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July 28, 2022

Ms. Yolunda Righteous, Administrator Louisiana Department of Environmental Quality Waste Permits Division 602 N. 5th Street Baton Rouge, Louisiana 70802

RE: Cleco Power LLC - Dolet Hills Power Station

90-Day Notice of Intent to Close and Bottom Ash Ponds Closure Plan

Solid Waste Type I Surface Impoundment

Permit No. P-0037

AI# 585

Dear Ms. Righteous:

On behalf of Cleco Power LLC (Cleco), AECOM is pleased to submit this 90-Day Notice of Intent to Close the Bottom Ash Ponds at the Dolet Hills Power Station located near Mansfield, Louisiana. The updated Closure Plan is also included for review by the Louisiana Department of Environmental Quality (LDEQ). As required by the solid waste regulations, a closure schedule and estimated cost is provided in the closure plan.

Cleco intends to use a risk-based closure in accordance with LA 33:VII, Subpart 1.713.E and LAC 33:I.Chapter 13. The bottom ash ponds are also regulated under 40 CFR§257.102 and have a regulatory closure data of October 2023. All closure activities under the federal CCR Rule will be submitted under separate cover to the appropriate agency.

Cleco appreciates working with LDEQ on this project. If you have any question please contact Mr. Sam Wise at 318-484-7739 or via email at Samuel.Wise@Cleco.com.

Sincerely,

AECOM

Angela Harrigal, P.E.

Project Manager, Environment

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Attachments

cc: Samuel Wise, Manager - Waste & Water Quality, Cleco

Denise Radaich, GeoEngineers



Louisiana Department of Environmental Quality

Successful Payment.

DEQ Online Payment Receipt

AI#	Reference #	Description	Туре	Base Fee	Quantity	Line Total
585		Closure Plan Review fee - Type I, I-A, II, II-A	Product	\$1,650.00	1	\$1,650.00

Payment Totals

Sub Total: \$1,650.00 Fee: \$32.17 **Total: \$1,682.17**

Payee Information

Name: ANGELA G HARRIGAL

Email: <u>WANDA.SHELTON@AECOM.COM</u>

Transaction Information

Receipt Number: 43884 Authorization Code: N/A

Transaction Number: OPDQDKPNW4

Transaction Date: Thursday, July 28, 2022 7:17 PM

Transaction Status: pro Transaction Message: N/A

All Receipts

Louisiana Department of Environmental Quality 602 N. Fifth Street Baton Rouge, LA 70802

For issues call 1-866-896-LDEQ or e-mail our Customer Service Center .



Bottom Ash Ponds Closure Plan

(Ash Basin 1, Ash Basin 2, Secondary Pond)

Permit No. P-0037

A.I. No. 585

Dolet Hills Power Station 963 Power Plant Road Mansfield, LA 71052

Prepared for:

Cleco Power LLC A subsidiary of Cleco Corporate Holdings LLC 2030 Donahue Ferry Road Pineville, LA 71351-5000

Prepared by:

AECOM

8555 United Plaza Boulevard, Suite 300 Baton Rouge, LA 70809 (225) 922-5700

AECOM Project Number: 60639309

July 28, 2022

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1. Introduction

Cleco has announced cessation of all coal-fired operations at the Dolet Hills Power Station (Dolet Hills) located near Mansfield, Louisiana (**Figure 1**). Dolet Hills ceased operation on December 31, 2021. The facility will be decommissioned and some or all of the onsite structures will be demolished and the regulated and permitted entities closed and permits terminated.

Ash Basin No. 1, Ash Basin No. 2 and the Secondary Pond are commonly referred to collectively as the bottom ash ponds and are permitted under Al# 585/GD-031-1551/P-0037 (**Figure 2**). This Closure Plan has been prepared by Cleco for submittal to the Louisiana Department of Environmental Quality (LDEQ) for the clean closure of the above referenced Type 1 surface impoundments.

The bottom ash ponds were first permitted in 1985, updated in 1994 and 2007 by Mandatory Modifications as required by updated regulations and the revised permit was approved in 2010 and set to expire in December 2025. Primary inflow to the ash basins was bottom-ash laden sluice water from the ash handling system. Other inflows include sanitary sewage treatment plant effluent and water purification plant effluent. Solids collected in the ash basins consisted of settled ash particles. The solids are periodically dewatered, removed from the basins and either placed in the onsite landfill or transported offsite as a beneficial use material. The primary inflow into the Secondary Pond is overflow water from the two ash basins.

1.1 Closure Approach

Cleco is proposing a clean closure for the bottom ash ponds. This Closure Plan meets both the state and federal closure requirements, provides the objective of the closure approach and describes the clean closure.

- Close all three surface impoundments consistent with the requirements of LAC 33:VII.713.E;
- Meet the requirements of 40 CFR §257.102; and
- Use the Risk Evaluation/Corrective Action Program (RECAP) screening standards to confirm that the soils underlying the three surface impoundments are below the industrial and groundwater standards.

Standing water will be pumped from both ash basins into the secondary pond and then to Outfall 002 in accordance with Louisiana Pollution Discharge Elimination System (LPDES) Permit No. LA0062600. Ash material will be dewatered, excavated and transported to the onsite landfill or transported offsite as a beneficial use material. The underlying bottom soils will be sampled and compared to the RECAP soil screening standards. The existing levees/dikes will be used to grade the areas to drain. Additional closure activities are discussed in Section 4.

2. Site Description

2.1 Ash Basin No. 1

Ash Basin No. 1 is a Type 1 solid waste surface impoundment that is regulated under the final version of the federal Coal Combustion Residual Rule (CCR Rule) promulgated April 17, 2015. The closure plan requirements of 40 CFR §257.102 are in addition to and not in place of any state permits or requirements. Ash Basin No. 1 overflows into the secondary pond and was constructed by following the natural topography and building a single shared berm to form a cross-valley configuration. An intermediate berm was constructed to separate Ash Basin No. 1 from the secondary pond. The top of the dike for Ash Basin No. 1 is at elevation 256-feet and the maximum water level requires 2-feet of freeboard. A weir box and auxiliary spillway control the low-level flow into the secondary pond. The ash basin was constructed with an in-situ and/or recompacted clay liner with a permeability no greater than 1x10⁻⁷ cm/sec.

Ash Basin No. 1 is a 25.5-acre pond with an estimated maximum inventory of material that could be stored over the active life of the unit of 650,000 cubic yards. This is the largest area that could require closure. The amount of material within Ash Basin No. 1 at this time is estimated to be 235,000 cubic yards. A clean closure is proposed for Ash Basin No. 1.

2.2 Ash Basin No. 2

Ash Basin No. 2 is a Type 1 solid waste surface impoundment that is also regulated under the final version of the federal Coal Combustion Residual Rule (CCR Rule) promulgated April 17, 2015. The closure plan requirements of 40 CFR §257.102 are in addition to and not in place of any state permits or requirements. Ash Basin No. 2 overflows into the secondary pond and was constructed by following the natural topography and building a single shared berm to form a cross-valley configuration. An intermediate berm was constructed to separate Ash Basin No. 2 from the secondary pond. The top of the dike for Ash Basin No. 2 is at elevation 246-feet and the maximum water level requires 2-feet of freeboard. A weir box and auxiliary spillway control the low-level flow into the secondary pond. The ash basin was constructed with an in-situ and/or recompacted clay liner with a permeability no greater than 1x10⁻⁷ cm/sec.

Ash Basin No. 2 is a 26-acre impoundment with an estimated maximum inventory of material that could be stored over the active life of the unit of 680,000 cubic yards. This is the largest area that could require closure. The amount of material within Ash Basin No. 2 at this time is estimated to be 200,000 cubic yards. A clean closure is proposed for Ash Basin No. 2.

2.3 Secondary Pond

The secondary pond is a Type 1 solid waste surface impoundment regulated under LAC 33.VII.713.E. Ash Basin Nos. 1 and 2 overflow into the secondary pond via a weir box and auxiliary spillway. This pond has a pipe spillway that discharges to LPDES Outfall 002 and can also be pumped. The top of dike elevation ranges from elevation 256 to 246-feet.

The secondary pond is a 5-acre surface impoundment that was constructed by excavating below surface grade and constructing the earthen dikes above grade. The dike backfill and interior slide slopes were constructed with cohesive soils with a permeability no greater than

1x10⁻⁷ cm/sec and compacted to a minimum 90% modified Proctor maximum dry density (ASTM D1557). The secondary pond only contains overflow water from the ash basins with minimal solids. A clean closure is proposed for the secondary pond.

3. Waste Characterization

The ash basins are used for the disposal of non-hazardous bottom ash and economizer ash generated onsite. The impoundments do not receive waste from any offsite source and is strictly prohibited by the normal operating procedures. The primary inflow to the impoundments is bottom-ash-laden sluice water from the ash handling system. The primary solid waste collected in the impoundments is settled ash particles, the two types of ash are described below:

- Bottom ash is the ash residue from the burning of lignite in the plant's main boiler. This ash falls to the bottom of the boiler furnace and is collected in the 'bottom ash hopper'.
- Economizer ash is the residual ash which is carried out of the top of the main boiler furnace by the boiler exhaust flue gas flow. This ash falls out of the flue gas stream as the gas passes over the economizer section of the main boiler. The ash is collected in hoppers and removed by the 'economizer ash system'.
- The secondary pond receives decanted water from both ash basins.

The other inputs into the ash basins include water purification flush effluent from the chemical sump and treated effluent from the plant's sanitary sewage treatment system.

The main constituents of the bottom ash are metals and the following elements, which may be present as oxides silicon, aluminum, iron, calcium, potassium and magnesium. The estimated quantity of bottom and economizer ash placed into Ash Basins 1 and 2 are 6,940 tons per week.

The chemical sump collects flows from the water purification flush effluent streams, water purification and pretreatment area floor drains and the pretreatment system clarifier blowdowns. The estimated annual quantity received by the ash basins is 43 gallon per minutes with a minimal amount of solids (50 milligrams/liter).

Treated effluent from the plant's sanitary sewage treatment system is discharged to the secondary pond at about 0.07 gallons per minute for a yearly average of 30 gallons per minute.

All other materials and/or wastes are prohibited from entering the ash basins or secondary pond.

4. Closure Requirements

4.1 Notification Requirements

Cleco notified LDEQ in a letter dated October 27, 2021 (Notification of Intent to Close Solid Waste Type I Landfill and Surface Impoundment Permit Nos. P-0037M3, P-0038M2, P-0039M2, P-0040M2 and P-0041M2) for intending closures at the Dolet Hills Power Station and with this

closure plan is also providing a 90 day closure notification for the Bottom Ash Ponds. It is expected that the closure activities will begin in October 2022.

4.2 Closure Activities

The two ash basins and the secondary pond will be clean closed, and the closure activities will be conducted in accordance with this approved closure plan and LDEQ regulatory requirements.

The general closure procedures will include:

- Pumping off free water;
- Dewatering ash, this may include stacking, moving or mixing with stabilizing reagents;
- Moving dewatered ash to the onsite landfill or transporting offsite for beneficial use;
- Removing piping, pumps, catwalks and other physical features;
- Collecting soil confirmation samples from the bottom and sidewalls of the permitted impoundments; and
- Grading existing berms, levee and dikes to drain and vegetating for erosion control.

4.2.1 Pumping of Free Liquids

Water and free liquids within the impoundments will be pumped and/or drained to the existing LPDES outfall in accordance with the existing permit requirements. Sumps or low areas may be created to facilitate removing of liquids. Water management and pumping will continue throughout the dewatering of ash material.

4.2.2 Dewatering Solids

The ash solids will be dewatered using methods such as stacking, moving, discing and/or methods such as well points, wick drains, mixing with soils or reagents or other means determined by the Contractor. The dewatered ash will be moved and placed in the onsite landfill or if suitable will be transported offsite for beneficial use.

4.2.3 Removing Piping, Pumps and Other Structural Equipment

Piping, pumps, weirs, spillways, sluice piping and support systems will be demolished and removed from the ash basins and the secondary pond. Equipment will be de-energized, disconnected and removed and segregated for either recycling or disposal. Equipment that has salvage will be transported offsite as appropriate. Materials removed that are designated as non-regulated waste will be placed in an onsite borrow area. Cleco is expecting that this waste may include:

- brick;
- stone:
- · reinforced and unreinforced concrete; and
- asphaltic roadbeds.

No putrescible waste, food waste, asbestos containing material, or liquids will be included in these materials.

Concrete pedestals below grade will be left in place and covered. Any above ground concrete will be crushed and spread in the basins or pond and covered.

4.2.4 Soil Confirmation Samples

After the ash is removed, the underlying soils will be inspected. If staining or discoloration is observed some surficial excavation of these soils may occur. The excavated soil will be transported to the onsite solid waste landfill for disposal. To meet the requirements of LAC 33:I.Chapter 13, post-excavation constituents of concern in groundwater and bottom and side wall soil samples will be less than or equal to RECAP screening standards. At least five days prior to sampling, the LDEQ Office of Environmental Services will be notified.

A soil confirmation sampling grid will be laid out over each of the ash basins and the secondary pond and soil samples will be collected from the bottom and sidewalls of each impoundment (**Figure 3**). Based on the waste characterization and site knowledge, metals specifically barium, cobalt, copper, nickel vanadium and zine are the constituent of concern. Soil samples will be collected and analyzed for these metals on the RECAP list. The analytical results will be compared to the RECAP soil screening standards for soils protective of industrial land use (Soil_SS_i) and LDEQ will be notified of the results.

The ash basins are irregular in shape and conform to the site's native contours. Therefore, the sampling grid will also be irregular shaped and will include both bottom and sidewall samples as shown on **Figure 3**. Ash Basin No. 1 is divided into 12 grids and 11 bottom samples and eight sidewall samples will be collected. Ash Basin No. 2 is divided into 12 grids and 12 bottom samples and eight sidewall samples will be collected.

The secondary pond is rectangular in shape and will be divided into six grids, each about 150 feet by 200 ft (**Figure 3**). Six bottom soil samples and five sidewall soil sample will be collected.

All sample collection and preparation will follow standard procedures, such as Chain-of-Custody documentation, sample preservation, storage and shipment. The metals will be analyzed using EPA SW-846 Methods 6010B. Quality assurance/quality control (QA/QC) samples will be collected and handled in the same manner as the confirmation soil samples. All procedures will be in accordance with RECAP requirements. The analytical results and RECAP comparison will be included in the Closure Certification Report.

4.2.5 Groundwater Sampling

As requested by LDEQ, groundwater samples will be collected below the bottom of the bottom ash ponds. Three locations are proposed in each of the three ponds where after removal of solids and any nominal soil as required, a temporary well will be installed (**Figure 3**). The temporary well will be a 1-inch diameter well with pre-packed screen installed by a licensed driller. The temporary well will be developed, allowed to re-charge and purged prior to collecting groundwater samples. Standard groundwater quality parameters such as temperature, pH, specific conductance and alkalinity will be collected in addition to the regular groundwater constituents that include:

- Barium;
- Cobalt;
- Copper;
- Nickel;
- Vanadium; and
- Zinc.

Groundwater samples will be collected and analyzed for these metals on the RECAP list. The analytical results will be compared to the RECAP screening standards for groundwater (GW_SS) and LDEQ will be notified of the results.

All sample collection and preparation will follow standard procedures, such as Chain-of-Custody documentation, sample preservation, storage and shipment. The metals will be analyzed using EPA SW-846 Methods 6020B. Quality assurance/quality control (QA/QC) samples will be collected and handled in the same manner as the groundwater confirmation sample. All procedures will be in accordance with RECAP requirements. The analytical results and RECAP comparison will be included in the Closure Certification Report.

4.2.6 Grading and Hydroseeding

The existing levees and dikes surrounding the ash basins and secondary pond will be cut and graded to match the existing drainage to the west. Proposed grading plans for the secondary pond (Figure 4), and ash basins 1 and 2 are shown on Figures 5 and 6. The grading will be completed to eliminate standing water within the footprint of each impoundment and to eliminate or minimize imported fill material. The western side levees and road will be cut to drain and provide sheet flow into the existing ditch and drain north offsite. The area will be hydroseeded with a grass mixture that combines at least two seed type mixtures appropriate for the time of year. The seed will be uniformly sprayed over the area at rates specified in the table below:

Seed Mixture	Pounds/Acre	Planting Dates	Establishment Period
Hulled Bermuda	300	Mar. – Sep.	Mar. – Dec.
Hulled Bermuda Crimson Clover	20 25	Feb. – Mar.	Feb. – Jun.
Kentucky 31 Fescue Unhulled Bermuda	25 20	Sep. – Feb.	Sep. – May
Unhulled Bermuda Crimson Clover	20 40	Sep. – Feb.	Sep. – May
Ball Clover Unhulled Bermuda	25 20	Feb. – Mar.	Feb. – Jun.
Vetch (Common) Unhulled Bermuda	40 20	Sep. – Oct.	Sep. – Jan.
Annual Rye	30	Sep. – Jan.	Sep. – Apr.

Erosion control materials such as mats, blankets or rip-rap will be placed as required.

4.3 LDEQ Inspection

The Office of Environmental Services will be notified at least five days prior to the soil confirmation samples being collected and Cleco will request a closure inspection before grading levee soils or any other backfill takes place.

4.4 Financial Requirements

The estimated closure cost for the clean closure of Ash Basins 1 and 2 and the secondary pond is \$13.9M and is shown on **Table 1**. The permitted solid waste impoundments will be closed in accordance with LAC 33.VII.713.E.3.b and LAC 33.I.Chapter 13 and therefore, after approval Subsection F Facility Post-Closure Requirements shall not apply. The estimated cost provided do not include post-closure care costs. After approval of the closure, Cleco will request the groundwater monitoring associated with the ash basins and secondary pond be discontinued and monitor wells plugged and abandoned.

4.5 Waste Inventory

The maximum solid waste volume that could be contained in the two ash basins is estimated to be 851,800 cubic yards. The secondary pond contains minimal solids and the volume of water storage at the normal operating level is 22.8 million gallons. All water will be removed and discharged prior to closure and all solids will be dewater and removed prior to closure.

4.6 Closure Schedule

A detailed schedule will be submitted to LDEQ prior to implementing the work. The estimated schedule for the ash basins and secondary pond is shown below. Closure activities are expected to begin in October 2022.

Closure Activity	Estimated Duration (Days)		
Notice of Intent to Close	0		
Pumping of Free Water	45		
Dewatering Solids/Transport Ash	60		
Removing Pipes, Pumps and Other Structural Equipment	30		
Collecting Soil Confirmation Samples	5		
LDEQ Inspection	5		
Grading and Hydroseeding	65		
Clean-up/Demobilization	10		
Total Estimated Days to Complete Closure	220		
Submittal of Closure Certification Report	30 days following completion		

4.7 Notice of Disposal of Solid Waste

A Notice of Disposal of Solid Waste is not required for units that are clean closed. Therefore, no notice will be filed with the parish.

4.8 Post-Closure Care and Maintenance

The ash basin and secondary pond will be clean-closed and will not require post-closure care or monitoring. Cleco will send a request to LDEQ to plug and abandon the monitor wells associated with this permitted solid waste unit.

5. Construction Quality Assurance

Construction plans, specifications and a quality assurance/quality control (QA/QC) plan will be developed prior to closure. The QA/QC plan will focus on collection of confirmation soil samples in accordance with standard procedures, collecting the proper documentation to provide assurance the work was done correctly (grades match onsite drainage and areas do not hold water), materials were disposed of as stated in the closure plan and collect documentation to determine the proper seed mixtures and erosion control methods and procedures were implemented during the work.

6. Certification of Closure

A Certification of Closure Report will be prepared and submitted to the LDEQ Office of Environmental Services within 30 days of completion of closure. The certification will be signed by Cleco and an independent registered professional engineer who will certify that the solid waste unit was closed in accordance with the approved closure plan.

7. Professional Engineer Certification

Engineering Certification for Cleco Dolet Hills Power Station A.I. No. 585

I hereby certify, as a Professional Engineer in the State of Louisiana, that the information in this document was assembled under my direct personal charge, and I have personally examined and I am familiar with the information submitted in this closure plan. This closure plan meets the requirements of LAC 33: VII. 33:VII.713.E and 40 CFR §257.102. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment. This report is not intended or represented to be suitable for reuse by the Cleco Corporation or others without specific verification or adaptation by the Engineer.



Date: July 28, 2022 Registration No.: 46684 State: Louisiana

Tables

Prepared for: Cleco Power LLC Prepared by: AECOM

TABLE 1

SOLID WASTE SURFACE IMPOUNDMENT CLOSURE COST ESTIMATE CLECO POWER STATION DOLET HILLS MANSFIELD, LOUISIANA

Surface Impoundments Closure Costs					
Activity	Units	Unit Description	Unit Cost	Total	
Engineering Costs					
Oversight	220	Days	\$2,000	\$440,000	
Certification Testing (analytical laboratory)	60	Each	\$380	\$22,800	
Closure Certification Report	1	Lump Sum	\$50,000	\$50,000	
Subtotal Engineering:					\$512,800
Closure Construction Costs					
Mobilization/Demobilization	1	Lump Sum	\$25,000	\$25,000	
Dewater Ponds (pump free water)	2	Month	\$6,000	\$9,000	
Remove/Demolish/piping/structures	1	Lump Sum	\$350,000	\$350,000	
Dewater Ash & Transport Ash to Onsite Landfill	457,000	Cubic Yards	\$20	\$9,140,000	
Cut and Grade Existing Levees/Dikes	217,000	Cubic Yards	\$10	\$2,170,000	
Place and Grade Soil Growing Layer (6-inches)	45,980	Cubic Yards	\$35	\$1,609,300	
Hydroseed & Erosion Protection	57	Acres	\$2,000	\$114,000	
Plug and Abandon Monitor Wells	11	Each	\$3,000	\$33,000	
	\$13,450,300				
Total Estimated Surface Impoundment Closure Costs:					\$13,963,100

Figures

Prepared for: Cleco Power LLC Prepared by: AECOM











