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SMR-300 Structural Modularity (Open Session)

Sept 23, 2024

Holtec's SMR-300 Technology
Safe, Secure, Reliable, Flexible, Economical
Clean Energy to Support the World's Energy Needs

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[Not Export Controlled]

Agenda

- Purpose & Outcome
- Motivation for Structural Modularity
- Holtec's Design: Concrete Filled Steel Structure (CFSS)
- Application to SMR-300: Containment Enclosure Structure (CES)
- Phases of Constructing CES
- Future Work and Timelines
- Questions for NRC Staff

Purpose & Outcome

- Purpose
  - Preview plans for modularity of SMR-300's Nuclear Island structures
  - Present high-level design philosophy
  - Walk-through preliminary modular design of CES
  - Present timelines for future work and NRC engagement
- Outcome
  - Identify any existing or forthcoming guidance applicable to SMR-300 modular structures
  - Understand potential NRC review risks for SMR-300's modular designs

Structural Modularity: Motivation

- Reduce on-site work and labor
- Accelerate critical path construction activities
- Improve shop fabrication efficiency
  - ✔ Utilize fewer and standardized parts
  - ✔ Adopt standard and repeatable design
  - ✔ Incorporate semi-automatic or automatic welding techniques
- Design for easier on-site assembly
  - ✔ Features to accommodate tolerances
  - ✔ Simple connection designs
  - ✔ On-site semi-automatic/automatic welding methods
  - ✔ Address Michigan weather limitations

Transition to Proprietary Session