CORRESPONDENCE COVER SHEET
WASTE PERMITS DIVISION
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Date: 8/31/2021
Facility Name: Gibbons Creek Steam Electric Station
Permit or Registration No.: 32271

Nature of Correspondence:
☒ Initial/New
☐ Response/Revision*

*If Response/Revision, please provide previous TCEQ Tracking No.:
(Previous TCEQ Tracking No. can be found in the Subject line of the TCEQ's response letter to your original submittal.)

This cover sheet should accompany all correspondences submitted to the Waste Permits Division and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence being submitted. For questions regarding this form, please contact the Waste Permits Division at (512) 239-2335.

Table 1 - Municipal Solid Waste

APPLICATIONS	REPORTS and RESPONSES
☐ New Notification	☐ Closure Report
☐ New Permit (including Subchapter T)	☐ Groundwater Alternate SRC Demonstration
☐ New Registration (including Subchapter T)	☐ Groundwater Corrective Action
☐ Major Amendment	☐ Groundwater Monitoring Report
☐ Minor Amendment	☐ Groundwater Statistical Evaluation
☐ Limited Scope Major Amendment	☐ Landfill Gas Corrective Action
☐ Notice Modification	☐ Landfill Gas Monitoring
☐ Non-Notice Modification	☐ Liner Evaluation Report
☐ Transfer/Name Change Modification	☐ Soil Boring Plan
☐ Temporary Authorization	☐ Special Waste Request
☐ Voluntary Revocation	☐ Other:
☐ Subchapter T Workplan	
☐ Other:	

Table 2 - Industrial & Hazardous Waste

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

Gibbons Creek Environmental Redevelopment Group, LLC

August 31, 2021

Texas Commission for Environmental Quality
Industrial and Hazardous Waste Permits Section MC-130
PO Box 13087
Austin, Texas 78711-3087
Attn.: Brent Wade

submitted via email

RE: Post Closure Care
Gibbons Creek Reservoir – Solid Waste Registration 32271.

Dear Mr. Wade:

In accordance with 30 TAC §352.1241 and 40 C.F.R. §257.104, the owner or operator of a coal combustion residuals (CCR) unit must prepare a post closure care cost estimate. The 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 the CCR unit and continuation of certain security requirements.

As detailed in the Closure and Post-Closure Plan for the Gibbons Creek steam Electric Station dated April 9, 2021, the Gibbons Creek Environmental Redevelopment Group, LLC (GCERG) intends to close the CCR units at the facility (see gcerg-ccrule.com). Specifically, the GCERG intends to close the Scrubber Sludge Pond (SSP), Ash Ponds (APs), and Site F Landfill (SFL) consistent with the Closure and Post Closure Plan. The SSP and APs will be closed by removing the CCR material in accordance with 40 C.F.R. §257.102(c) and the SFL will be closed by leaving CCR materials in place in accordance with 40 C.F.R. §257.102(d). The closure activities are expected to be completed in 2023.

The GCERG intends to dewater the surface impoundments and then remove the CCR material. The CCR material will be hauled to the SFL for final disposal. A final cover system consisting of the following elements will be installed at the SFL consistent with 40 CFR §257.102(d)(3)(i):

- Cap Topsoil Layer: The Cap Topsoil layer will be a 6-inch thick layer of topsoil suitable for seeding and establishment of cover vegetation and support of each stage of related cap construction and maintenance equipment and materials, with a surface slope of 3% to 5% graded to drain to relief, and with a substantially continuous stand of erosion-resistant native or adapted perennial shortgrass cover vegetation in accordance with 40 CFR §257.102(d)(3)(i)(C).

- Cap Soil Fill Layer: The Cap Soil Fill layer will be an 18-inch thick layer of soil fill suitable for supporting the Cap Topsoil layer and related cap construction and maintenance equipment and materials in accordance with 40 CFR §257.102(d)(3)(i)(B).

12601 Plantside Drive
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(502) 245-1353

- Cap Barrier: The Cap Barrier will be 60-mil HDPE or 40-mil LLDPE FML supported on a 12-inch thick layer of compacted clay rich soil with a hydraulic conductivity of 1 x 10-5 cm/sec, resulting in a permeability equal to or less than the permeability of the 3-foot thick compacted clay bottom liner, with a hydraulic conductivity of 1 x 10-7 cm/sec; has a top surface slope of 3% to 5% that is graded to drain to perimeter relief; is suitable for supporting each stage of overlying cap layers and related cap construction and maintenance equipment and materials in accordance with 40 CFR §257.102(d)(3)(i)(A); and is supported by stable CCR, which is solidified if necessary, and stable compacted soil fill in accordance with 40 CFR §257.102(d)(3)(i)(D).

Since the Scrubber Sludge Pond and the Ash Ponds will be closed through the closure by removal process, in accordance with 30 TAC §352.1221 and 40 C.F.R. §257.102, these units are not subject to the post-closure criteria and a post closure cost estimate is not included with this submittal.

The Site F Landfill is the only CCR unit at the Gibbons Creek facility requiring a post closure cost estimate. This post closure cost estimate is attached and has been prepared in accordance with 30 TAC§ 352.1241 and 40 C.F.R. §257.104.

In accordance with 30 TAC §352.1101, the GCERG will submit a financial assurance mechanism acceptable to the executive director no more than 90 days after approval of this cost estimate. Please note that TMPA and now GCERG have been maintaining all EPA CCR-rule required information on a public website as required per 30 TAC § 352.1321. The information available on the public website includes location restrictions per 30 TAC § 352.601, §352.611, §352.621, §352.631, and §352.641; historical construction records per 40 CFR § 257.73; fugitive dust control plans per 30 TAC §352.801; groundwater monitoring and corrective actions per 30 TAC §352, Subchapter H; and project inspections and certifications. All CCR-rule related and required information is available through GCERG's CCR website, gcerg-ccrrule.com.

Best regards,
Gibbons Creek Environmental Redevelopment Group, LLC

Norman E. Divers, III, VP – Quality, Environment, Health & Safety
/nd

Cc: Scott Reschly, President, GCERG
Mike Dunn, VP/PM, GCERG
Dave Vogt, PE, HDR – Engineer of Record
File

Enclosure:
Engineer's Certification

Gibbons Creek Environmental Redevelopment Group, LLC

CCR POST CLOSURE CARE ESTIMATE

GCSES CCR UNIT CLOSURE PROJECT

Gibbons Creek Steam Electric Station

Anderson, Texas

August 31, 2021

1.0 INTRODUCTION

The following post closure cost estimate is for the Gibbons Creek Steam Electric Station's (GCSES) Site F Landfill (SFL). The SFL is approximately 114-acres in size and will be capped with a compacted clay liner overlain with a geomembrane, geocomposite, infiltration layer, and topsoil.

This estimate uses a combination of sources to derive its totals and each line item is described in detail below. The estimate was prepared in accordance with 30 TAC §352.1011 and follows the procedures indicated in TCEQ's Technical Guide No. 10. The GCSES is currently being decommissioned and construction of the SFL cap is scheduled to be completed in calendar year 2023.

2.0 REQUIREMENTS

Per 30 TAC §352.1011 the owner or operator shall prepare a written cost estimate in current dollars of the total cost of the 30-year post-closure care period to perform post-closure care requirements as prescribed in §352.1241. The costs estimate shall be based on the costs of hiring a third-party to conduct post-closure care maintenance.

3.0 POST CLOSURE CARE COST ESTIMATE

The analysis of likely testing, reporting, maintenance, and repairs is summarized in the following table. The annual costs to care for the Site F Landfill after closure is estimated to be $49,666.86. A 10% contingency factor is added to this annual estimate bringing the total to $54,633.55 annually.

A one-time cost to permanently close the 8 groundwater monitoring wells around the SFL is estimated to be $28,360 at the end of the 30-year post closure care period.

The total 30-year post closure care estimate, in 2021 dollars, is $1,667,366.48, including the closure of the 8 groundwater monitoring wells.

David C. Vogt, PE

P.E. License #93905
Project Manager
HDR Engineering, Inc.
17111 Preston Road, Suite 300
Dallas, TX 75248
Texas Engineering Firm No. 754

Post Closure Care Cost Estimate						
August 31, 2021						
Project Cost Categories	**Unit Price**	**Unit**	**Qty**	**Total Cost**	**Item Code**	**Source**
Semi Annual Site Inspection: (security, benchmarks, final cover)	$5,000.00	EA	2	$10,000.00		Assumes: Inspector, $125/hr, 40 hours per event
Maintenance:						
Annual Mowing (114 acres)	$0.46	M.S.F.	5009.40	$2,304.32	19304350080	RSMeans, Mowing: Tractor with 5 Gang Reel
Topsoil/Infiltration Layer Borrow Area Excavation	$2.37	CY	1226.13	$2,905.94	312316420200	RSMeans, Excavator, 1 cy capacity, 1% SFL
Topsoil/Infiltration Layer Hauling	$3.40	CY	1226.13	$4,168.85	312323200016	RSMeans, 8 cy truck, 1 mile haul, 1% SFL
Topsoil/Infiltration Layer Repair/Maintenance (8" depth)	$5.20	CY	1226.13	$6,375.89	329119130300	RSMeans, Topsoil Placement and Grading, 1% SFL
Fertilize and Reseed	$1,073.00	Acre	1.14	$1,223.22	329219132100	RSMeans, Feed and Liquid Fertilizer, 1% SFL
Fence Repair, Signs, Monuments	$9.09	LF	100	$909.00	015626500100	RSMeans, Chainlink Fence
Groundwater monitoring and analysis:						
Groundwater sample collection (8wells @ 8hrs./sampling event)	$1,000.00	EA	2	$2,000.00		Assumes: Technician, $125/hr, 8 hours per event
Groundwater sample analysis (8 wells x 4 samples/well x 2 events/yr.)	$4,889.82	LS	2	$9,779.64		2021 Actual Costs for SFL Groundwater Sample Analysi
Annual report preparation & submittal to TCEQ	$10,000.00	LS	1	$10,000.00		Assumes: Engineer, $250/hr, 40 hours
Leachate characterization sample:						
Contaminated leachate disposal-profiling				N/A		
Contaminated leachate disposal-transportation				N/A		
Contaminated leachate disposal-disposal fee				N/A		
Totals						
Subtotal				$49,666.86		
Minimum 10% Contingency				$4,966.69		
Estimated Annual PCC Cost Total				$54,633.55		
Plug and abandon monitoring wells during 30 yrs. PCC (1-time expense)	$3,545.00	EA	8	$28,360.00	331113108580	RSMeans Seal Well
30-year total				**$1,667,366.48**		

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238

Tel: (412) 963-7058
Fax: (412) 963-2468
www.testamericainc.com

January 18, 2021

David Vogt
HDR Inc
17111 Preston Road
Suite 200
Dallas, TX 75248-1232
david.vogt@hdrinc.com
Tel: (972) 960-4461

Analytical Services Proposal - **Gibbons Creek Power Plant Analysis**
Eurofins TestAmerica Quotation Number **18023442**

Dear David Vogt,

We appreciate the opportunity to provide your company with a quotation for environmental testing services to support your Coal Combustion Residuals [CCR] - Subtitle D groundwater monitoring program.

We firmly believe that Eurofins TestAmerica offers a unique combination of full service environmental testing and data delivery services to support all of the requirements of the CCR - Subtitle D program within our organization. Our support for this program includes many aspects which make the set up and execution easier for our clients:

- **35 years of Subtitle D Experience:** Each project includes a single Project Manager with in-depth knowledge of groundwater monitoring requirements and laboratory methods selection.
- **Nationwide Sampling Support:** Eurofins TestAmerica provides all required groundwater monitoring sampling supplies in addition to our extensive courier network, service centers and shipping options throughout the United States.
- **Programmatic Groundwater Monitoring Support:** Eurofins TestAmerica will work with the project team on method selection. This would include the recommendation that metals analyses be performed using ICP/MS with collision cell technology to avoid interferences from molecular ions in the groundwater samples. This interference can potentially lead to false positive results for certain metals, including Arsenic, Selenium, Chromium and Cadmium.
- **Comprehensive Laboratory Analysis:** Eurofins TestAmerica's network offers all environmental testing support for CCR Subtitle D Appendix III and IV parameters, including radiochemistry support for Radium 226 and 228.
- **Data Delivery:** All data generated by a single laboratory organization, utilizing an integrated Laboratory Information System [LIMS], offering a single report and Electronic Data Deliverable [EDD] for each sampling event. ***Eurofins TestAmerica also offers, at no cost, TotalAccess***TM, a 365/24/7 online web portal offering customizable, near-real time access to all project data. ***TotalAccess***TM also includes tools for data trending and data comparison to MCLs or project established background limits, as well as a repository for data reports, EDDs, and invoices.

Our goal is to improve compliance, consistency and lower the overall cost of ownership for clients.

The following quotation contains a detailed cost schedule, as well as any notes and clarifications pertaining to the project. Our experience and qualifications provide the value that your company needs for this project. Thank you for considering Eurofins TestAmerica.

If you have any questions or need additional information, please contact us.

Sincerely,

Brian O'Donnell
Client Relations Manager

cc: Gail Lage - Project Manager

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238

Prepared for:

David Vogt
HDR Inc
17111 Preston Road
Suite 200
Dallas, TX 75248-1232
david.vogt@hdrinc.com
Tel: (972) 960-4461

Prepared by	O'Donnell, Brian T
Date	1/18/2021
Expiration Date	4/19/2021
Est. Start Date	

Project: Gibbons Creek Power Plant Analysis *Quote Number: 18023442 - No Version*

Groundwater (Two Events **TAT: 10_Days (Business Days)**

Matrix	Method	Test Description	Quantity	Unit Price	Extended Price
Water	EPA 6020B	Metals: CCR AppIII/IV, (w/collision cell)	44	$ 65.00	$ 2,860.00
Water	EPA 7470A	Mercury (CVAA)	44	$ 25.00	$ 1,100.00
Water	EPA 9056A	Chloride, Fluoride, Sulfate	44	$ 45.00	$ 1,980.00
Water	SM 2540C	Solids, Total Dissolved (TDS)	44	$ 12.00	$ 528.00

Groundwater (Two Events **TAT: 21_Days (Business Days)** **(to be analyzed by Eurofins TestAmerica, St. Louis)**

Matrix	Method	Test Description	Quantity	Unit Price	Extended Price
Water	903.0	Radium-226	44	$ 100.00	$ 4,400.00
Water	904.0	Radium-228	44	$ 100.00	$ 4,400.00
Water	Ra226_Ra228	Combined Radium-226 and Radium-228	44	$ 0.00	$ 0.00
		Total Groundwater (Two Events			**$ 15,268.00**

Quote Other Charges

Description		Quantity	Unit Price	Extended Price
Safe and Environmentally Responsible Waste Management (per sample)		40	$ 2.50	$ 100.00
Deliverables - Level II Report		1	$ 0.00	$ 0.00
Deliverables - EDD	0.0% of Total	1	$ 0.00	$ 0.00
Minimum Total Invoice per analytical receipt (for details see T&Cs)		0	$ 150.00	$ 0.00
Total Other Charge				**$ 100.00**

Total Other Charges	**$**	**100.00**
Total Analysis Charges	**$**	**15,268.00**
Grand Total for Quote 18023442	**$**	**15,368.00**

***Quoted charges do not include sales tax. Applicable sales tax will be added to invoices where required by law.*

This estimate includes the fee for testing of a total of 8 groundwater monitoring wells around the Scrubber Sludge Pond and Ash Ponds. Removing the tests for those 8 wells, twice a year, resulted in a total cost of $9,779.64 for the remaining 8 wells around the Site F Landfill.