

DTE ELECTRIC COMPANY

# FLY ASH BASIN POST- CLOSURE PLAN

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MONROE POWER PLANT

PROJECT NO. 151630

REVISION 1

OCTOBER 6, 2023

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## List of Abbreviations

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Abbreviation	Term/Phrase/Name
Burns & McDonnell	Burns & McDonnell Michigan, Inc.
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
DTE	DTE Electric Company
EPA	Environmental Protection Agency
Monroe	Monroe Power Plant
RCRA	Resource Conservation and Recovery Act
U.S.C.	United States Code
VEL	Vertical Extension Landfill

# Index and Certification

**DTE Electric Company**  
**Fly Ash Basin Post-Closure Plan**  
**Project No. 151630**

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## Certification

I hereby certify, as a Professional Engineer in the state of Michigan, that the information in this document was assembled under my direct personal charge and meets the requirements of 40 CFR §257.104. This report is not intended or represented to be suitable for reuse by the DTE Electric Company or others without specific verification or adaptation by the Engineer.

*Allyson Myers*

Allyson Myers, P.E.  
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Date: October 5, 2023



10/05/2023

# 1.0 Introduction

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On April 17, 2015, the Environmental Protection Agency (EPA) issued the final version of the federal Coal Combustion Residual Rule (CCR Rule) to regulate the disposal of coal combustion residual (CCR) materials generated at coal-fired units. The rule is administered as part of the Resource Conservation and Recovery Act (RCRA, 42 United States Code [U.S.C.] §6901 et seq.), under Subtitle D.

DTE Electric Company (DTE) is subject to the CCR Rule. As such, DTE must develop a Post Closure Plan for the CCR surface impoundment at Monroe Power Plant (Monroe) per 40 Code of Federal Regulations (CFR) §257.102. This document serves as DTE's updated Post Closure Plan for the Monroe Fly Ash Basin, also referred to as the Fly Ash Impoundment.

The Post-Closure Plan must contain the following as required in §257.104(d)(1):

- A description of post-closure care maintenance activities (and frequency of these activities) including the following:
  - Maintaining the integrity and effectiveness of the final cover system (if capped in place), including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover.
  - Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of §257.90 through §257.98.
- The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period.
- A description of the planned uses of the property during the post-closure period.
  - Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring system unless necessary to comply with §257.104 or if the owner or operator of the CCR unit demonstrates that the disturbance (including any removal of CCR) will not increase the potential threat to human health or the environment.

This sealed document serves as certification that the initial post-closure plan meets the requirements of §257.104 of the CCR Rule.

The FAB is being closed as a Type III landfill under Michigan Public Act 451, Part 115 Rules, §324.11506(12). Per §324.11517, post-closure care shall consist of, at minimum, all the following:

- Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or

other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover.

- Maintaining and operating the leachate collection system, if any. The department may waive the requirements of this subdivision if the owner or operator demonstrates that leachate no longer poses a threat to the environment, natural resources, or the public health, safety, or welfare.
- Monitoring the groundwater and maintaining the groundwater monitoring system, if any.
- Maintaining and operating the gas monitoring and collection system, if any.

This document includes a discussion of these items as they pertain to closure of the FAB.

## 2.0 Details of Post-Closure

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DTE owns and operates Monroe Power Plant, a four-unit, 3,300-megawatt coal-fired facility located in Monroe, Michigan. Monroe has one active CCR surface impoundment, known as the Fly Ash Basin (FAB), and one active CCR landfill known as the Vertical Extension Landfill (VEL). As detailed in the Closure Plan, the FAB will be closed by leaving CCR in place.

### 2.1 Post-Closure Compliance

Post-closure maintenance shall be as described in §257.104(b) of the CCR Rule. The requirements consist of the following:

- Maintaining the integrity and effectiveness of the final cover system (where CCR is capped in place), including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover.
- Maintaining the groundwater monitoring system.

Per §324.11517 of the Part 115 Rules, post-closure care shall consist of the following:

- Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover.
- Maintaining and operating the leachate collection system, if any. The department may waive the requirements of this subdivision if the owner or operator demonstrates that leachate no longer poses a threat to the environment, natural resources, or the public health, safety, or welfare.
- Monitoring the groundwater and maintaining the groundwater monitoring system, if any.
- Maintaining and operating the gas monitoring and collection system, if any.

DTE will achieve compliance with the above requirements through final cover inspection, maintenance, and monitoring at the FAB, which will be conducted for a period of 30 years from completion of the closure of the FAB. Inspection and maintenance activities will be monitored at a minimum of once a year throughout the post-closure care period. Inspection activities are discussed further in Section 2.1.2. There is no leachate collection system at the FAB. To support closure of the FAB, incoming flows to the impoundment will be ceased, the impoundment will be unwatered, and CCR material will be dewatered to eliminate potential leachate sources. The groundwater monitoring system will be maintained and monitored during the post-closure period as discussed further in 2.1.1. A gas monitoring and collection system does not exist at the FAB and as such will not need to be maintained.

#### 2.1.1 Groundwater Monitoring

DTE will conduct semi-annual sampling of the FAB groundwater monitoring network per §257.90 through §257.98 of the CCR Rule for the entire 30 years of post-closure care. Sampling for compliance with the CCR Rule will be performed according to the CCR

*Groundwater Monitoring and Quality Assurance Project Plan - DTE Electric Company Monroe Power Plant Coal Combustion Residual Fly Ash Basin (QAPP)* (TRC, August 2016; revised March 2017) and statistically evaluated per the *Groundwater Statistical Evaluation Plan - Monroe Power Plant Coal Combustion Residual Fly Ash Basin (Stats Plan)* (TRC, October 2017). Should any of the sampling activities cause DTE to enter an Assessment Monitoring Program (§257.95) at the end of the 30-year post-closure care period, per §257.104(c)(2) of the CCR Rule, DTE must continue monitoring the groundwater until DTE is able to return to the Detection Monitoring Program (§257.94).

Additionally, DTE will conduct post-closure monitoring in accordance with the approved *Hydrogeological Monitoring Plan for the DTE Electric Company Monroe Power Plant Fly Ash Basin and Vertical Extension Landfill, 7955 Dunbar Road, Monroe, Michigan* (MONPP FAB & VEL HMP) (TRC, November 4, 2019; Revised November 27, 2019) in accordance with the Part 115 rules.

### **2.1.2 Site Inspections**

Site inspections shall be performed annually, at a minimum, by a professional engineer in the State of Michigan, during the post-closure care period to fulfill the requirements of §257.104 (b)(1) and §257.104 (b)(2) of the CCR Rule. Maintenance of the final cover will include making repairs to the final cover system as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover. As noted in the Closure Plan, the FAB will be capped with ClosureTurf®. The ClosureTurf® system consists of a 50-mil LLDPE structured geomembrane, engineered turf (i.e., woven geotextile fabric with HDPE grass blades), and ½-inch of sand infill. For this system specifically, the inspector will visually scan the area for conditions including displacement of the final cover materials, erosion of the sand infill layer and/or exposure of the geotextile component of the engineered turf system, seepage, debris, settlement (or depressions), or signs of vandalism. If and when the above conditions are identified, the inspector will make further evaluation of the area to determine the limits and potential causes. The inspector will then notify the post-closure contact so the appropriate maintenance and/or repair activities can be performed as required. It is anticipated that repairs will typically consist of replacing sand infill material. Any damage to the underlying engineered turf or geomembrane will be repaired in accordance with the CQA Plan.

During the post-closure groundwater monitoring activities, the groundwater monitoring wells will be inspected to confirm that they are structurally intact and appear to be in good working condition. To verify these requirements are being met, DTE will continue annual site inspections through the entirety of the post-closure care period.

## **2.2 Post-Closure Contact**

DTE shall designate and list a contact person during the post-closure care period per §257.104 (d)(ii). The individual listed in the table below will be DTE's designated contact person for post-closure care at the FAB.



<b>Name</b>	Chris Scieszka, Environmental Engineer, Environmental Management and Safety
<b>Affiliation</b>	DTE Environmental Management and Safety
<b>Address</b>	One Energy Plaza, Detroit, MI 48226
<b>Phone No.</b>	(313) 235-0153
<b>Email</b>	<a href="mailto:christopher.scieszka@dteenergy.com">christopher.scieszka@dteenergy.com</a>

## 2.3 Property Use during Post-Closure Care Period

The FAB will be maintained as described in Section 2.1.2 and would therefore only be accessed during inspection, maintenance, and groundwater monitoring activities. Should the use of the site be modified in the future, this post closure plan would be amended pursuant to 40 CFR 257.104(d)(3).

## 2.4 Completion of Post-Closure Care

No later than 60 days following the completion of the post-closure care period, DTE will prepare a notification verifying that post-closure care has been completed and will place the notification in the facility's CCR Operating Record. The notification must include certification, by a qualified professional engineer in the State of Michigan, that post-closure care has been completed in accordance with the written Closure Plan that is in effect, as well as the requirements of §257.104.

## 3.0 Revisions and Amendments

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The initial Monroe FAB and VEL Post-Closure Plans were placed in the CCR Operating Record in October 2016. This update replaces the FAB Post-Closure Plan. The VEL is being closed by removal and therefore will not require a post-closure plan.

The Post-Closure Plan must be amended whenever there is a change in operation of the CCR unit that affects the current or planned post-closure activities. The Post-Closure Plan must be amended 60 days prior to a planned change in operation, or within 60 days following an unplanned change in operation. If a written Post-Closure Plan is revised after post-closure activities have commenced, it must be amended no later than 30 days following the triggering event. The initial Post-Closure Plan and any amendments must be certified by a qualified professional engineer in the State of Michigan as meeting the requirements of §257.104 of the CCR Rule. All amendments and revisions must be placed on the CCR public website following placement in the facility's CCR Operating Record. A record of revisions made to this document is included in Section 4.0 of this document.

