide a figure showing the geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

See Figures 3, 4 ,5, 6, 7 in the "Groundwater Monitoring System Certification" report for A1 Landfill located in APPENDIX F.

See Figures 3, 4 ,5, 6 in the "Groundwater Monitoring System Certification" report for the Ash Pond Area located in APPENDIX F.

See Figures 4, 5, 6 in the "Groundwater Monitoring System Certification" report for PDP-5 located in APPENDIX F. Updated cross-sections have been added to the "Groundwater Monitoring System Certification-Addendum No. 1" for PDP-5 in APPENDIX F.

D. For a multiunit groundwater monitoring system, demonstrate that the groundwater monitoring system will be equally as capable of detecting monitored constituents at the waste boundary of the CCR unit as the individual groundwater monitoring system for each CCR unit by providing at minimum the following information:

1. Number, spacing, and orientation of each CCR unit;
2. Hydrogeologic setting; and
3. Site history.

See "Groundwater Monitoring System Certification" report for the Ash Pond Area located in APPENDIX F.

E. Has there been any sampling concentrations of one or more constituents listed in Appendix IV detected at statistically significant levels above the groundwater protection standard (GWPS)? ☒ Yes ☐ No

F. Provide information on how monitoring wells have been constructed and cased in a manner that maintains the integrity of the monitoring well borehole and to prevent contamination of samples and the groundwater.

See "Groundwater Monitoring System Certification" reports for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F.

28. Groundwater Monitoring Sampling and Analysis Program

Provide a sampling and analysis plan that includes procedures and techniques; sampling and analytical methods that are appropriate for groundwater sampling; and that address the requirements of 30 TAC §352.931 and 40 CFR §257.93. Provide a P.E or P.G. certification that describes the statistical method selected to evaluate the groundwater monitoring data and certifies that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area. Refer to TG-32 for information and guidance.

See "Groundwater Monitoring Plan-Revision 2" for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F.

See “Statistical Analysis Plan-Revision 1” for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F.

29. CCR Unit(s) in a Detection Monitoring Program

Does the facility have CCR unit(s) in a Detection Monitoring Program?

☒ Yes ☐ No

PDP-5

If “Yes”, Submit the following information:

A. Submit Table VI.C. – Facility CCR Units Under Detection Monitoring.

B. Provide a Background Evaluation Report.

Background data was derived from the eight independent sampling events required under 40 CFR 257.94(b). A summary of the background monitoring program can be found in Section 3.0 of the “2017 Annual Groundwater Monitoring Report”. Background water quality data is summarized in Tables 3 and 4 and laboratory analytical reports are located in Appendix A of the 2017 report.

The “2017 Annual Groundwater Monitoring Report” for PDP-5 is in APPENDIX F.

C. Provide a report with the results of semiannual monitoring events.

The “2020 Annual Groundwater Monitoring and Corrective Action Report” and the “2021 Annual Groundwater Monitoring and Corrective Action Report-Revision 1” for PDP-5 is in APPENDIX F.

1. Has a statistically significant increase (SSI) been detected for one or more of the constituents listed in Appendix III at any monitoring well?

   ☒ Yes ☐ No

2. Has a notification to the executive director been sent within 14 days?

   ☒ Yes ☐ No

3. Date assessment monitoring program will start: N/A Due to successful ASDs

4. Do you plan to provide an alternative source demonstration (ASD)?

   ☒ Yes ☐ No

30. CCR Unit(s) in an Assessment Monitoring Program

Does the facility have CCR unit(s) in an Assessment Monitoring Program?

☒ Yes ☐ No

A1 Landfill

Ash Pond Area

Background data was derived from the eight independent sampling events required under 40 CFR 257.93(d). A summary of the background monitoring program is found in Section 3.0 of the “2017 Annual Groundwater Monitoring Report” for A1 Landfill and the Ash Pond Area. Background water quality data is summarized in Tables 3 and 4 and laboratory analytical reports are located in Appendix A of the 2017 reports. The additional reports are located in APPENDIX F.

If "Yes", Submit information related for units.

A. Complete Table VI.D. – CCR Units Under Assessment Monitoring.

B. Provide, for each well in assessment monitoring status, the recorded concentrations lab sheets and results in a tabulated form.

See summary tables 3 and 4 for all results in tabulated form in the "2020 Annual Groundwater Monitoring Report" for both the A1 Landfill and the Ash Pond Area in APPENDIX F. The "2021 Annual Groundwater Monitoring and Corrective Action Report-Revision 1" for the Ash Pond Area and A1 Landfill have been added to APPENDIX F.

C. Have the concentrations of all constituents listed in Appendices III and IV been at or below background values, using the statistical procedures in 30 TAC §352.931 and 40 CFR §257.93(g), for two consecutive sampling events for the CCR unit(s)? ☐ Yes ☒ No

If answer to above is yes, detection monitoring may resume. The owner or operator must prepare a notification stating that detection monitoring is resuming for the CCR unit and obtain written approval from the executive director.

D. Are there any concentrations of any constituent in Appendices III and IV above background values? ☒ Yes ☐ No

1. Has a notification to the executive director been sent within 14 days?

   ☒ Yes ☐ No

E. Date assessment of corrective measures will be initiated (must be within **90 days** of finding a statistically significant level above the GWPS) for the CCR unit(s):
April 8, 2019

F. Will you provide an ASD (see TG-32 for an acceptable submittal)? ☐ Yes ☒ No

G. Date assessment of corrective measures will be initiated if ASD is not accepted?
N/A

H. Complete Table VI.D-2. - Groundwater Detection Monitoring Parameters

Note: Refer to TG-32 regarding establishing a GWPS for each constituent in Appendix IV detected in the groundwater and attach as table.

I. Have you completed the assessment of corrective measures? ☒ Yes ☐ No
If "Yes", date assessment of corrective measures was completed: September 5, 2019
If "No", date assessment of corrective measures will be completed:
Expected date of submittal of amendment (see note below):
Provide completed assessment of corrected measures materials.

Note: Within **30 days** of completing the assessment of corrective measures, and before remedy implementation, the owner or operator shall submit an application for amendment to the registration. In some circumstances, the assessment of corrective measures and selected remedy may be approved as part of the initial application for the CCR unit registration.

"Assessment of Corrective Measures" reports is for the A1 Landfill and the Ash Pond Area are located in APPENDIX F.

J. Have you selected a remedy? ☒ Yes ☐ No

"Remedy Selection Report" for the A1 Landfill and the Ash Pond Area located in APPENDIX F.

Provide public meeting documentation under 30 TAC §352.961 and a report under 30 TAC §352.971 and 40 CFR §257.97.

"Assessment of Corrective Measures Public Meeting Documents" located in APPENDIX F.

VII. Closure and Post-Closure Care

See Instructions and Technical Guidance

Submit a full closure plan and post-closure plan and all information describing how the owner or operator will comply with 30 TAC 352, Subchapter J and 40 CFR §§257.100 - 257.104. The owner of property on which an existing disposal facility is located, following the closure of a unit, must also submit documentation that a notation has been placed in the deed to the facility that will in perpetuity notify any potential purchasers of the property that the land has been used to manage CCR wastes and its use is restricted (30 TAC §352.1221 and 40 CFR §257.102(i)). For CCR units, closed after October 19, 2015, that were closed before submission of the application, the applicant should submit documentation to show that notices required under 30 TAC 352, Subchapter K and 40 CFR §257.105 or §257.106 have been filed.

31. Closure Plan

This section applies to the owners and operators of all CCR units required to be registered. The applicant must close the facility in a manner that minimizes need for further maintenance and controls, or eliminates, to the extent necessary to protect human health and the environment, the post-closure release of CCR waste, chemical constituents of concern, leachate, contaminated rainfall, or waste decomposition products to the groundwater, surface waters, or to the atmosphere.

The type of unit to be closed can determine the level of detail sufficient for a closure plan. CCR units which have been certified closed after October 19, 2015, must provide documentation to demonstrate compliance with state and federal regulations.

For each unit to be registered, complete Table VII.A.1. - Unit Closure and list the CCR Unit components to be decontaminated, possible methods of decontamination, and possible methods of disposal of wastes and waste residues generated during unit closure. All ancillary components must be decontaminated, and the generated waste disposed of appropriately.

See "Closure Plan" and "Closure Plan-Addendum No. 1" for A1 Landfill, the Ash Pond Area, and PDP-5 in APPENDIX G.

Information about CCR units closed or to be closed under alternative closure requirements must be provided in Table VII.A.2. - CCR Units Under Alternative Closure Notification.

On November 25, 2020, Luminant Generation Company LLC (Luminant) submitted a request to the U.S. Environmental Protection Agency (EPA) for approval of a site-specific alternative deadline to initiate closure pursuant to 40 C.F.R. § 257.103(f)(1) for the Ash Pond Area and PDP-5. On January 11, 2022, EPA issued a letter stating the site-specific alternative deadline demonstration was deemed complete thus tolling the cease receipt date until a final decision is issued on the demonstration. To date, no decision has been made by EPA. The "Martin Lake CCR Surface Impoundments Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline" document submitted, and the completeness determination letter are located in APPENDIX G.

Guidance on design of a closure cap and final cover for non-hazardous industrial solid wastes landfills is provided in EPA publication 530-SW-85-014, TCEQ Technical Guidance No. 3 and TCEQ publication, RG-534, "Guidance for Liner Construction and Testing for a Municipal Solid Waste Landfill".

32. Post-Closure Care Plan

Provide a post-closure care plan that complies with the requirements of 30 TAC §352.1241.

See "Post-Closure Plan" and "Post-Closure Plan-Addendum No. 1" for A1 Landfill, the Ash Pond Area, and PDP-5 in APPENDIX G.

Post-closure care of each CCR unit must continue for at least 30 years after the date of completing closure of the unit and must consist of monitoring and reporting of the groundwater monitoring systems, in addition to the maintenance and monitoring of CCR unit. Continuation of certain security requirements may be necessary after the date of closure. Post-closure use of property on or in which waste remains after closure must never be allowed to disrupt the integrity of the containment system. In addition, submit the following information:

- The name, address, and phone number of the person or office to contact about the CCR unit during the post-closure period; and

  Luminant-Environmental Services
  Renee Collins-Senior Environmental Director
  6555 Sierra Drive
  Irving, TX 75039
  214-875-8338
  CCRPostClosurePlan@Luminant.com

- A discussion of the future use of the land associated with each unit.

  See section 5.0 of the "Post-Closure Plans" for the A1 Landfill, the Ash Pond Area, and PDP-5 in APPENDIX G.

Landfills and surface impoundments which have been certified closed after October 19, 2015, must be included in post-closure care plans, unless they have been determined to have been closed by waste removal equivalent to the closure standards in 30 TAC §352.1221 and 40 CFR §257.102 or 30 TAC §352.1231 and 40 CFR §257.103. If such a demonstration has been made pursuant to 40 CFR §257.102 or §257.103, but an equivalency determination has not been made, please submit a copy of the demonstration documentation. If an equivalency determination has been made, applicant should submit a copy of this determination.

VIII. Financial Assurance

33. Post-Closure Care Cost Estimate

Financial assurance for post-closure care (30 TAC §352.1101) applies to owners or operators of all CCR units, except CCR units from which the owner or operator intends to remove wastes and perform clean closure. Provide a written cost estimate in current dollars of the total cost of the 30-year (or longer, if applicable under 30 TAC §352.1101(d)) post-closure care period to perform post-closure care requirements as prescribed in 30 TAC §352.1241. The cost estimate must be based on the costs of hiring a third party to conduct post-closure care maintenance.

Complete Table VIII.A.1 – Post-Closure Cost Summary for Existing Registered Units

See “Post-Closure Care Estimates” in APPENDIX H. Cost estimates for the A1 Landfill are summarized in Table 3. Cost estimates for the Ash Pond Area are summarized in Table 2. Cost estimates for PDP-5 are summarized in Table 1.

Complete Table VIII.A.2. - Post-Closure Cost Summary for Proposed Registered Units

34. Financial Assurance Mechanism

The financial assurance for post-closure care is required in accordance with 30 TAC §352.1101. The applicant shall demonstrate the financial assurance within 90 days after approval of the registration with a financial mechanism acceptable to TCEQ in compliance with 30 TAC §352.1101(c) and 30 TAC §37, Subchapters A through D, except as indicated in 30 TAC §352.1111, in an amount no less than the amount specified in the approved Post-Closure Care Cost Summary. Provide a description of the proposed financial assurance mechanism.

Luminant Generation Company LLC will provide an acceptable financial assurance mechanism per 30 TAC 352.1101 no more than 90 days after the executive director's approval of the registration.

Complete Table VIII.B. - Post-Closure Period, for the authorized post-closure period, to meet the requirements of 30 TAC §352.1241(a) through (c).

Signature Page

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Applicant Signature: _____ Date: _____

Name and Official Title (type or print): _____

Owner or Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

To be completed by the owner or operator if the application is signed by an authorized representative for the operator

I, _____ hereby designate _____
(operator) (authorized representative)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a CCR waste management registration. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any registration which might be issued based upon this application.

_____
Printed or Typed Name of Applicant or Principal Executive Officer

_____
Signature

(Note: Application Must Bear Signature & Seal of Notary Public)

Subscribed and sworn to before me by the said _____ on this

_____ day of _____, _____.

My commission expires on the _____ day of _____, _____

(Seal) Notary Public in and for _____ County, Texas

Registration Application for Coal Combustion Residuals Waste Management

(See instructions for P.E/P.G. seal requirements.)

Attachments and Tables	**Attachment No.**
General Information	Appendix A
Property/Legal Description	
Property Owner Affidavit	
Legal Authority	
Delegation of Signature Authority	
TCEQ Core Data Form	
Attachments	
Response to TCEQ CCR Unit Registration Comments (Item 21) – A1 Landfill	
Response to TCEQ CCR Unit Registration Comments (Item 21) – Ash Ponds and PDP5	
Location Restrictions & Geology	Appendix B
Location Restrictions Demonstration-A1Landfill	
Location restriction Demonstration-Ash Pond Area	
Location restriction Demonstration-PDP-5	
Fugitive Dust Control Plan	Appendix C
CCR Fugitive Dust Control Plan	
2021 Annual CCR Fugitive Dust Control Report	
Landfill Criteria	Appendix D
A1 Landfill Registration Package	
Hydrogeological/Geotechnical Evaluation	
Run-on and Run-off Control System Plan	
2021 Annual CCR Unit Inspection Report-Ash Landfill 1	
Surface Impoundment Design and Operating Criteria	Appendix E
Summary of Liner Construction	
Alternate Liner Demonstration Application – PDP-5	
Alternate Liner Demonstration – PDP-5	
East Ash Pond Liner Equivalency Demonstration	
West Ash Pond Liner Equivalency Demonstration	
New Scrubber Pond Liner Equivalency Demonstration	
Construction Completion and Construction Quality Assurance Report – EAP	
Construction Completion and Construction Quality Assurance Report - WAP	
Hazard Potential Classification Assessment	
Inflow Design Flood Control System Plan	
History of Construction	
History of Construction-Addendum No. 1	
Structural Stability Assessment	
Safety Factor Assessment	
Groundwater Monitoring and Corrective Action	Appendix F
Groundwater Monitoring System Certification-A1 Landfill	
Groundwater Monitoring System Certification-Addendum No. 1 - A1 Landfill	
Groundwater Monitoring System Certification-Ash Pond Area	
Groundwater Monitoring System Certification-PDP-5	
Groundwater Monitoring System Certification-Addendum No. 1 - PDP-5	
Groundwater Monitoring Plan-Revision 2 – A1 Landfill	
Groundwater Monitoring Plan-Revision 2 – Ash Pond Area	
Groundwater Monitoring Plan-Revision 2 – PDP-5	
Statistical Analysis Plan-Revision 1-A1 Landfill	
Statistical Analysis Plan-Revision 1-Ash Pond Area	

Statistical Analysis Plan-Revision 1-PDP-5
2017 Annual Groundwater Monitoring Report-A1 Landfill
2017 Annual Groundwater Monitoring Report-Ash Pond Area
2017 Annual Groundwater Monitoring Report-PDP-5
2020 Groundwater Monitoring and Corrective Action Report-A1 Landfill
2020 Groundwater Monitoring and Corrective Action Report-Ash Pond Area
2020 Groundwater Monitoring and Corrective Action Report-PDP-5
2021 Groundwater Monitoring and Corrective Action Report-Revision 1 - A1 Landfill
2021 Groundwater Monitoring and Corrective Action Report-Revision 1 - Ash Pond Area
2021 Groundwater Monitoring and Corrective Action Report-Revision 1 – PDP-5
CCR Assessment of Corrective Measures-A-1 Landfill
CCR Assessment of Corrective Measures-Ash Pond Area
Assessment of Corrective Measures Public Meeting Documents
Remedy Selection Report – A1 Landfill
Remedy Selection Report – Ash Pond Area

Closure and Post-Closure Care Appendix G

Closure Plan-A1 Landfill
Closure Plan-Addendum No. 1 – A1 Landfill
Closure Plan-Ash Pond Area
Closure Plan-Addendum No. 1 – Ash Pond Area
Closure Plan-PDP-5
Closure Plan-Addendum No. 1 – PDP-5
Post-Closure Plan-A1 Landfill
Post-Closure Plan-Addendum No. 1 – A1 Landfill
Post-Closure Plan-Ash Pond Area
Post Closure Plan-Addendum No. 1 – Ash Pond Area
Post-Closure Plan-PDP-5
Post-Closure Plan-Addendum No. 1 – PDP-5
Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline
Alternative Closure Demonstration Completeness Determination Letter

Financial Assurance Appendix H

Post-Closure Care Cost Estimates – A1 Landfill, Ash Pond Area, PDP-5

Tables

Tables	Submitted	Not Applicable
Table I.6. - CCR Waste Management Units	☒	☐
Table I.6.A. - Waste Management Information	☒	☐
Table I.6.B. - Wastes Managed in Registered Units	☒	☐
Table I.6.C. - Sampling and Analytical Methods	☒	☐
Table IV.A. - Landfill Characteristics	☒	☐
Table IV.B. - Landfill Liner System	☒	☐
Table IV.C. - Landfill Leachate Collection System	☐	☒
Table IV.D. - Inspection Schedule of Landfills	☒	☐
Table V.A. - Surface Impoundments Characteristics	☒	☐
Table V.B. - Surface Impoundment Liner System	☒	☐
Table V.J. - Inspection of Surface Impoundments	☒	☐
Table VI.A. - Unit Groundwater Detection Monitoring System	☒	☐
Table VI.C. - CCR Units Under Detection Monitoring	☒	☐
Table VI.C-1. – Groundwater Detection Monitoring Parameters	☒	☐
Table VI.D. - CCR Units Under Assessment Monitoring	☒	☐
Table VI.D-2. - Groundwater Assessment Monitoring Parameters	☒	☐
Table VII.A.1. - Unit Closure	☒	☐
Table VII.A.2. - CCR Units Under Alternative Closure Notification	☒	☐
Table VIII.A.1. - Post-Closure Cost Summary for Existing Registered Units	☒	☐
Table VIII.A.2. - Post-Closure Cost Summary for Proposed Registered Units	☐	☒
Table VIII.B. - Post-Closure Period	☐	☒
Engineering Certification(s) - Dike Construction	☐	☒

Additional Attachments as Applicable - Select all those apply and add as necessary

☒ TCEQ Core Data Form(s) **Appendix A**
☒ Signatory Authority Delegation **Appendix A**
☐ Fee Payment Receipt
☐ Confidential Documents
☒ Certificate of Fact (Certificate of Incorporation) **Appendix A**
☐ Assumed Name Certificate

Table I.6. – CCR Waste Management Units

CCR Unit No.[1]	Unit Name	N.O.R. No.[1]	Unit Description[3]	Capacity	Unit Status[2]
002	A1 Landfill	002	Landfill	58.67 million cubic yards	Active
013	New Scrubber Pond	013	Surface Impoundment	199 acre-feet	Active
014	West Ash Pond	014	Surface Impoundment	233 acre-feet	Active
023	East Ash Pond	023	Surface Impoundment	126 acre-feet	Active
024	PDP-5	024	Surface Impoundment	190 acre-feet	Active

1 Registered Unit No. and N.O.R. No. cannot be reassigned to new units or used more than once.
2 Unit Status options: Active, Closed, Inactive (built but not managing waste), Proposed (not yet built), Never Built, Transferred, Post-Closure.
3 If a unit has been transferred, the applicant should indicate which facility/permit it has been transferred to in the Unit Description column.

Table I.6.A. – Waste Management Information

Waste No.[1]	Waste Type(s)	Source	Volume (tons/year)[2]
1	FGD Sludge	Flue gas treatment	191,000
2	Flyash	Coal Combustion byproduct	555,000
3	Waste Lignite	Unused lignite	<200
4	Bottom Ash	Coal combustion byproduct	226,000
5	Solid Chemicals		0
6	Class 2 Chemical Liquids	Unused, off-spec, expired	0
7	Reverse Osmosis Reject	Water treatment wastes	33 million gallons
8	Sewage Sludge	Onsite sewage plant	40,000 gallons
9	Oily Debris <1500 tph	Misc. plant maintenance	0
10	Non-haz Cleanup Material	Misc. plant maintenance	0
11	Sandblasting Waste	Misc. plant maintenance	0
12	Construction Debris	Misc. plant maintenance	De minimis
13	Asbestos	Demo activities	0
14	Metal Scrap	Misc. plant maintenance	0
15	Railroad Cross Ties	Old, deteriorated ties	<1
16	Waste Dessicant	Air dryers	De minimis
17	Rust/Scale Debris	Misc. plant maintenance	0
18	Hardened Asphalt	Construction/demo activities	0
19	Non-Haz Waste Teflon Coating	Equipment maintenance	0
20	Activated Carbon Waste	Flue gas treatment	0
21	Boiler Wash	Chemical clean of boilers	0
22	Supplemental Plant Production Refuse	Plant laboratory operations	0
23	Plant Trash	operations	0

1 Assign waste number sequentially. Do not remove waste number wastes which are no longer generated.

2 Reflects 2020 records

Table I.6.B. – Wastes Managed in Registered Units

Waste No.[1]	Waste	TCEQ Waste Form Codes and Classification Codes
1	FGD Sludge	TWC-30013922, TX Form Code-392, Class 2
2	Flyash	TWC-30023042, TX Form Code-304, Class 2
3	Waste Lignite	TWC-30044092, TX Form Code-409, Class 2
4	Bottom Ash	TWC-30053042, TX Form Code-304, Class 2
5	Solid Chemicals	TWC-32033192, TX Form Code-319, Class 2
6	Class 2 Chemical Liquids	TWC-33081192, TX Form Code-119, Class 2
7	Reverse Osmosis Reject	TWC-34045192, TX Form Code-519, Class 2
8	Sewage Sludge	TWC-34076082, TX Form Code-608, Class 2
9	Oily Debris <1500 tph	TWC-35014892, TX Form Code-489, Class 2
10	Non-haz Cleanup Material	TWC-35613192, TX Form Code-319, Class 2
11	Sandblasting Waste	TWC-37013892, TX Form Code-389, Class 2
12	Construction Debris	TWC-37043902, TX Form Code-390, Class 2
13	Asbestos	TWC-37113111, TX Form Code-311, Class 1
14	Metal Scrap	TWC-37133072, TX Form Code-307, Class 2
15	Railroad Cross Ties	TWC-37174882, TX Form Code-488, Class 2
16	Waste Dessicant	TWC-37203192, TX Form Code-319, Class 2
17	Rust/Scale Debris	TWC-37363192, TX Form Code-319, Class 2
18	Hardened Asphalt	TWC-37454892, TX Form Code-489, Class 2
19	Non-Haz Waste Teflon Coating	TWC-37473192, TX Form Code-319, Class 2
20	Activated Carbon Waste	TWC-37524092, TX Form Code-409, Class 2
21	Boiler Wash	TWC-38021051, TX Form Code-105, Class 1
22	Supplemental Plant Production Refuse	TWC-39019022, TX Form Code-902, Class 2
23	Plant Trash	TWC-39109992, TX Form Code-999, Class 2

1 from Table I.6.A., first column

Table I.6.C – Sampling and Analytical Methods

Waste No.[1]	Sampling Location	Sampling Method	Frequency	Parameter	Test Method	Desired Accuracy Level
1	Railcars	Grab	<5 years	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
2	Railcars or landfill	Grab	<5 years	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
3	Drainage ditches		<5 years	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
4	Railcars or landfill	Grab	<5 years	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
5	None-process knowledge	N/A	N/A	SDS	N/A	N/A
6	None-process knowledge	N/A	N/A	SDS	N/A	N/A
7	None-process knowledge	N/A	N/A	SDS	N/A	N/A
8	None-process knowledge	N/A	N/A	None	N/A	N/A
9	Varies by project	Composite	<5 years	TPH	TX1005	See below [2]
10	Varies by project	Grab	Each project	TCLP Metals, TPH	SW1311/7470A SW1311/6020B TX1005	See below [2]
11	Varies by project	Grab	Each project	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
12	Varies by project	Composite	<5 years	TCLP Metals, TPH	SW1311/7470A SW1311/6020B TX1005	See below [2]
13	None-process knowledge	N/A	N/A	None	N/A	N/A
14	None-process knowledge	N/A	N/A	None	N/A	N/A
15	Varies by project	Composite	<5 years	TCLP Metals, SVOC	SW1311/7470A SW1311/6020B SW1311/8270C	See below [2]
16	None-process knowledge	N/A	N/A	SDS	N/A	N/A
17	None-process knowledge	N/A	N/A	None	N/A	N/A
18	None-process knowledge	N/A	N/A	SDS	N/A	N/A

19	None-process knowledge	N/A	N/A	SDS	N/A	N/A
20	None-process knowledge	N/A	N/A	SDS	N/A	N/A
21	Frac Tanks	Composite	Each project	TCLP Metals and SDS	SW1311/7470A SW1311/6020B	See below [2]
22	None-process knowledge	N/A	N/A	None	N/A	N/A
23	None-process knowledge	N/A	N/A	None	N/A	N/A

1 from Table I.6.A., first column

2 Analytical protocol will meet EPA quality control and accuracy specifications as published in the SW-846 Methods. The laboratory will be TCEQ accredited.

Table IV.A. – Landfills Characteristics

Registered Unit No.	Landfill	N.O.R. No.	Waste Nos.[1]	Rated Capacity	Dimensions[2]	Distance from lowest liner to groundwater	Action Leakage Rate (if required)	Unit will manage CCR Waste and non-CCR Waste (state all that apply)
002	A1 Landfill	002	1 thru 5 9 thru 20 22 thru 23	Approximately 58.67 million cubic yards	6475 ft L x 5275 ft W x 60 ft H (height at max design) 785 acres	N/A	N/A	Waste numbers 1-5, 9-20, and 22-23 as described in Table I.6.A.

1 From Table I.6.A., first column
2 Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

Table IV.B. – Landfill Liner System

Registered Unit No.*	Landfill	Geomembrane Liner Material	Geomembrane Liner Permeability (cm/sec)	Geomembrane Liner Thickness	Soil Liner Material	Soil Liner Permeability (cm/sec)	Soil Liner Thickness
002	A1 Landfill	N/A	N/A	N/A	Clay	$<1x10^{-7}$ cm/sec	Minimum 1 foot compacted clay

* This number should match the Registration Unit No. given on Table IV.A.

Table IV.C. – Landfill Leachate Collection System

Registered Unit No.	Landfill Name	Drainage Media	Collection Pipes (including risers)	Filter Fabric	Geofabric	Sump Material
N/A						

Table IV.D. – Inspection Schedule of Landfills

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
002-A-1 Landfill	Inspect for any appearances of actual or potential structural weakness and other conditions which are disrupting of have the potential to disrupt the operation and safety of the CCR unit	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.84(a).
Embankments	Surface cracking, animal burrows, misalignments, slides, vegetative cover, rutting, erosion, seepage, slope protection/chutes	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.84(a).
Capped Areas	Animal burrows, vegetative cover, rutting, surface cracking	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.84(a).
Active Work Area	Contact water, dusting	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.84(a).
Groundwater Monitoring Wells	Deterioration of pads, bollards, missing locks, compromise of casing integrity	Semi-Annual Inspection
002-A-1 Landfill		Annually per 40 CFR 257.84(b)
	Inspect for any changed in geometry of the structure since the previous annual inspection.	Annual Inspection
	Estimate the approximate volume of CCR contained in the unit at the time of the inspection.	Annual Inspection
	Inspect for any appearance of actual or potential structural weakness of the CCR unit, and any conditions that are disrupting or have the potential to disrupt the operation and safety of the unit.	Annual Inspection
	Inspect for any other change(s) which have affected the stability or operation of the CCR unit since the previous inspection	Annual Inspection

Table V.A. – Surface Impoundment Characteristics

Registered Unit No.	Surface Impoundment Name	N.O.R. No.	Waste Nos.[1]	Rated Capacity	Dimensions[2]	Distance from lowest liner to groundwater	Action Leakage Rate (if required)	Unit will manage CCR Waste and non-CCR Waste (state all that apply)
013	New Scrubber Pond (NSP)	013	1	199 acre-feet	1000 ft L x 550 ft W x 20 ft H 13 acres	>5' feet	N/A	Waste number 1 as described in Table I.6.A.
014	West Ash Pond (WAP)	014	4, 7, 21	233 acre-feet	1600 ft L x 415 ft W x 20 ft H 15 acres	>5' feet	N/A	Waste numbers 4, 7, 21 as described in Table I.6.A.
023	East Ash Pond (EAP)	023	4, 7, 21	126 acre-feet	1000 ft L x 415 ft W x 20 ft H 10 acres	>5' feet	N/A	Waste numbers 4, 7, 21 as described in Table I.6.A.
024	Permanent Disposal Pond 5 (PDP-5)	024	1-9, 11-13, 16-17, 22-23	190 acre-feet	1400 ft L x 950 ft W x 13 ft H 31 acres	>5' feet	N/A	Waste numbers 1-9, 11-13, 16-17, and 22-23 as described in Table I.6.A.

1 From Table I.6.A., first column
2 Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

Table V.B. – Surface Impoundment Liner System

Registered Unit No.*	Surface Impoundment Name	Geomembrane Liner Material	Geomembrane Liner Permeability (cm/sec)	Geomembrane Liner Thickness	Soil Liner Material	Soil Liner Permeability (cm/sec)	Soil Liner Thickness
013	New Scrubber Pond (NSP) Reline in 2022	HDPE	$<1x10^{-7}$ cm/sec	60-mil x 2**			
014	West Ash Pond (WAP) Relined 2021	HDPE	$<1x10^{-7}$ cm/sec	GCL + 60-mil HDPE	Clay	$<1x10^{-7}$ cm/sec	18”
023	East Ash Pond (EAP) Relined 2020	HDPE	$<1x10^{-7}$ cm/sec	GCL + 60-mil HDPE	clay	$<1x10^{-7}$ cm/sec	18”
024	Permanent Disposal Pond (PDP-5)	N/A	N/A	N/A	Clay	$<1x10^{-7}$ cm/sec	2’ bottom 3’ embankments

* This number should match the Registration Unit No. given on Table V.A.
** Impoundment scheduled to be relined in 2022 to meet 40 CFR 257 design criteria. Liner will be same as EAP and WAP.

Table V.J. – Inspection Schedule of Surface Impoundments

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
013-NSP, 014-WAP, 023-EAP, 024-PDP 5		Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.83(a).
Above-grade piping	Deteriorating of piping/connections	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.83(a).
Truck Access Ramp	Spills, Deterioration	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.83(a).
Containment Dike	Spills, excessive water levels, surface cracking, animal burrows, misalignments, slides, vegetative cover, rutting, erosion, seepage, slope protection/chutes	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.83(a), spills inspected and reported within 24-hrs
Groundwater	Deterioration of pads, bollards, missing locks, compromise of casing integrity	Semi-Annual Inspection
013-NSP, 014-WAP, 023-EAP, 024-PDP 5		Annually per 40 CFR 257.83(b)
	Inspect for any changes in geometry of the structure since the previous annual inspection.	Annual Inspection
	Evaluate the approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since previous annual inspection.	Annual Inspection
	Evaluate the storage capacity at the time of the inspection.	Annual Inspection
	Estimate the approximate volume of the impounded water and CCR contained in the unit at the time of the inspection.	Annual Inspection
	Inspect for any other change(s) which have affected the stability or operation of the CCR unit since the previous inspection	Annual Inspection

Table VI.A. - Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name[1]	**WMU 002 - A-1 Landfill**										
Well Number(s):	BMW-11AR	BMW-18	BMW-19	BMW-20	BMW-21	BMW-22	BMW-23	BMW-24	BMW-26	BMW-27	BMW-28
Hydrogeologic Unit Monitored	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group
Type (e.g., point of compliance, background, observation, etc.)	POC	POC	POC	POC	POC	POC	POC	POC	POC	POC	POC
Up or Down Gradient	Up	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down
Casing Diameter and Material	4" PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	4" PVC	4" PVC	2"PVC
Screen Diameter and Material	4" PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	4" PVC	4" PVC	2"PVC
Screen Slot Size (in.)	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"
Top of Casing Elevation (Ft, Mean Sea Level *[MSL]*)	426.05	357.83	400.69	357.51	350.98	332.3	341.9	347.07	369.44	376.25	373.21
Grade or Surface Elevation (Ft, MSL)	423.37	355.5	397.47	354.67	347.87	329.53	339.43	344.7	365.96	373.46	371.27
Well Depth (Ft, Below Grade Surface *[BGS]*)	139	120	45	30	40	40	35	40	30	30	60
Well Depth (Ft, Below Top of Casing *[BTOC]*)	141.68	122.33	48.22	32.84	43.11	42.77	37.47	42.37	33.48	32.79	61.94
Screen Interval											
From (Ft, BGS)	119	100	25	10	20	20	15	20	20	20	40
To (Ft, BGS)	139	120	45	30	40	40	35	40	30	30	60
Screen Interval											
From (Ft, BTOC)	121.68	102.33	28.22	12.84	23.11	22.77	17.47	22.37	23.48	22.79	41.94
To (Ft, BTOC)	141.68	122.33	48.22	32.84	43.11	42.77	37.47	42.37	33.48	32.79	61.94

1 From Tables in Section I.; *MSL* : Mean Sea Level; *BGS* : Below Grade Surface; *BTOC* : Below Top of Casing

NOTE-Data from Table 1 from Groundwater Monitoring System Certification 10/16/2017

Table VI.A. - Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name[1]	**WMUs 013, 014, 023 - Ash Pond Area**						
Well Number(s):	H-26	H-27	H-28	H-29	H-31	H-32	H-33
Hydrogeologic Unit Monitored	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group
Type (e.g., point of compliance, background, observation, etc.)	POC	POC	POC	POC	POC	POC	POC
Up or Down Gradient	Up	Up	Down	Down	Down	Down	Up
Casing Diameter and Material	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC
Screen Diameter and Material	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC
Screen Slot Size (in.)	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"
Top of Casing Elevation (Ft, Mean Sea Level *[MSL]*)	323.7	330.42	316.82	329.26	329.26	329.85	323.85
Grade or Surface Elevation (Ft, MSL)	320.44	330.5	314.04	329.55	329.46	330.15	320.78
Well Depth (Ft, Below Grade Surface *[BGS]*)	40	50	32	57	52	52	46
Well Depth (Ft, Below Top of Casing *[BTOC]*)	43.26	49.92	34.78	56.71	51.8	51.7	49.07
Screen Interval							
From (Ft, BGS)	35	45	27	52	42	42	41
To (Ft, BGS)	40	50	32	57	52	52	46
Screen Interval							
From (Ft, BTOC)	38.26	44.92	29.78	51.71	41.8	41.7	44.07
To (Ft, BTOC)	43.26	49.92	34.78	56.71	51.8	51.7	49.07

1 From Tables in Section I.; *MSL* : Mean Sea Level; *BGS* : Below Grade Surface; *BTOC* : Below Top of Casing

NOTE-Data from Table 1 from Groundwater Monitoring System Certification 10/16/2017

Table VI.A. - Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name[1]	**WMU 024 - Permanent Disposal Pond 5**								
Well Number(s):	MW-17A	MW-18A	MW-19	MW-20A	PDP-22	PDP-23	PDP-24	PDP-25	PDP-26
Hydrogeologic Unit Monitored	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group
Type (e.g., point of compliance, background, observation, etc.)	POC	POC	POC	POC	POC	POC	POC	POC	POC
Up or Down Gradient	Down	Down	Down	Down	Down	Down	Down	Down	Down
Casing Diameter and Material	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC
Screen Diameter and Material	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC
Screen Slot Size (in.)	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"
Top of Casing Elevation (Ft, Mean Sea Level *[MSL]*)	387.75	414.44	371.33	398.98	386.75	394.43	389.73	387.97	397.68
Grade or Surface Elevation (Ft, MSL)	384.57	410.89	367.98	395.74	383.9	391.06	387.06	385.13	394.29
Well Depth (Ft, Below Grade Surface *[BGS]*)	47	67	25	41	60	45	40	60	49
Well Depth (Ft, Below Top of Casing *[BTOC]*)	50.18	70.55	28.35	44.24	62.85	48.37	42.67	62.84	52.39
Screen Interval									
From (Ft, BGS)	27	47	10	10	35	35	30	50	39
To (Ft, BGS)	47	67	25	40	60	45	40	60	49
Screen Interval									
From (Ft, BTOC)	30.18	50.55	13.35	13.24	37.85	38.37	32.67	52.84	42.39
To (Ft, BTOC)	50.18	70.55	28.35	43.24	62.85	48.37	42.67	62.84	52.39

1 From Tables in Section I.; *MSL* : Mean Sea Level; *BGS* : Below Grade Surface; *BTOC* : Below Top of Casing

NOTE-Data from Table 1 from Groundwater Monitoring System Certification 10/16/2017

Table VI.C. – CCR Units Under Detection Monitoring

N.O.R. Unit No.	Unit Description[1,2]	Well(s)	Constituent(s)	Date of SSI Determination	Date of Assessment Monitoring Notification[3]
024	PDP-5	PDP-23	Ca	1/16/18	N/A-ASD successful (4/15/18)
024	PDP-5	PDP-23, PDP-25	B	1/22/19	N/A-ASD successful (4/22/19)
024	PDP-5	PDP-23, PDP-25	B (PDP-25) Ca (PDP-23)	1/8/20	N/A-ASD successful (4/7/20)
024	PDP-5	PDP-20A, PDP-23, PDP-25	B (PDP-25) Ca (PDP-23, PDP-25) Cl (PDP-20A)	12/7/20	N/A-ASD successful (3/5/21)

1 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been requested pursuant to 40 CFR §257.103.
2 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been made pursuant to 40 CFR §257.103.
3 Enter month, day, and year.

Table VI.C-1. – Groundwater Detection Monitoring Parameters

Parameter	Sampling Frequency	Analytical Method	Practical Quantification Limit (units)	Concentration Limit[1]
A-1 Landfill				
Boron	Semi-Annual	SW6020A	0.03 mg/L	0.546
Calcium	Semi-Annual	SW6020A	0.3 mg/L	276
Chloride	Semi-Annual	E300	1.0 mg/L	35.5
Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
Field pH	Semi-Annual	Field Measured	s.u.	5.81 7.58
Sulfate	Semi-Annual	E300	3.0 mg/L	1,100
TDS	Semi-Annual	M2540C	50.0 mg/L	2,850
Ash Pond Area				
Boron	Semi-Annual	SW6020A	0.03 mg/L	0.602
Calcium	Semi-Annual	SW6020A	0.3 mg/L	57.2
Chloride	Semi-Annual	E300	10.0 mg/L	153
Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
Field pH	Semi-Annual	Field Measured	s.u.	4.63 7.6
Sulfate	Semi-Annual	E300	3.0 mg/L	365
TDS	Semi-Annual	M2540C	50.0 mg/L	1,100
PDP-5				
MW-17A Boron	Semi-Annual	SW6020A	0.03 mg/L	0.538
MW-17A Calcium	Semi-Annual	SW6020A	0.3 mg/L	6.73
MW-17A Chloride	Semi-Annual	E300	1.0 mg/L	10.4
MW-17A Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
MW-17A Field pH	Semi-Annual	Field Measured	s.u.	2.5 9.19
MW-17A Sulfate	Semi-Annual	E300	3.0 mg/L	51.9
MW-17A TDS	Semi-Annual	M2540C	10.0 mg/L	170
MW-18A Boron	Semi-Annual	SW6020A	0.03 mg/L	0.20
MW-18A Calcium	Semi-Annual	SW6020A	0.3 mg/L	3.1
MW-18A Chloride	Semi-Annual	E300	1.0 mg/L	10.4
MW-18A Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
MW-18A Field pH	Semi-Annual	Field Measured	s.u.	4.88 7.92

MW-18A Sulfate	Semi-Annual	E300	3.0 mg/L	9.1
MW-18A TDS	Semi-Annual	M2540C	10.0 mg/L	157
MW-19 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.782
MW-19 Calcium	Semi-Annual	SW6020A	0.3 mg/L	237
MW-19 Chloride	Semi-Annual	E300	1.0 mg/L	57.7
MW-19 Fluoride	Semi-Annual	E300	0.4 mg/L	0.512
MW-19 Field pH	Semi-Annual	Field Measured	s.u.	4.6 8.08
MW-19 Sulfate	Semi-Annual	E300	3.0 mg/L	672
MW-19 TDS	Semi-Annual	M2540C	10.0 mg/L	1,380
MW-20A Boron	Semi-Annual	SW6020A	0.03 mg/L	0.213
MW-20A Calcium	Semi-Annual	SW6020A	0.3 mg/L	25.7
MW-20A Chloride	Semi-Annual	E300	1.0 mg/L	12.3
MW-20A Fluoride	Semi-Annual	E300	0.4 mg/L	0.954
MW-20A Field pH	Semi-Annual	Field Measured	s.u.	3.06 8.76
MW-20A Sulfate	Semi-Annual	E300	3.0 mg/L	148
MW-20A TDS	Semi-Annual	M2540C	10.0 mg/L	381
MW-22 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.411
MW-22 Calcium	Semi-Annual	SW6020A	3.0 mg/L	306
MW-22 Chloride	Semi-Annual	E300	1.0 mg/L	32.7
MW-22 Fluoride	Semi-Annual	E300	0.4 mg/L	1.07
MW-22 Field pH	Semi-Annual	Field Measured	s.u.	4.08 8.63
MW-22 Sulfate	Semi-Annual	E300	3.0 mg/L	216
MW-22 TDS	Semi-Annual	M2540C	10.0 mg/L	1,780
MW-23 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.0678
MW-23 Calcium	Semi-Annual	SW6020A	0.3 mg/L	2
MW-23 Chloride	Semi-Annual	E300	1.0 mg/L	7.52
MW-23 Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
MW-23 Field pH	Semi-Annual	Field Measured	s.u.	3.38 8.45
MW-23 Sulfate	Semi-Annual	E300	3.0 mg/L	3.27
MW-23 TDS	Semi-Annual	M2540C	10.0 mg/L	143
MW-24 Boron	Semi-Annual	SW6020A	0.3 mg/L	4.92
MW-24 Calcium	Semi-Annual	SW6020A	0.3 mg/L	45.9

MW-24 Chloride	Semi-Annual	E300	1.0 mg/L	22.6
MW-24 Flouride	Semi-Annual	E300	0.4 mg/L	1.03
MW-24 Field pH	Semi-Annual	Field Measured	s.u.	1.33 9.97
MW-24 Sulfate	Semi-Annual	E300	30.0 mg/L	533
MW-24 TDS	Semi-Annual	M2540C	10.0mg/L	894
MW-25 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.136
MW-25 Calcium	Semi-Annual	SW6020A	3.0 mg/L	41.3
MW-25 Chloride	Semi-Annual	E300	10.0 mg/L	197
MW-25 Flouride	Semi-Annual	E300	0.4 mg/L	0.4
MW-25 Field pH	Semi-Annual	Field Measured	s.u.	4.65 7.93
MW-25 Sulfate	Semi-Annual	E300	3.0 mg/L	118
MW-25 TDS	Semi-Annual	M2540C	10.0 mg/L	705
MW-26 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.111
MW-26 Calcium	Semi-Annual	SW6020A	0.3 mg/L	4.74
MW-26 Chloride	Semi-Annual	E300	1.0 mg/L	14.6
MW-26 Flouride	Semi-Annual	E300	0.4 mg/L	0.577
MW-26 Field pH	Semi-Annual	Field Measured	s.u.	5.35 7.57
MW-26 Sulfate	Semi-Annual	E300	3.0 mg/L	64.6
MW-26 TDS	Semi-Annual	M2540C	10.0 mg/L	438

1 The concentration limit is the basis for determining whether a release has occurred from the CCR unit/area.

Table VI.D. – CCR Units Under Assessment Monitoring

N.O.R. Unit No.	Unit Description[1,2]	Well(s)	Constituent(s)	Date of SSI Determination	Date of Assessment Monitoring Notification[3]
002	A-1 Landfill	BMW-19, BMW-21, BMW-22, BMW-23, BMW-24, BMW-26, BMW-27, BMW-28	B, Ca, Cl, SO4, TDS	1/16/2018	8/16/2018
013, 014, 023	Ash Pond Area	H-27, H-28, H-29, H-31, H-32	B, Ca, Cl, F, SO4, TDS	1/16/2018	8/16/2018

1 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been requested pursuant to 40 CFR §257.103.
2 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been made pursuant to 40 CFR §257.103.
3 Enter month, day, and year

Table VI.D-2. – Groundwater Assessment Monitoring Parameters

Parameter	Sampling Frequency	Analytical Method	Practical Quantification Limit (units)	Concentration Limit[1]
A1 Landfill				
Antimony	Semi-Annual	SW6020B	0.000800 mg/L	0.006 mg/L
Arsenic	Semi-Annual	SW6020B	0.00200 mg/L	0.0164 mg/L
Barium	Semi-Annual	SW6020B	0.00300 mg/L	2 mg/L
Beryllium	Semi-Annual	SW6020B	0.000300 mg/L	0.004 mg/L
Cadmium	Semi-Annual	SW6020B	0.000300 mg/L	0.005 mg/L
Chromium	Semi-Annual	SW6020B	0.00200 mg/L	0.1 mg/L
Cobalt	Semi-Annual	SW6020B	0.00300 mg/L	0.0124 mg/L
Fluoride	Semi-Annual	SW6020B	0.100 mg/L	4 mg/L
Lead	Semi-Annual	SW6020B	0.000300 mg/L	0.015 mg/L
Lithium	Semi-Annual	SW6020B	0.00500 mg/L	0.103 mg/L
Mercury	Semi-Annual	SW7470A	0.0000800 mg/L	0.002 mg/L
Molybdenum	Semi-Annual	SW6020B	0.00200 mg/L	0.1 mg/L
Selenium	Semi-Annual	SW6020B	0.00200 mg/L	0.05 mg/L
Thallium	Semi-Annual	SW6020B	0.000500 mg/L	0.002 mg/L
Radium 226+228	Semi-Annual	904 + SM7500Ra B M	varies	10.7 pCi/L
Ash Pond Area				
Antimony	Semi-Annual	SW6020B	0.000800 mg/L	0.006 mg/L
Arsenic	Semi-Annual	SW6020B	0.00200 mg/L	0.01 mg/L
Barium	Semi-Annual	SW6020B	0.00300 mg/L	2 mg/L
Beryllium	Semi-Annual	SW6020B	0.000300 mg/L	0.004 mg/L
Cadmium	Semi-Annual	SW6020B	0.000300 mg/L	0.005 mg/L
Chromium	Semi-Annual	SW6020B	0.00200 mg/L	0.1 mg/L
Cobalt	Semi-Annual	SW6020B	0.00300 mg/L	0.0564 mg/L
Fluoride	Semi-Annual	SW6020B	0.100 mg/L	4 mg/L
Lead	Semi-Annual	SW6020B	0.000300 mg/L	0.015 mg/L
Lithium	Semi-Annual	SW6020B	0.00500 mg/L	0.177 mg/L
Mercury	Semi-Annual	SW7470A	0.0000800 mg/L	0.002 mg/L

Molybdenum	Semi-Annual	SW6020B	0.00200 mg/L	0.1 mg/L
Selenium	Semi-Annual	SW6020B	0.00200 mg/L	0.05 mg/L
Thallium	Semi-Annual	SW6020B	0.000500 mg/L	0.002 mg/L
Radium 226+228	Semi-Annual	904 + SM7500Ra B M	varies	5 pCi/L

[1] The concentration limit is the basis for determining whether a release has occurred from the CCR unit/area.

Table VII.A.1. – Unit Closure

For each unit to be registered, list the unit components to be decontaminated, the possible methods of decontamination, and the possible methods of disposal of wastes and waste residues generated during unit closure.

Equipment or CCR Unit	Possible Methods of Decontamination[1]	Possible Methods of Disposal[1]
002-A-1 Landfill	Close in Place	No Disposal
013-New Scrubber Pond Piping	Removal	Landfill
013-New Scrubber Pond	Close in Place	No Disposal
014-West Ash Pond Piping	Removal	Landfill
014-West Ash Pond	Close in Place	No Disposal
023-East Ash Pond Piping	Removal	Landfill
023-East Ash Pond	Close in Place	No Disposal

1 Applicants may list more than one appropriate method.

Table VII.A.2. – CCR Units Under Alternative Closure Notification

Registered Unit No.	N.O.R. Unit No.	Unit Description[1,2]	Date of Receipt of Last Waste[3]	Date of Closure Notification[3]
013	013	New Scrubber Pond (NSP)	June 29, 2022 Retrofit in 2022	N/A
014	014	West Ash Pond (WAP)	June 29, 2022 Retrofit Complete 2021	N/A
023	023	East Ash Pond (EAP)	June 29, 2022 Retrofit Complete 2020	N/A
024	024	Permanent Disposal Pond 5 (PDP-5)	July 1, 2023 Retrofit in 2023 if ALD request denied	N/A

1 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been requested pursuant to 40 CFR §257.103.
2 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been made pursuant to 40 CFR §257.103.
3 Enter month, day, and year.

Table VIII.A.1. – Post-Closure Cost Summary for Existing Registered Units

Unit	Cost
002-A-1 Landfill	$8,273,063
013, 014, 023-Ash Pond Area (NSP, WAP, EAP)	$2,228,065
024-Permanent Disposal Pond 5 (PDP-5)	$2,026,787
Total Existing Unit Post-Closure Cost Estimate	$12,527,915 (in 2021 Dollars)[1]

Table VIII.A.2. - Post-Closure Cost Summary for Proposed Registered Units

Unit	Cost
N/A	

1 As units are added or deleted from these tables through future registration amendments, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

Table VIII.B. – Post-Closure Period

Unit Name	Date Certified Closed	Authorized Post-Closure Period (Yrs.)	Earliest Date Post-Closure Ends (See Note 1)
[Unit Example 1]	**[1/1/1995]**	30 years	**[1/1/2025]**
[Unit Example 2]	**[1/1/1990]**	30 years	**[1/1/2020]**
[Unit Example 3]	**[1/1/1984]**	30 years	**[1/1/2014]**

Note 1 – Post-Closure Care shall continue beyond the specified date until the Executive Director has approved the applicant's request to reduce or terminate the post-closure period, consistent with 30 TAC §352.1241 – Post-Closure Care Requirements.

N/A

Texas Commission on Environmental Quality

Registration Application for Coal Combustion Residuals (CCR) Waste Management

I. General Information

1. Reason for Submittal

Type of Registration Application

☐ New ☐ Major Amendment ☐ Minor Amendment

☒ Notice of Deficiency (NOD) Response ☐ Transfer ☐ Name Change

☐ Other

2. Application Fees

☒ $150 Application Fee

Payment Method

☐ Check ☒ Online through ePay portal <www3.tceq.texas.gov/epay/>

If paid online, enter ePay Trace Number: 582EA000467516

3. Facility Information

Facility information must match regulated entity information on the Core Data Form.

Applicant: ☐ Owner ☐ Operator ☒ Owner/Operator

Facility TCEQ Solid Waste Registration No: 31277

Facility EPA ID: TXD000821306

Regulated Entity Reference No. (if issued): RN102583093

Facility Name: MARTIN LAKE STEAM ELECTRIC STATION

Facility (Area Code) Telephone Number: 214-875-8338

Facility physical street address (city, state, zip code, county): 8850 FM 2658 N, TATUM, TX, 75691, RUSK

Facility mailing address (city, state, zip code, county): 6555 Sierra Dr, Irving, TX 75039

Latitude (Degrees, Minutes Seconds): 32° 15’ 35”

Longitude (Degrees, Minutes Seconds): 94° 34’ 13”

4. Publicly Accessible Website

Provide the URL address of a publicly accessible website where the owner or operator of a CCR unit will post information.
https://www.luminant.com/ccr/

5. Facility Landowner(s) Information

Facility landowner(s) name: Luminant Generation Company LLC

Facility landowner mailing address: 6555 Sierra Dr

City: Irving State: TX Zip Code: 75039

(Area Code) Telephone Number: 214-875-8338

Email Address (optional):

6. CCR Waste Management Unit(s)

☒ Landfill Unit(s) ☒ Surface Impoundment(s)

For each existing landfill, new landfill and lateral expansion, existing surface impoundment, and new surface impoundment and lateral expansion(s) provide information on type of waste, the registered unit(s) in which they are managed, and sampling and analytical methods.

Submit the following tables:

Table I.6. – CCR Waste Management Units

Table I.6.A. – Waste Management Information

Table I.6.B. – Waste Managed in Registered Units

Table I.6.C. – Sampling and Analytical Methods

7. Description of Proposed Activities or Changes to Existing Facility

Provide a brief description of the proposed activities if application is for a new facility, or the proposed changes to an existing facility or registration conditions, if the application is for an amendment.

Luminant Generation Company LLC (Luminant) owns/operates the Martin Lake Steam Electric Station (MLSES), which is located approximately 5 miles southeast of the town of Tatum in Rusk County, Texas. The MLSES consists of three coal-fired units with a combined operating capacity of approximately 2,250 megawatts. Coal combustion residuals (CCR) including fly ash, bottom ash, and flue gas desulfurization sludge (scrubber sludge) are generated as part of MLSES unit operation. The Texas Commission on Environmental Quality (TCEQ) Solid Waste Registration Number (SWR No.) for the MLSES is 31277. CCR is managed in one onsite landfill, A-1 Landfill, and four surface impoundments, New Scrubber Pond (NSP), West Ash Pond (WAP), East Ash Pond (EAP), and Permanent Disposal Pond 5 (PDP-5).

The A-1 Landfill is the primary disposal facility for CCR generated at the MLSES. The A1 Landfill is located approximately 2.5 miles southeast of the MLSES. CCR is transported to the landfill in rail cars, off loaded and placed within the active areas at the landfill. The A-1 Landfill is listed on the Notice of

Registration (NOR) for the MLSES as Unit No. 002 and is regulated as a Class 2 non-hazardous industrial solid waste landfill.

The WAP and EAP receive sluice water from bottom ash dewatering bins and other process wastewater sources that typically include bottom ash fines. The ponds are cleaned periodically as part of ongoing operations. The material removed from the WAP and EAP is sent to the A-1 Landfill for disposal.

The NSP is used to manage scrubber sludge and discharge from the sludge thickener sumps, the plant yard sumps, and stormwater management areas. Water collecting in the NSP serves as wet-well make-up water as well as emergency make-up water in the scrubber area.

PDP-5 is primarily used to manage excess liquids including stormwater and excess process wastewater from both the New Scrubber Pond and Bottom Ash Ponds.

8. Primary Contact Information

Contact Name: Renee Collins Title: Sr. Director Environmental Services

Contact mailing address: 6555 Sierra Drive
City: Irving County: Dallas State: TX Zip Code: 75039
(Area Code) Telephone Number: 214-875-8338

Email Address (optional):

9. Notice Publishing

Party responsible for publishing notice:
☒ Applicant ☐ Consultant ☐ Agent in Service

Contact Name: Renee Collins Title: Sr. Director, Environmental Services

Contact mailing address: 6555 Sierra Drive
City: Irving County: Dallas State: TX Zip Code: 75039
(Area Code) Telephone Number: 214-875-8338

10. Alternative Language Notice

Is an alternative language notice required for this application? For determination, refer to Alternative Language Checklist on the Public Notice Verification Form (TCEQ-20244-Waste-NORI).

☒ Yes ☐ No

11. Public Place Location of Application

Name of the Public Place: Rusk County Clerk's Office
Physical Address: 115 North Main Street, Room 206
City: Henderson County: Rusk State: TX Zip Code: 75652
(Area code) Telephone Number: 903-657-0330

Name of the Public Place: Tatum Public Library
Physical Address: 335 Hood Street

City: Tatum County: Panola State: TX Zip Code: 75691
(Area code) Telephone Number: 903-947-2211

12. Ownership Status of the Facility

☐ Corporation ☐ Limited Partnership
☐ Sole Proprietorship ☐ General Partnership ☒ Other (specify): Limited Liability Corporation

Does the Site Owner (Permittee/Registrant) own all the CCR units and all the facility property?

☒ Yes ☐ No

13. Property / Legal Description Information

Provide a legal description and supporting documents of the property where the management of CCR waste will occur; including a survey plat and a boundary metes and bounds description (30 TAC §352.231(g)).

Submit the following documents:

a. Property Legal Description
b. Property Metes and Bounds Description
c. Metes and Bounds Drawings
d. On-Site Easements Drawings

See APPENDIX A for Property/Legal Description Information and Property Owner Affidavit for A1 Landfill, Ash Pond Area, and PDP-5.

14. Operator Information

Identify the entity who will conduct facility operations, if the owner and operator are not the same.

Operator Name:

Operator mailing address:

City: State: Zip Code:

(Area Code) Telephone Number:

Email Address (optional):

15. Confidential Documents

Does the application contain confidential documents?

☐ Yes ☒ No

If "Yes", cross-reference the confidential documents throughout the application and submit as a separate attachment in a binder clearly marked "CONFIDENTIAL."

16. Permits and Construction Approvals

Permit or Approval	Received	Pending	Not Applicable
Hazardous Waste Management Program under the Texas Solid Waste Disposal Act	☒	☐	☐
Underground Injection Control Program under the Texas Injection Well Act	☐	☐	☒
National Pollutant Discharge Elimination System Program under the Clean Water Act and Waste Discharge Program under Texas Water Code, Chapter 26	☒	☐	☐
Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA). Nonattainment Program under the FCAA	☐	☐	☒
National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA	☐	☐	☒
Other (describe):	☐	☐	☐
Other (describe):	☐	☐	☐
Other (describe):	☐	☐	☐

17. Legal Authority

The owner and operator of the facility shall submit verification of their legal status with the application. This shall be a one-page certificate of incorporation issued by the secretary of state. The owner or operator shall list all persons having over a 20% ownership in the facility.

See APPENDIX A for Certificate of Authority

18. TCEQ Core Data Form

The TCEQ requires that a Core Data Form (TCEQ-10400) be submitted on all incoming applications, unless a Regulated Entity and Customer Reference Number has been issued by the TCEQ and no core data information has changed. For more information regarding the Core Data Form, call (512) 239-5175 or visit the TCEQ Website.

See APPENDIX A for TCEQ Core Data Form

19. Other Governmental Entities Information

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

☐ Yes ☒ No

Local Government Jurisdiction (If Applicable)
Within City Limits of: N/A
Within Extraterritorial Jurisdiction of: N/A

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing or disposal of municipal or industrial solid waste?

☐ Yes ☒ No If "Yes", provide a copy of the ordinance or order as an attachment.

20. Attachments

Does the application include the following?

General Maps	☒ Yes	☐ No
General Topographic Map	☒ Yes	☐ No
Facility Layout Map	☒ Yes	☐ No
Surrounding Features Map	☒ Yes	☐ No
Process Flow Diagram	☒ Yes	☐ No
Land Ownership Map	☒ Yes	☐ No
Land Ownership List	☒ Yes	☐ No
Pre-printed Mailing Labels	☒ Yes	☐ No

Maps and drawings shall be legible and easily readable by eye without magnification. Scales and paper size shall be chosen based on the type of map submitted, the land area covered, and the amount of detail to be shown. See instructions for details regarding maps and drawings to be submitted in application.

See APPENDIX A for Attachments detailed in Item 20

21. Verification of Compliance

Does the owner and operator verify that the design, construction, and operation of CCR landfill(s) and surface impoundment(s) meets the requirements of 30 TAC §352.231(f) (30 TAC §352.2; 40 CFR §257.52, and 40 CFR §§257.3-1 – 257.3-3).

☒ Yes ☐ No

As requested by TCEQ, please see the "Response to TCEQ CCR Unit Registration Comments" memorandums for A1 Landfill, Ash Ponds and PDP5 provided by Golder in APPENDIX A.

II. Location Restrictions and Geology

See Instructions and Technical Guidance

22. Location Restrictions

Submit certifications and technical reports demonstrating compliance of CCR unit(s) with applicable location restrictions (30 TAC 352, Subchapter E) and comply with 30 TAC §352.231(d) and 30 TAC §352.4 for submission of engineering and geoscientific information.

A. **Placement above the uppermost aquifer** (30 TAC §352.601) (40 CFR §257.60). For those CCR units whose base is less than five feet above the upper limit of the uppermost aquifer, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.60(a) – (c).

B. **Wetlands** (30 TAC §352.611) (40 CFR §257.61). For CCR units located in wetlands, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.61(a) – (c).

C. **Fault areas** (30 TAC §352.621) (40 CFR §257.62). For CCR units located within 200 feet of the outermost damage zone of a fault, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.62(a) – (c).

D. **Seismic impact zones** (30 TAC §352.631) (40 CFR §257.63). For CCR units located in a seismic impact zone, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.63(a) – (c).

E. **Unstable areas** (30 TAC §352.641) (40 CFR §257.64). For CCR units located in unstable areas, please submit a copy of the demonstration showing evidence of compliance with 40 CFR §257.64(a) – (d).

Location Restriction Demonstration reports for A1 Landfill, Ash Pond Area, and PDP-5 are located in APPENDIX B.

23. Geology Summary Report

Submit a summary of the geologic conditions at the facility, including the relation of the geologic condition to each CCR unit. The summary must include enough information and data and include sources and references for the information. Include all groundwater monitoring data required by 40 CFR Part 257, Subpart D, (30 TAC §352.241, §352.601, §352.621, §352.631, and §352.641) and submitted in accordance of 30 TAC §352.4.

Note: Previously prepared documents may be submitted but must be supplemented or updated as necessary to provide the requested information (30 TAC §352.241(b)).

For Geology Summary, please refer to "Groundwater Monitoring System Certification" reports for A1 Landfill, Ash Pond Area, and PDP-5 located in APPENDIX F. The Local Geology and Hydrogeology summary is located in Section 2.2 of each report.

All groundwater monitoring data summarized in "2020 Annual Groundwater Monitoring and Corrective Action Report" for A1 Landfill, Ash Pond Area, and PDP-5 located in APPENDIX F.

III. Fugitive Dust Control Plan

24. Fugitive Dust Control Plan

A. **Submit a copy of the CCR Fugitive Dust Control Plan** (30 TAC §352.801) (40 CFR §257.80(b)), or the most recently amended plan. The initial plan or subsequent amended plan must be certified by a qualified Texas licensed professional engineer (Texas P.E.) that the plan meets the requirements of 30 TAC Chapter 352.

B. **Submit the most recent Annual CCR Fugitive Dust Control Report** (30 TAC §352.801) (40 CFR §257.80(c)) and include the report information.

CCR Fugitive Dust Control Plan and Annual CCR Fugitive Dust Control Report located in APPENDIX C.

IV. Landfill Criteria

See Instructions and Technical Guidance – No. 30 Coal Combustion Residuals Landfill

25. Landfill(s) for CCR Waste

Provide the following information below if there is a landfill; if there is more than one landfill, separate information is required for each landfill.

A. Landfill Characteristics

Describe the design, installation, construction, and operation of the landfill and submit a completed Table IV.A. – Landfill Characteristics.

The A1 Landfill is an above grade landfill surrounded by earthen embankments constructed of mine spoil that extend approximately 10 to 20 feet or more above surrounding grade. The bottom of the A1 LF is lined with a 1-foot thick compacted bottom liner consisting of clay-rich mine spoil scarified and re-compacted to achieve an in-place permeability of 1 x 10-7 cm/sec or less. The interior faces of the earthen embankments are constructed with a 3-foot thick compacted mine spoil liner designed to achieve an in-place permeability of 1x10-7 cm/sec or less. The landfill footprint is underlain by low permeability, clay-rich mine spoil 70 to 100 feet in thickness.

B. Liner Design

1. For existing landfills, provide attachments describing how the facility will comply with 30 TAC 352, Subchapter F (Design Criteria).

   A1 Landfill is an Existing CCR Landfill as defined by the CCR rule. There are no design criteria for existing CCR Landfills in either the state or federal CCR rule. 30 TAC 352, Subchapter F or 40 CFR 257.70

2. For new landfills or lateral expansions of existing landfills, submit pages describing how the facility will comply with 30 TAC §352.261 and 30 TAC §352.701.

3. Complete Table IV.B. - Landfill Liner System and specify the type of liner used for the landfill.

4. Provide attachments describing the design, installation, and operation of the liner and leak detection system. The description must demonstrate that the liner and leak detection system will prevent discharge to the land, groundwater, and surface water. Submit a quality assurance project plan (QAPP) to ensure that each analysis is performed appropriately.

   See “A-1 Disposal Area Expansion Registration Notification and Technical Report”. Design, installation, and operation details can be found in Appendix IV. of the registration package. The “Hydrogeological/Geotechnical Evaluation” referenced in the registration package contains soils testing. Both documents can be found in APPENDIX D.

C. Leachate Collection and Removal

Submit design information and description of leachate collection and removal system in accordance with 30 TAC §352.701.

Complete Table IV.C. - Landfill Leachate Collection System

N/A

D. Design of Liner and Leachate Collection and Removal System.

For a new landfill or lateral expansion of a CCR landfill, provide a qualified Texas P.E. certification and technical report that the design of the liner and the leachate collection and removal system meets the requirements of 30 TAC §352.711.

N/A

E. Run-on and Run-off Controls

At time of application, attach pages describing how the facility will comply with the run-on and run-off system plan for an existing, new, or lateral expansion of a CCR landfill information. Provide a qualified Texas P.E. certification and technical report that the run-on and run-off control system plans meet the requirements of 30 TAC §352.811.

"Run-on and Run-off Control System Plan" for A1 Landfill is located in APPENDIX D.

F. Inspection for Landfills

At time of application, attach pages describing how the facility will comply 30 TAC §352.841 and complete Table IV.D. – Inspection Schedule for Landfills. For existing CCR landfills, provide the most recent inspection report. All CCR landfills and any lateral expansions of a CCR landfill must be inspected for any structural weakness, malfunction, deterioration conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit, or any other conditions which may cause harm to human health and environment at a frequency specified in 40 CFR §257.84(a) and (b).

The 2021 Annual CCR Landfill inspection report is located in APPENDIX D.

V. Surface Impoundment Criteria

See Instructions and Technical Guidance – No. 31 Coal Combustion Residuals Surface Impoundment

26. Surface Impoundment(s) for CCR Waste

Provide the following information below if there is a surface impoundment; if there is more than one surface impoundment, separate information is required for each surface impoundment.

A. General Surface Impoundment(s) Characteristics

Provide information about the characteristics of the surface impoundment(s): incised, surface area (acres), storage volume (acres-feet), and depth (feet).

For all surface impoundment(s), include the following information:

1. Complete Table V.A. - Surface Impoundments Characteristics. List the surface impoundment(s) to be registered as a CCR unit(s), the wastes managed in each unit, and the rated capacity or size of each unit.
2. Describe the surface impoundment(s) and provide a plan view drawing with cross-sections, if available.

   See "History of Construction" and "History of Construction-Addendum No.1" reports in APPENDIX E. The "History of Construction" report contains current information on PDP-5 and historical information on the other impoundments. The "History of Construction-Addendum No. 1" report contains updated descriptions and drawings of the East Ash Pond, West Ash Pond, and New Scrubber Pond. ~~Detailed descriptions of each impoundment are located in the following tables:~~

~~Table 1-1: East Ash Pond (EAP)~~
~~Table 1-2: West Ash Pond (WAP)~~
~~Table 1-3: New Scrubber Pond (NSP)~~
~~Table 1-4: Permanent Disposal Pond 5 (PDP-5)~~

~~Impoundment drawings corresponding to the information in the tables can be found in be found in Attachment 2 of the "History of Construction" document.~~

Please note that the EAP was retrofitted in 2020 and the WAP was retrofitted in 2021. The NSP is ~~scheduled for retrofit in 2022~~currently being retrofitted. This retrofit schedule corresponds to the schedule outlined in the November 25, 2020, request to the U.S. EPA for approval of a site-specific alternative deadline to initiate closure pursuant to 40 C.F.R. § 257.103(f)(1). Updated drawings and as-builts for these retrofits can be found in the ~~appendices of this request~~"History of Construction-Addendum No. 1". A copy of the "Martin Lake CCR Surface Impoundments Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline" document is located in APPENDIX ~~E~~G. This document is discussed further in Section 26.B.

~~EAP Retrofit Design Drawings – Appendix C~~
~~WAP Retrofit Design Drawings – Appendix D~~
~~NSP Retrofit Design Drawings – Appendix E~~

3. Specify the minimum freeboard to be maintained and the basis of the design to prevent overtopping resulting from normal or abnormal operation; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error. Show that adequate freeboard will be available to prevent overtopping from a 100-year, 24-hour storm.

   Per the updated "Inflow Design Flood Control System Plan" located in APPENDIX E, all ponds managed with recommended 2 feet of freeboard will adequately manage the design flood. See Sections 2.4 and 3.0 for these recommendations and results.

4. Waste Flow
   Describe the means that will be used to immediately shut off the flow of waste to the impoundment in the event of liner failure or to prevent overtopping.

   All inflows that enter the surface impoundments are pumped into the units under controlled conditions. There are no gravity or uncontrolled inflows. Pumps will be immediately removed from service to shut off flows to the impacted impoundment.

5. Dike Construction ☒ Yes ☐ No

   ~~N/A-Section not required per TCEQ due to Structural Stability Assessment requirement.~~

   If Yes, submit the dike certification (located at the end of the application).

   In October 2016, the initial certified Periodic Hazard Potential Classification Assessments, Periodic Structural Stability Assessments, and Periodic Safety Factor Assessments were completed for all Martin Lake CCR surface impoundments as required by 40 CFR 257.73(a), 257.73(d), and 257.73(e). In October 2021, the certified 5-Year Updates to these assessments were completed as required by 40 CFR 257.73 and 30 TAC 352.731, which identified no structural deficiencies. The most recent 2021 5-Year Assessment Updates are located in APPENDIX E. Based on the conclusion in the certified 5-year updates that no structural deficiencies exist, the facility is submitting these documents in lieu of the Dike Certification.

The structural integrity of the dike system must be certified by a qualified Texas P.E. before the registration is issued. If the impoundment is not being used, the dike system must be certified before it can be put into use. The certification must be sealed by a qualified Texas P.E., along with the engineering firm's name and registration number (30 TAC §352.4).

A report shall accompany the dike certification which summarizes the activities, calculations, and laboratory and field analyses performed in support of the dike certification. Describe the design basis used in construction of the dikes. A QAPP should be included in the report to ensure that each analysis is performed appropriately and include:

(1) Slope Stability Analysis

(2) Hydrostatic and Hydrodynamic Analysis

(3) Storm Loading

(4) Rapid Drawdown

Earthen dikes should have a protective cover to minimize wind and water erosion and to preserve the structural integrity of the dike. Describe the protective cover used and describe its installation and maintenance procedures.

B. Liner Design

For surface impoundment(s), provide information about how the facility will comply with 30 TAC §352.711 for existing CCR surface impoundments. For new and lateral expansion of CCR surface impoundments provide information on how the facility will comply with 30 TAC §352.261, and 30 TAC §352.721, see Instructions and Technical Guidance No. 31 Coal Combustion Residuals Surface Impoundment. The qualified Texas P.E. must certify that the design of the liner complies with the requirements of 30 TAC Chapter 352 and 40 CFR Part 257, Subpart D, where required.

Is the CCR surface impoundment unlined? ☐ Yes ☐ No

See discussion below.

If "Yes", the CCR unit is subject to the closure requirements under 30 TAC Chapter 352 and 40 CFR §257.101(a) to retrofit or close. A notification must be prepared stating that an assessment of corrective measures has been initiated.

On November 25, 2020, Luminant Generation Company LLC (Luminant) submitted a request to the U.S. Environmental Protection Agency (EPA) for approval of a site-specific alternative deadline to initiate closure pursuant to 40 C.F.R. § 257.103(f)(1) for the Ash Pond Area and PDP-5. On January 11, 2022, EPA issued a letter stating the site-specific alternative deadline demonstration was deemed complete thus tolling the cease receipt date until a final decision is issued on the demonstration. The "Martin Lake CCR Surface Impoundments Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline" document submitted is located in APPENDIX ~~D~~G. As discussed above in Section 26.A.2., ; the EAP was retrofitted with an alternative composite ~~compliant~~ liner in 2020 and the WAP was retrofitted with an alternative composite ~~compliant~~ liner in 2021. The NSP is ~~scheduled to have a compliant~~currently being retrofitted with an alternative composite liner ~~installed in 2022~~.

On, November 25, 2020, Luminant also submitted an Alternate Liner Demonstration (ALD) application to EPA pursuant to 40 C.F.R. § 257.57(d)(i) for PDP-5. The subsequent ALD demonstration was submitted on November 30, 2021. On January 11, 2022, EPA issued a letter stating the ALD Application was deemed complete thus tolling the cease receipt date until a final decision is issued on the ALD demonstration. The "Alternate Liner Demonstration Application" and the "Alternate Liner Demonstration" are located in APPENDIX ~~D~~E. If the ALD is approved by USEPA, PDP-5 would be considered a lined impoundment. Luminant will place a copy of the EPA's decision relating the Alternative Line Demonstration for PDP-5 in the facility's operating record when final.

1. Complete Table V.B. - Surface Impoundment Liner System for each surface impoundment to be registered.
2. Describe the design, installation and operation of liner and leak detection components. The description must demonstrate that the liner and leak detection system will prevent discharge to the land and surface water. Submit a QAPP report to ensure that each analysis is performed appropriately.

   ~~See "Summary of Liner Construction" report for the current liner information for the NSP and PDP-5 located in APPENDIX E. Please note the NSP is scheduled for retrofit in 2022, and Luminant is currently awaiting a decision on the submitted Alternative Liner Demonstration previously discussed for PDP-5.~~

   A "Soil & Liner Evaluation Report (SLER)" for PDP-5 is located in Appendix K of the "Alternate Liner Demonstration Application" located in APPENDIX E. The "Alternative Liner Demonstration" is also included for review.

   Liner Equivalency Demonstrations for the EAP, WAP, and NSP have been provided in APPENDIX E.

   See the "Construction Completion and Construction Quality Assurance Report" for further information ~~for~~on the ~~recently~~ retrofitted EAP and WAP in APPENDIX E.

   The NSP is currently being retrofitted. Construction drawings can be found in the "History of Construction-Addendum No. 1" report that indicate the installation of an alternative composite liner. A "Construction Completion and Construction Quality Assurance Report" will be completed following completion of the retrofit.~~The WAP retrofit was completed in the December 2021. The CQA report has not been completed to date. The WAP report will look very similar to the report referenced for the EAP. Drawings for the retrofit of the WAP can be found in Appendix D of the "Martin Lake CCR Surface Impoundments Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline" document located in APPENDIX E.~~
3. For new or laterally expansions of existing surface impoundments, provide a subsurface soil investigation report that must include:
   a. A description of all borings drilled, at the unit location, to test soils and characterize groundwater;
   b. A unit map drawn to scale showing the surveyed locations and elevations of the borings, including location of permanent identification markers ((30 TAC §352.731) and (40 CFR §257.73(a)(1));
   c. Cross-sections prepared from the borings depicting the generalized strata at the unit;
   d. Boring logs, including a description of materials encountered, and any discontinuities such as fractures, fissures, slickensides, lenses or seams;
   e. A description of the geotechnical data and the geotechnical properties of the subsurface soil materials, including the suitability of the soils and strata for the intended uses; and

f. A demonstration that all geotechnical tests were performed in accordance with industry practices and recognized procedures.

N/A

C. Hazard Potential Classification

Provide the current hazard potential classification assessment and associated documentation, as required by 30 TAC §352.731 or §352.741 and 40 CFR §257.73(a)(2) or §257.74(a)(2). The qualified Texas P.E. must certify that the initial hazard potential classification and any subsequent periodic classification was conducted in accordance with the requirements of 30 TAC Chapter 352, where required.

Hazard Potential Classification: LOW

See "Hazard Potential Classification Assessment" located in APPENDIX E

D. Emergency Action Plan for High or Significantly High Hazard Potential

Provide the current Emergency Action Plan that has been certified by a qualified Texas P.E. and includes the following requirements from 30 TAC 352, Subchapter F and 40 CFR §257.73(a)(3)(i)(A) - (E) or 40 CFR §257.74 (a)(3)(i)(A) - (E). The qualified Texas P.E. must certify that the written Emergency Action Plan and any subsequent amendment of the plan complies with the requirements of 30 TAC 352, Subchapter F, where required.

Complete Table V.J. - Inspection of Surface Impoundments

N/A

E. Inflow Design Flood Control System Plan

Describe how the surface impoundment(s) system will manage stormwater run-on away from the surface impoundment(s) (30 TAC §352.821 and 40 CFR §257.82(a) and (c)). Stormwater run-on must be diverted away from a surface impoundment, based on the hazard potential. Where dikes are used to divert run-on, they must be protected from erosion. Include all analyses used to calculate run-on volumes. Provide the inflow design flood control system plan. Provide qualified Texas P.E. certification that the initial and periodic inflow design flood control system plans meet the requirements of 30 TAC §352.821, where required.

See "Inflow Design Flood Control System Plan" located in APPENDIX E.

F. History of Construction for Existing CCR Surface Impoundment(s), or the Design and Construction Plans for New and Lateral Expansions

Provide information on the history of construction for each existing CCR surface impoundment (30 TAC §352.731 and 40 CFR §257.73(c)) or the design and construction plans for new and lateral expansions of each CCR surface impoundment (30 TAC §352.741) and (40 CFR §257.74(c)).

See "History of Construction" report in APPENDIX E.

G. Structural Stability Assessment

Provide the most recent structural stability assessment of the surface impoundments. Include the combined capacity of all surface impoundment spillways with calculations; the peak discharge the unit must meet for all combined spillways; probable maximum flood-high hazard, 1,000-yr-significant high hazard, 100-yr-low hazard; identify if there were any structural stability deficiencies in last assessment; identify how these deficiencies were managed and corrected; and qualified Texas P.E. certification. The structural stability assessment must include all information required in 30 TAC §352.731 for existing surface impoundments or 30 TAC §352.741 for new or laterally expanding surface impoundments.

See “Structural Stability Assessment” located in APPENDIX E.

H. Safety Factor Assessment

The current safety factor assessment must be submitted with the application. It must include documentation that demonstrates whether the calculated factors of safety for each CCR surface impoundment achieve the minimum safety factors specified in 30 TAC 352, Subchapter F and 40 CFR §257.73(e)(1)(i) - (iv) and 40 CFR §257.74(e)(1)(i) - (iv) for the critical cross-section of the embankment. The critical cross-section is the cross-section anticipated to be the most susceptible to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments must be supported by appropriate engineering calculations and certified by a qualified Texas P.E.

See “Safety Factor Assessment” located in APPENDIX E.

VI. Groundwater Monitoring and Corrective Action (30 TAC 352, Subchapter H)

See Instructions and Technical Guidance – No. 32 Coal Combustion Residuals Groundwater Monitoring and Corrective Action

27. Groundwater Monitoring System

A. Complete Table VI.A. - Unit Groundwater Detection Monitoring System.

B. Provide a map showing location of wells, groundwater elevations, and groundwater flow direction.

See Groundwater Potentiometric Surface Maps in Appendix C of the “Groundwater Monitoring System Certification” reports for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F. Updated potentiometric surface maps are also available in the “2021 Annual Groundwater Monitoring and Corrective Action Report-Revision 1” reports for each unit in APPENDIX F.

C. Provide attachments describing how the facility will comply with the requirements in 30 TAC §352.911 and provide a certification by a qualified Texas P.E or qualified Texas P.G. that the groundwater monitoring system design and construction meet the requirements of 30 TAC Chapter 352.

See “Groundwater Monitoring System Certification” reports for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F.

Provide a figure showing the geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

See Figures 3, 4 ,5, 6, 7 in the “Groundwater Monitoring System Certification” report for A1 Landfill located in APPENDIX F.

See Figures 3, 4 ,5, 6 in the “Groundwater Monitoring System Certification” report for the Ash Pond Area located in APPENDIX F.

See Figures 4, 5, 6 in the “Groundwater Monitoring System Certification” report for PDP-5 located in APPENDIX F. Updated cross-sections have been added to the “Groundwater Monitoring System Certification-Addendum No. 1” for PDP-5 in APPENDIX F.

D. For a multiunit groundwater monitoring system, demonstrate that the groundwater monitoring system will be equally as capable of detecting monitored constituents at the waste boundary of the CCR unit as the individual groundwater monitoring system for each CCR unit by providing at minimum the following information:

1. Number, spacing, and orientation of each CCR unit;
2. Hydrogeologic setting; and
3. Site history.

See "Groundwater Monitoring System Certification" report for the Ash Pond Area located in APPENDIX F.

E. Has there been any sampling concentrations of one or more constituents listed in Appendix IV detected at statistically significant levels above the groundwater protection standard (GWPS)? ☒ Yes ☐ No

F. Provide information on how monitoring wells have been constructed and cased in a manner that maintains the integrity of the monitoring well borehole and to prevent contamination of samples and the groundwater.

See "Groundwater Monitoring System Certification" reports for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F.

28. Groundwater Monitoring Sampling and Analysis Program

Provide a sampling and analysis plan that includes procedures and techniques; sampling and analytical methods that are appropriate for groundwater sampling; and that address the requirements of 30 TAC §352.931 and 40 CFR §257.93. Provide a P.E or P.G. certification that describes the statistical method selected to evaluate the groundwater monitoring data and certifies that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area. Refer to TG-32 for information and guidance.

See "Groundwater Monitoring Plan-Revision 2" for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F.

See "Statistical Analysis Plan-Revision 1" for the A1 Landfill, the Ash Pond Area, and PDP-5 located in APPENDIX F.

29. CCR Unit(s) in a Detection Monitoring Program

Does the facility have CCR unit(s) in a Detection Monitoring Program?

☒ Yes ☐ No

PDP-5

If "Yes", Submit the following information:

A. Submit Table VI.C. – Facility CCR Units Under Detection Monitoring.

B. Provide a Background Evaluation Report.

Background data was derived from the eight independent sampling events required under 40 CFR 257.94(b). A summary of the background monitoring program can be found in Section 3.0 of the "2017 Annual Groundwater Monitoring Report". Background water quality data is summarized in Tables 3 and 4 and laboratory analytical reports are located in Appendix A of the 2017 report.

The "2017 Annual Groundwater Monitoring Report" for PDP-5 is in APPENDIX ~~E~~F.

C. Provide a report with the results of semiannual monitoring events.

The "2020 Annual Groundwater Monitoring and Corrective Action Report" and the "2021 Annual Groundwater Monitoring and Corrective Action Report-Revision 1" for PDP-5 is in APPENDIX F.

~~C.~~

1. Has a statistically significant increase (SSI) been detected for one or more of the constituents listed in Appendix III at any monitoring well?

   ☒ Yes ☐ No

2. Has a notification to the executive director been sent within 14 days?

   ☒ Yes ☐ No

3. Date assessment monitoring program will start: N/A Due to successful ASDs

4. Do you plan to provide an alternative source demonstration (ASD)?

   ☒ Yes ☐ No

30. CCR Unit(s) in an Assessment Monitoring Program

Does the facility have CCR unit(s) in an Assessment Monitoring Program?

☒ Yes ☐ No

A1 Landfill

Ash Pond Area

Background data was derived from the eight independent sampling events required under 40 CFR 257.93(d). A summary of the background monitoring program is found in Section 3.0 of the "2017 Annual Groundwater Monitoring Report" for A1 Landfill and the Ash Pond Area. Background water quality data is summarized in Tables 3 and 4 and laboratory analytical reports are located in Appendix A of the 2017 reports. The additional reports are located in APPENDIX F.

If "Yes", Submit information related for units.

A. Complete Table VI.D. – CCR Units Under Assessment Monitoring.

B. Provide, for each well in assessment monitoring status, the recorded concentrations lab sheets and results in a tabulated form.

See summary tables 3 and 4 for all results in tabulated form in the "2020 Annual Groundwater Monitoring Report" for both the A1 Landfill and the Ash Pond Area in APPENDIX F. The "2021 Annual Groundwater Monitoring and Corrective Action Report-Revision 1" for the Ash Pond Area and A1 Landfill have been added to APPENDIX F.

C. Have the concentrations of all constituents listed in Appendices III and IV been at or below background values, using the statistical procedures in 30 TAC §352.931 and 40 CFR §257.93(g), for two consecutive sampling events for the CCR unit(s)? ☐ Yes ☒ No

If answer to above is yes, detection monitoring may resume. The owner or operator must prepare a notification stating that detection monitoring is resuming for the CCR unit and obtain written approval from the executive director.

D. Are there any concentrations of any constituent in Appendices III and IV above background values? ☒ Yes ☐ No

1. Has a notification to the executive director been sent within 14 days?

   ☒ Yes ☐ No

E. Date assessment of corrective measures will be initiated (must be within **90 days** of finding a statistically significant level above the GWPS) for the CCR unit(s):
April 8, 2019

F. Will you provide an ASD (see TG-32 for an acceptable submittal)? ☐ Yes ☒ No

G. Date assessment of corrective measures will be initiated if ASD is not accepted?
N/A

H. Complete Table VI.D-2. - Groundwater Detection Monitoring Parameters

Note: Refer to TG-32 regarding establishing a GWPS for each constituent in Appendix IV detected in the groundwater and attach as table.

I. Have you completed the assessment of corrective measures? ☒ Yes ☐ No
If "Yes", date assessment of corrective measures was completed: September 5, 2019
If "No", date assessment of corrective measures will be completed:
Expected date of submittal of amendment (see note below):
Provide completed assessment of corrected measures materials.

Note: Within **30 days** of completing the assessment of corrective measures, and before remedy implementation, the owner or operator shall submit an application for amendment to the registration. In some circumstances, the assessment of corrective measures and selected remedy may be approved as part of the initial application for the CCR unit registration.

"Assessment of Corrective Measures" reports is for the A1 Landfill and the Ash Pond Area are located in APPENDIX F.

J. Have you selected a remedy? ☒ Yes ☐ No

"Remedy Selection Report" for the A1 Landfill and the Ash Pond Area located in APPENDIX F.

Provide public meeting documentation under 30 TAC §352.961 and a report under 30 TAC §352.971 and 40 CFR §257.97.

"Assessment of Corrective Measures Public Meeting Documents" located in APPENDIX F.

VII. Closure and Post-Closure Care

See Instructions and Technical Guidance

Submit a full closure plan and post-closure plan and all information describing how the owner or operator will comply with 30 TAC 352, Subchapter J and 40 CFR §§257.100 - 257.104. The owner of property on which an existing disposal facility is located, following the closure of a unit, must also submit documentation that a notation has been placed in the deed to the facility that will in perpetuity notify any potential purchasers of the property that the land has been used to manage CCR wastes and its use is restricted (30 TAC §352.1221 and 40 CFR §257.102(i)). For CCR units, closed after October 19, 2015, that were closed before submission of the application, the applicant should submit documentation to show that notices required under 30 TAC 352, Subchapter K and 40 CFR §257.105 or §257.106 have been filed.

31. Closure Plan

This section applies to the owners and operators of all CCR units required to be registered. The applicant must close the facility in a manner that minimizes need for further maintenance and controls, or eliminates, to the extent necessary to protect human health and the environment, the post-closure release of CCR waste, chemical constituents of concern, leachate, contaminated rainfall, or waste decomposition products to the groundwater, surface waters, or to the atmosphere.

The type of unit to be closed can determine the level of detail sufficient for a closure plan. CCR units which have been certified closed after October 19, 2015, must provide documentation to demonstrate compliance with state and federal regulations.

For each unit to be registered, complete Table VII.A.1. - Unit Closure and list the CCR Unit components to be decontaminated, possible methods of decontamination, and possible methods of disposal of wastes and waste residues generated during unit closure. All ancillary components must be decontaminated, and the generated waste disposed of appropriately.

See "Closure Plan" and "Closure Plan-Addendum No. 1" for ~~the~~ A1 Landfill, the Ash Pond Area, and PDP-5 in APPENDIX G.

Information about CCR units closed or to be closed under alternative closure requirements must be provided in Table VII.A.2. - CCR Units Under Alternative Closure Notification.

On November 25, 2020, Luminant Generation Company LLC (Luminant) submitted a request to the U.S. Environmental Protection Agency (EPA) for approval of a site-specific alternative deadline to initiate closure pursuant to 40 C.F.R. § 257.103(f)(1) for the Ash Pond Area and PDP-5. On January 11, 2022, EPA issued a letter stating the site-specific alternative deadline demonstration was deemed complete thus tolling the cease receipt date until a final decision is issued on the demonstration. To date, no decision has been made by EPA. The "Martin Lake CCR Surface Impoundments Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline" document submitted, and the completeness determination letter are located in APPENDIX G.

Guidance on design of a closure cap and final cover for non-hazardous industrial solid wastes landfills is provided in EPA publication 530-SW-85-014, TCEQ Technical Guidance No. 3 and TCEQ publication, RG-534, "Guidance for Liner Construction and Testing for a Municipal Solid Waste Landfill".

32. Post-Closure Care Plan

Provide a post-closure care plan that complies with the requirements of 30 TAC §352.1241.

See "Post-Closure Plan" and "Post-Closure Plan-Addendum No. 1" for A1 Landfill, the Ash Pond Area, and PDP-5 in APPENDIX G.

Post-closure care of each CCR unit must continue for at least 30 years after the date of completing closure of the unit and must consist of monitoring and reporting of the groundwater monitoring systems, in addition to the maintenance and monitoring of CCR unit. Continuation of certain security requirements may be necessary after the date of closure. Post-closure use of property on or in which waste remains after closure must never be allowed to disrupt the integrity of the containment system. In addition, submit the following information:

- The name, address, and phone number of the person or office to contact about the CCR unit during the post-closure period; and

  Luminant-Environmental Services
  Renee Collins-Senior Environmental Director

6555 Sierra Drive
Irving, TX 75039
214-875-8338
CCRPostClosurePlan@Luminant.com

- A discussion of the future use of the land associated with each unit.

  See section 5.0 of the "Post-Closure Plans" for the A1 Landfill, the Ash Pond Area, and PDP-5 in APPENDIX G.

Landfills and surface impoundments which have been certified closed after October 19, 2015, must be included in post-closure care plans, unless they have been determined to have been closed by waste removal equivalent to the closure standards in 30 TAC §352.1221 and 40 CFR §257.102 or 30 TAC §352.1231 and 40 CFR §257.103. If such a demonstration has been made pursuant to 40 CFR §257.102 or §257.103, but an equivalency determination has not been made, please submit a copy of the demonstration documentation. If an equivalency determination has been made, applicant should submit a copy of this determination.

VIII. Financial Assurance

33. Post-Closure Care Cost Estimate

Financial assurance for post-closure care (30 TAC §352.1101) applies to owners or operators of all CCR units, except CCR units from which the owner or operator intends to remove wastes and perform clean closure. Provide a written cost estimate in current dollars of the total cost of the 30-year (or longer, if applicable under 30 TAC §352.1101(d)) post-closure care period to perform post-closure care requirements as prescribed in 30 TAC §352.1241. The cost estimate must be based on the costs of hiring a third party to conduct post-closure care maintenance.

Complete Table VIII.A.1 – Post-Closure Cost Summary for Existing Registered Units

See "Post-Closure Care Estimate~~s Memo~~" ~~from Golder~~ in APPENDIX H. Cost estimates for the A1 Landfill are summarized in Table 3. Cost estimates for the Ash Pond Area are summarized in Table 2. Cost estimates for PDP-5 are summarized in Table 1.

Complete Table VIII.A.2. - Post-Closure Cost Summary for Proposed Registered Units

34. Financial Assurance Mechanism

The financial assurance for post-closure care is required in accordance with 30 TAC §352.1101. The applicant shall demonstrate the financial assurance within 90 days after approval of the registration with a financial mechanism acceptable to TCEQ in compliance with 30 TAC §352.1101(c) and 30 TAC §37, Subchapters A through D, except as indicated in 30 TAC §352.1111, in an amount no less than the amount specified in the approved Post-Closure Care Cost Summary. Provide a description of the proposed financial assurance mechanism.

Luminant Generation Company LLC will provide an acceptable financial assurance mechanism per 30 TAC 352.1101 no more than 90 days after the executive director's approval of the registration.

~~Vistra Corporation currently uses AEGIS Insurance Services Endorsement No. 60 (TCEQ Endorsement for Closure, Post-Closure or Corrective Action) as an approved financial assurance mechanism at other Vistra-owned facilities. Applicant intends to add post-closure coverage amounts detailed in Table VIII.A.1. to current policy.~~

Complete Table VIII.B. - Post-Closure Period, for the authorized post-closure period, to meet the requirements of 30 TAC §352.1241(a) through (c).

Signature Page

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Applicant Signature: _____ Date: _____

Name and Official Title (type or print): _____

Owner or Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

To be completed by the owner or operator if the application is signed by an authorized representative for the operator

I, _____ hereby designate _____
(operator) (authorized representative)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a CCR waste management registration. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any registration which might be issued based upon this application.

_____
Printed or Typed Name of Applicant or Principal Executive Officer

_____
Signature

(Note: Application Must Bear Signature & Seal of Notary Public)

Subscribed and sworn to before me by the said _____ on this

_____ day of _____, _____.

My commission expires on the _____ day of _____, _____

(Seal) Notary Public in and for _____ County, Texas

Registration Application for Coal Combustion Residuals Waste Management

(See instructions for P.E/P.G. seal requirements.)

Attachments and Tables	**Attachment No.**
General Information	Appendix A
Property/Legal Description	
Property Owner Affidavit	
Legal Authority	
Delegation of Signature Authority	
TCEQ Core Data Form	
Attachments	
Response to TCEQ CCR Unit Registration Comments (Item 21) – A1 Landfill	
Response to TCEQ CCR Unit Registration Comments (Item 21) – Ash Ponds and PDP5	
Location Restrictions & Geology	Appendix B
Location Restrictions Demonstration-A1Landfill	
Location restriction Demonstration-Ash Pond Area	
Location restriction Demonstration-PDP-5	
Fugitive Dust Control Plan	Appendix C
CCR Fugitive Dust Control Plan	
2021 Annual CCR Fugitive Dust Control Report	
Landfill Criteria	Appendix D
A1 Landfill Registration Package	
Hydrogeological/Geotechnical Evaluation	
Run-on and Run-off Control System Plan	
2021 Annual CCR Unit Inspection Report-Ash Landfill 1	
Surface Impoundment Design and Operating Criteria	Appendix E
Summary of Liner Construction	
~~Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline~~	
Alternate Liner Demonstration Application – PDP-5	
Alternate Liner Demonstration – PDP-5	
East Ash Pond Liner Equivalency Demonstration	
West Ash Pond Liner Equivalency Demonstration	
New Scrubber Pond Liner Equivalency Demonstration	
Construction Completion and Construction Quality Assurance Report -– EAP	
Construction Completion and Construction Quality Assurance Report - WAP	
Hazard Potential Classification Assessment	
Inflow Design Flood Control System Plan	
History of Construction	
History of Construction-Addendum No. 1	
Structural Stability Assessment	
Safety Factor Assessment	
Groundwater Monitoring and Corrective Action	Appendix F
Groundwater Monitoring System Certification-A1 Landfill	
Groundwater Monitoring System Certification-Addendum No. 1 - A1 Landfill	
Groundwater Monitoring System Certification-Ash Pond Area	
Groundwater Monitoring System Certification-PDP-5	
Groundwater Monitoring System Certification-Addendum No. 1 - PDP-5	
Groundwater Monitoring Plan-Revision 2 – A1 Landfill	
Groundwater Monitoring Plan-Revision 2 – Ash Pond Area	
Groundwater Monitoring Plan-Revision 2 – PDP-5	
Statistical Analysis Plan-Revision 1-A1 Landfill	

Statistical Analysis Plan-Revision 1-Ash Pond Area
Statistical Analysis Plan-Revision 1-PDP-5
2017 Annual Groundwater Monitoring Report-A1 Landfill
2017 Annual Groundwater Monitoring Report-Ash Pond Area
2017 Annual Groundwater Monitoring Report-PDP-5
2020 Groundwater Monitoring and Corrective Action Report-A1 Landfill
2020 Groundwater Monitoring and Corrective Action Report-Ash Pond Area
2020 Groundwater Monitoring and Corrective Action Report-PDP-5
2021 Groundwater Monitoring and Corrective Action Report-Revision 1 - A1 Landfill
2021 Groundwater Monitoring and Corrective Action Report-Revision 1 - Ash Pond Area
2021 Groundwater Monitoring and Corrective Action Report-Revision 1 – PDP-5
CCR Assessment of Corrective Measures-A-1 Landfill
CCR Assessment of Corrective Measures-Ash Pond Area
Assessment of Corrective Measures Public Meeting Documents
Remedy Selection Report – A1 Landfill
Remedy Selection Report – Ash Pond Area

Closure and Post-Closure Care Appendix G

Closure Plan-A1 Landfill
Closure Plan-Addendum No. 1 – A1 Landfill
Closure Plan-Ash Pond Area
Closure Plan-Addendum No. 1 – Ash Pond Area
Closure Plan-PDP-5
Closure Plan-Addendum No. 1 – PDP-5
Post-Closure Plan-A1 Landfill
Post-Closure Plan-Addendum No. 1 – A1 Landfill
Post-Closure Plan-Ash Pond Area
Post Closure Plan-Addendum No. 1 – Ash Pond Area
Post-Closure Plan-PDP-5
Post-Closure Plan-Addendum No. 1 – PDP-5
Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline
Alternative Closure Demonstration Completeness Determination Letter

Financial Assurance Appendix H

Post-Closure Care Cost Estimate ~~Memos~~ – A1 Landfill, Ash Pond Area, PDP-5

Tables

Tables	Submitted	Not Applicable
Table I.6. - CCR Waste Management Units	☒	☐
Table I.6.A. - Waste Management Information	☒	☐
Table I.6.B. - Wastes Managed in Registered Units	☒	☐
Table I.6.C. - Sampling and Analytical Methods	☒	☐
Table IV.A. - Landfill Characteristics	☒	☐
Table IV.B. - Landfill Liner System	☒	☐
Table IV.C. - Landfill Leachate Collection System	☐	☒
Table IV.D. - Inspection Schedule of Landfills	☒	☐
Table V.A. - Surface Impoundments Characteristics	☒	☐
Table V.B. - Surface Impoundment Liner System	☒	☐
Table V.J. - Inspection of Surface Impoundments	☒	☐
Table VI.A. - Unit Groundwater Detection Monitoring System	☒	☐
Table VI.C. - CCR Units Under Detection Monitoring	☒	☐
Table VI.C-1. – Groundwater Detection Monitoring Parameters	☒	☐
Table VI.D. - CCR Units Under Assessment Monitoring	☒	☐
Table VI.D-2. - Groundwater ~~Detection~~ Assessment Monitoring Parameters	☒	☐

Table VII.A.1. - Unit Closure	☒	☐
Table VII.A.2. - CCR Units Under Alternative Closure Notification	☒	☐
Table VIII.A.1. - Post-Closure Cost Summary for Existing Registered Units	☒	☐
Table VIII.A.2. - Post-Closure Cost Summary for Proposed Registered Units	☐	☒
Table VIII.B. - Post-Closure Period	☐	☒
Engineering Certification(s) - Dike Construction	☐	☒

Additional Attachments as Applicable - Select all those apply and add as necessary

☒ TCEQ Core Data Form(s) **Appendix A**
☒ Signatory Authority Delegation **Appendix A**
☐ Fee Payment Receipt
☐ Confidential Documents
☒ Certificate of Fact (Certificate of Incorporation) **Appendix A**
☐ Assumed Name Certificate

Table I.6. – CCR Waste Management Units

CCR Unit No.[1]	Unit Name	N.O.R. No.[1]	Unit Description[3]	Capacity	Unit Status[2]
002	A1 Landfill	002	Landfill	58.67 million cubic yards	Active
013	New Scrubber Pond	013	Surface Impoundment	199 acre-feet	Active
014	West Ash Pond	014	Surface Impoundment	233 acre-feet	Active
023	East Ash Pond	023	Surface Impoundment	126 acre-feet	Active
024	PDP-5	024	Surface Impoundment	190 acre-feet	Active

1 Registered Unit No. and N.O.R. No. cannot be reassigned to new units or used more than once.
2 Unit Status options: Active, Closed, Inactive (built but not managing waste), Proposed (not yet built), Never Built, Transferred, Post-Closure.
3 If a unit has been transferred, the applicant should indicate which facility/permit it has been transferred to in the Unit Description column.

Table I.6.A. – Waste Management Information

Waste No.[1]	Waste Type(s)	Source	Volume (tons/year)[2]
1	FGD Sludge	Flue gas treatment	191,000
2	Flyash	Coal Combustion byproduct	555,000
3	Waste Lignite	Unused lignite	<200
4	Bottom Ash	Coal combustion byproduct	226,000
5	Solid Chemicals		0
6	Class 2 Chemical Liquids	Unused, off-spec, expired	0
7	Reverse Osmosis Reject	Water treatment wastes	33 million gallons
8	Sewage Sludge	Onsite sewage plant	40,000 gallons
9	Oily Debris <1500 tph	Misc. plant maintenance	0
10	Non-haz Cleanup Material	Misc. plant maintenance	0
11	Sandblasting Waste	Misc. plant maintenance	0
12	Construction Debris	Misc. plant maintenance	De minimis
13	Asbestos	Demo activities	0
14	Metal Scrap	Misc. plant maintenance	0
15	Railroad Cross Ties	Old, deteriorated ties	<1
16	Waste Dessicant	Air dryers	De minimis
17	Rust/Scale Debris	Misc. plant maintenance	0
18	Hardened Asphalt	Construction/demo activities	0
19	Non-Haz Waste Teflon Coating	Equipment maintenance	0
20	Activated Carbon Waste	Flue gas treatment	0
21	Boiler Wash	Chemical clean of boilers	0
22	Supplemental Plant Production Refuse	Plant laboratory operations	0
23	Plant Trash	operations	0

1 Assign waste number sequentially. Do not remove waste number wastes which are no longer generated.

2 Reflects 2020 records

Table I.6.B. – Wastes Managed in Registered Units

Waste No.[1]	Waste	TCEQ Waste Form Codes and Classification Codes
1	FGD Sludge	TWC-30013922, TX Form Code-392, Class 2
2	Flyash	TWC-30023042, TX Form Code-304, Class 2
3	Waste Lignite	TWC-30044092, TX Form Code-409, Class 2
4	Bottom Ash	TWC-30053042, TX Form Code-304, Class 2
5	Solid Chemicals	TWC-32033192, TX Form Code-319, Class 2
6	Class 2 Chemical Liquids	TWC-33081192, TX Form Code-119, Class 2
7	Reverse Osmosis Reject	TWC-34045192, TX Form Code-519, Class 2
8	Sewage Sludge	TWC-34076082, TX Form Code-608, Class 2
9	Oily Debris <1500 tph	TWC-35014892, TX Form Code-489, Class 2
10	Non-haz Cleanup Material	TWC-35613192, TX Form Code-319, Class 2
11	Sandblasting Waste	TWC-37013892, TX Form Code-389, Class 2
12	Construction Debris	TWC-37043902, TX Form Code-390, Class 2
13	Asbestos	TWC-37113111, TX Form Code-311, Class 1
14	Metal Scrap	TWC-37133072, TX Form Code-307, Class 2
15	Railroad Cross Ties	TWC-37174882, TX Form Code-488, Class 2
16	Waste Dessicant	TWC-37203192, TX Form Code-319, Class 2
17	Rust/Scale Debris	TWC-37363192, TX Form Code-319, Class 2
18	Hardened Asphalt	TWC-37454892, TX Form Code-489, Class 2
19	Non-Haz Waste Teflon Coating	TWC-37473192, TX Form Code-319, Class 2
20	Activated Carbon Waste	TWC-37524092, TX Form Code-409, Class 2
21	Boiler Wash	TWC-38021051, TX Form Code-105, Class 1
22	Supplemental Plant Production Refuse	TWC-39019022, TX Form Code-902, Class 2
23	Plant Trash	TWC-39109992, TX Form Code-999, Class 2

1 from Table I.6.A., first column

Table I.6.C – Sampling and Analytical Methods

Waste No.[1]	Sampling Location	Sampling Method	Frequency	Parameter	Test Method	Desired Accuracy Level
1	Railcars	Grab	<5 years	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
2	Railcars or landfill	Grab	<5 years	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
3	Drainage ditches		<5 years	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
4	Railcars or landfill	Grab	<5 years	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
5	None-process knowledge	N/A	N/A	SDS	N/A	N/A
6	None-process knowledge	N/A	N/A	SDS	N/A	N/A
7	None-process knowledge	N/A	N/A	SDS	N/A	N/A
8	None-process knowledge	N/A	N/A	None	N/A	N/A
9	Varies by project	Composite	<5 years	TPH	TX1005	See below [2]
10	Varies by project	Grab	Each project	TCLP Metals, TPH	SW1311/7470A SW1311/6020B TX1005	See below [2]
11	Varies by project	Grab	Each project	TCLP Metals	SW1311/7470A SW1311/6020B	See below [2]
12	Varies by project	Composite	<5 years	TCLP Metals, TPH	SW1311/7470A SW1311/6020B TX1005	See below [2]
13	None-process knowledge	N/A	N/A	None	N/A	N/A
14	None-process knowledge	N/A	N/A	None	N/A	N/A
15	Varies by project	Composite	<5 years	TCLP Metals, SVOC	SW1311/7470A SW1311/6020B SW1311/8270C	See below [2]
16	None-process knowledge	N/A	N/A	SDS	N/A	N/A
17	None-process knowledge	N/A	N/A	None	N/A	N/A
18	None-process knowledge	N/A	N/A	SDS	N/A	N/A

19	None-process knowledge	N/A	N/A	SDS	N/A	N/A
20	None-process knowledge	N/A	N/A	SDS	N/A	N/A
21	Frac Tanks	Composite	Each project	TCLP Metals and SDS	SW1311/7470A SW1311/6020B	See below [2]
22	None-process knowledge	N/A	N/A	None	N/A	N/A
23	None-process knowledge	N/A	N/A	None	N/A	N/A

1 from Table I.6.A., first column

2 Analytical protocol will meet EPA quality control and accuracy specifications as published in the SW-846 Methods. The laboratory will be TCEQ accredited.

Table IV.A. – Landfills Characteristics

Registered Unit No.	Landfill	N.O.R. No.	Waste Nos.[1]	Rated Capacity	Dimensions[2]	Distance from lowest liner to groundwater	Action Leakage Rate (if required)	Unit will manage CCR Waste and non-CCR Waste (state all that apply)
002	A1 Landfill	002	1 thru 5 9 thru 20 22 thru 23	Approximately 58.67 million cubic yards	6475 ft L x 5275 ft W x 60 ft H (height at max design) 785 acres	N/A	N/A	Waste numbers 1-5, 9-20, and 22-23 as described in Table I.6.A.

1 From Table I.6.A., first column
2 Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

Table IV.B. – Landfill Liner System

Registered Unit No.*	Landfill	Geomembrane Liner Material	Geomembrane Liner Permeability (cm/sec)	Geomembrane Liner Thickness	Soil Liner Material	Soil Liner Permeability (cm/sec)	Soil Liner Thickness
002	A1 Landfill	N/A	N/A	N/A	Clay	$<1x10^{-7}$ cm/sec	Minimum 1 foot compacted clay

* This number should match the Registration Unit No. given on Table IV.A.

Table IV.C. – Landfill Leachate Collection System

Registered Unit No.	Landfill Name	Drainage Media	Collection Pipes (including risers)	Filter Fabric	Geofabric	Sump Material
N/A						

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
002-A-1 Landfill	Inspect for any appearances of actual or potential structural weakness and other conditions which are disrupting of have the potential to disrupt the operation and safety of the CCR unit	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.84(a).~~Inspection per 40 CFR 257.84(a)~~
Embankments	Surface cracking, animal burrows, misalignments, slides, vegetative cover, rutting, erosion, seepage, slope protection/chutes	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.84(a). ~~Inspection~~
Capped Areas	Animal burrows, vegetative cover, rutting, surface cracking	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.84(a). ~~Inspection~~
Active Work Area	Contact water, dusting	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.84(a). ~~Inspection~~
Groundwater Monitoring Wells	Deterioration of pads, bollards, missing locks, compromise of casing integrity	Semi-Annual Inspection
002-A-1 Landfill		Annually per 40 CFR 257.84(b)
	Inspect for any changed in geometry of the structure since the previous annual inspection.	Annual Inspection
	Estimate the approximate volume of CCR contained in the unit at the time of the inspection.	Annual Inspection
	Inspect for any appearance of actual or potential structural weakness of the CCR unit, and any conditions that are disrupting or have the potential to disrupt the operation and safety of the unit.	Annual Inspection
	Inspect for any other change(s) which have affected the stability or operation of the CCR unit since the previous inspection	Annual Inspection

Table IV.D. – Inspection Schedule of Landfills

Registration No.: ~~New~~
CCR105
Registrant: Martin Lake Steam Electric Station

Table V.A. – Surface Impoundment Characteristics

Registered Unit No.	Surface Impoundment Name	N.O.R. No.	Waste Nos.[1]	Rated Capacity	Dimensions[2]	Distance from lowest liner to groundwater	Action Leakage Rate (if required)	Unit will manage CCR Waste and non-CCR Waste (state all that apply)
013	New Scrubber Pond (NSP)	013	1	199 acre-feet	1000 ft L x 550 ft W x 20 ft H 13 acres	>5' feet	N/A	Waste number 1 as described in Table I.6.A.
014	West Ash Pond (WAP)	014	4, 7, 21	233 acre-feet	1600 ft L x 415 ft W x 20 ft H 15 acres	>5' feet	N/A	Waste numbers 4, 7, 21 as described in Table I.6.A.
023	East Ash Pond (EAP)	023	4, 7, 21	126 acre-feet	1000 ft L x 415 ft W x 20 ft H 10 acres	>5' feet	N/A	Waste numbers 4, 7, 21 as described in Table I.6.A.
024	Permanent Disposal Pond 5 (PDP-5)	024	1-9, 11-13, 16-17, 22-23	190 acre-feet	1400 ft L x 950 ft W x 13 ft H 31 acres	>5' feet	N/A	Waste numbers 1-9, 11-13, 16-17, and 22-23 as described in Table I.6.A.

1 From Table I.6.A., first column
2 Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

Table V.B. – Surface Impoundment Liner System

Registered Unit No.*	Surface Impoundment Name	Geomembrane Liner Material	Geomembrane Liner Permeability (cm/sec)	Geomembrane Liner Thickness	Soil Liner Material	Soil Liner Permeability (cm/sec)	Soil Liner Thickness
013	New Scrubber Pond (NSP) Reline in 2022	HDPE	$<1x10^{-7}$ cm/sec	60-mil x 2**			
014	West Ash Pond (WAP) Relined 2021	HDPE	$<1x10^{-7}$ cm/sec	GCL + 60-mil HDPE	Clay	$<1x10^{-7}$ cm/sec	18”
023	East Ash Pond (EAP) Relined 2020	HDPE	$<1x10^{-7}$ cm/sec	GCL + 60-mil HDPE	clay	$<1x10^{-7}$ cm/sec	18”
024	Permanent Disposal Pond (PDP-5)	N/A	N/A	N/A	Clay	$<1x10^{-7}$ cm/sec	2’ bottom 3’ embankments

* This number should match the Registration Unit No. given on Table V.A.
** Impoundment scheduled to be relined in 2022 to meet 40 CFR 257 design criteria. Liner will be same as EAP and WAP.

Table V.J. – Inspection Schedule of Surface Impoundments

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
013-NSP, 014-WAP, 023-EAP, 024-PDP 5		Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.83(a).~~Weekly per 40 CFR 257.83(a)~~
Above-grade piping	Deteriorating of piping/connections	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.83(a).~~Weekly Inspection~~
Truck Access Ramp	Spills, Deterioration	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.83(a).~~Weekly Inspection, spills inspected and reported within 24-hrs~~
Containment Dike	Spills, excessive water levels, surface cracking, animal burrows, misalignments, slides, vegetative cover, rutting, erosion, seepage, slope protection/chutes	Weekly inspections are performed at intervals not exceeding seven days per 40 CFR 257.83(a)~~Weekly Inspection~~, spills inspected and reported within 24-hrs
Groundwater	Deterioration of pads, bollards, missing locks, compromise of casing integrity	Semi-Annual Inspection
013-NSP, 014-WAP, 023-EAP, 024-PDP 5		Annually per 40 CFR 257.83(b)
	Inspect for any changes in geometry of the structure since the previous annual inspection.	Annual Inspection
	Evaluate the approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since previous annual inspection.	Annual Inspection
	Evaluate the storage capacity at the time of the inspection.	Annual Inspection
	Estimate the approximate volume of the impounded water and CCR contained in the unit at the time of the inspection.	Annual Inspection
	Inspect for any other change(s) which have affected the stability or operation of the CCR unit since the previous inspection	Annual Inspection

Table VI.A. - Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name[1]	**WMU 002 - A-1 Landfill**										
Well Number(s):	BMW-11AR	BMW-18	BMW-19	BMW-20	BMW-21	BMW-22	BMW-23	BMW-24	BMW-26	BMW-27	BMW-28
Hydrogeologic Unit Monitored	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group
Type (e.g., point of compliance, background, observation, etc.)	POC	POC	POC	POC	POC	POC	POC	POC	POC	POC	POC
Up or Down Gradient	Up	Down	Down	Down	Down	Down	Down	Down	Down	Down	Down
Casing Diameter and Material	4" PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	4" PVC	4" PVC	2"PVC
Screen Diameter and Material	4" PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	4" PVC	4" PVC	2"PVC
Screen Slot Size (in.)	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"
Top of Casing Elevation (Ft, Mean Sea Level *[MSL]*)	426.05	357.83	400.69	357.51	350.98	332.3	341.9	347.07	369.44	376.25	373.21
Grade or Surface Elevation (Ft, MSL)	423.37	355.5	397.47	354.67	347.87	329.53	339.43	344.7	365.96	373.46	371.27
Well Depth (Ft, Below Grade Surface *[BGS]*)	139	120	45	30	40	40	35	40	30	30	60
Well Depth (Ft, Below Top of Casing *[BTOC]*)	141.68	122.33	48.22	32.84	43.11	42.77	37.47	42.37	33.48	32.79	61.94
Screen Interval											
From (Ft, BGS)	119	100	25	10	20	20	15	20	20	20	40
To (Ft, BGS)	139	120	45	30	40	40	35	40	30	30	60
Screen Interval											
From (Ft, BTOC)	121.68	102.33	28.22	12.84	23.11	22.77	17.47	22.37	23.48	22.79	41.94
To (Ft, BTOC)	141.68	122.33	48.22	32.84	43.11	42.77	37.47	42.37	33.48	32.79	61.94

1 From Tables in Section I.; *MSL* : Mean Sea Level; *BGS* : Below Grade Surface; *BTOC* : Below Top of Casing

NOTE-Data from Table 1 from Groundwater Monitoring System Certification 10/16/2017

Table VI.A. - Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name[1]	**WMUs 013, 014, 023 - Ash Pond Area**						
Well Number(s):	H-26	H-27	H-28	H-29	H-31	H-32	H-33
Hydrogeologic Unit Monitored	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group
Type (e.g., point of compliance, background, observation, etc.)	POC	POC	POC	POC	POC	POC	POC
Up or Down Gradient	Up	Up	Down	Down	Down	Down	Up
Casing Diameter and Material	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC
Screen Diameter and Material	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC
Screen Slot Size (in.)	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"
Top of Casing Elevation (Ft, Mean Sea Level *[MSL]*)	323.7	330.42	316.82	329.26	329.26	329.85	323.85
Grade or Surface Elevation (Ft, MSL)	320.44	330.5	314.04	329.55	329.46	330.15	320.78
Well Depth (Ft, Below Grade Surface *[BGS]*)	40	50	32	57	52	52	46
Well Depth (Ft, Below Top of Casing *[BTOC]*)	43.26	49.92	34.78	56.71	51.8	51.7	49.07
Screen Interval							
From (Ft, BGS)	35	45	27	52	42	42	41
To (Ft, BGS)	40	50	32	57	52	52	46
Screen Interval							
From (Ft, BTOC)	38.26	44.92	29.78	51.71	41.8	41.7	44.07
To (Ft, BTOC)	43.26	49.92	34.78	56.71	51.8	51.7	49.07

1 From Tables in Section I.; *MSL* : Mean Sea Level; *BGS* : Below Grade Surface; *BTOC* : Below Top of Casing

NOTE-Data from Table 1 from Groundwater Monitoring System Certification 10/16/2017

Table VI.A. - Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name[1]	**WMU 024 - Permanent Disposal Pond 5**								
Well Number(s):	MW-17A	MW-18A	MW-19	MW-20A	PDP-22	PDP-23	PDP-24	PDP-25	PDP-26
Hydrogeologic Unit Monitored	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group	Wilcox Group
Type (e.g., point of compliance, background, observation, etc.)	POC	POC	POC	POC	POC	POC	POC	POC	POC
Up or Down Gradient	Down	Down	Down	Down	Down	Down	Down	Down	Down
Casing Diameter and Material	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC
Screen Diameter and Material	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC
Screen Slot Size (in.)	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"	0.010"
Top of Casing Elevation (Ft, Mean Sea Level *[MSL]*)	387.75	414.44	371.33	398.98	386.75	394.43	389.73	387.97	397.68
Grade or Surface Elevation (Ft, MSL)	384.57	410.89	367.98	395.74	383.9	391.06	387.06	385.13	394.29
Well Depth (Ft, Below Grade Surface *[BGS]*)	47	67	25	41	60	45	40	60	49
Well Depth (Ft, Below Top of Casing *[BTOC]*)	50.18	70.55	28.35	44.24	62.85	48.37	42.67	62.84	52.39
Screen Interval									
From (Ft, BGS)	27	47	10	10	35	35	30	50	39
To (Ft, BGS)	47	67	25	40	60	45	40	60	49
Screen Interval									
From (Ft, BTOC)	30.18	50.55	13.35	13.24	37.85	38.37	32.67	52.84	42.39
To (Ft, BTOC)	50.18	70.55	28.35	43.24	62.85	48.37	42.67	62.84	52.39

1 From Tables in Section I.; *MSL* : Mean Sea Level; *BGS* : Below Grade Surface; *BTOC* : Below Top of Casing

NOTE-Data from Table 1 from Groundwater Monitoring System Certification 10/16/2017

Table VI.C. – CCR Units Under Detection Monitoring

N.O.R. Unit No.	Unit Description[1,2]	Well(s)	Constituent(s)	Date of SSI Determination	Date of Assessment Monitoring Notification[3]
024	PDP-5	PDP-23	Ca	1/16/18	N/A-ASD successful (4/15/18)
024	PDP-5	PDP-23, PDP-25	B	1/22/19	N/A-ASD successful (4/22/19)
024	PDP-5	PDP-23, PDP-25	B (PDP-25) Ca (PDP-23)	1/8/20	N/A-ASD successful (4/7/20)
024	PDP-5	PDP-20A, PDP-23, PDP-25	B (PDP-25) Ca (PDP-23, PDP-25) Cl (PDP-20A)	12/7/20	N/A-ASD successful (3/5/21)

1 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been requested pursuant to 40 CFR §257.103.
2 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been made pursuant to 40 CFR §257.103.
3 Enter month, day, and year.

Table VI.~~D-2~~C-1. – Groundwater Detection Monitoring Parameters

Parameter	Sampling Frequency	Analytical Method	Practical Quantification Limit (units)	Concentration Limit[1]
A-1 Landfill				
Boron	Semi-Annual	SW6020A	0.03 mg/L	0.546
Calcium	Semi-Annual	SW6020A	0.3 mg/L	276
Chloride	Semi-Annual	E300	1.0 mg/L	35.5
Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
Field pH	Semi-Annual	Field Measured	s.u.	5.81 7.58
Sulfate	Semi-Annual	E300	3.0 mg/L	1,100
TDS	Semi-Annual	M2540C	50.0 mg/L	2,850
Ash Pond Area				
Boron	Semi-Annual	SW6020A	0.03 mg/L	0.602
Calcium	Semi-Annual	SW6020A	0.3 mg/L	57.2
Chloride	Semi-Annual	E300	10.0 mg/L	153
Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
Field pH	Semi-Annual	Field Measured	s.u.	4.63 7.6
Sulfate	Semi-Annual	E300	3.0 mg/L	365
TDS	Semi-Annual	M2540C	50.0 mg/L	1,100
PDP-5				
MW-17A Boron	Semi-Annual	SW6020A	0.03 mg/L	0.538
MW-17A Calcium	Semi-Annual	SW6020A	0.3 mg/L	6.73
MW-17A Chloride	Semi-Annual	E300	1.0 mg/L	10.4
MW-17A Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
MW-17A Field pH	Semi-Annual	Field Measured	s.u.	2.5 9.19
MW-17A Sulfate	Semi-Annual	E300	3.0 mg/L	51.9
MW-17A TDS	Semi-Annual	M2540C	10.0 mg/L	170
MW-18A Boron	Semi-Annual	SW6020A	0.03 mg/L	0.20
MW-18A Calcium	Semi-Annual	SW6020A	0.3 mg/L	3.1
MW-18A Chloride	Semi-Annual	E300	1.0 mg/L	10.4
MW-18A Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
MW-18A Field pH	Semi-Annual	Field Measured	s.u.	4.88 7.92

MW-18A Sulfate	Semi-Annual	E300	3.0 mg/L	9.1
MW-18A TDS	Semi-Annual	M2540C	10.0 mg/L	157
MW-19 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.782
MW-19 Calcium	Semi-Annual	SW6020A	0.3 mg/L	237
MW-19 Chloride	Semi-Annual	E300	1.0 mg/L	57.7
MW-19 Fluoride	Semi-Annual	E300	0.4 mg/L	0.512
MW-19 Field pH	Semi-Annual	Field Measured	s.u.	4.6 8.08
MW-19 Sulfate	Semi-Annual	E300	3.0 mg/L	672
MW-19 TDS	Semi-Annual	M2540C	10.0 mg/L	1,380
MW-20A Boron	Semi-Annual	SW6020A	0.03 mg/L	0.213
MW-20A Calcium	Semi-Annual	SW6020A	0.3 mg/L	25.7
MW-20A Chloride	Semi-Annual	E300	1.0 mg/L	12.3
MW-20A Fluoride	Semi-Annual	E300	0.4 mg/L	0.954
MW-20A Field pH	Semi-Annual	Field Measured	s.u.	3.06 8.76
MW-20A Sulfate	Semi-Annual	E300	3.0 mg/L	148
MW-20A TDS	Semi-Annual	M2540C	10.0 mg/L	381
MW-22 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.411
MW-22 Calcium	Semi-Annual	SW6020A	3.0 mg/L	306
MW-22 Chloride	Semi-Annual	E300	1.0 mg/L	32.7
MW-22 Fluoride	Semi-Annual	E300	0.4 mg/L	1.07
MW-22 Field pH	Semi-Annual	Field Measured	s.u.	4.08 8.63
MW-22 Sulfate	Semi-Annual	E300	3.0 mg/L	216
MW-22 TDS	Semi-Annual	M2540C	10.0 mg/L	1,780
MW-23 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.0678
MW-23 Calcium	Semi-Annual	SW6020A	0.3 mg/L	2
MW-23 Chloride	Semi-Annual	E300	1.0 mg/L	7.52
MW-23 Fluoride	Semi-Annual	E300	0.4 mg/L	0.4
MW-23 Field pH	Semi-Annual	Field Measured	s.u.	3.38 8.45
MW-23 Sulfate	Semi-Annual	E300	3.0 mg/L	3.27
MW-23 TDS	Semi-Annual	M2540C	10.0 mg/L	143
MW-24 Boron	Semi-Annual	SW6020A	0.3 mg/L	4.92
MW-24 Calcium	Semi-Annual	SW6020A	0.3 mg/L	45.9

MW-24 Chloride	Semi-Annual	E300	1.0 mg/L	22.6
MW-24 Flouride	Semi-Annual	E300	0.4 mg/L	1.03
MW-24 Field pH	Semi-Annual	Field Measured	s.u.	1.33 9.97
MW-24 Sulfate	Semi-Annual	E300	30.0 mg/L	533
MW-24 TDS	Semi-Annual	M2540C	10.0mg/L	894
MW-25 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.136
MW-25 Calcium	Semi-Annual	SW6020A	3.0 mg/L	41.3
MW-25 Chloride	Semi-Annual	E300	10.0 mg/L	197
MW-25 Flouride	Semi-Annual	E300	0.4 mg/L	0.4
MW-25 Field pH	Semi-Annual	Field Measured	s.u.	4.65 7.93
MW-25 Sulfate	Semi-Annual	E300	3.0 mg/L	118
MW-25 TDS	Semi-Annual	M2540C	10.0 mg/L	705
MW-26 Boron	Semi-Annual	SW6020A	0.03 mg/L	0.111
MW-26 Calcium	Semi-Annual	SW6020A	0.3 mg/L	4.74
MW-26 Chloride	Semi-Annual	E300	1.0 mg/L	14.6
MW-26 Flouride	Semi-Annual	E300	0.4 mg/L	0.577
MW-26 Field pH	Semi-Annual	Field Measured	s.u.	5.35 7.57
MW-26 Sulfate	Semi-Annual	E300	3.0 mg/L	64.6
MW-26 TDS	Semi-Annual	M2540C	10.0 mg/L	438

1 The concentration limit is the basis for determining whether a release has occurred from the CCR unit/area.

Table VI.D. – CCR Units Under Assessment Monitoring

N.O.R. Unit No.	Unit Description[1,2]	Well(s)	Constituent(s)	Date of SSI Determination	Date of Assessment Monitoring Notification[3]
002	A-1 Landfill	BMW-19, BMW-21, BMW-22, BMW-23, BMW-24, BMW-26, BMW-27, BMW-28	B, Ca, Cl, SO4, TDS	1/16/2018	8/16/2018
013, 014, 023	Ash Pond Area	H-27, H-28, H-29, H-31, H-32	B, Ca, Cl, F, SO4, TDS	1/16/2018	8/16/2018

1 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been requested pursuant to 40 CFR §257.103.
2 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been made pursuant to 40 CFR §257.103.
3 Enter month, day, and year

Table VI.D-2. – Groundwater Assessment Monitoring Parameters

Parameter	Sampling Frequency	Analytical Method	Practical Quantification Limit (units)	Concentration Limit[1]
A1 Landfill				
Antimony	Semi-Annual	SW6020B	0.000800 mg/L	0.006 mg/L
Arsenic	Semi-Annual	SW6020B	0.00200 mg/L	0.0164 mg/L
Barium	Semi-Annual	SW6020B	0.00300 mg/L	2 mg/L
Beryllium	Semi-Annual	SW6020B	0.000300 mg/L	0.004 mg/L
Cadmium	Semi-Annual	SW6020B	0.000300 mg/L	0.005 mg/L
Chromium	Semi-Annual	SW6020B	0.00200 mg/L	0.1 mg/L
Cobalt	Semi-Annual	SW6020B	0.00300 mg/L	0.0124 mg/L
Fluoride	Semi-Annual	SW6020B	0.100 mg/L	4 mg/L
Lead	Semi-Annual	SW6020B	0.000300 mg/L	0.015 mg/L
Lithium	Semi-Annual	SW6020B	0.00500 mg/L	0.103 mg/L
Mercury	Semi-Annual	SW7470A	0.0000800 mg/L	0.002 mg/L
Molybdenum	Semi-Annual	SW6020B	0.00200 mg/L	0.1 mg/L
Selenium	Semi-Annual	SW6020B	0.00200 mg/L	0.05 mg/L
Thallium	Semi-Annual	SW6020B	0.000500 mg/L	0.002 mg/L
Radium 226+228	Semi-Annual	904 + SM7500Ra B M	varies	10.7 pCi/L
Ash Pond Area				
Antimony	Semi-Annual	SW6020B	0.000800 mg/L	0.006 mg/L
Arsenic	Semi-Annual	SW6020B	0.00200 mg/L	0.01 mg/L
Barium	Semi-Annual	SW6020B	0.00300 mg/L	2 mg/L
Beryllium	Semi-Annual	SW6020B	0.000300 mg/L	0.004 mg/L
Cadmium	Semi-Annual	SW6020B	0.000300 mg/L	0.005 mg/L
Chromium	Semi-Annual	SW6020B	0.00200 mg/L	0.1 mg/L
Cobalt	Semi-Annual	SW6020B	0.00300 mg/L	0.0564 mg/L
Fluoride	Semi-Annual	SW6020B	0.100 mg/L	4 mg/L
Lead	Semi-Annual	SW6020B	0.000300 mg/L	0.015 mg/L
Lithium	Semi-Annual	SW6020B	0.00500 mg/L	0.177 mg/L
Mercury	Semi-Annual	SW7470A	0.0000800 mg/L	0.002 mg/L

Molybdenum	Semi-Annual	SW6020B	0.00200 mg/L	0.1 mg/L
Selenium	Semi-Annual	SW6020B	0.00200 mg/L	0.05 mg/L
Thallium	Semi-Annual	SW6020B	0.000500 mg/L	0.002 mg/L
Radium 226+228	Semi-Annual	904 + SM7500Ra B M	varies	5 pCi/L

[1] The concentration limit is the basis for determining whether a release has occurred from the CCR unit/area.

Table VII.A.1. – Unit Closure

For each unit to be registered, list the unit components to be decontaminated, the possible methods of decontamination, and the possible methods of disposal of wastes and waste residues generated during unit closure.

Equipment or CCR Unit	Possible Methods of Decontamination[1]	Possible Methods of Disposal[1]
002-A-1 Landfill	Close in Place	No Disposal
013-New Scrubber Pond Piping	Removal	Landfill
013-New Scrubber Pond	Close in Place	No Disposal
014-West Ash Pond Piping	Removal	Landfill
014-West Ash Pond	Close in Place	No Disposal
023-East Ash Pond Piping	Removal	Landfill
023-East Ash Pond	Close in Place	No Disposal

1 Applicants may list more than one appropriate method.

Table VII.A.2. – CCR Units Under Alternative Closure Notification

Registered Unit No.	N.O.R. Unit No.	Unit Description[1,2]	Date of Receipt of Last Waste[3]	Date of Closure Notification[3]
013	013	New Scrubber Pond (NSP)	June 29, 2022 Retrofit in 2022	N/A
014	014	West Ash Pond (WAP)	June 29, 2022 Retrofit Complete 2021	N/A
023	023	East Ash Pond (EAP)	June 29, 2022 Retrofit Complete 2020	N/A
024	024	Permanent Disposal Pond 5 (PDP-5)	July 1, 2023 Retrofit in 2023 if ALD request denied	N/A

1 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been requested pursuant to 40 CFR §257.103.
2 Indicates a unit for which a 30 TAC Chapter 352/40 CFR Part 257, Subpart D alternative closure determination has been made pursuant to 40 CFR §257.103.
3 Enter month, day, and year.

Table VIII.A.1. – Post-Closure Cost Summary for Existing Registered Units

Unit	Cost
002-A-1 Landfill	$8,273,063
013, 014, 023-Ash Pond Area (NSP, WAP, EAP)	$2,228,065
024-Permanent Disposal Pond 5 (PDP-5)	$2,026,787
Total Existing Unit Post-Closure Cost Estimate	$12,527,915 (in 2021 Dollars)[1]

Table VIII.A.2. - Post-Closure Cost Summary for Proposed Registered Units

Unit	Cost
N/A	

1 As units are added or deleted from these tables through future registration amendments, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

Table VIII.B. – Post-Closure Period

Unit Name	Date Certified Closed	Authorized Post-Closure Period (Yrs.)	Earliest Date Post-Closure Ends (See Note 1)
[Unit Example 1]	**[1/1/1995]**	30 years	**[1/1/2025]**
[Unit Example 2]	**[1/1/1990]**	30 years	**[1/1/2020]**
[Unit Example 3]	**[1/1/1984]**	30 years	**[1/1/2014]**

Note 1 – Post-Closure Care shall continue beyond the specified date until the Executive Director has approved the applicant's request to reduce or terminate the post-closure period, consistent with 30 TAC §352.1241 – Post-Closure Care Requirements.

N/A