VIRGIL C. SUMMER NUCLEAR PLANT
EVALUATION OF THE SITE CONDITIONS OF THE CANCELLED UNITS

Rick Lee, Chair
Jim Little, Nuclear Industry Appointment
South Carolina Governor's
Nuclear Advisory Council

September 16, 2024

Purpose of Visit - September 12, 2024

- **Many anecdotal discussions across South Carolina and in the press which indicated that the facility and its materials were in a state of decay and neglect.**
- **Accompanied by site personnel who showed wide array of structures, storage areas and specialized nuclear power plant equipment.**
- **Our inspection assumed the broadly held public opinions and views that the site was in a dramatic state of decay with much material and equipment having been sold or removed.**
- **Surprisingly, observations of the September 12, 2024 visit indicate that that there were no technical obstacles to a more detailed examination of the potential completion of the facilities.**

Background

- **Project consists of two partially completed Westinghouse designed AP1000 units identical to two units now in operation for the Southern Company at the Plant Vogtle site near Augusta, Georgia.**
- **Current state of completion is with Unit 2 at approximately 48% completion and Unit 3 with significantly less completion.**

Does VC Summer Offer Opportunity?

- **Pending shortage of generation in South Carolina to meet forecasted needs**
- **Drive towards sustainable and reliable energy sources.**
- **Extensive lead time for starting new nuclear projects**
- **Significant amount of value already invested in the completed work and inventory at V.C. Summer,**
- **Existence of Vogtle Completion experience**
- **Prudency dictates to take a last look at whether an opportunity exists to accelerate a solution to our power needs.**

Facilities Inspected

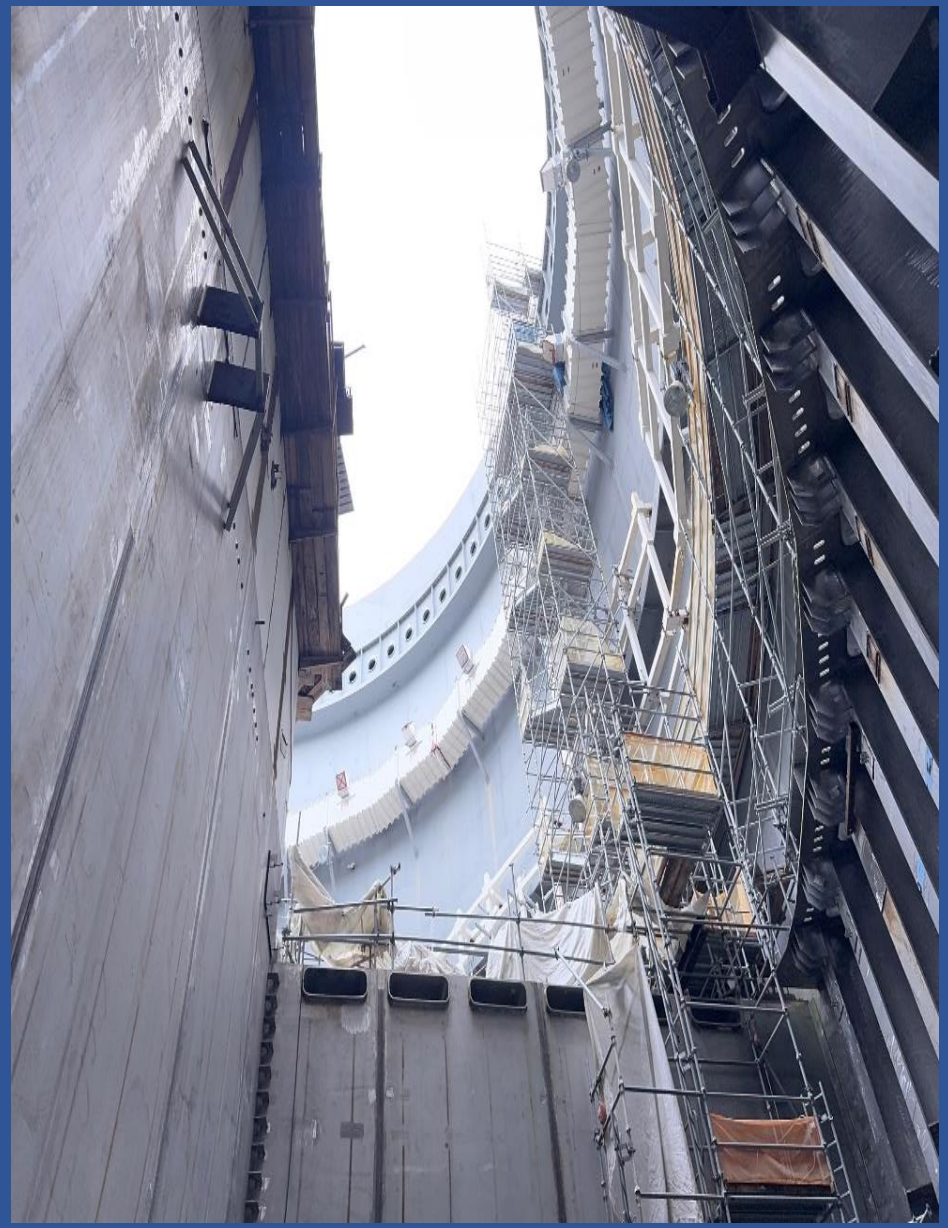
1. Containment Building
2. Turbine Hall
3. Cooling Towers
4. Large Components (Partially Installed on Unit 2, On Site for Unit 3
   a. Generator Dome
   b. Unit 3 Building Assemblies, Sub Structures
   c. Reactor Vessels (with internals installed)
   d. Upper Head Assemblies
   e. Reactor Coolant Pumps
   f. Steam Generators (Installed on Unit 2)
   g. Condenser (installed on Unit 2)
   h. Moisture Separators
   i. Feed water Heaters
   j. Containment Rings
   k. Diesel Generators
   l. Generator Stator
   m. Site Crane (disassembled)
5. Buildings
   a. Administration Building (Complete – ready for occupancy)
   b. Modular assembly Building (MAB)
   c. Warehouses (with Class A air-conditioned spaces)

Unit 2 Reactor Containment Structure

Additional view of Reactor 2 Containment Structure

Interior of Unit 2 Structure and Containment rings with Steam Generator Installed

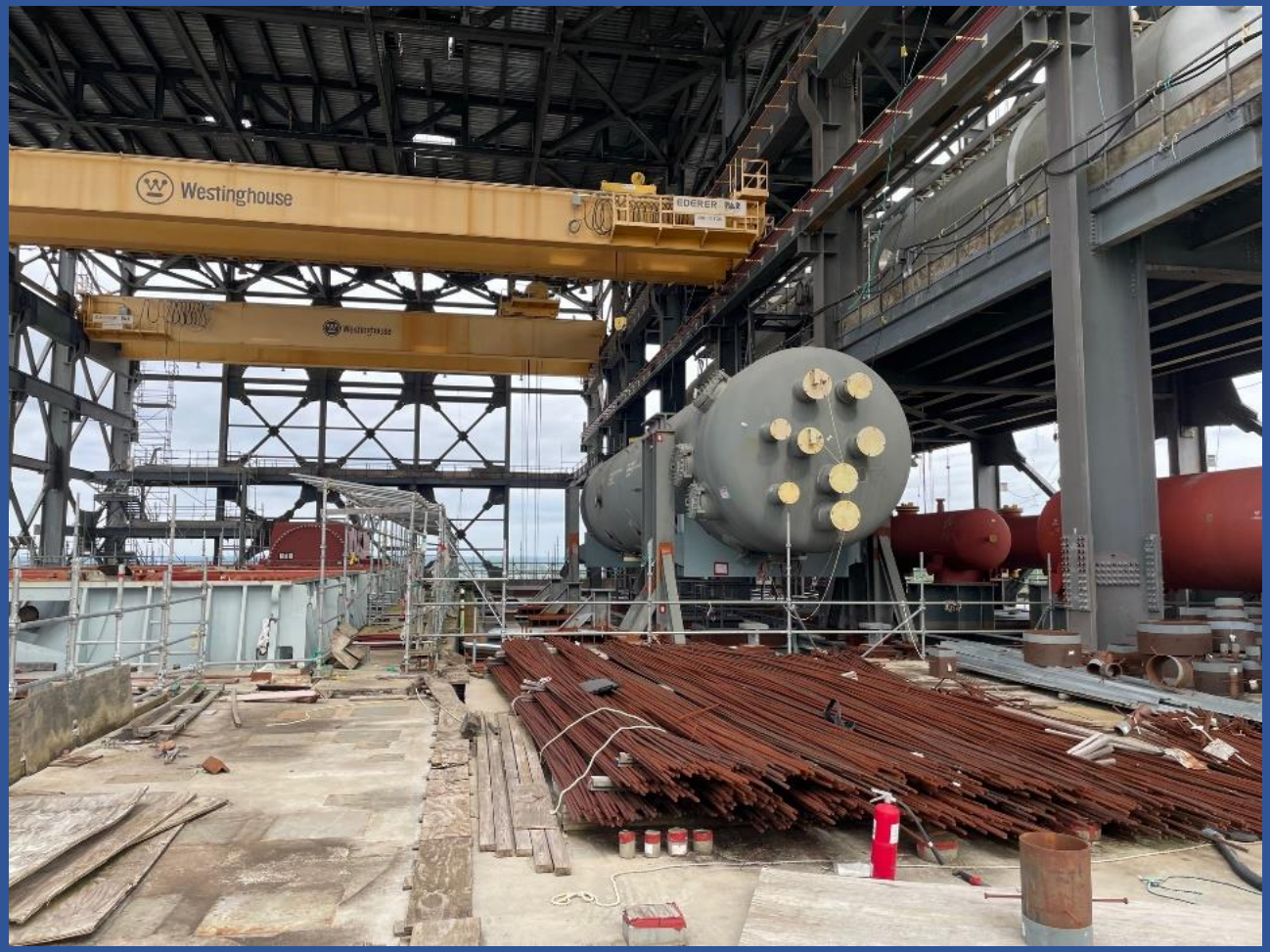
Upward view of Unit 2



Upper Reactor Assemblies in storage

Reactor Coolant Pump Storage

The Turbine Hall



Installed equipment, piping and structures in the turbine building

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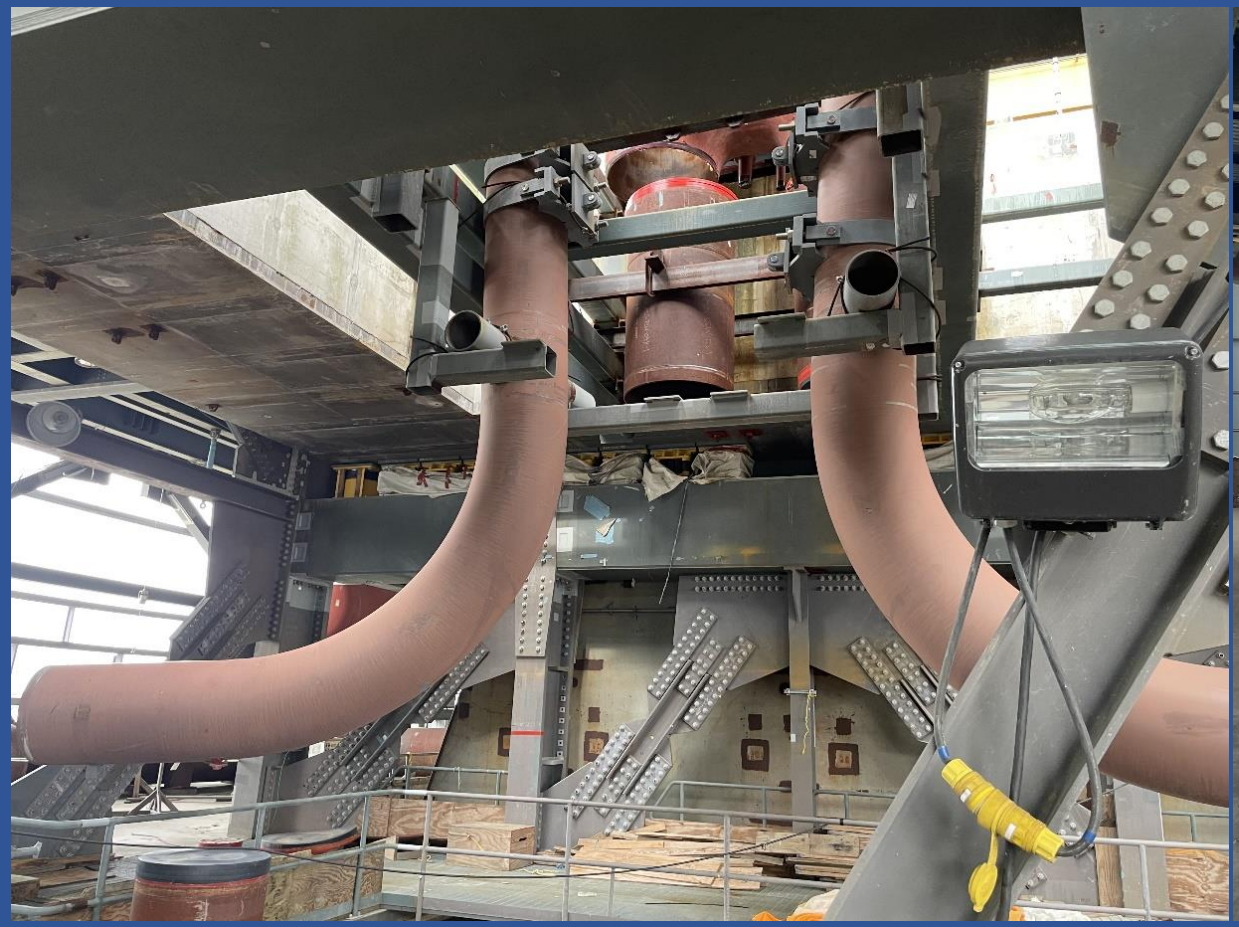


Valve Assemblies in storage

Emergency Power 3500 KW Diesel Generator Packs (4 total)

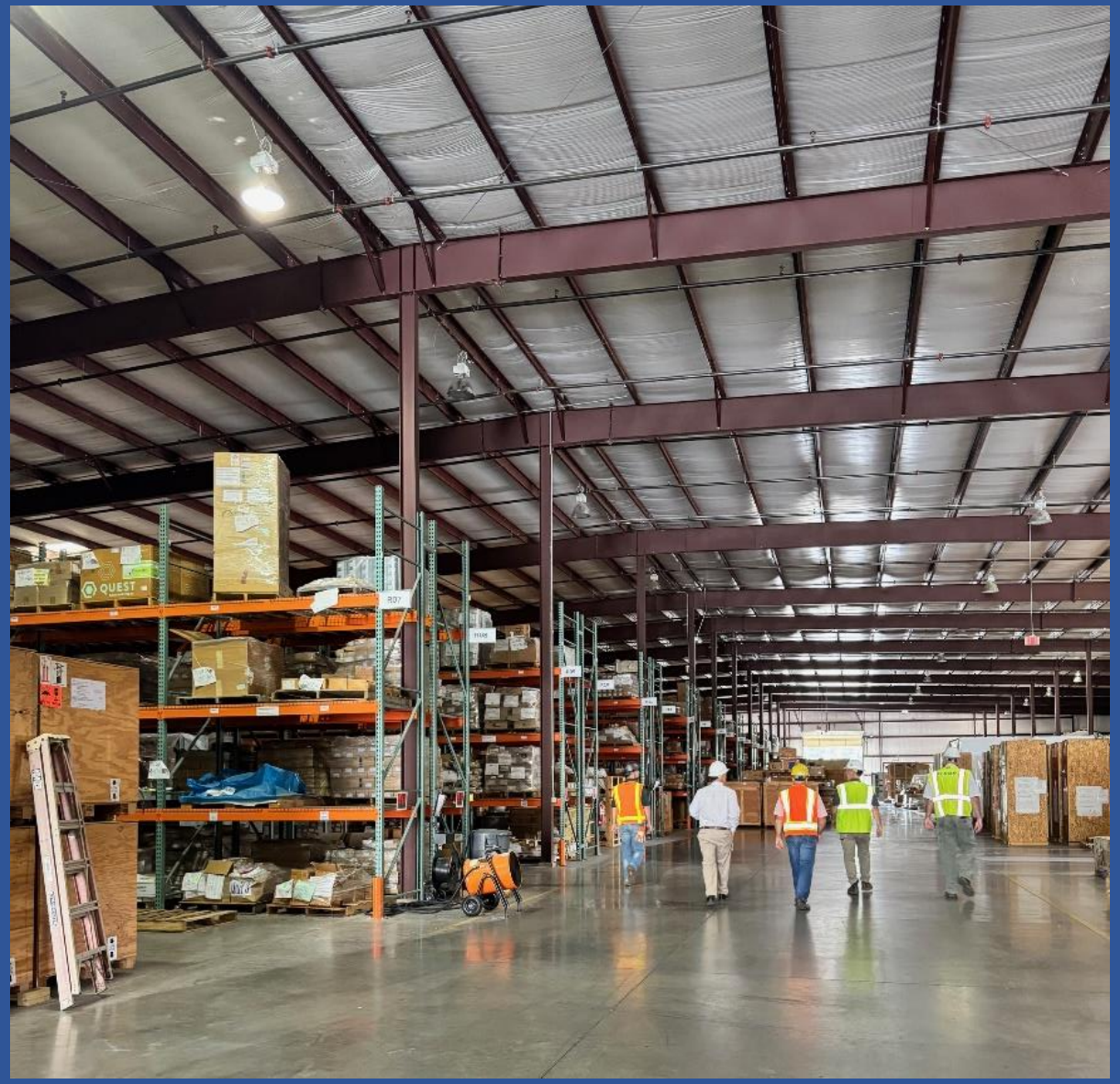
Regulator Preventive Maintenance is still being performed on the units

Unit 3 Reactor Vessel with Internals

Unit 3 Stator awaiting installation

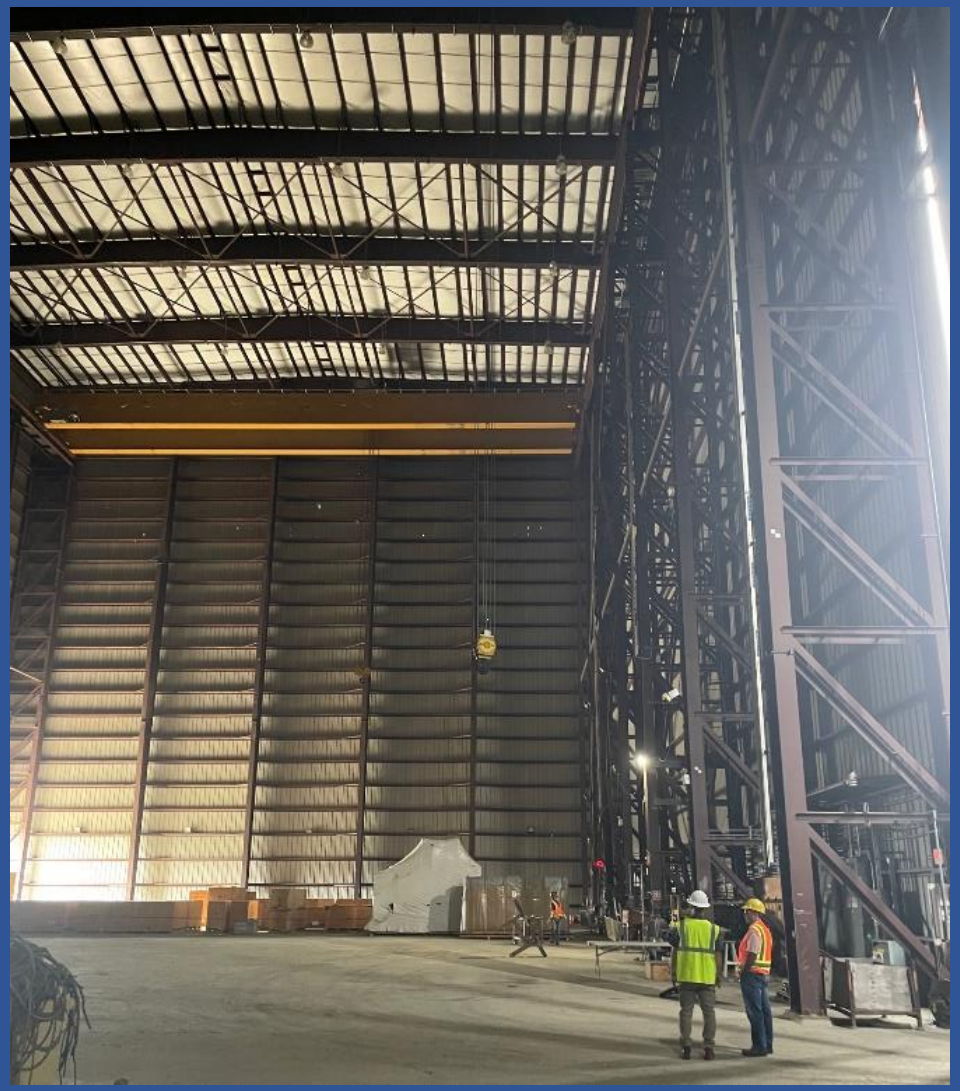
14 Warehouses, 80,000 sq ft each.
Observed were full of materials

Warehouse Materials



View from the Unit 2 Turbine Building towards the Modular Assembly Building and Unit 3 Containment Structure

Modular Assembly Building



Findings

- **Site in excellent condition with other than some overgrowth**
- **No apparent degradation of grade or access to facilities.**
- **Laydown areas for materials and large components are well established and, where necessary, cordoned off with signage. The condition of the various buildings and facilities shows no degradation, corrosion or spalling of concrete.**
- **All of the installed components show no corrosion other than surface rust which would be expected under a construction project in progress. The exposed rebar material, which is coated, also shows no serious defects and with normal rust management techniques could be ready for additional concrete lifts.**
- **Warehouses are well maintained and intact with sufficient systems of lighting and ventilation operational.**
- **Both the installed components and those in storage are in excellent condition. There is an extensive inventory of materials, assemblies and electrical and instrumentation systems that is well maintained and inventoried in a series of warehouses.**

Conclusions

- **From a technical perspective,**
  - **The general impression of the site condition is one of a shutdown of several months rather than the actual term of seven years since cancellation in 2017.**
  - **No obvious conditions preclude undertaking completion.**

  - **Efforts Underway to Re-Consider Shuttered Facilities and Planned Retirements**
    - **Watts Bar Unit 2 – Recently completed after Termination in 1988**
    - **Palisades**
    - **TMI Unit 1 (PPA with Microsoft Data Center Supply)**
    - **Diablo Canyon**
  - **Unit 2 would be the most likely target for consideration given its approximate 48% completion.**

Considerations

- Thorough assessment by qualified and experienced engineering/construction company to include an assessment of quality documentation, the facilities, the complete inventory of materials and development of a recovery schedule and budget estimate.

- Sources of funding associated with the assessment, completion.

- Evaluating the ownership and equity positions of various stakeholders and an approach required to address state utility commission interests.

Additional Considerations

- Establishing a regulatory protocol for reestablishing the license and/or developing an alternative Part 50 license approach - a first-of-a-kind experience. This effort would include an assessment of QA programs and Code conditions, etc.
- Re-constituting project planning and cost and schedule estimates to complete - a significant effort
- Development of sources of supply, labor surveys and availability
- Cooperation from Southern Company to make available competed design and construction information and materials