Modernizing the Merom Coal-Fired Power Station

Effluent Limitation Guideline Modernization Project

Hallador Power Company, LLC · Merom Generating Station · Sullivan County, Indiana

U.S. Department of Energy Award DE-FE0032777

Stabilize and Optimize Coal Power: Program Portfolio Kick-off Meeting
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Hallador Power

Blake Cutrell, PE — Chief of Staff, Hallador Power Company

Project Overview

LOCATION

Merom Generating Station — Sullivan County, Indiana

GOAL

Modernize plant water management to achieve zero liquid discharge and meet Effluent Limitation Guidelines, while keeping the units reliable and dispatchable

PERFORMANCE PERIOD

September 1, 2026 – December 31, 2028

STRUCTURE

35 Technical Objectives across three phases

KEY PROJECT PARTICIPANTS

Hallador Power Company
Recipient; owner and operator

CAMS
Contract operations and maintenance

AECOM
Bottom ash and FGD engineering

SCS Engineers
Deep well and pretreatment design

Energy Systems Network
Program coordination

FUNDING SUMMARY

Federal share (DOE)	**$27,200,000**
Cost share	**Exceeds 50 / 50 match**

INTENDED IMPACT

- Modernizes a 1,080 MW baseload asset
- Avoids a standalone treatment plant
- Supports 171 full-time jobs
- Protects local water resources

Awarded under BAA DE-FOA-0003605, Topic Area 2 — Rural Capacity and Energy Affordability, using Defense Production Act Title III funds.

Plant Background and the Three Water Sources

UNITS

Two coal-fired units, in service 1982

CAPACITY

1,080 MW nameplate

COAL

Indiana bituminous, from company-owned mines

OWNERSHIP

Built by Hoosier Energy; acquired by Hallador in 2022

CONTROLS

Wet limestone FGD, upgraded 2012

All three streams are regulated. Bottom ash and FGD water reach zero discharge through reuse; leachate and any excess from the other two are pretreated and injected.

Project Scope and Technical Approach

Three phases, sequenced so the measured result of each one sizes the next

1

PHASE 1

Bottom Ash System Upgrades

6 Technical Objectives · 2026–2027

- Convert FGD and bottom ash pumps to flush-less seals
- Thickener rehabilitation and pump conversion
- Vacuum filter and material handling upgrades
- Bottom ash control system modernization
- New flow metering for a measured water balance

Outcome: a measured baseline and far less fresh water added.

2

PHASE 2

FGD and Advanced Water Management

19 Technical Objectives · 2026–2028

- 650,000-gallon surge tank for water storage (FGD and BA)
- Send bottom ash water to the FGD system for reuse
- Scrubber hold-tank transfer and overflow extensions
- Advanced controls for water quality, flow and level

Outcome: zero discharge of bottom ash and FGD water through internal reuse.

3

PHASE 3

Deep Well Injection and Pretreatment

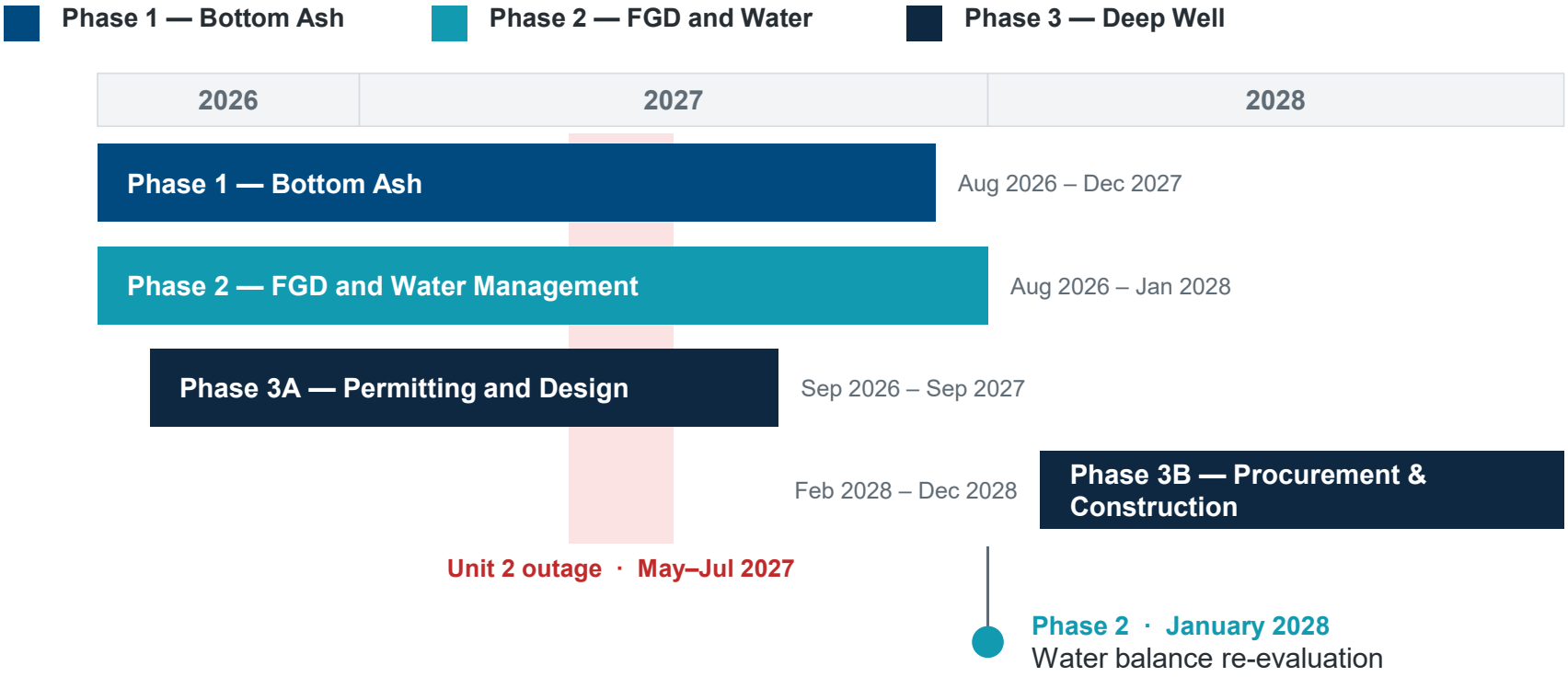
10 Technical Objectives · 2026–2028

- 3A — Class I permit application and design
- 3B — procurement, drilling, construction, commissioning
- Class I non-hazardous well, roughly 9,000 ft deep
- Pretreatment prevents scaling in the well and plugging the formation

Outcome: a durable disposal path for the water that reuse cannot eliminate.

Execution Plan and Schedule

Performance period September 1, 2026 – December 31, 2028



Outage strategy: nearly all work is done with both units online. Phase 2 tie-ins need one planned Unit 2 outage, May 1 – July 1, 2027.

Performance Metrics and Risk Management

SUCCESS METRICS

Zero
liquid discharge of bottom ash and FGD water by the end of the project

35 of 35
Technical Objectives accepted by DOE (Phase 3 contingent on the water balance)

Dec 2028
all construction complete

HIGHEST-PRIORITY RISKS

Risk	Likely	Impact	Mitigation
Changing ELG Rules	Med	High	Design to the plant's discharge permit; scope is re-checked at the 2028 water balance before Phase 3 is built
BA & FGD Water reuse may not eliminate discharge entirely	Med	High	A measured plant water balance after Phases 1 and 2 sets the size of Phase 3
Leachate can scale and plug an injection well	Med	High	Laboratory and pilot testing of the water before the design is advanced
Supply chain and long-lead procurement delays	Med	High	Long-lead equipment ordered well ahead of the construction
Deep Well Permit typically takes a year	High	Med	Permit application filed early so permitting and design run in parallel
Phase 3 cost is still an early-stage estimate	Med	Med	Re-estimated with vendor pricing as the design matures

Acknowledgment and Disclaimer

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Blake Cutrell, PE
Chief of Staff, Hallador Power Company, LLC · BCutrell@halladorenergy.com