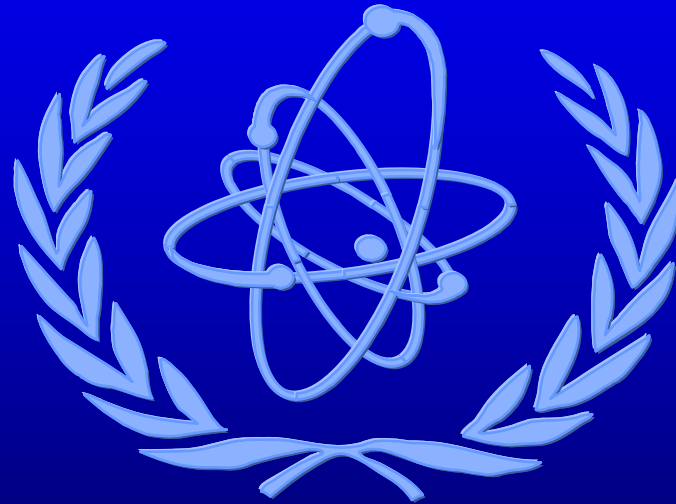
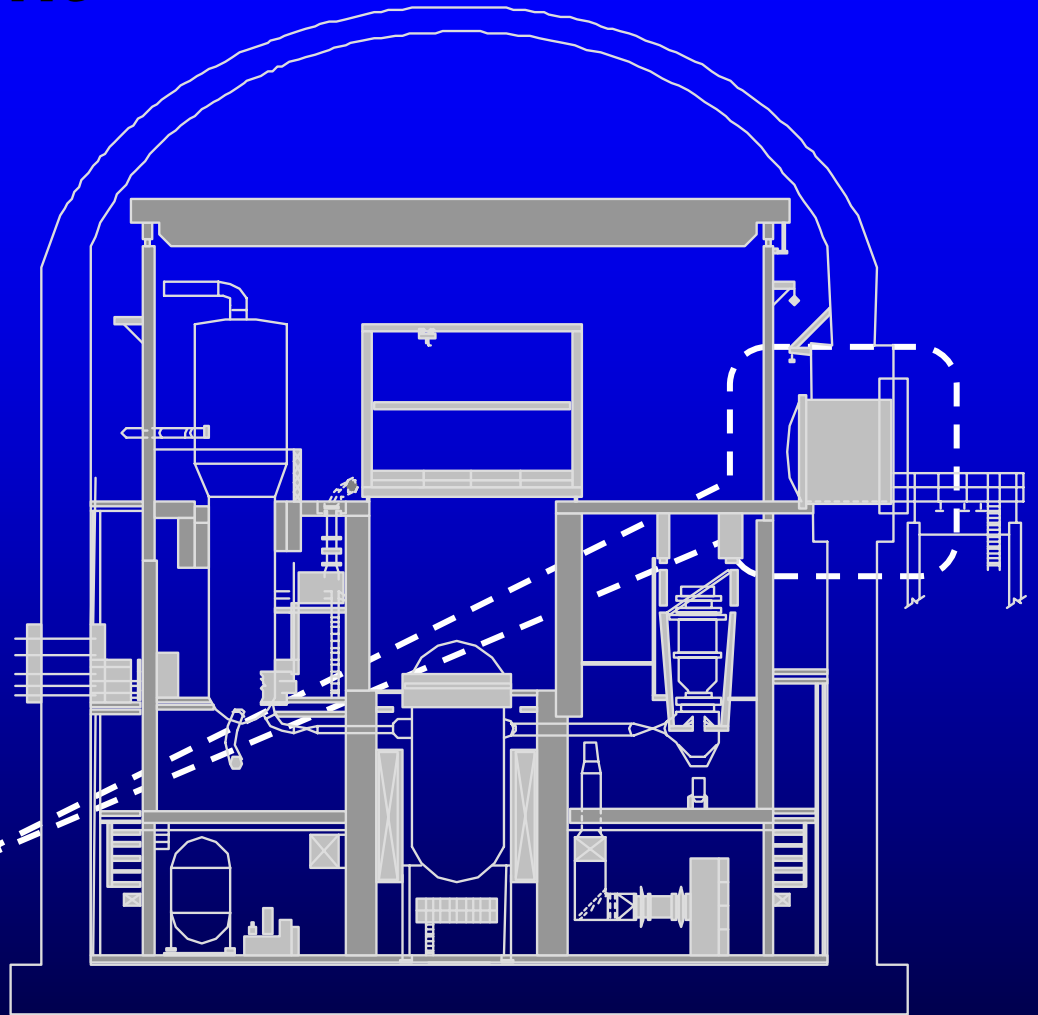


Exercise E5 **Containment Failure Criteria**



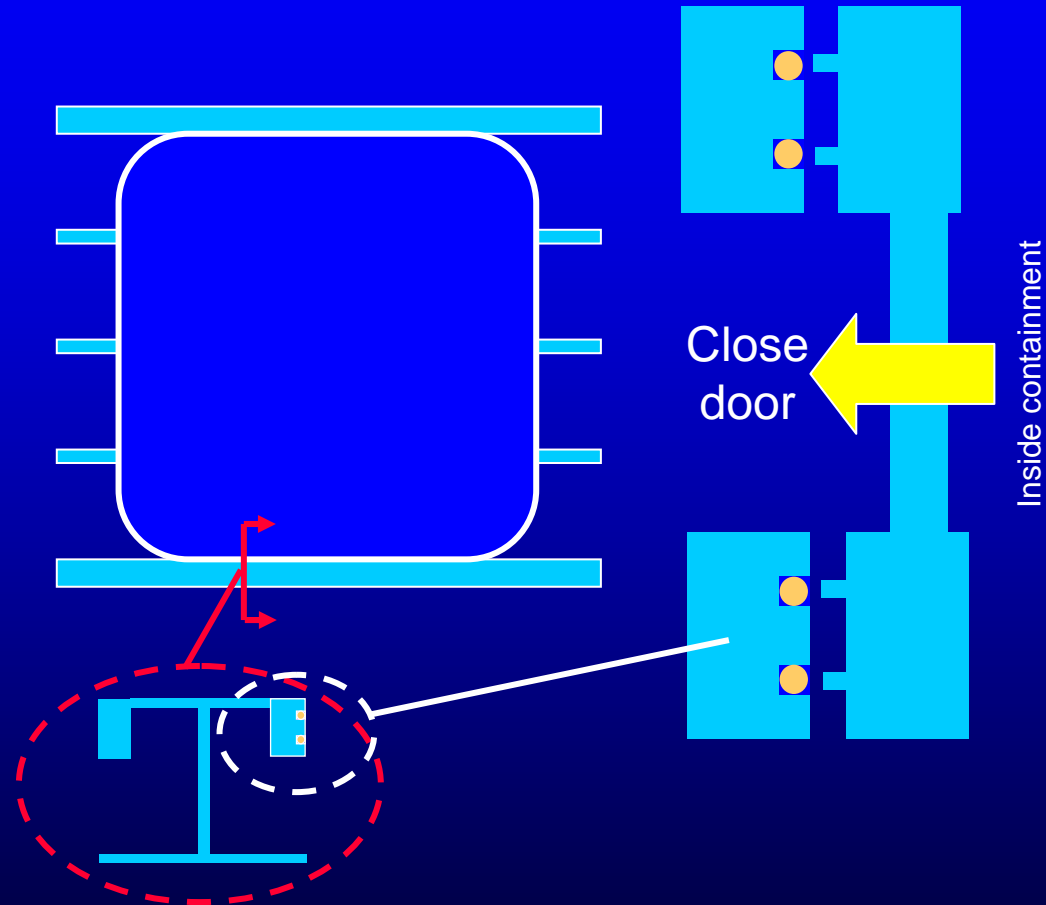
Example Containment

- Large-dry PWR containment
- Steel-lined concrete structure
- Major penetrations:
 - Personnel airlock
 - Equipment hatch



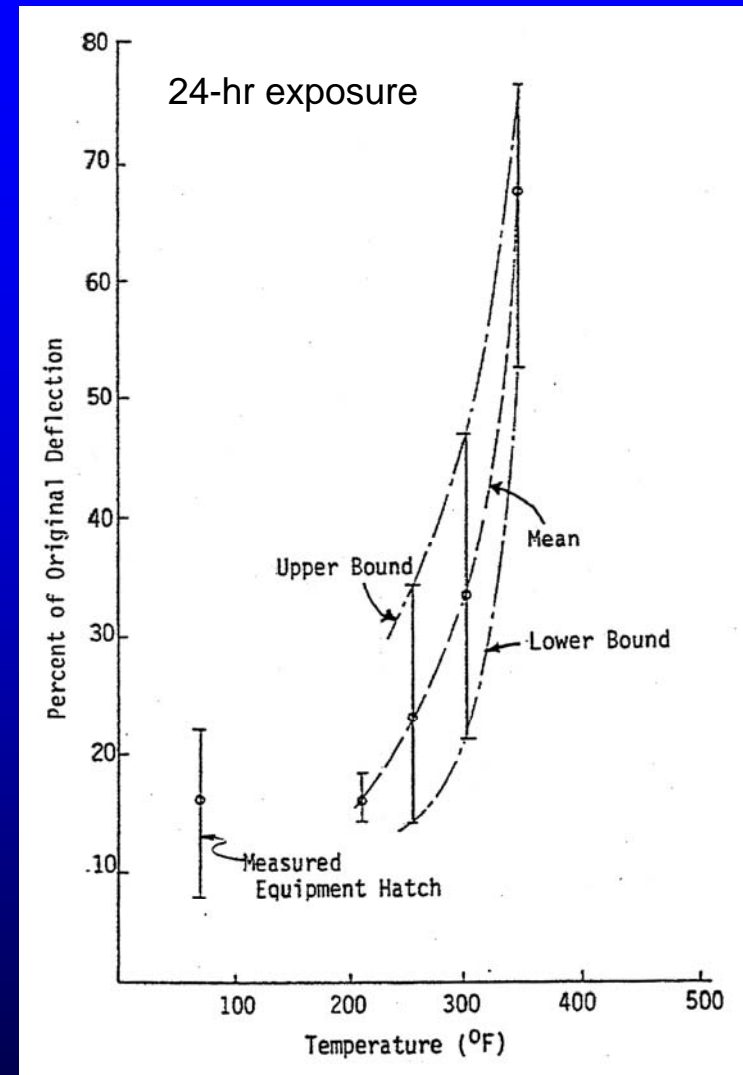
Airlock Seal Degradation

- Equipment hatch mates with steel bulkhead using a tongue-and-groove seal configuration
- Seal material is ethylene-propylene rubber



High-Temperature Seal Deterioration

- Exposure to high temperature can result in a permanent 'set' in the seal material
 - i.e., seal will not completely expand to fill gap when applied load is decreased
 - Percent loss of seal expansion shown in figure



Containment Failure Criteria

Answer



Proposed Criteria for Leakage

- Leakage through the equipment hatch seals will result if:
 - Drywell atmosphere temperature exceeds 300°F (420C) for more than 24 hours and
 - Drywell pressure increases afterward.

