



**ENERGY
NORTHWEST**

Condenser Replacement Project

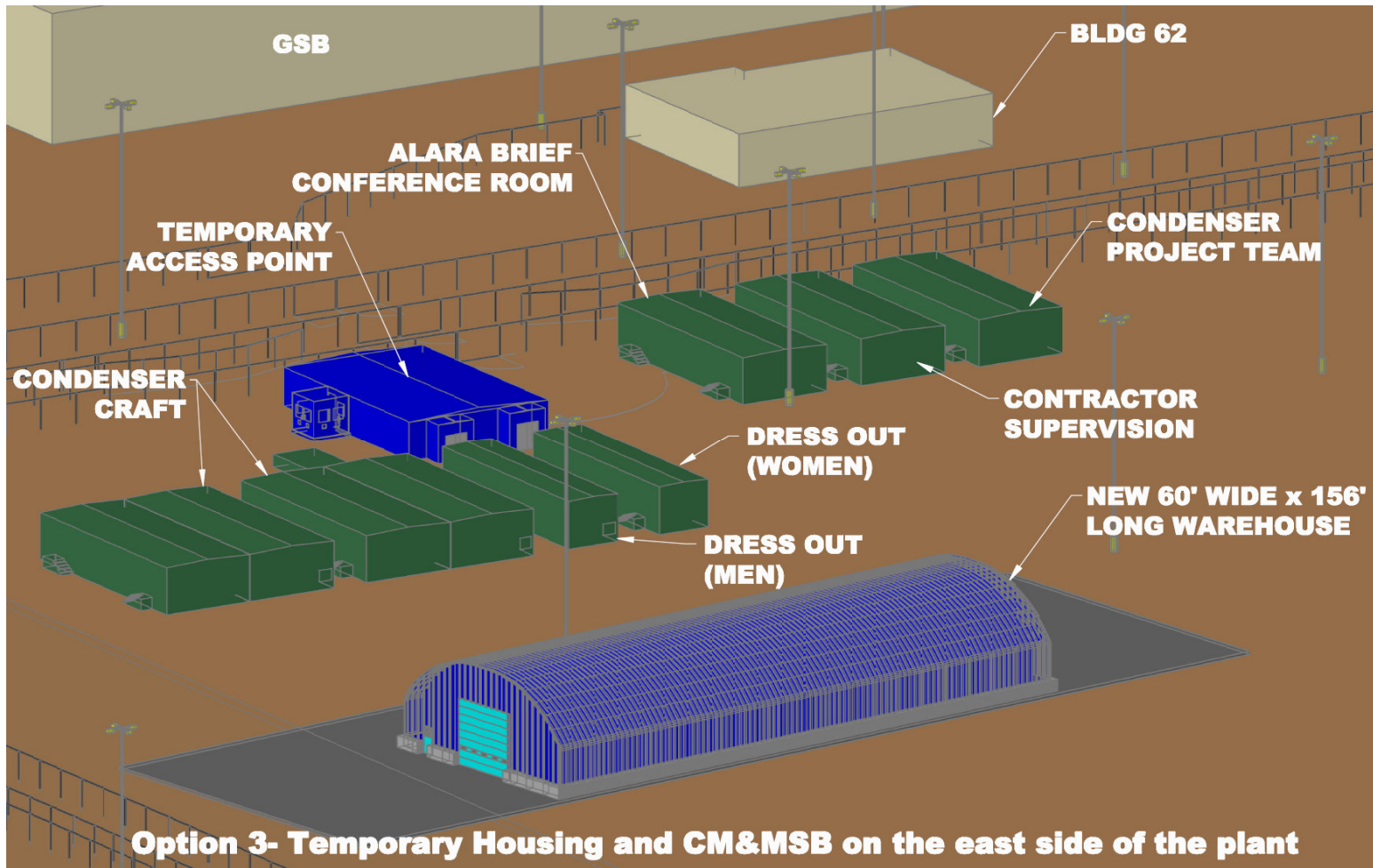
Brian Berglin, Project Manager
March 23, 2010



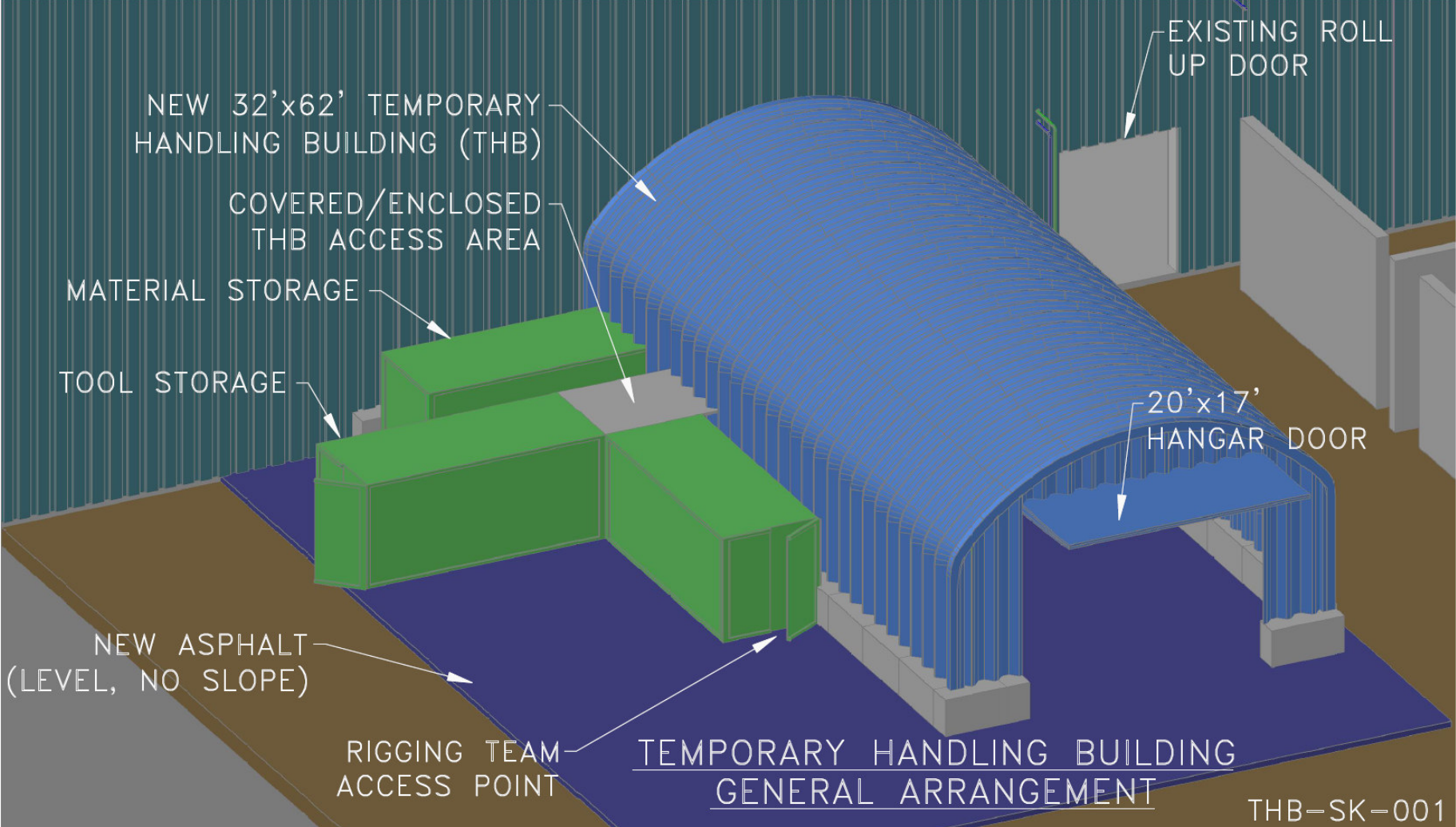
Scope

- ✦ Temporary Access Point – East Side Access
- ✦ Temporary Handling Building
- ✦ Heater Drain Piping Re-routing
- ✦ Air Removal Piping Re-routing
- ✦ Performance Monitoring Instrumentation
- ✦ Remove & Replace Walls 6 & 15 Block Walls
- ✦ Condenser Replacement

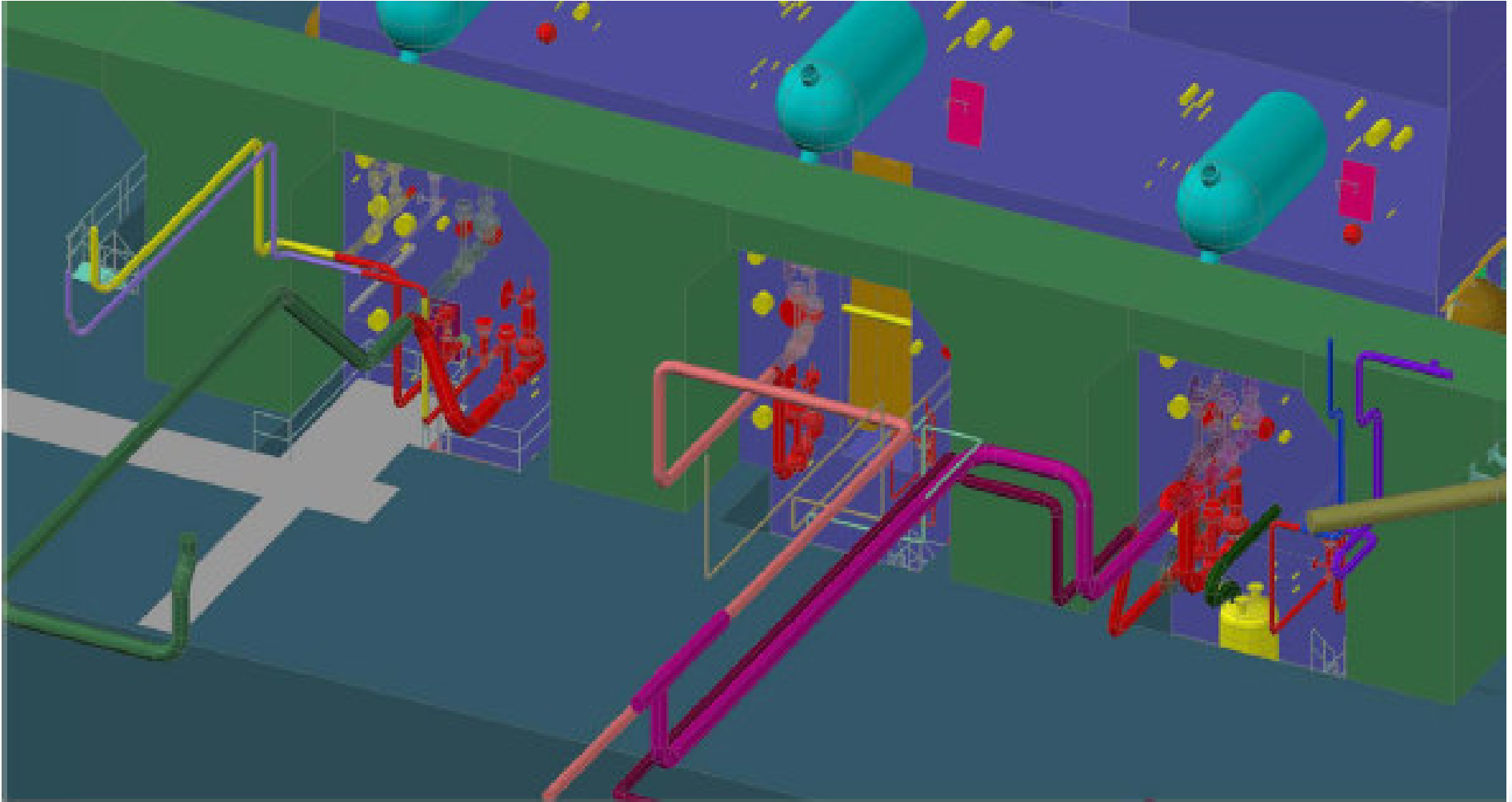
Process Highlights - Temporary Access Point



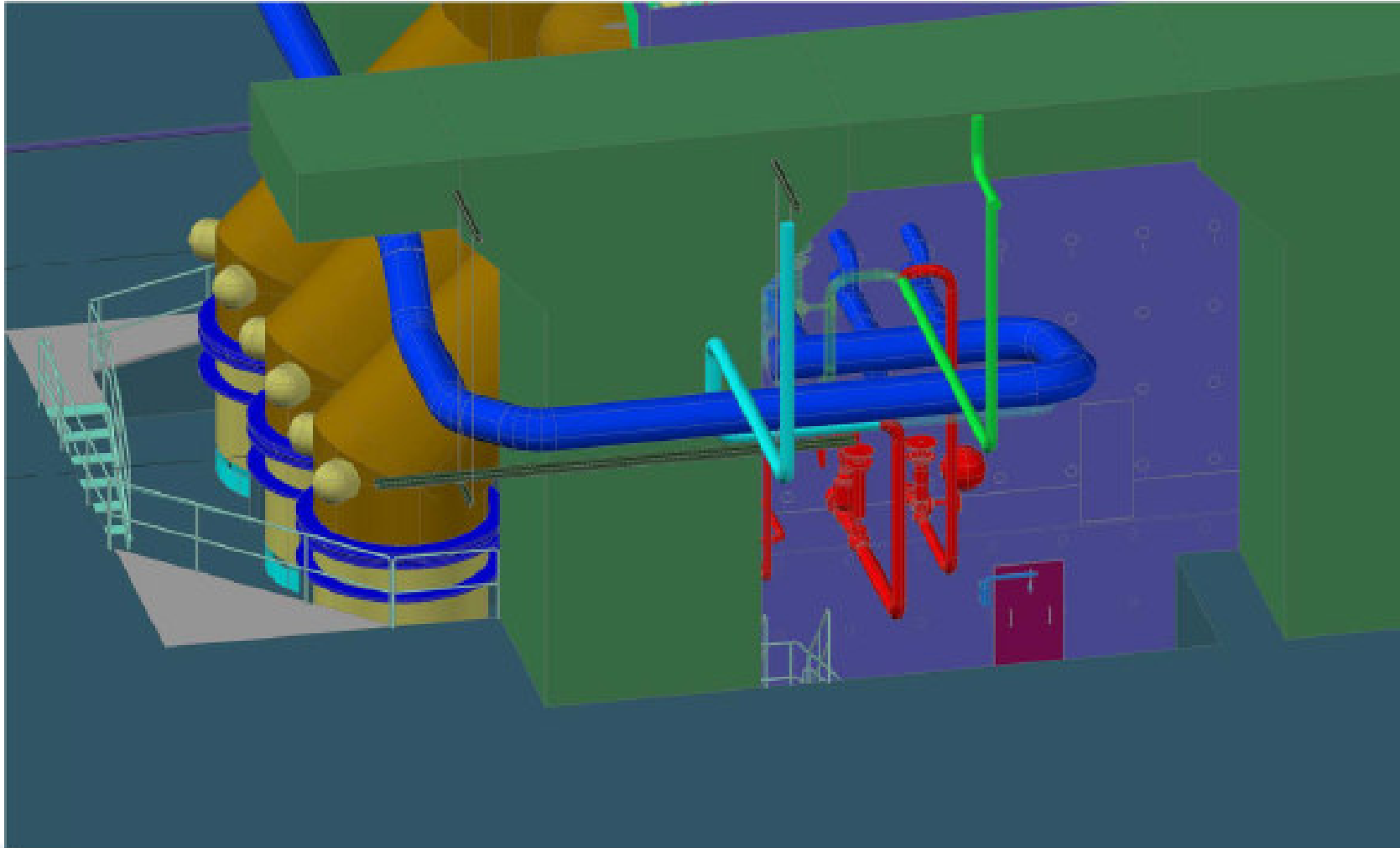
Process Highlights - Temporary Handling Building



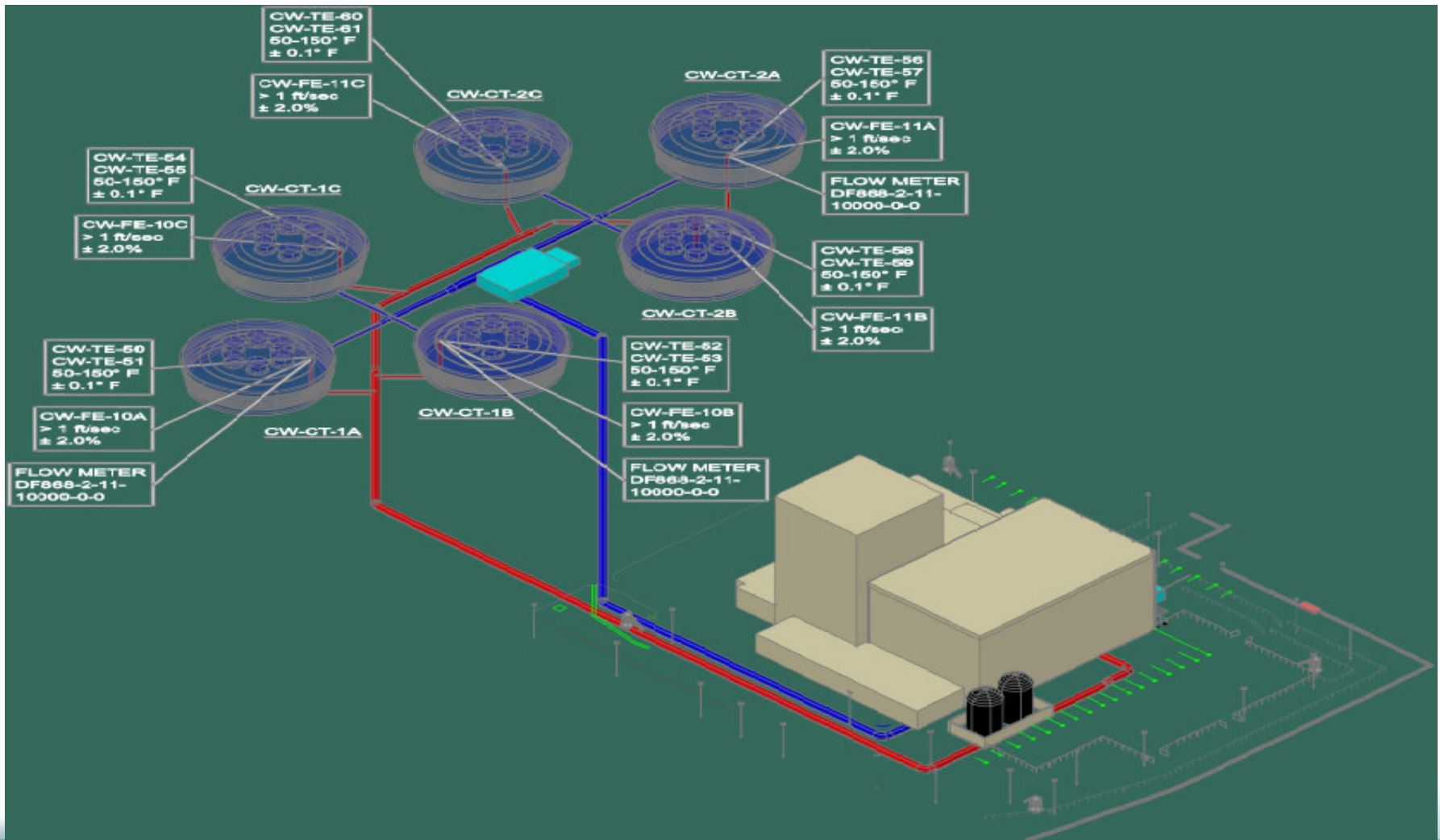
Process Highlights - Heater Drain Piping Re-routes



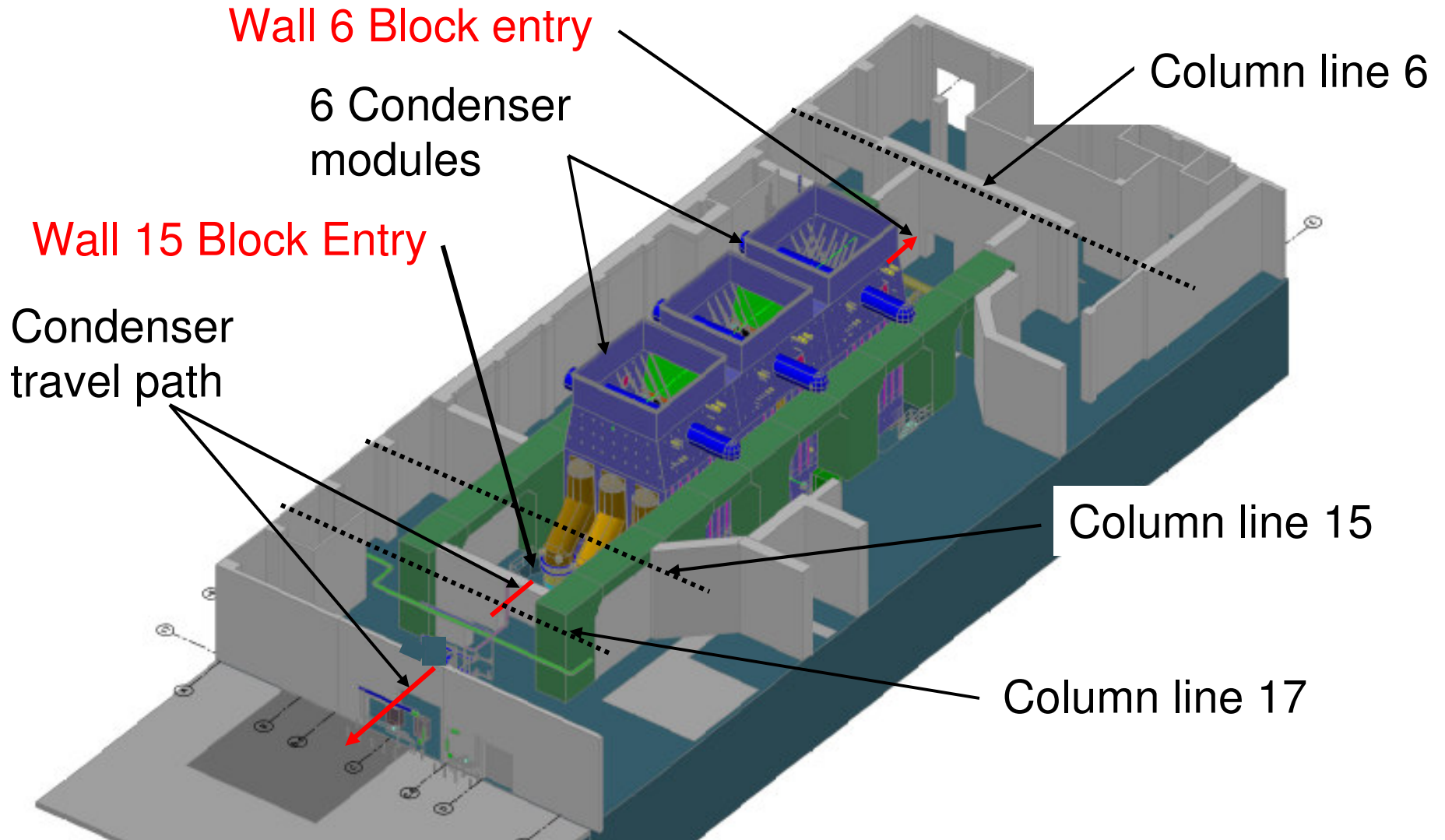
Process Highlights - Air Removal Piping Re-route



Process Highlights – Performance Monitoring



Process Highlights - Wall 15 & 6 Removal & Replace



Process Highlights - Callaway Condenser



Process Highlights - Callaway Condenser

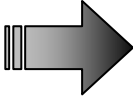
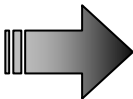
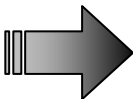
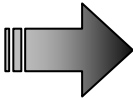
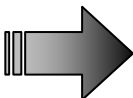


Industry Perspective

Five major issue areas are impacted by Main Condenser performance.

Issue Areas

Summary Observations

Fuel Integrity		<ul style="list-style-type: none">• Copper content in the existing condenser tubes poses a continuing risk of fuel cladding damage and fuel failure events.
Radiation Exposure		<ul style="list-style-type: none">• Copper from the condenser contributes to increased plant radiation exposure.• Plant downpower evolutions to repair leaking condenser tubes increase radiation exposure.• Copper from the condenser contributes to additional decontamination activities and increases costs.• Potential future litigation due to radiation exposure to workers.
Operational Reliability		<ul style="list-style-type: none">• Recurring condenser tube leaks have impacted plant operation and output by forcing downpower evolutions to repair tube leaks.
Financial Implications		<ul style="list-style-type: none">• A result of downpower evolutions, forced outages, increased dose, additional decontamination activities, and lost plant generation CGS costs have been adversely impacted.
Industry Perspective		<ul style="list-style-type: none">• The potential for fuel damage resulting from copper corrosion is a high interest issue within the nuclear industry and CGS is lagging the industry in this area.

Cost

✦ Major Contracts and Support for FY 2011

■ Implementation (B&W)	\$ 29,069,904
■ Condenser Procurement (SPX)	\$ 5,519,678
■ EN Labor	\$ 711,267
■ Design	\$ 1,122,882
■ NENL Labor	\$ 3,194,306
■ Materials and Facilities Support	\$ 503,269
■ East Side Access	\$ 749,087
■ Total FY 2011 Funds	\$ 40,870,393

Issues/Status

- ✦ Condenser Modules are being Fabricated
- ✦ Outage Engineering in Progress
- ✦ Work Order Planning in Progress
- ✦ Facilities Work in Progress
- ✦ Installation Contractor on Site and Inserted into the Outage Readiness with the Project and the Plant
- ✦ Long Range Plan Projected Budget has Increased
 - Current projected cost is 6% greater than 2008 business case
 - Current outage duration is lower than 2008 business case
 - Disposal cost of contaminated material is not fixed
 - Project looking for ways to reduce cost
 - Overall business case is still viable