



East Kentucky Power Cooperative

Coal Recommissioning and Modernization Project (Award Number DE-FE0032778)

Department of Energy – Restoring Reliability: Coal Recommissioning and Modernization

Notice of Funding Opportunity Number: DE-FOA-0003605

Topic Area 2: Rural Capacity and Energy Affordability Coal Projects



A Touchstone Energy Cooperative 

Project Overview

The goal of the project is to modernize coal-fired units using dual-fuel co-firing technology to enhance the reliability and affordability of EKPC’s baseload generation assets, directly supporting rural communities across Kentucky.

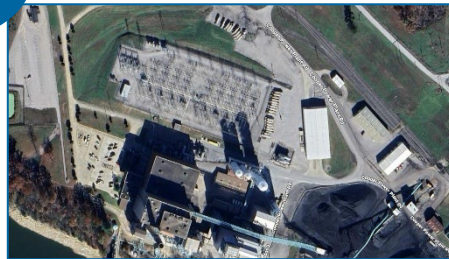
Project Summary



Project Scope: Installation of dual-fuel burners, fuel-handling modifications, and advanced control-system integration, enabling co-fire capabilities to extend the useful life of its coal-fired generation facilities while reducing costs and improving reliability for its members

Project Components:

1. Cooper Unit 1 Major Maintenance
2. Cooper Unit 2 Co-Fire
3. Spurlock Units 1-4 Co-Fire



**Cooper Station
Burnside, KY**



**Spurlock Station
Maysville, KY**

Application Details



- **Topic Area 2:** Rural Capacity and Energy Affordability Coal Projects
- **Total Project Costs:** **\$287.9 M**
 - Federal Cost Share \$90.6 M (31.5%)
 - Recipient Cost Share \$197.3 M (68.5%)
- **Period of Performance:** ~48 months
- **Agreement Executed:** September 2026

Project Overview (Cont'd)

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Key Personnel



Brad Young, Program Manager

- Vice President, Engineering & Construction

Jerry Purvis, Environmental Lead

- Sr. Vice President, Environmental Affairs

Anthony Skeese, Project Manager

- Senior Engineer, Project Manager

Matt Clark, Project Manager

- Director, Construction & Capital Management

Mark Horn, Fuel & Emissions Lead

- Director, Fuel & Emissions

Co-Fire Goals



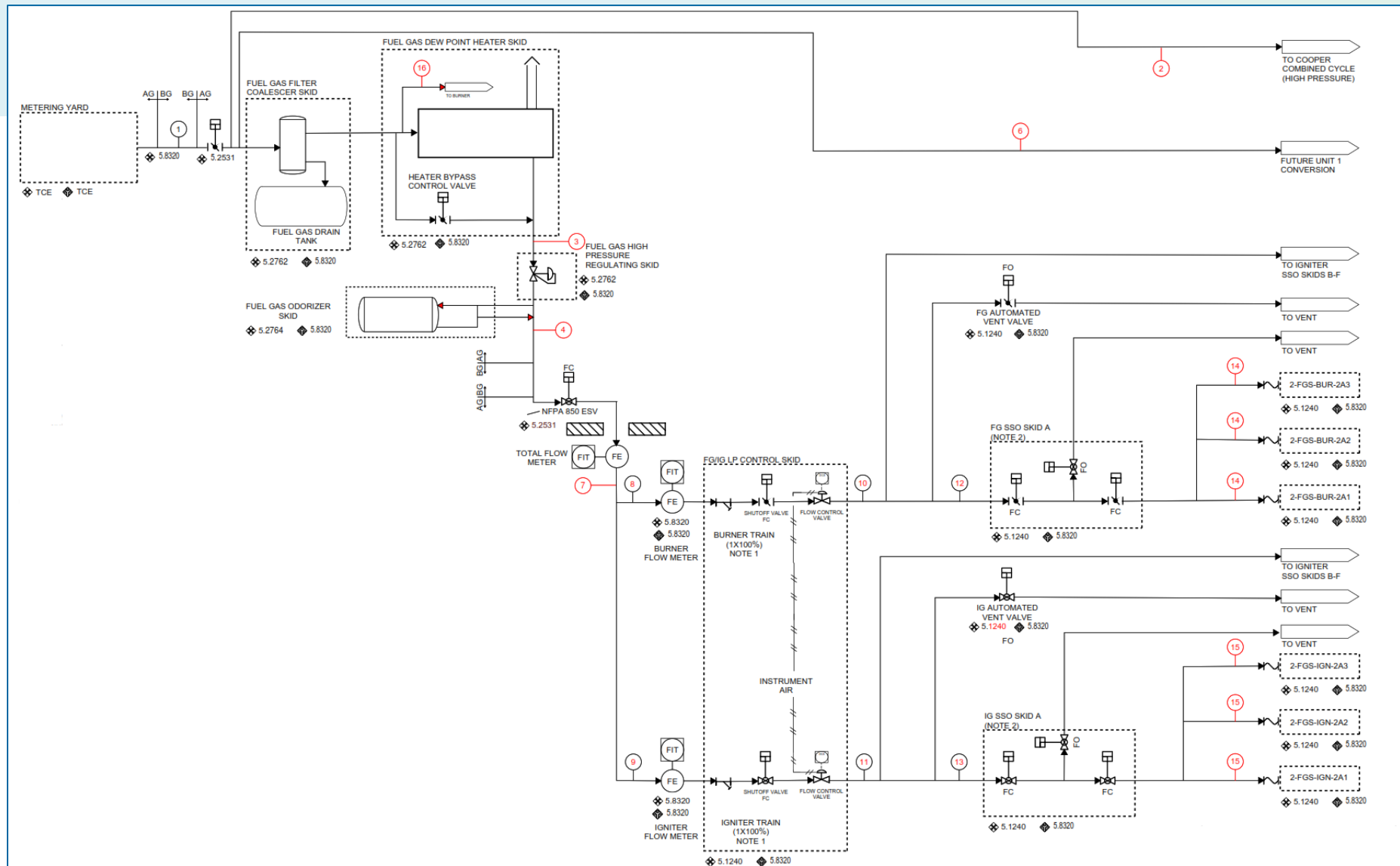
- **Fuel Conversion Systems** – Installation of dual-fuel burners, igniters, and associated gas-handling skids to allow variable co-firing of natural gas and coal.
- **Controls Integration** – Upgraded distributed control systems (DCS) and programmable logic controllers to manage gas flow, fuel-ratio blending, and flame monitoring for stable, efficient operation.
- **Fuel-Gas Conditioning and Safety Systems** – Addition of low-pressure gas-conditioning equipment, safety shutoff (SSO) valves, and National Fire Protection Association-compliant isolation and venting systems.
- **Performance Optimization** – Engineering modifications to maintain full boiler output and efficiency while achieving emissions reductions relative to single-fuel operation.

Project Components

The table below provides an overview of the project components which support EKPC's plans to extend the useful life of its coal-fired generation facilities while reducing costs and improving reliability for its members.

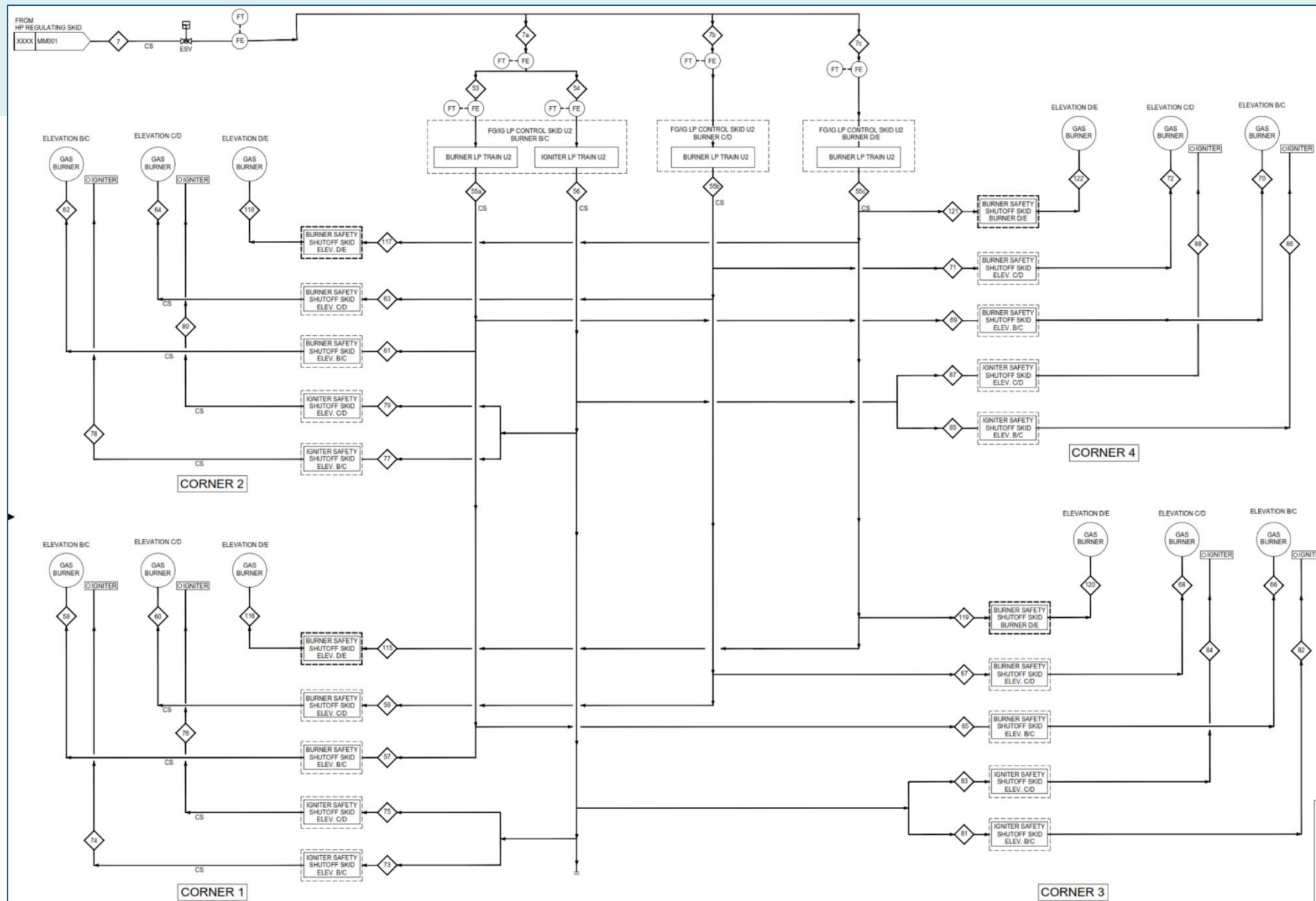
Components	Unit Summaries		Description of Work
Cooper Unit 1 Major Maintenance	<ul style="list-style-type: none"> ▪ Nominal Gross Capacity: 122 MW ▪ Net Capacity: 116 MW 	<ul style="list-style-type: none"> ▪ COD: 1965 ▪ Technology: Pulverized Coal ▪ Fuel Type: Bituminous 	Critical asset maintenance and repair activities (e.g., boiler and turbine) associated with extending the unit's useful life.
Cooper Unit 2 Co-Fire	<ul style="list-style-type: none"> ▪ Nominal Gross Capacity: 242 MW ▪ Net Capacity: 225 MW 	<ul style="list-style-type: none"> ▪ COD: 1969 ▪ Technology: Pulverized Coal ▪ Fuel Type: Bituminous 	Installation of dual-fuel burners, fuel-handling modifications, and advanced control-system integration, enabling co-fire capabilities.
Spurlock Units 1-4 Co-Fire	<ul style="list-style-type: none"> ▪ Nominal Gross Capacity: 335 MW ▪ Net Capacity: 300 MW 	<ul style="list-style-type: none"> ▪ COD: 1977 ▪ Technology: Pulverized Coal ▪ Fuel Type: Bituminous 	The work for each unit will align with existing planned outages to conduct final tie-ins, equipment upgrades, etc.
	<ul style="list-style-type: none"> ▪ Nominal Gross Capacity: 560 MW ▪ Net Capacity: 510 MW 	<ul style="list-style-type: none"> ▪ COD: 1981 ▪ Technology: Pulverized Coal ▪ Fuel Type: Bituminous 	
	<ul style="list-style-type: none"> ▪ Nominal Gross Capacity: 300 MW ▪ Net Capacity: 268 MW 	<ul style="list-style-type: none"> ▪ COD: 2005 ▪ Technology: Circulating Fluidized Bed (CFB) ▪ Fuel Type: Bituminous 	
	<ul style="list-style-type: none"> ▪ Nominal Gross Capacity: 300 MW ▪ Net Capacity: 268 MW 	<ul style="list-style-type: none"> ▪ COD: 2009 ▪ Technology: Circulating Fluidized Bed (CFB) ▪ Fuel Type: Bituminous 	

Process Flow Diagram: Cooper Unit 2, Fuel Gas System

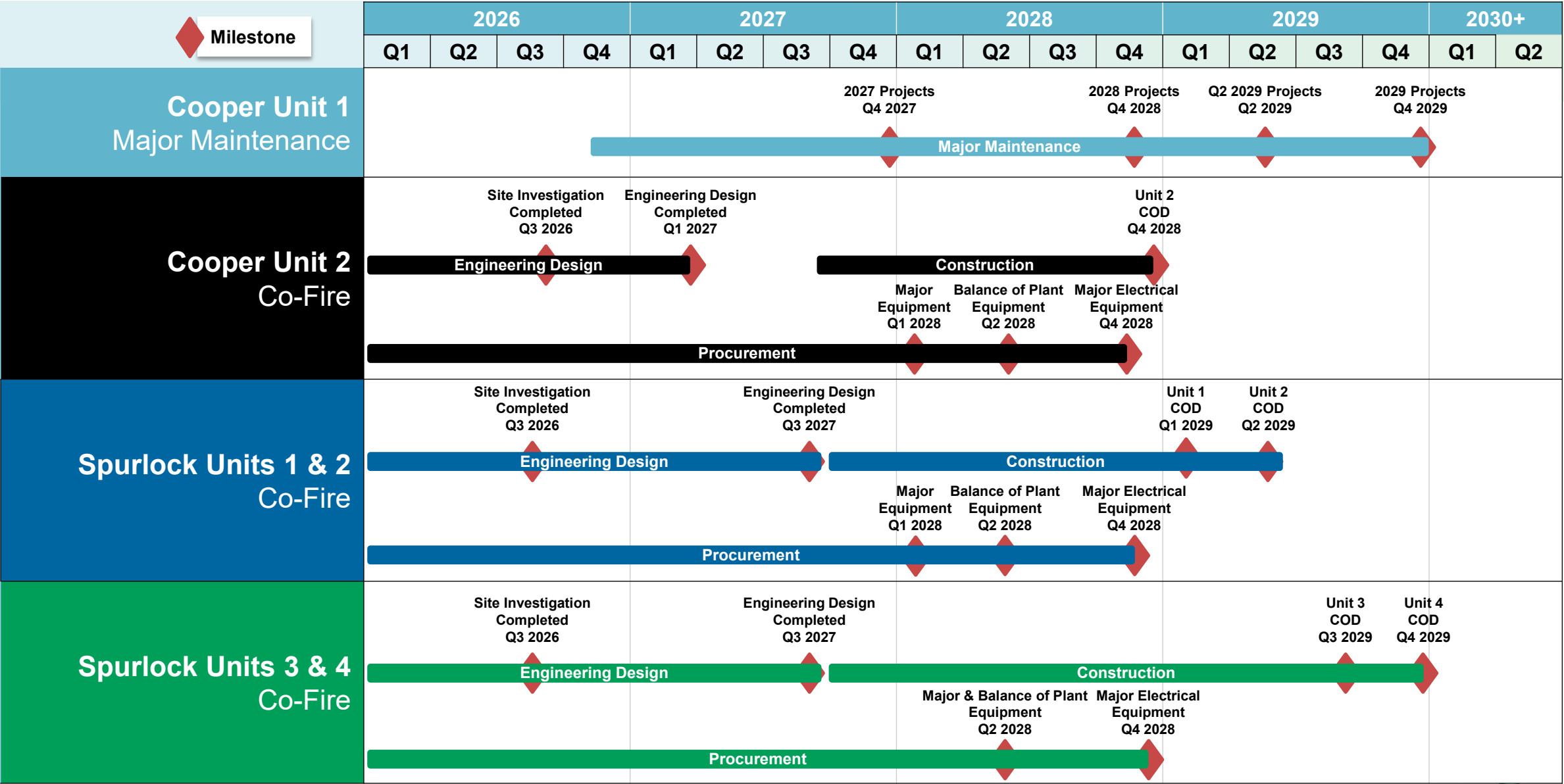




Process Flow Diagram: Spurlock Unit 2, Fuel Gas System



Project Plan and Schedule



Risk Management Plan

EKPC executes a mature, organization-wide risk management process to manage these types of complex generation projects. Please see below for a select set of higher-priority risks.

Type	Risk Description	Likelihood – Potential Impact	Mitigation / Management Approach
Technical	Design and engineering complexity related to the modern co-fire design for CFB boilers (Spurlock 3 & 4)	Medium – Re-design delays, added cost	<ul style="list-style-type: none"> Conduct CFD and performance modeling early in detailed design Involve OEMs for validation
Cost	Local labor shortages or wage escalation	Low – Cost inflation	<ul style="list-style-type: none"> Secure early labor agreements Stagger work to mitigate demand peaks
Schedule	Late award of major equipment (e.g., burners, skids, DCS)	Medium – Critical-path delays	<ul style="list-style-type: none"> Prioritize early equipment bid packages Track submittals closely
Schedule	Startup delays due to system performance issues	Low – Delay in COD	<ul style="list-style-type: none"> Engage OEM field engineers for commissioning Schedule system-level pre-testing
Schedule	Hot commissioning takes longer than forecast	Low – Delay in COD, warranty issues	<ul style="list-style-type: none"> Include commissioning contingency Maintain vendor presence

Project Benefits and Intended Impact

The project benefits include job support, community engagement, and grid reliability & energy security across the regions supported by the impacted project sites.



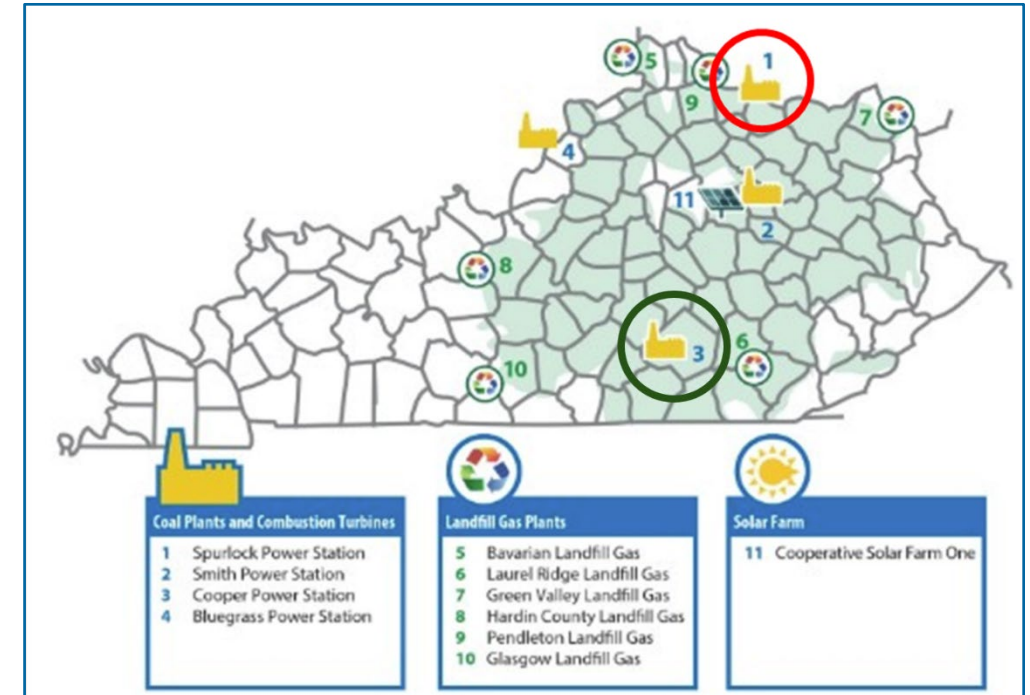
Job Support: Modernization and life extension of the Facilities will directly preserve approximately 310 high-wage, full-time operations and maintenance jobs—including 250 skilled positions at Spurlock Station and nearly 60 positions at Cooper Station—and indirectly support thousands of additional jobs across Kentucky and neighboring states, including in the construction, logistics, and domestic manufacturing industries



Community Engagement: As a member-owned cooperative, EKPC will proactively engage rural stakeholders through a collaborative approach which ensures community input informs project delivery, workforce participation, and environmental performance, strengthening public trust and supporting a resilient, community-centered approach to energy modernization



Grid Reliability & Energy Security: Co-fire conversion and infrastructure upgrades strengthen reliability by reducing fuel-supply risks, enhancing winter peak performance, and reinforcing critical infrastructure resilience. By preserving flexible dual-fuel generation and modernizing transmission assets, the project supports future load growth while maintaining affordable, dependable electric service



The figure above shows the approximate geographic locations of the H.L. Spurlock and John Sherman Cooper generating stations with Spurlock circled in red and Cooper circled in green.

- **States Impacted:** Kentucky (KY)
- **RTOs / ISOs Impacted and/or Involved:** PJM, TVA

Achieving Funding Objectives

The table below describes how EKPC Coal Recommissioning and Modernization Project aligns with the funding objectives.

Funding Objective	EKPC's Coal Modernization Initiative Alignment
Reliability & Resiliency	Dual-fuel conversions, transmission capacity upgrades, and gas-supply expansion ensure dependable, dispatchable generation capable of responding to regional demand fluctuations and fuel-market disruptions
Affordability	Retaining and modernizing existing assets avoids costly new-build generation and stabilizes member rates through fuel-switching flexibility and long-term cost predictability
Energy Security	Expanded natural-gas infrastructure and dual-fuel capability provide redundancy and supply diversification, protecting EKPC and its members from single-fuel dependency and supply-chain volatility
Rural Capacity Preservation	Sustains critical baseload generation in rural and energy-transition communities, supporting local employment, grid reliability, and equitable access to affordable electricity
Workforce Stability & Community Benefits	Retrofitting existing units preserves high-quality utility jobs, sustains skilled local workforces, and supports wage stability in rural and energy-transition communities, advancing DOE's objectives for equitable economic opportunity and community resilience
Near-Term System Benefits & Deployment Efficiency	Modernizing existing units delivers the lowest cost per kW, the fastest implementation schedule, and materially lower lifecycle operating costs compared to new-build resources. By leveraging existing sites, infrastructure, and permits, the initiative minimizes development risk and accelerates reliability and affordability benefits—directly supporting DOE's objectives for rapid, cost-effective improvements

Thank You

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