LARGE PILOT TESTING OF THE MTR MEMBRANE CAPTURE PROCESS

Tour and Project Review Meeting
Gillette, WY

September 25, 2024

DE-FE0031587

Agenda

	Time (Mountain)
Arrival and Introductions	**8:30 (15 min)**
Presentation (MTR) • Agenda review, ITC orientation • High level project overview • Process model and 3D model walkthrough • Safety talk for the walking tour (Graycor)	**8:45 (45 min)**
Large Pilot Tour • MTR capture plant – process walk down • Control center and PDC building	**9:30 (90 min)**
Group Photographs • Group photos at the capture plant A photographer will be on site from 9:00 to noon to capture tour photos, group photos, plant equipment, etc. Images will be shared	**11:00 (15 min)**
Morning Break	**11:15 (15 min)**
Lunch • Boxed lunches and drinks. Please inform MTR of any dietary restrictions	**11:30 (30 min)**
Presentation (MTR) – Teams session for remote participants • Budget Period 3 review meeting (next slide for details)	**12:00 (2 hours)**
Large Pilot Test Plan Review • Overview of test plan and CCSI2 collaboration • Open discussion, Action Items, Next Steps	**2:00 (~2 hours)**

MTR CARBON CAPTURE

Topics for BP3 Review Meeting (12:00 to 2:00 Mountain)

- Phase III overview and background
- Work performed in each Budget Period 3 Task
- Describe how milestones were met/achieved and success criteria met
- Photos of construction progress
- Review remaining BP3 work including the commissioning plan
- Review the Test Plan and collaboration with CCSI2
- Review SOPO activities for BP4 and BP5

MTR Carbon Capture Development Timeline

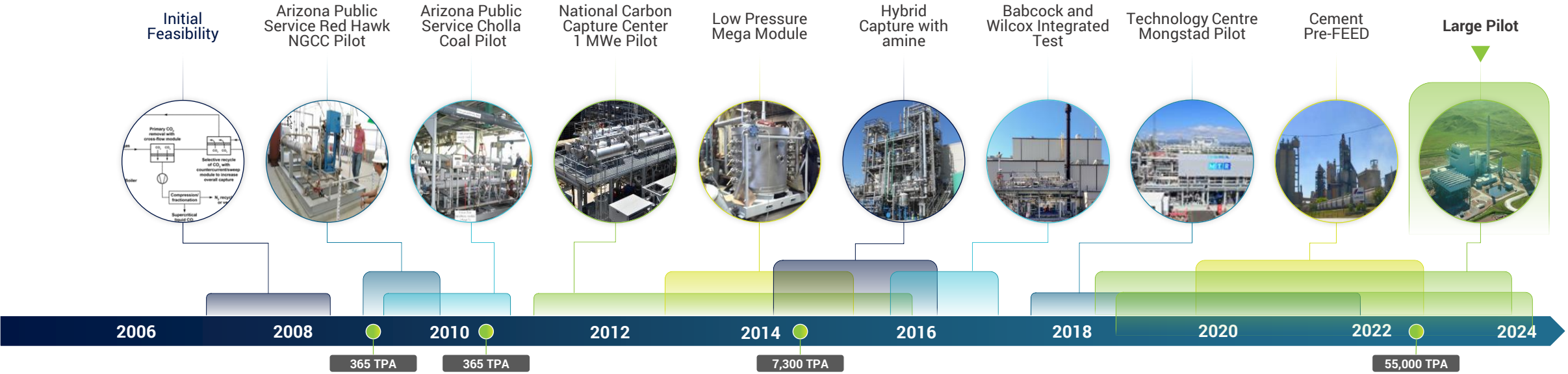
15 Year
Relationship with DOE

18+
DOE Awards Won

>$100mm
Total Funding Received from U.S. Government Agencies

- Support from the DOE has enabled MTR's capture technology from early concept through to commercialization
- Together the DOE and MTR have collaborated to provide US industrial and power plants with a compelling carbon capture solution

Development Timeline



MTR's Objectives for Large Pilot Project

- Demonstrate MTR's carbon capture technology at the small commercial scale
- Gain experience with dynamic operation of balance-of-plant equipment
- Determine fate of all minor flue gas species and quantify co-capture capabilities
- Characterize the water streams captured throughout the capture process
- Obtain long-term steady-state operational data under optimized process conditions

DE-FE0031587 (FOA-1788) – Phase III Overview

Award Name: Large Pilot Testing of the MTR Membrane Post-Combustion CO_2 Capture Process

Phase III Project Period: 10/1/21 to 9/30/26

Phase III Funding: $58,078,814 DOE + $28,211,718 cost share = $86,290,542 total

DOE-NETL Project Manager: Nicole Shamitko-Klingensmith

Project Team: MTR (prime), WITC (Host), Sargent & Lundy, Trimeric, Graycor

Overall Goal: To demonstrate the performance and abilities of MTR's membrane-based capture system through the operation of a Large Pilot as a final step of commercialization.

Project Plan for Phase III: Perform final design, then procure, fabricate, install and commission the Large Pilot plant at the WITC. Conduct long term operations of a 10 MWe fully featured membrane-based CO_2 capture plant.

DE-CD0000015 - Phase 1 Demonstration Project
A Full-scale, Fully-integrated 3.1M TPY CCUS Project at Dry Fork Station

OCED
Office of Clean Energy Demonstrations

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

WYOMING ENERGY AUTHORITY

TRIMERIC CORPORATION

Kiewit

Sargent & Lundy

EERC
Energy & Environmental Research Center®
Putting Research into Practice

UNIVERSITY OF WYOMING
School of Energy Resources

MTR CARBON CAPTURE

Wyoming CarbonSAFE Storage Site

Photo courtesy of Dave Green, Western Fuels

Photo courtesy of Google Earth

UW School of Energy Resources

8

CarbonSAFE Pipeline Design Study

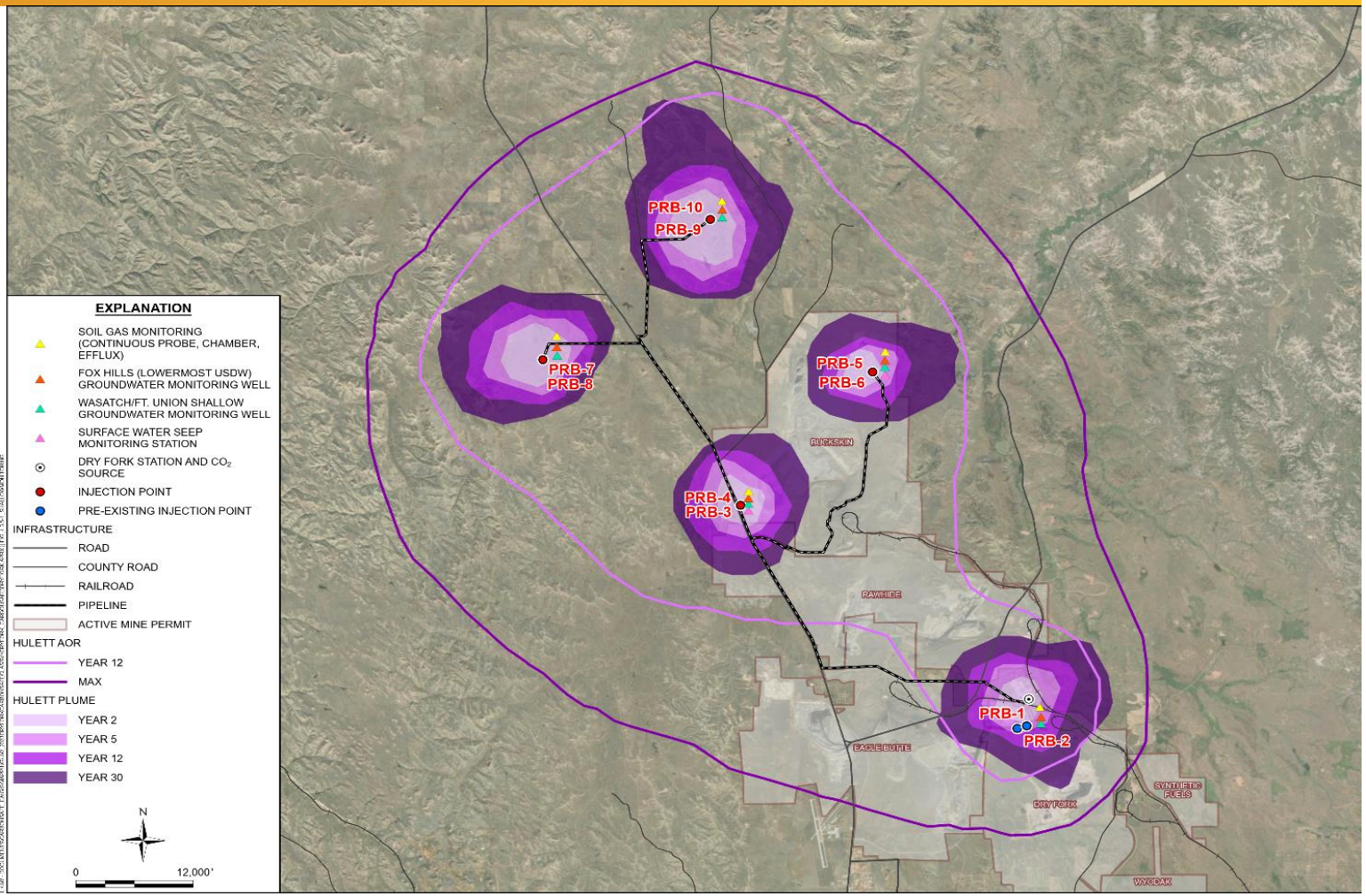


Figure courtesy of Trihydro with the EERC

UNIVERSITY OF WYOMING

Wyoming CarbonSAFE Project

(Carbon Storage Assurance Facility Enterprise)

Pipeline Pre-FEED Study

(Pre - Front End Engineering Design)

08/4/2024

Prepared For:

Chengyi (Charlie) Zhang, Ph.D., P.E.
Assistant Professor, Dept. of Civil and Architectural Engineering and Construction Management
EN 3099, Dept. 3295
1000 E. University Avenue
Laramie, WY 82071

Professional Engineer JEFFREY T. HANSLIK 16560 WYOMING

Prepared by:

Resolute Engineering, LLC
321 S. Boston Ave., Suite 300
Tulsa, OK 74103

RESOLUTE ENGINEERING

Wyoming Integrated Test Center (ITC)

- Dedicated post-combustion carbon capture test center; opened 2018
- Facility sponsored by the State of Wyoming; Tri-State Generation and Transmission Association; National Rural Electric Cooperative Association; and Basin Electric Power Cooperate
- DFS supplies the Large and Small Test Centers with a slipstream of flue gas
- Power, water, utilities and flue gas connections are in place

MTR CARBON CAPTURE

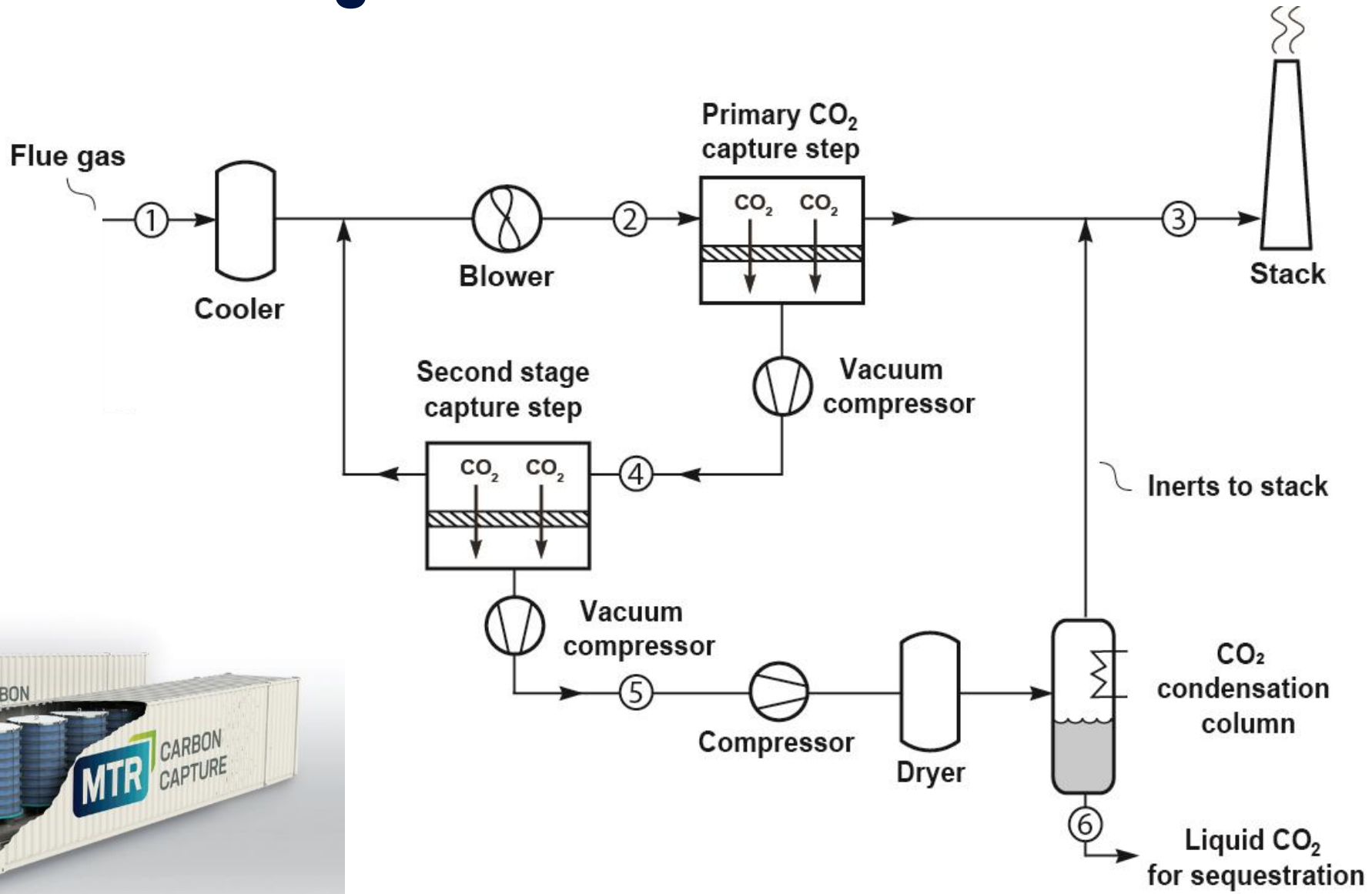
Wyoming

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

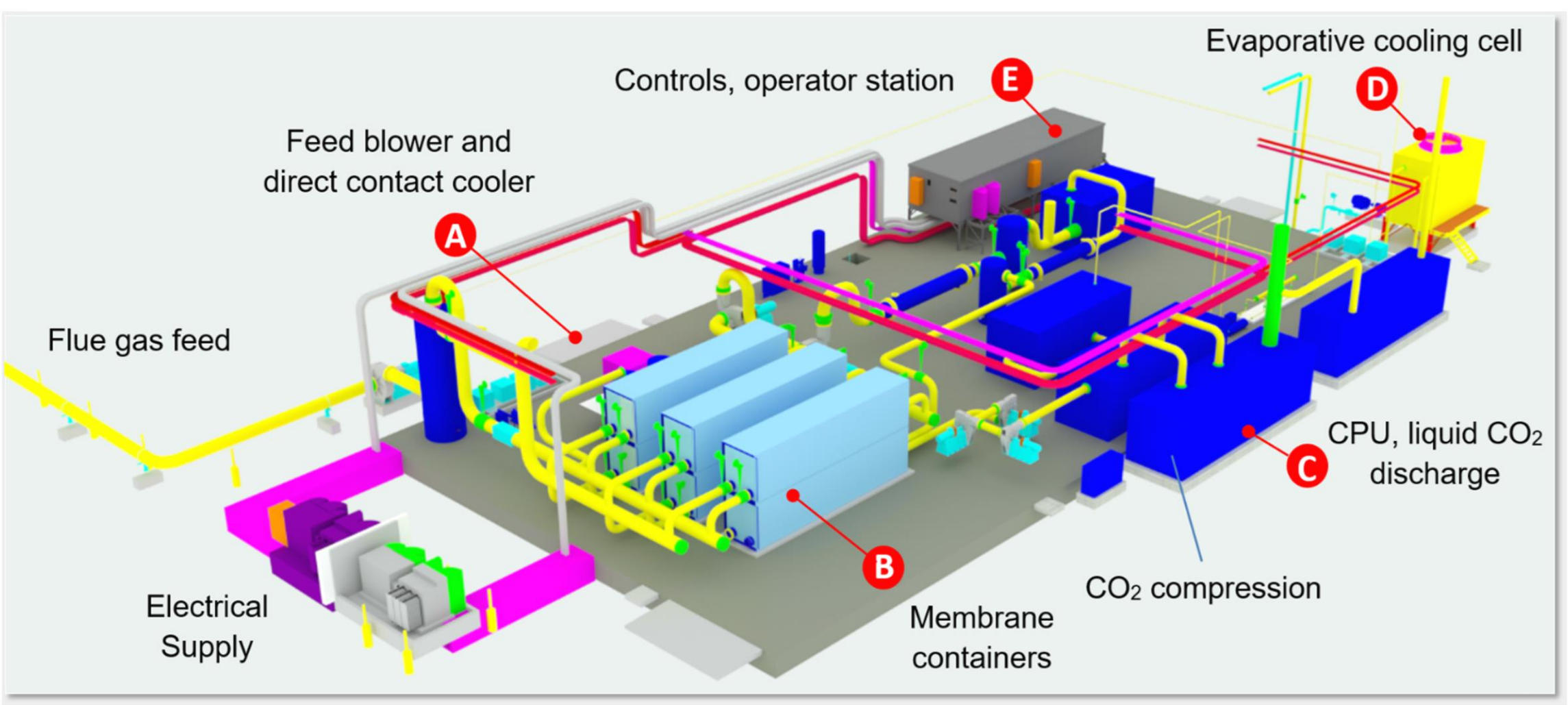
NRECA
America's Electric Cooperatives

TRI-STATE

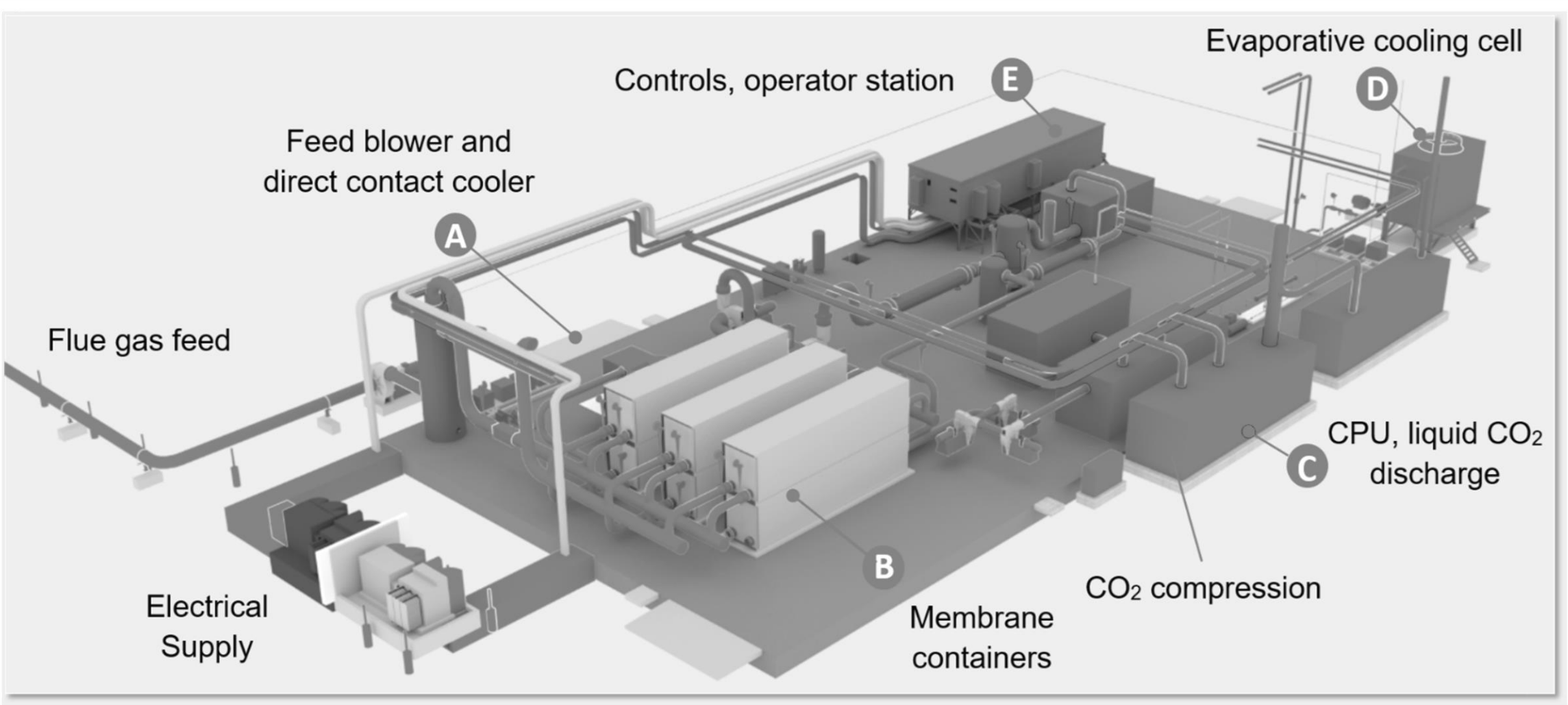
Simplified Process Diagram



General Arrangement of Process Equipment



3D Model Tour



MTR CARBON CAPTURE

PLANT TOUR

DE-FE0031587

MTR CARBON CAPTURE

LUNCH

DE-FE0031587

MTR CARBON CAPTURE

BUDGET PERIOD III REVIEW

DE-FE0031587

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FOA-1788 (Aug 2017)

This Funding Opportunity Announcement (FOA) will support the design, construction, and operation of two large-scale pilots for transformational coal technologies, as mandated by statutory requirements and guidance accompanying the Fiscal Year (FY) 2017 Omnibus appropriations bill. The Department of Energy (DOE) supports a number of potentially transformational coal technologies aimed at enabling step change improvements in coal powered system performance, efficiency, and cost of electricity. Examples include, but are not limited to, chemical looping, pressurized oxygen combustion, supercritical carbon dioxide (SCO2) turbines, solid oxide fuel cells, advanced ultra-supercritical power generation cycles, advanced cooling systems, controls, materials. In addition, there are a number of transformational pre- and post- combustion CO2 capture technologies including, but not limited to, non-aqueous solvents, advanced membranes systems, and sorbents that could significantly improve the performance, efficiency, and cost of electricity of a coal-fueled system.

Project Overview

- **DOE-NETL Project Manager:** Sai Gallokota
- **Project Team:** MTR (prime), Sargent & Lundy, WITC, Basin Electric (Host), Trimeric
- **<u>Overall Goal:</u>** Design, build, and operate a 10 MW_e large pilot membrane capture system

Phase I	Phase II	Phase III
• Feasibility • Site selection • Create team	• FEED study • Permitting	• Build, operate, and demonstrate process performance and costs

Phase III Success Criteria

In accordance with the Funding Opportunity Announcement (FOA) guidelines and the Phase III renewal application and submission information, MTR identified the following Phase III success criteria **for Budget Period 3** (current Budget Period):

- Fabrication of all necessary planar Polaris membrane modules to operate the Large Test Pilot plant.
- Completion of the construction and commissioning of the Large Test Pilot plant.
- Finalized test plan accepted by DOE.

MTR has completed the above-mentioned activities through the performance of work in Budget Period 3. We are prepared to continue with Budget Period IV project activities at the planned transition date of October 31, 2024 (end of BP3) and November 1, 2024 (start of Budget Period 4).

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MTR CARBON CAPTURE

SOPO Tasks

Budget Period 3, 4 and 5

Task 1. Project Management and Planning

- **Subtask 1.1 Project Management Plan**
- **Subtask 1.2 Resource Loaded Schedule**
- **Subtask 1.3 Earned Value and Risk Management**
- **Subtask 1.4 Workforce Readiness for Technology Development**
- **Subtask 1.5 Environmental Justice Analysis**
- **Subtask 1.6 Economic Revitalization and Job Creation Outcomes Analysis**

SOPO Tasks

Budget Period 3 - Detailed Design and Construction

Task 2. Detailed Design

Task 3. Procurement and Balance of Plant (BOP) Fabrication

Task 4. Membrane Production and Module Fabrication

- **Subtask 4.1 Membrane Production**
- **Subtask 4.2 Fabricate Large Pilot Membrane Modules**

SOPO Tasks

Budget Period 3 - Detailed Design and Construction

Task 5. Site Construction and Installation of Equipment

Task 6. Commissioning

Subtask 6.1 Start-Up and Commissioning

Subtask 6.2 Finalize Test Plan

Continuation Application for Budget Period 4

SOPO Tasks

Budget Period 4 - Operations

Task 7. System Operation – Parametric and Long-Term Operation

Subtask 7.1 Parametric Operation of Test System

Subtask 7.2 Long-Term Operation of Test System

Continuation Application for Budget Period 5

SOPO Tasks

Budget Period 5 - Decommissioning and Final Reporting

Task 8. Decommissioning and Site Restoration

Task 9. Prepare Project Reports

Subtask 9.1 Techno-Economic Analysis (TEA)

Subtask 9.2 Final Reporting

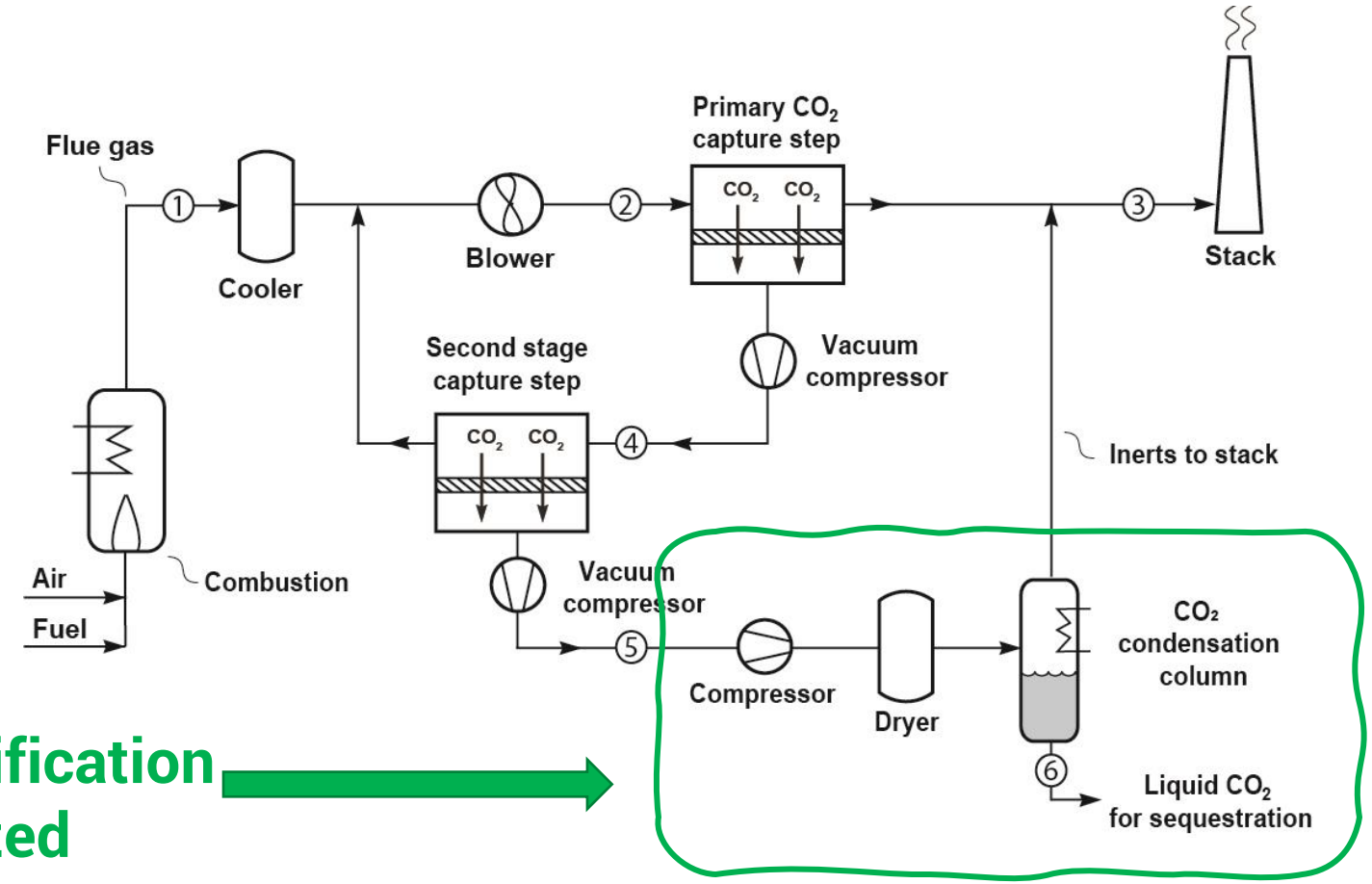
End of Project

Original Phase III Task Schedule (2021)

Project Tasks	Budget Period 3		Budget Period 4		Budget Period 5	
	Start Date	End Date	Start Date	End Date	Start Date	End Date
Budget Period 3 - Detailed Design and Construction	10/1/2021	12/31/2023	1/1/2024	9/30/2025	10/1/2025	9/30/2026
Task 1. Project Management and Planning	10/1/2021					9/30/2026
Task 2. Detailed Design	10/1/2021	2/28/2022				
Task 3. Procurement and Balance of Plant Fabrication	11/1/2021	10/30/2022				
Task 4. Membrane Production and Module Fabrication	11/1/2021	1/31/2023				
Task 5. Site Construction and Installation of Equipment	9/1/2022	8/31/2023				
Task 6. Commissioning	9/1/2023	12/31/2023				
Budget Period 4 – Operations	12/31/2023	12/31/2023				
Task 7. System Operation			1/1/2024	9/30/2025		
Budget Period 5 - Decommissioning and Final Reporting			9/30/2025	9/30/2025		
Task 8. Decommissioning and Site Restoration					10/1/2025	4/30/2026
Task 9. TEA and Final Reporting					3/1/2026	9/30/2026

Managing Inflationary Cost Escalation

- Phase III budget developed in Q3/4-20, submitted Jan 2021, awarded Q4-21.
- Subject to the full effects of pandemic driven global supply chain disruptions
- Increases: CEPCI >34%; vendor quotes ~20%; steel and rebar ~50%; subcontractors ~30%
- Solution:
  - Rebudget the project
  - Some additional federal cost share
  - Reduction in the size of the compression and purification back-end



CO_2 compression and purification section was downsized

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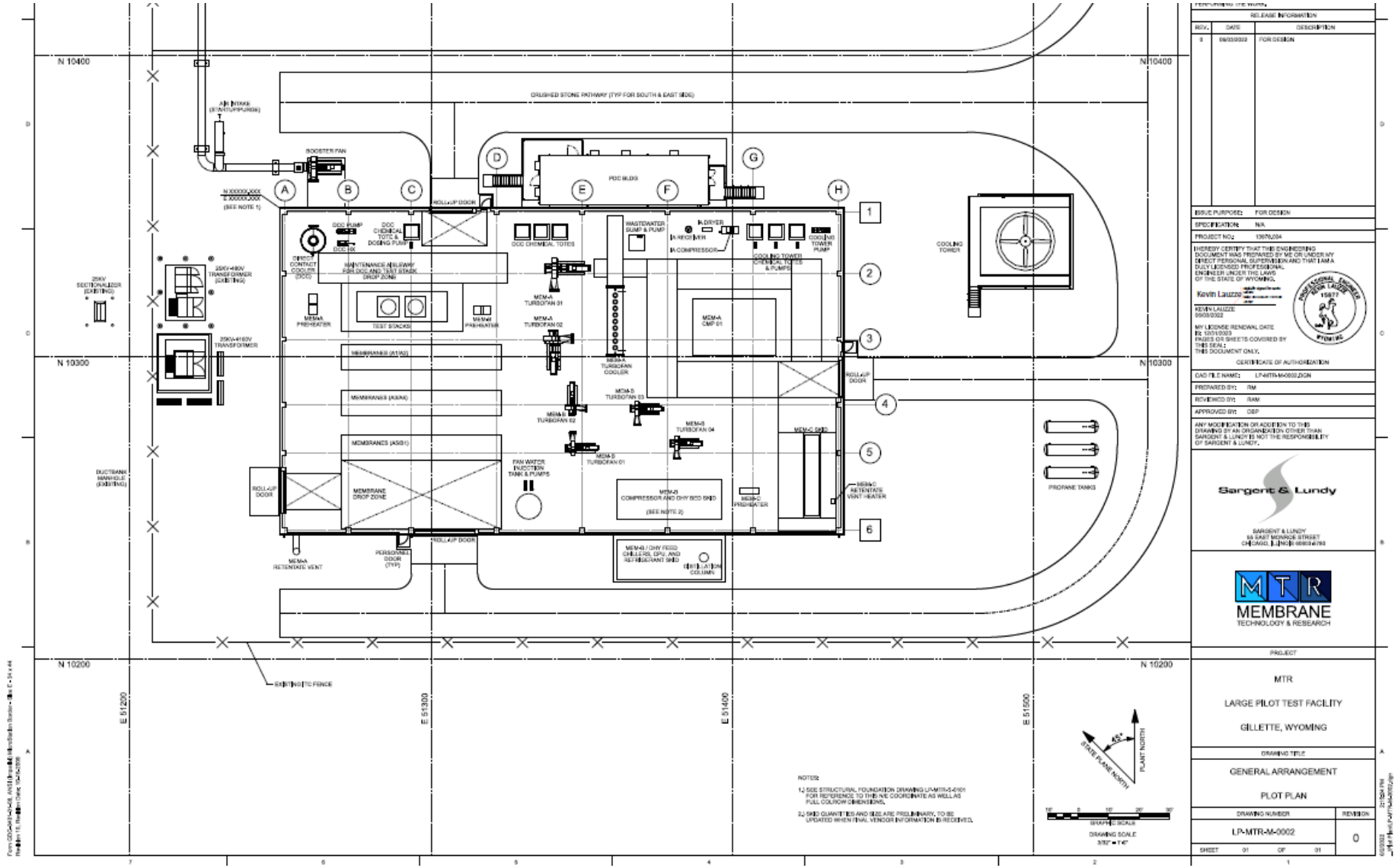
MTR CARBON CAPTURE

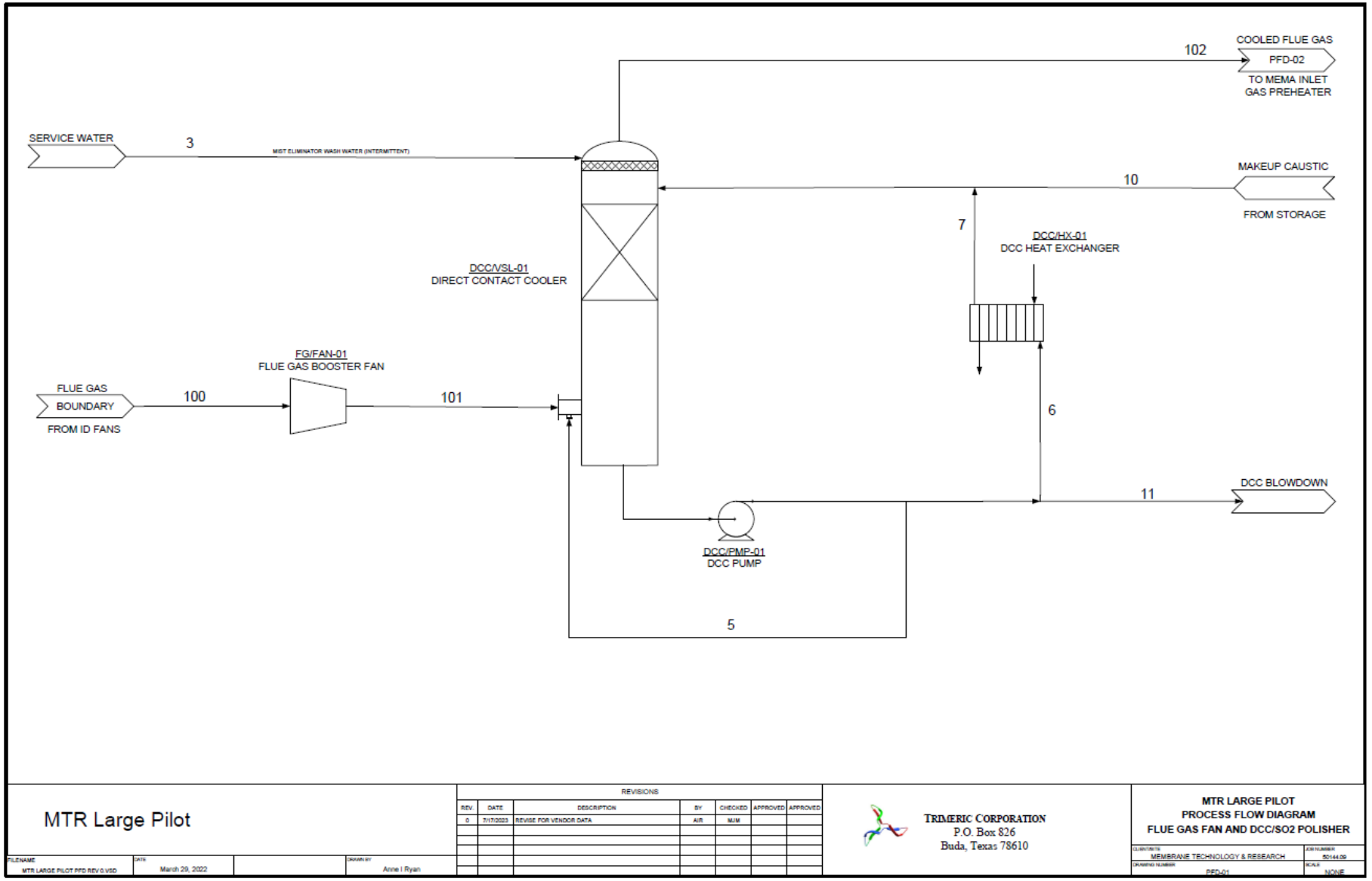
Budget Period 3 Milestones

Milestone Number	Task Number	Milestone Description	Planned Completion	Actual Completion	Verification Method	Notes
1	1	Updated Project Management Plan (PMP) document	11/1/2021	11/1/2021	Updated PMP	
2	1.2	Resource Loaded Schedule	11/1/2021	11/1/2021	RLS document	
3	1.3	Earned Value and Risk Management	11/1/2021	11/1/2021	Updated budget documents	
4	1.4	Workforce Readiness Plan	9/30/2026	in BP5	Part of Final Report	
5	1.5	Environmental Justice Analysis	9/30/2026	in BP5	Part of Final Report	
6	1.6	Economic Revitalization and Job Creation Outcomes Analysis	9/30/2026	in BP5	Part of Final Report	
7	2	Plant Layout and General Arrangement Drawings	9/30/2024	2/14/2023	Quarterly Report	Released as part of the GWC work package
8	2	Process Flow Diagrams, Piping & Instrumentation Diagrams and Utility Balances	9/30/2024	2/6/2023	Quarterly Report	Released as part of the GWC work package
9	2	Equipment Lists and Process Data Sheets	9/30/2024	2/7/2023	Quarterly Report	Released as part of the GWC work package
10	2	Final Detail Design Report	9/30/2024		Quarterly Report	
11	5	Construction Plan	9/30/2024		Quarterly Report	GWC package issued
12	6.2	Pilot Commissioning and Test Plan	9/30/2024		Quarterly Report	
13	9.1	Updated Technoeconomic Assessment	9/30/2026	in BP5	Part of Final Report	

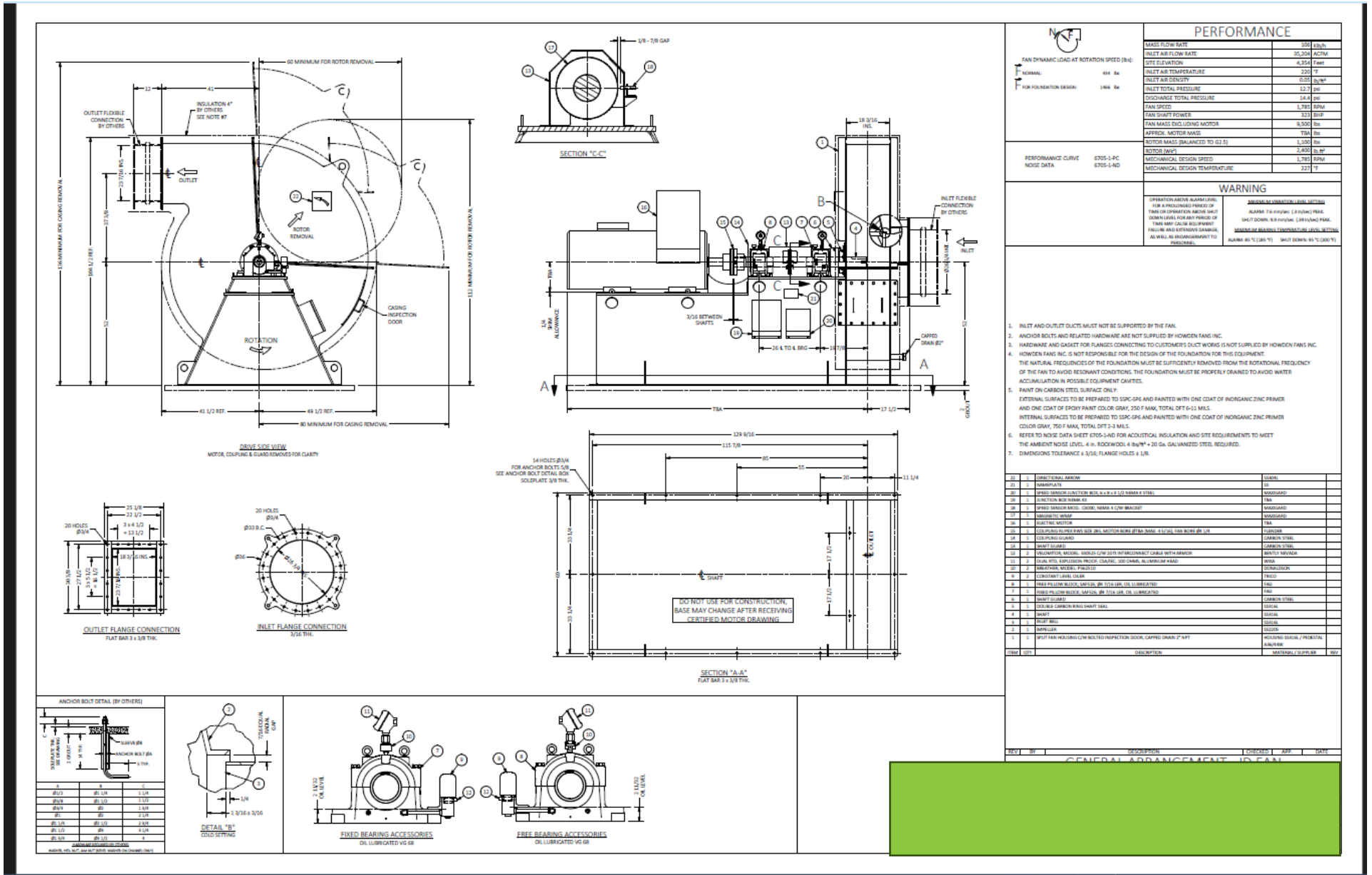
Milestone 7 - Plant Layout and General Arrangement Drawings



Milestone 8 - Process Flow Diagrams, Piping & Instrumentation Diagrams and Utility Balances



Milestone 9 - Equipment Lists and Process Data Sheets



MTR CARBON CAPTURE

Milestone 10 - Final Detail Design Report

- General Works Contract Design and Specifications Document
- Site conditions and reference drawings
- Design drawings and equipment data
- Submittal requirements
- Vendor drawings
- MTR drawings

Membrane Technology & Research

DRY FORK STATION UNIT 1

MTR LARGE TEST PILOT
CO_2 CAPTURE PROJECT
SPECIFICATION NO. PM001
GENERAL WORK CONTRACT

Issued for Bid
Rev. 0

February 14, 2023
Project 13978.004

Prepared By

Sargent & Lundy

55 East Monroe Street • Chicago, IL 60603 USA • 312-269-2000

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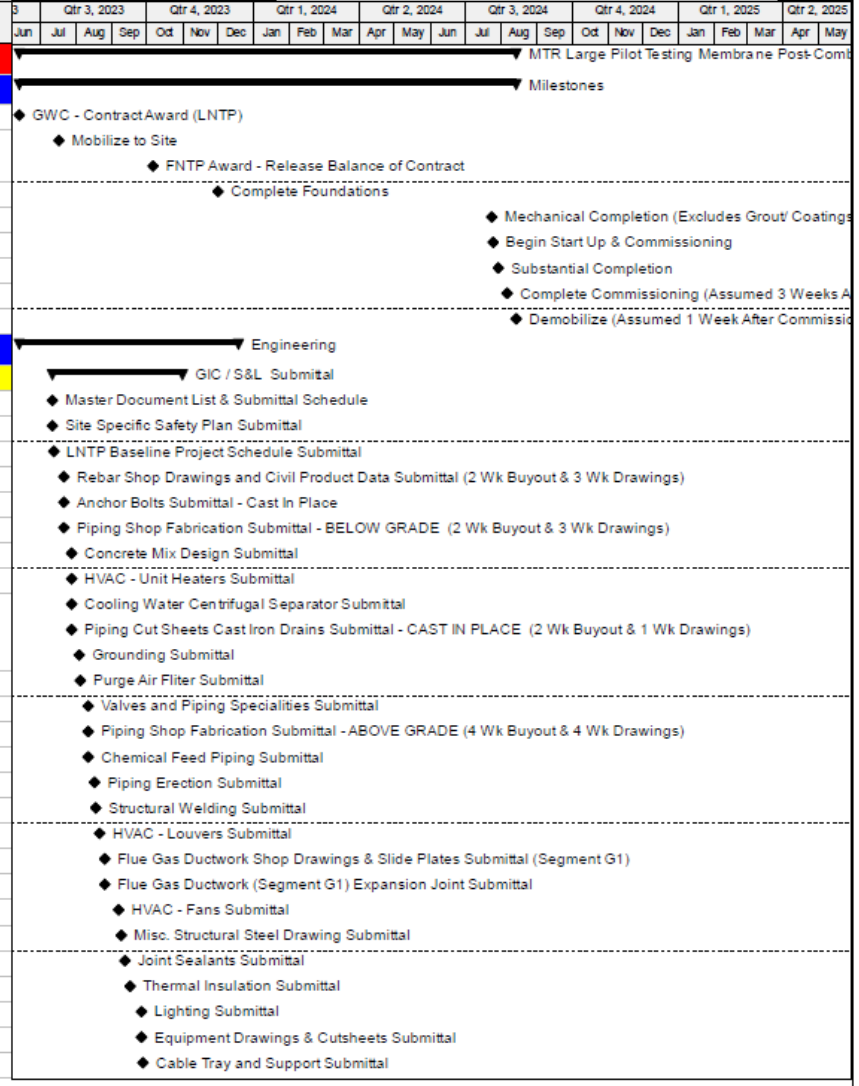
Milestone 11 – Construction Plan and Schedule

MTR MEMBRANE TECHNOLOGY & RESEARCH

MTR - LARGE TEST PILOT CO2 CAPTURE PROJECT

GRAYCOR®

Activity ID	Activity Name	Original Duration	Start	Finish
MTR Large Pilot Testing Membrane Post-Combustion CO2 Capture - BAS		368	Jun-12-23	Aug-13-24
Milestones		368	Jun-12-23	Aug-13-24
M1500	GWC - Contract Award (LNTP)	0	Jun-12-23*	
M2000	Mobilize to Site	0	Jul-17-23	
M5000	FNTP Award - Release Balance of Contract	0	Oct-06-23*	
M2500	Complete Foundations	0		Nov-30-23
M3000	Mechanical Completion (Excludes Grout/ Coatings / Insulation)	0		Jul-24-24
M4000	Begin Start Up & Commissioning	0	Jul-25-24	
M3500	Substantial Completion	0		Jul-29-24
M4510	Complete Commissioning (Assumed 3 Weeks After Terminations Complete)	0		Aug-06-24
M4500	Demobilize (Assumed 1 Week After Commissioning Complete)	0		Aug-13-24
Engineering		162	Jun-12-23	Dec-18-23
GIC / S&L Submittal		76	Jul-10-23	Oct-31-23
EN-S-0500	Master Document List & Submittal Schedule	0		Jul-10-23
EN-S-3110	Site Specific Safety Plan Submittal	0		Jul-10-23
EN-S-1000	LNTP Baseline Project Schedule Submittal	0		Jul-12-23
EN-S-1600	Rebar Shop Drawings and Civil Product Data Submittal (2 Wk Buyout & 3 Wk I	0		Jul-20-23
EN-S-1200	Anchor Bolts Submittal - Cast In Place	0		Jul-20-23
EN-S-3190	Piping Shop Fabrication Submittal - BELOW GRADE (2 Wk Buyout & 3 Wk Dr	0		Jul-20-23
EN-S-1610	Concrete Mix Design Submittal	0		Jul-27-23
EN-S-3120	HVAC - Unit Heaters Submittal	0		Jul-27-23
EN-S-3170	Cooling Water Centrifugal Separator Submittal	0		Jul-27-23
EN-S-3200	Piping Cut Sheets Cast Iron Drains Submittal - CAST IN PLACE (2 Wk Buyout	0		Jul-27-23
EN-S-2400	Grounding Submittal	0		Aug-03-23
EN-S-3160	Purge Air Fliter Submittal	0		Aug-04-23
EN-S-3000	Valves and Piping Specialities Submittal	0		Aug-10-23
EN-S-2900	Piping Shop Fabrication Submittal - ABOVE GRADE (4 Wk Buyout & 4 Wk Dra	0		Aug-10-23
EN-S-3210	Chemical Feed Piping Submittal	0		Aug-10-23
EN-S-2800	Piping Erection Submittal	0		Aug-16-23
EN-S-1300	Structural Welding Submittal	0		Aug-17-23
EN-S-3140	HVAC - Louvers Submittal	0		Aug-21-23
EN-S-3180	Flue Gas Ductwork Shop Drawings & Slide Plates Submittal (Segment G1)	0		Aug-25-23
EN-S-3220	Flue Gas Ductwork (Segment G1) Expansion Joint Submittal	0		Aug-25-23
EN-S-3130	HVAC - Fans Submittal	0		Sep-06-23
EN-S-1630	Misc. Structural Steel Drawing Submittal	0		Sep-08-23
EN-S-1700	Joint Sealants Submittal	0		Sep-11-23
EN-S-3100	Thermal Insulation Submittal	0		Sep-15-23
EN-S-2700	Lighting Submittal	0		Sep-25-23
EN-S-2110	Equipment Drawings & Cutsheets Submittal	0		Sep-25-23
EN-S-2600	Cable Tray and Support Submittal	0		Sep-26-23



Start Date: Jun-12-23
End Date: Aug-13-24

Data Date: Apr-29-21
Page 1 of 19

CONSTRUCTION BASELINE SCHEDULE (B1)
GRAYCOR BID NO. 220086

Actual Level of Effort · Actual Work · Remaining Work · Critical Remaining Work · Milestone · Summary

MTR CARBON CAPTURE

Milestone 12 – Pilot Plant Commissioning and Test Plan

Discussion to Follow

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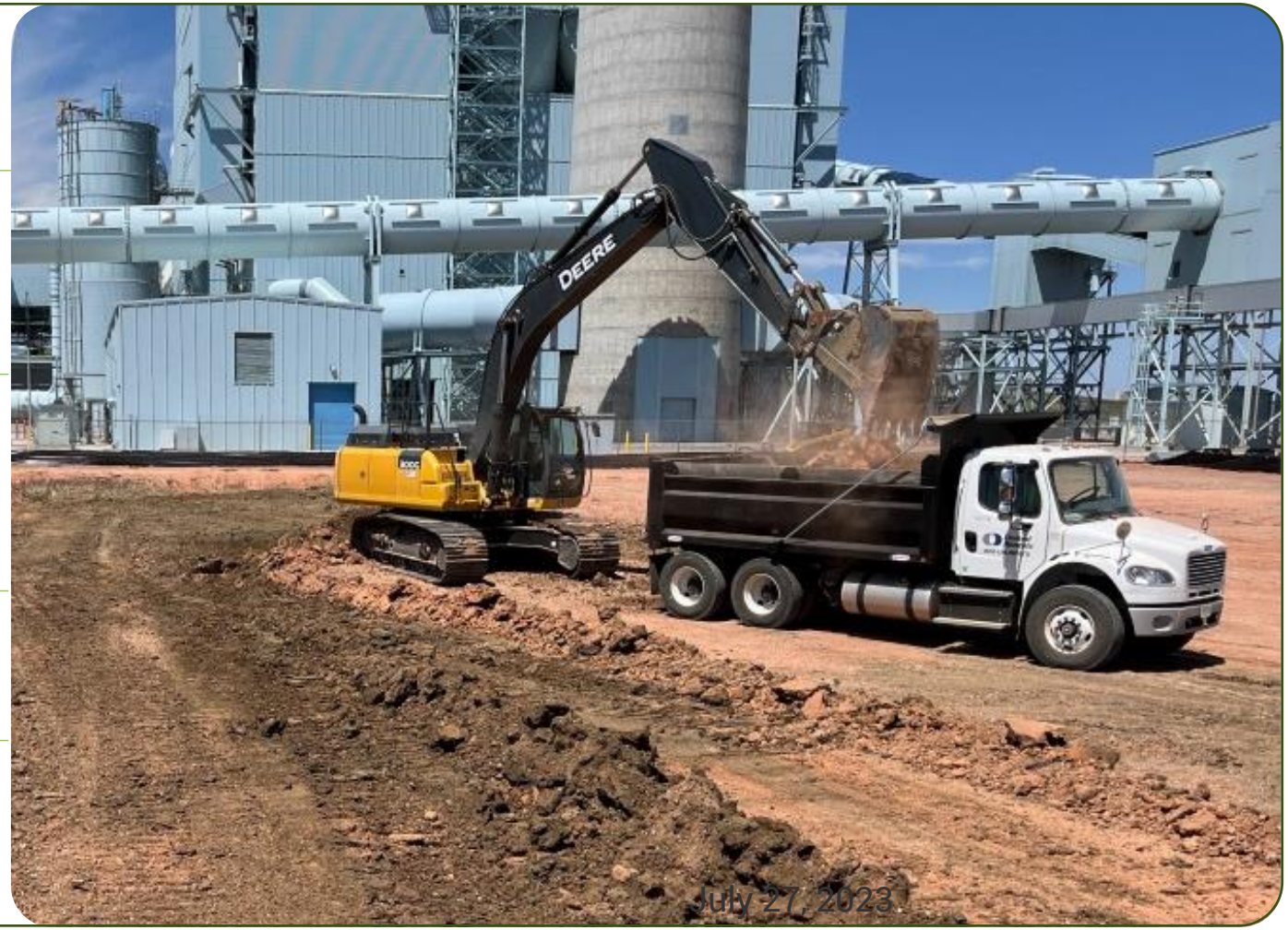
REVIEW OF CONSTRUCTION ACTIVITES AT SITE

MTR CARBON CAPTURE

Construction Progress – Activities During This Time Last Year

Host	ITC Wyoming Integrated Test Center
Technology Provider	MTR
EPCm	Sargent & Lundy
Constructor	GRAYCOR
Engineering Services	Trimeric Corporation



July 27, 2023

Main Foundations Excavations

July 2023

Weather Has Caused Some Delays but Mostly Minor

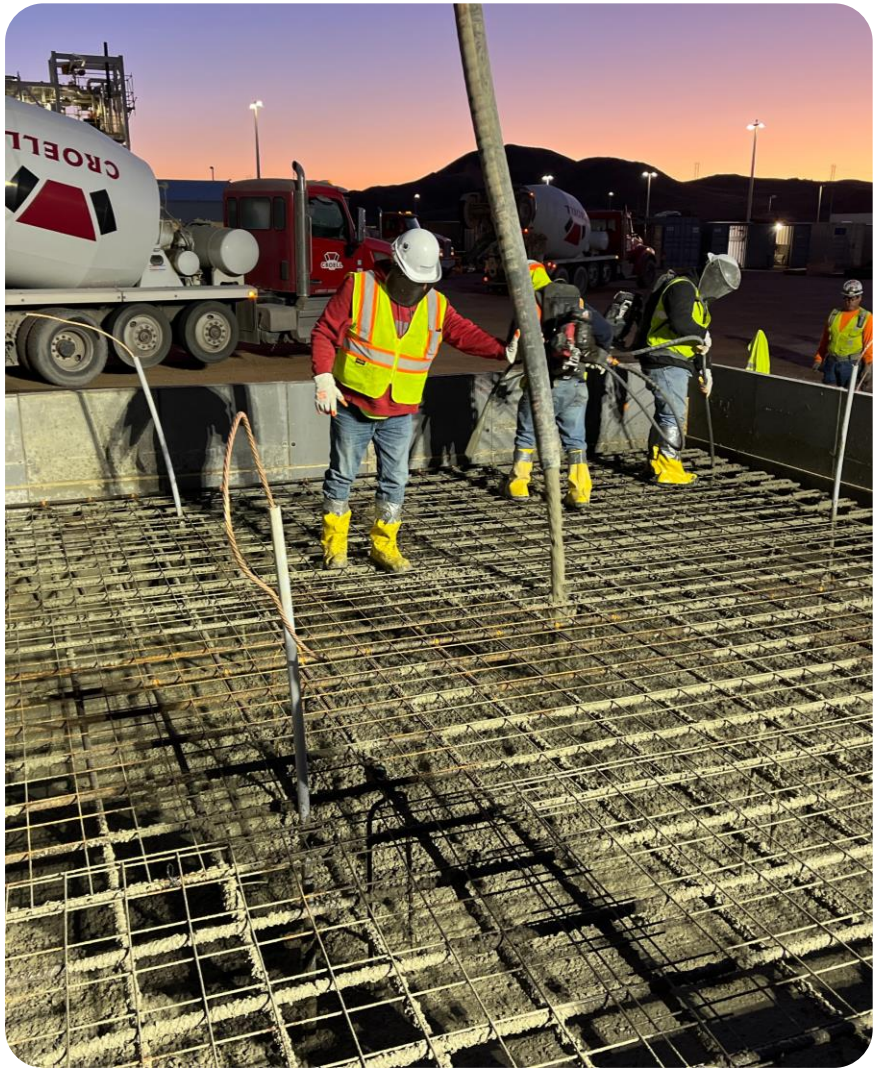
August 1, 2023

Site Visit by EPA Administrator Regan and Wyoming Governor Gordon

August 9, 2023

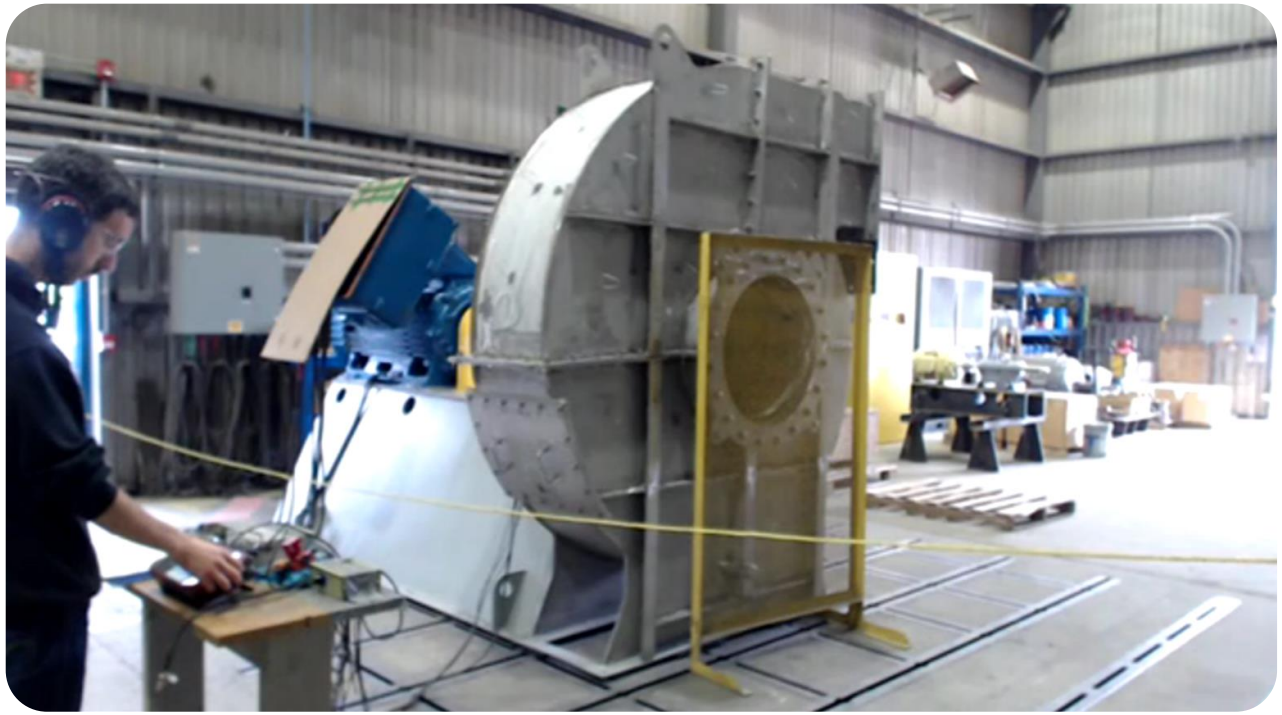
MTR CARBON CAPTURE

Forming for the main Concrete Foundation



Pouring Foundations for the Capture Plant

Vibration Testing the Flue Gas Blower



August 24, 2023 Montreal, Canada

Oct 2, 2023 Gillette

MTR CARBON CAPTURE

Process Equipment Begins to Arrive and Assembly of the Capture Building Begins

Process Equipment arrives – Flue gas blower

Steel members for the building are erected

MTR CARBON CAPTURE

AUG SEP OCT NOV DEC '24 JAN FEB MAR APR MAY JUN JUL AUG

Unloading the Direct Contact Cooler and Pump Skid

August 7, 2023

Placing First Pieces of Process Equipment & Building Dry-In

Direct Contact Cooler

Large Pilot Capture Building

30 TPD - CO_2 Main Compressor, DeHy and CO_2 Purification Skids Fabricated and Ready to Ship

August 28, 2023

MTR CARBON CAPTURE

Arrival and Placement of First Skidded System; the CPU

Compression and Dehydration

CO_2 Liquefaction and Distillation

Offloading of the Two Cell Evaporative Cooling Tower

MTR CARBON CAPTURE

Large- and Small-Bore Pipe Spools Arrive & Cooling Tower Placed

Evaporative Cooling Tower

DCC Placed and Auxiliary Steel (Pipe Racks) Installed

Direct Contact Cooler - Feb

Direct Contact Cooler - April

Installing process piping

First and Second Stage Vacuum Fans

Permeate Vacuum Fans

Flue Gas Tie-in to the ITC and Duct Run to the Capture Building

Duct run from ITC tie-in to the flue gas blower

ITC tie-in and transition section

Purchasing an Existing, but Unused Power Distribution Center (PDC), was Critical for Protecting the Project Schedule

MTR encountered major schedule slip for procuring electrical equipment

Project team found an existing PDC at a power plant in South Carolina

The PDC was installed but not used and included certain needed equipment:

- 480V switchgear
- Breaker control cabinets
- Motor control center

Building needed to be certified for floor loads (new equipment) and roof loads (snow).

Electricians Installing Cable Trays and Preparing for the PDC Building

Electrical cable trays and piers for the PDC building

Cable tray waterfalls and penetration towards PDC building

Electricians Installing Cable Trays and Preparing for the PDC Building

Placement of PDC building

PDC building installed with stairs and walkways

DCC Placed and Auxiliary Steel (Pipe Racks) Installed

PDC Interior – electrical switchgear and motor controllers

Electricians terminating cables

MTR CARBON CAPTURE

AUG SEP OCT NOV DEC '24 JAN FEB MAR APR MAY JUN JUL AUG

Running Electrical Conduits/Cables to the Cooling Tower

Electrical connections to the cooling tower

Interior of Capture Building Showing CPU and Rotating Equip.

Interior of Capture Building Facing Permeate Flanges

Fabrication of One of Six Module Stack Base Units (Holds the Membrane Module Stacks)

Oct 2023

MTR CARBON CAPTURE

53’ Shipping Container Fabricated and Ready to Ship

Container being loaded onto transport ship. October 2023

53’ Shipping Container First Loading at MTR

Delivery of Container #1 & ITC Showcase Event (May 8)

Delivery of first membrane container

Part of the ITC tours given during their May 8 Showcase event

Topics for BP3 Review Meeting (12:00 to 2:00 Mountain)

- Phase III overview and background
- Work performed in each Budget Period 3 Task
- Describe how milestones were met/achieved and success criteria met
- Photos of construction progress
- Review remaining BP3 work including the commissioning plan
- Review the Test Plan and collaboration with CCSI2
- Review SOPO activities for BP4 and BP5

Remaining Work to Be Completed

- Plant Commissioning – Paul / Jay recap remaining activities

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MTR Large Pilot Field Test Monitoring Capabilities

Extensive analytical characterization tools will be used to quantify co-capture potential

Emission Item	Characterization Capabilities
Gas Composition	Rosemount Quantum Cascade Laser analyzer will continuously measure **CO_2, O_2, H_2O, SO_2, NH_3, NO, NO_2, and N_2** for all process streams for the duration of the field test
Gas Composition	Extended gas composition analysis of various process streams will occur on a limited basis. Test will quantify minor species, such as HCl and speciated volatile hydrocarbons, sulfur compounds, or oxygenates
Particulate Matter	EPA Method 5 & 202 test will quantify particulate matter amounts, size and concentration distribution of various process streams
Water Quality Analysis	Water samples from 8 process locations will tested monthly
Water Recovery	Water flow through 8 process lines will be measured and logged throughout the field test to quantify the water recovery rates within the capture plant

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SOPO Activities for BP4 and BP5

Budget Period 4 –Operations

Task 7. System Operation – Parametric and Long-Term Operation

- Subtask 7.1 Parametric Operation of Test System. Based on the test plan finalized in subtask 6.2, parametric testing of the membrane Large Pilot system will be conducted.
- Subtask 7.2 Long-Term Operation of Test System. Based on the test plan finalized in subtask 6.2, long-term operation of the membrane Large Pilot system will be conducted. The system is expected to produce operating conditions similar to the intended system design criteria In brief, the capture system is expected to meet DOE's expectations for a coal plant of the future, including rapid startup and shutdown, zero or limited cooling water needs or discharge and reduced CO2, SO2, NO2 and fly ash emissions.

Success Criteria - Budget Period 4

- Complete parametric field testing
- Identify test conditions for long-term steady state operation
- Complete more than six months of steady state operations with targeted system performance – 70% to 90%+ capture rate and generating 150 tonnes of CO_2 per day; CO_2 purity meeting DOE QGESS EOR spec.
- Membrane modules show steady performance over the duration of steady state operation. Final performance within 10% of initial performance (1,500 gpu).

SOPO Activities for BP4 and BP5

Budget Period 5 – Decommissioning and Final Reporting

- Decommissioning and Site Restoration. At the end of the project, the system will be decommissioned and the site will be restored to its original state.
- Task 9. Prepare Project Reports
- Subtask 9.1 Techno-Economic Analysis (TEA). The Recipient will update the cost estimates of a full-scale membrane system for CO2 capture from coal-fired power plant flue gas in a TEA report.
- Subtask 9.2 Final Report. A report will be prepared summarizing all project activities and findings.

Success Criteria - Budget Period 5

- The Large Pilot system is decommissioned and completely removed from the WITC, and the field test plot area is restored to its original condition.
- A techno-economic analysis confirms that the MTR process has the potential to meet the DOE capture cost targets for CO_2 capture from coal-fired power plant flue gas.
- The final report is completed and delivered to DOE on time.
- Development of Workforce Readiness for Technology Development plan, Environmental Justice Analysis study, and Economic Revitalization and Job Creation Outcomes Analysis

Lessons Learned

Engineering / Design

- Involve your Constructor during the development of the 3D model

Procurement

- Evaluate the option to procure used or existing new-unused equipment
- Include schedule contingency for overseas shipments
- Negotiating terms and conditions with equipment OEMs is not straight forward nor fast

Construction

- A quality and experienced on-site construction project manager is critical
- Constructor should be a flexible, inventive, and a creative scheduler

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www.mtrccs.com
ccs@mtrinc.com