



01-06 DOME Construction Project

April 2024

Changing the World's Energy Future

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NRIC

National Reactor
Innovation Center

DOME Construction

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5/13/2024



Accomplishments

- Construction Subcontract award to ESTECH - Aug 23
- Partial Notice to Proceed for ESTECH mobilization - Sept 23
- Final NTP for full construction activities - Oct 23.
- Quality Inspection Support awarded to ATLAS - Feb 24
- Request for Proposal to award a Commissioning Agent subcontract issued - Apr 24
- Construction activities projected completion - Jun 25



Accomplishments – Schedule and Cost Improvements

The NRIC Team continually evaluates methods to improve schedule and cost:

- Construction specification allows the QL3 subcontractor to order NQA-1 components for future commercial grade dedication by BEA.
- Epoxy Irradiation experiment to allow for more efficient and cheaper installation of the DOME Hatch.
- GFE strategy:
 - Allowed the Construction award to be QL3 vs QL1.
 - Long lead procurements prior to subcontract award.



Government Furnished Equipment

- The Project employed a strategy to provide GFE to the Construction Subcontractor resulting in Project cost and schedule improvement.
 - NRIC procurement of NQA-1 GFE allowed the Construction Subcontract to be awarded as QL3 vs QL1.
 - Long lead procurements prior to subcontract award resulting significant schedule improvement up to greater than 1 year.
- GFE Received as of Apr 24 include:
 - Pressure and temperature detectors, Swagelok valves, HEPA filters, medium voltage transformer, and low voltage switchboard.



Government Furnished Equipment

- Expected schedule for receipt of rest of GFE includes:
 - Radiation monitor – Jul 24 (Mirion).
 - Power and I&C Penetration assembly - Aug 24 (Mirion).
 - Hatch and Utility Penetration Assembly – Aug 24 (Petersen).
 - Containment Isolation Valves (air exhaust, and water) - Aug 24 (Enertech)
 - Plant air - Spring 2025 (Valcor)
 - Personnel door - Jun 24 (Walz & Krenzer).
 - AHU expansion tank - May 24 (Gritton).
 - Safety Class Duct Bank - June 2024 (TRENWA).
 - Medium Voltage Sectionalizer - Summer 2025 (D&S). A mitigation plan to install a temporary sectionalizer is in place to ensure this does not impact schedule.



Risk Management

Significant project risks to cost and schedule include the following.

- Delay in receipt of Government Furnished Equipment due to supply chain issues or Contracting/QA requirements.
- Additional design improvements based on unexpected field conditions.
- Potential scope change to include crane repair or thermal sleeve installation in the construction subcontract.



Schedule – Major Milestones

- April 2024 - Award Commissioning Agent Subcontract
- June 2025 – Complete Construction
- October 2025 - DOE Approve Documented Safety Analysis
- March 2026 - Complete Testing
- March 2026 – Complete Turnover and Operational Readiness
- April 2026 – Complete Project.





Schedule and Cost Performance

SPI and CPI Data as of March 2024:

- **CPI – 1.1** – slightly under budget due to late invoicing by the construction subcontractor for procured items than was planned. This CPI trend is expected to trend towards 1.0 as these items are ordered.
- **SPI – 0.8** – currently behind schedule due to finding unexpected underground utilities and weather delays. Schedule recovery is trending towards 1.0 as the project continually identifies more efficient ways to perform the work.



DOME Construction Flythrough

- The video includes a 3D model projection of the DOME facility final design including recent photos of current construction progress.
- [VIDEO](#)



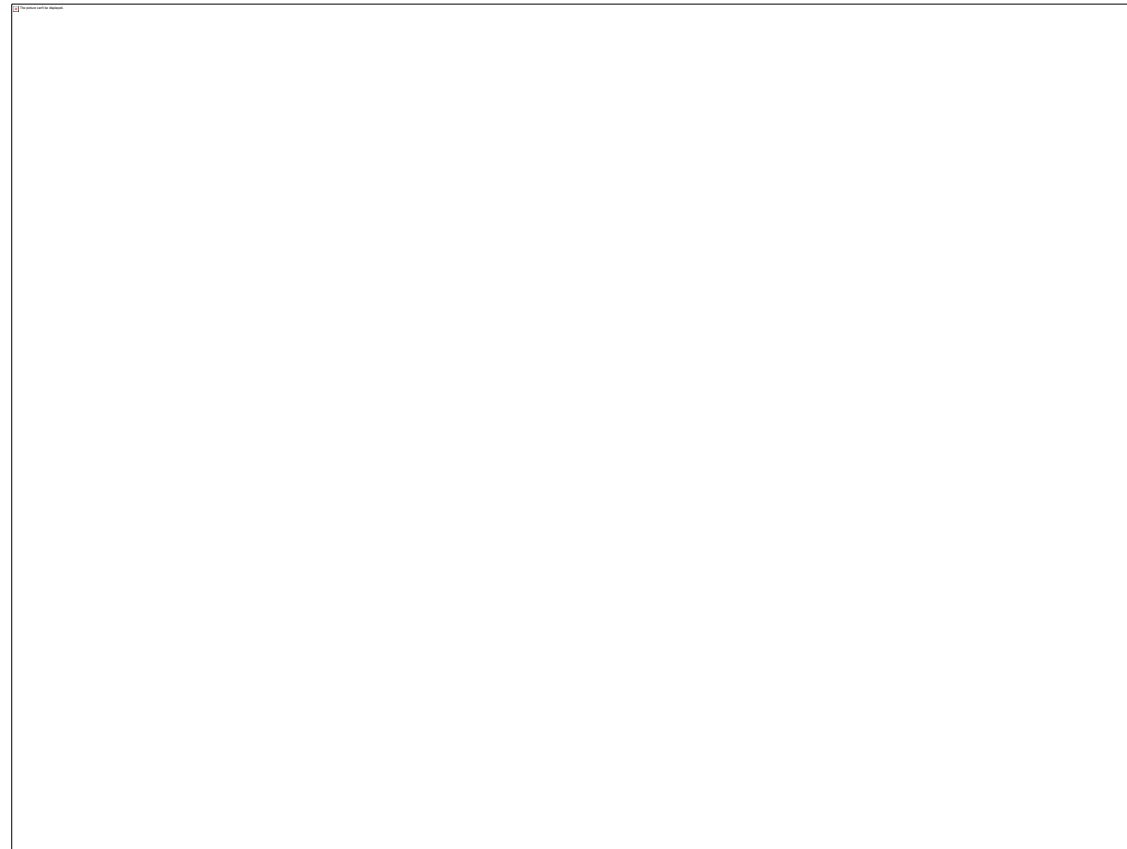


Additional Photos



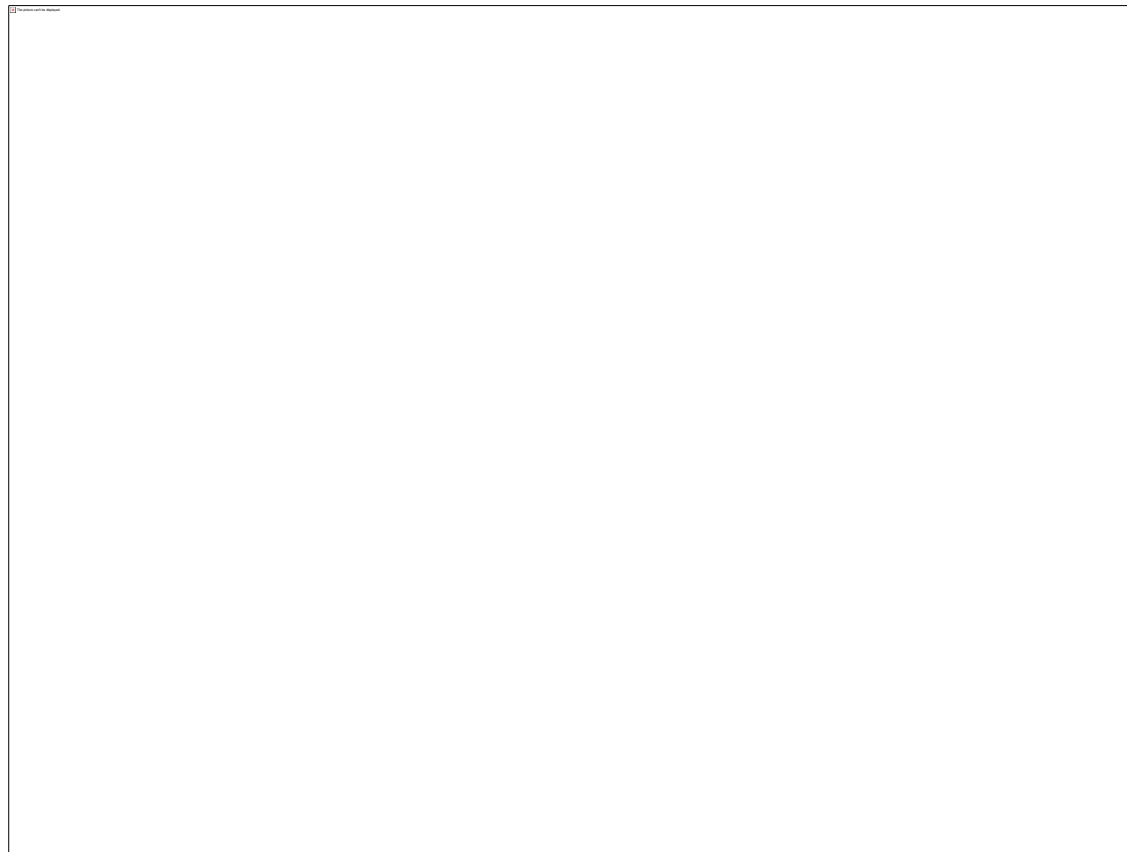


Additional Photos Cont.





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