



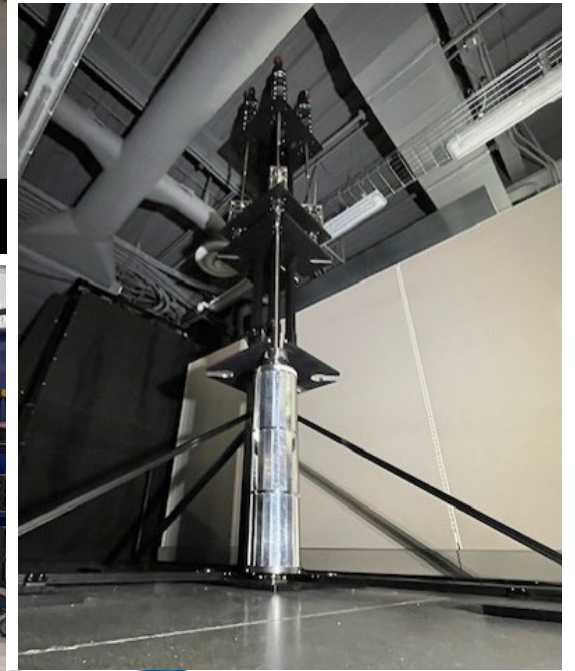
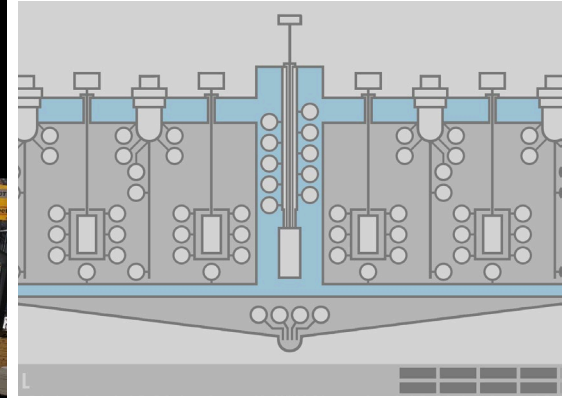
MARVEL Transition to Operations and Readiness

Travis King, MARVEL NFM

March 2026

Transition to Operations

- Phase 1: Dry Critical Operations
 - SAR-420-ADD-1r0
 - Only Test Plan operations are allowed.
- Phase 2: Full Power Operations
 - SAR-420-ADD-1r1
 - Transition to “Unrestricted Operations”

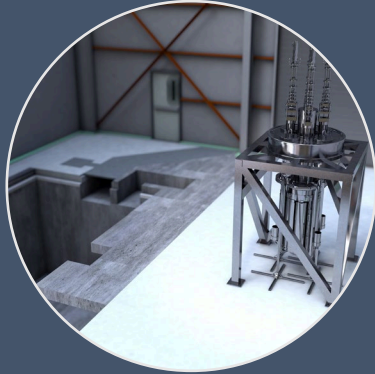


Transition to Operations: Phase 1 Dry Criticality



Construction, Assembly & System Acceptance Testing

- Construct/Assemble SSCs
- System Acceptance Testing



Engineering Change Turnover

- Essential As-built drawings issued
- Issue Test Plans and Procedures
- Validate Operating Procedures
- Deliver Training to Plant Staff



FSAR Implementation

- Safety Basis Implementation Matrix Updated
- Normal Operating Procedures Issued
- Operator Provisional Certification
- Training Implementation Matrix (PDD-218) Updated



Management Self Assessment

- Proposed Scope:
 - 5 CRADs included
 - Conduct of Operations
 - Conduct of Engineering
 - Nuclear Safety
 - Training and Qualifications
 - Startup Plan
 - 7 Excluded



DOE Readiness Review

- Same scope as MSA
- Performance Demonstrations
- Fuel loading
- Approach to Criticality
- Evaluated Drill



Startup Plan Evolutions & Testing

- Startup Controls In Place
- Fuel Loading
- Approach to Criticality

DOE Readiness Review

Conduct per NE Order 425.1, “Verification of Readiness to Start Up or Restart Nuclear Facilities”

SAA: Secretary of Energy for Initial Startup and Manager for NE-ID for all other SAA roles and responsibilities.

Proposed Scope:

Core Requirements Included

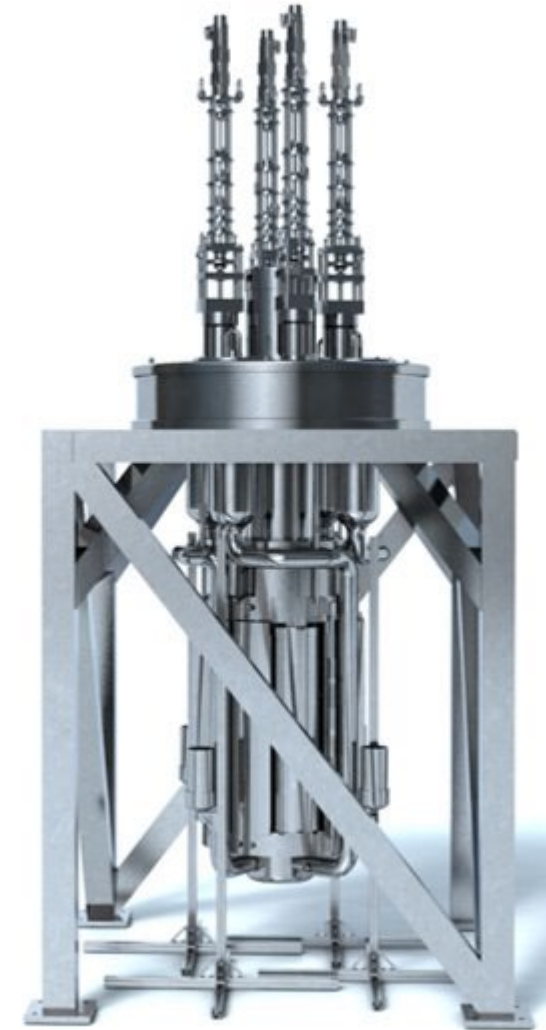
- Conduct of Operations
- Conduct of Engineering
- Nuclear Safety
- Personnel and Management Training and Qualification
- Startup Plan
- Federal Qualifications
- DOE Management System

Core Requirements Excluded

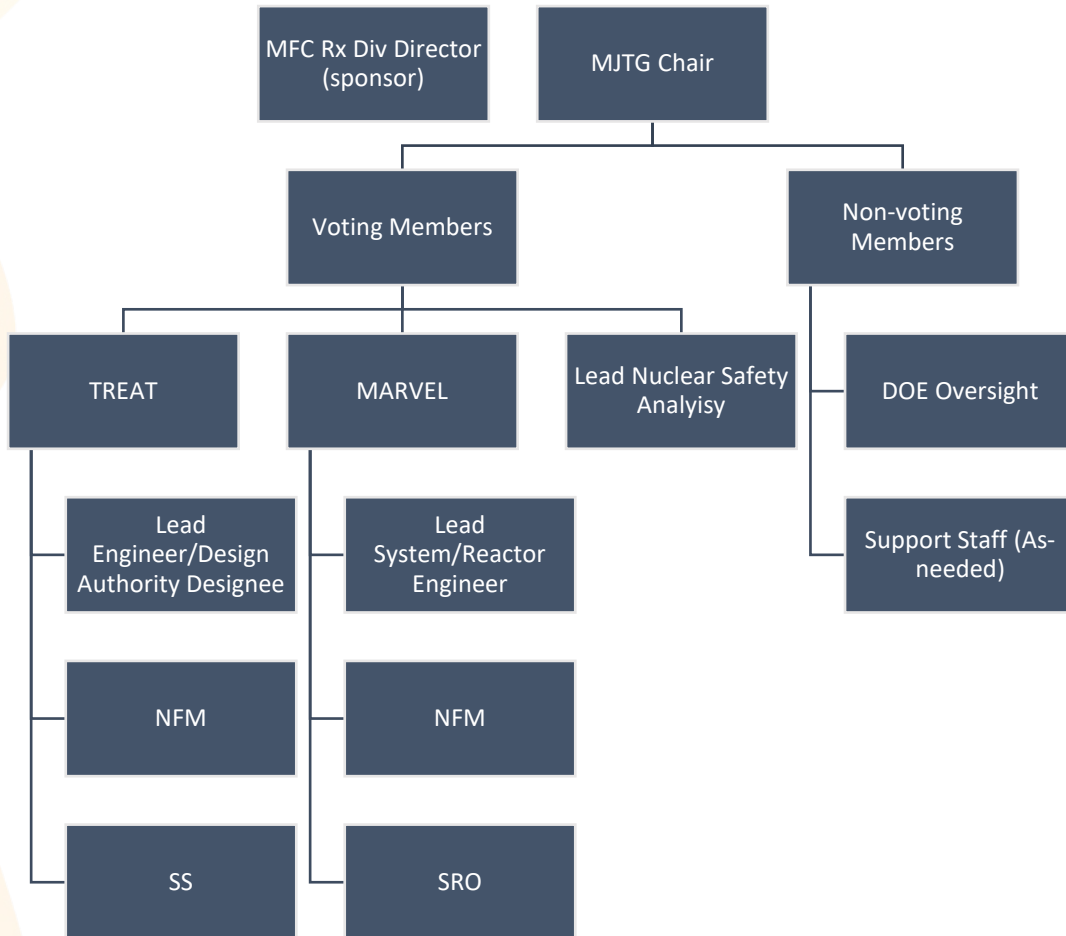
- Contractor Assurance
- Criticality Safety
- Emergency Planning and Preparedness, and Operational Drills
- Fire Protection
- Quality Assurance
- Radiation Protection
- Safety and Health

On-site Activities

- Facility Walk-down
- Performance Demonstrations
 - Fuel Loading/Unloading
 - Approach to Criticality
- Interviews
- Drill: Simulated Fuel Handling Accident



Commissioning Organization



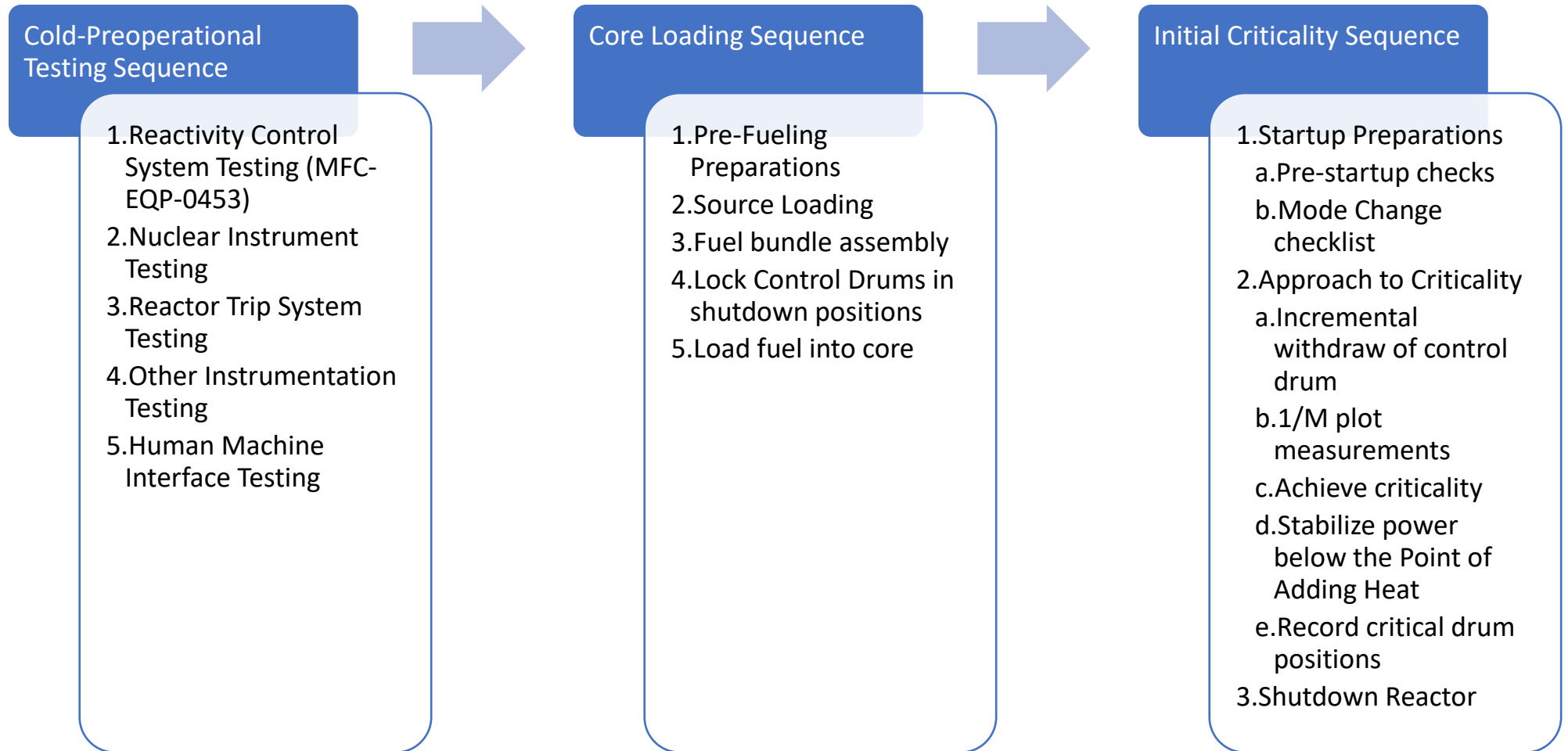
Responsibilities

- Review and Approve Test Procedures
- Approve Safety Basis Implementation
- Issues Management
- Test Performance Oversight
- Review and approve test results
- Approve Engineering Changes during commissioning process

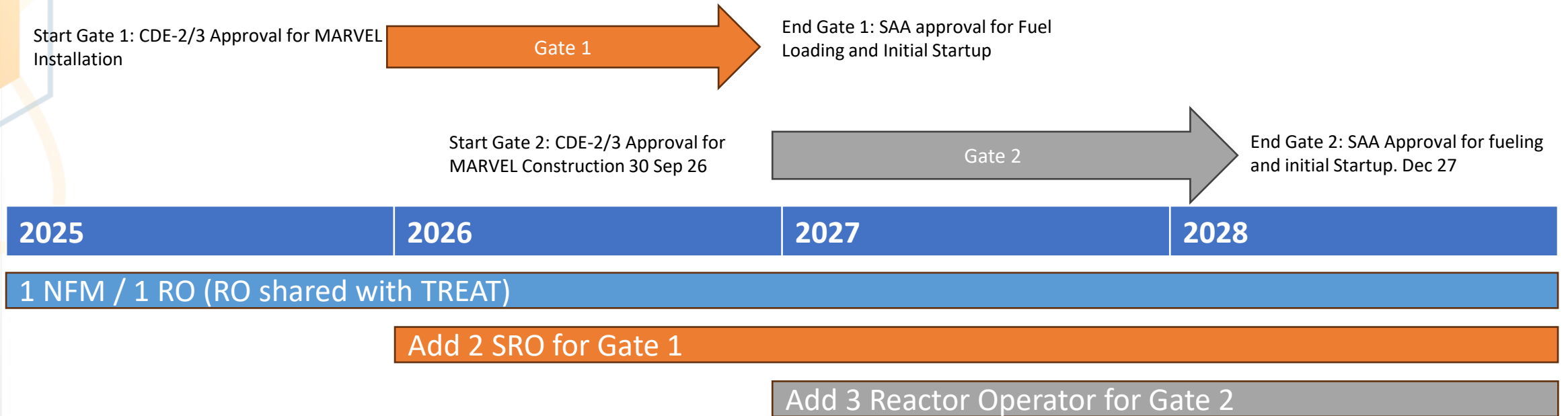
References:

PLN-7054 Advanced Reactor Commissioning Plan
CTR-55671 MARVEL Joint Test Group Charter

Startup Test Plan Sequence – Dry Criticality



Operations Staffing Plan



Current: 1 NFM, 2 SRO, 1 RO

Proposed TS Min staff = 1 SRO, 1 RO

Total Certified Operators for 2 crew intermittent operation = 2 SRO, 4 RO