American Electric Power
Meeting with
Nuclear Regulatory Commission

Resolution of Containment Structural Issues

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June 11, 2001

ENCLOSURE 2

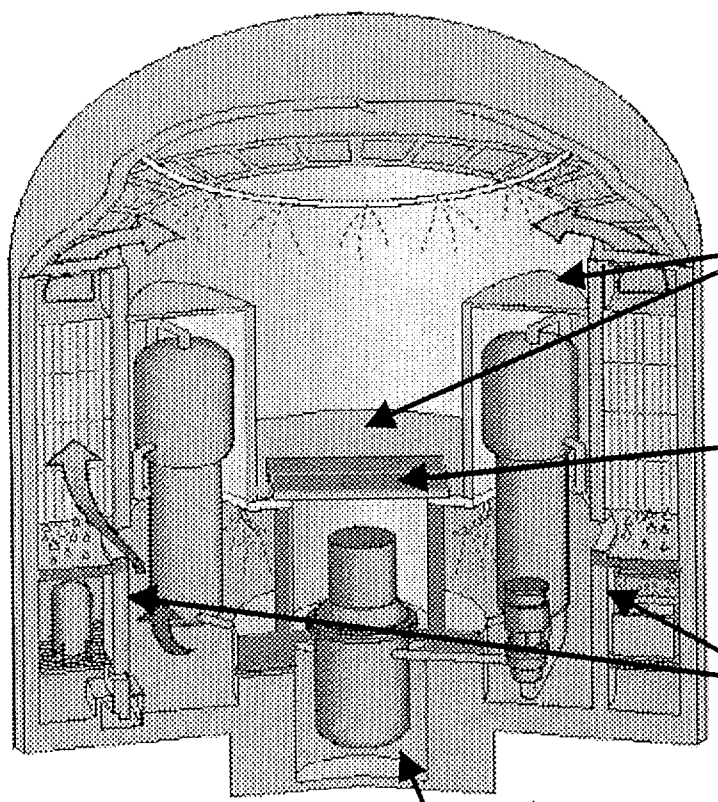
Agenda

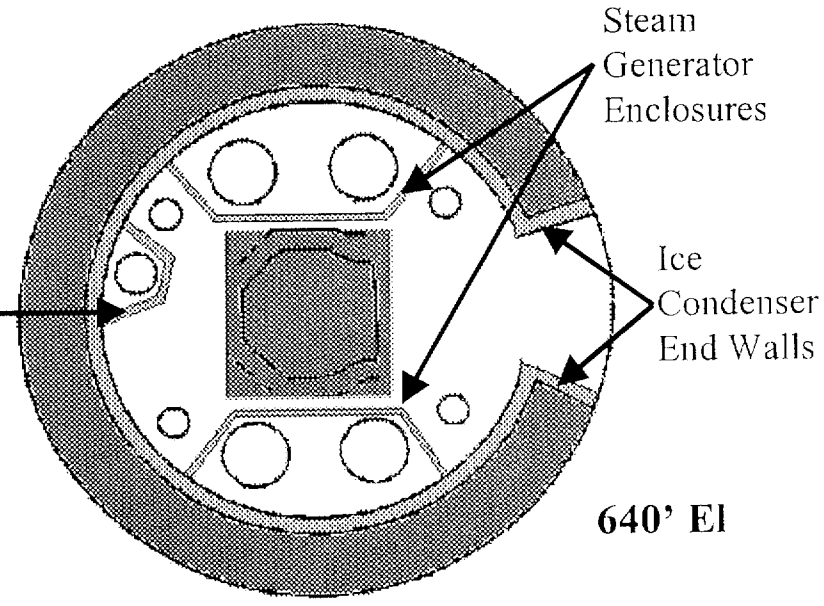
➢ Introduction	Mike Rencheck
➢ Background	Scot Greenlee
➢ Project Status Project Results Remaining Activities	Ron Smith
➢ Conclusion	Mike Rencheck

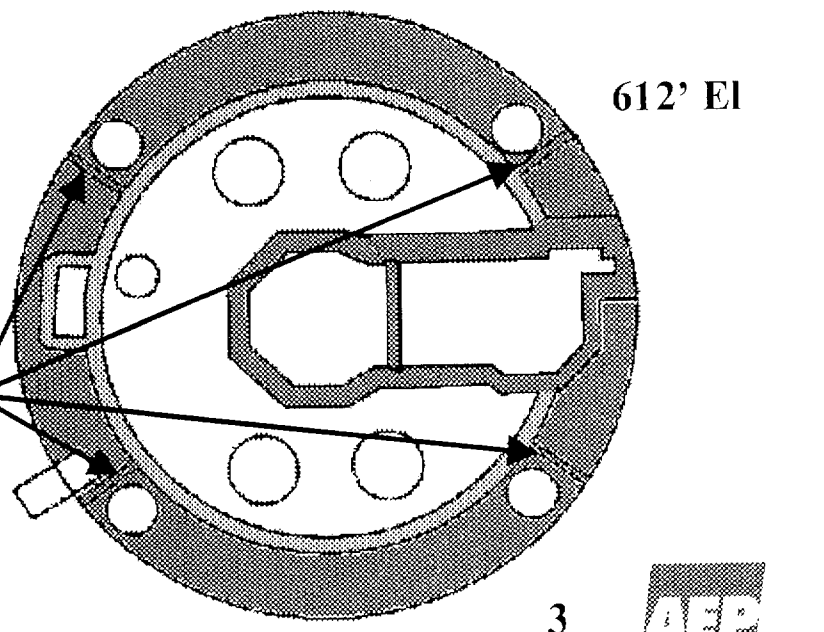
Background

Containment Structures

Structures at Restart



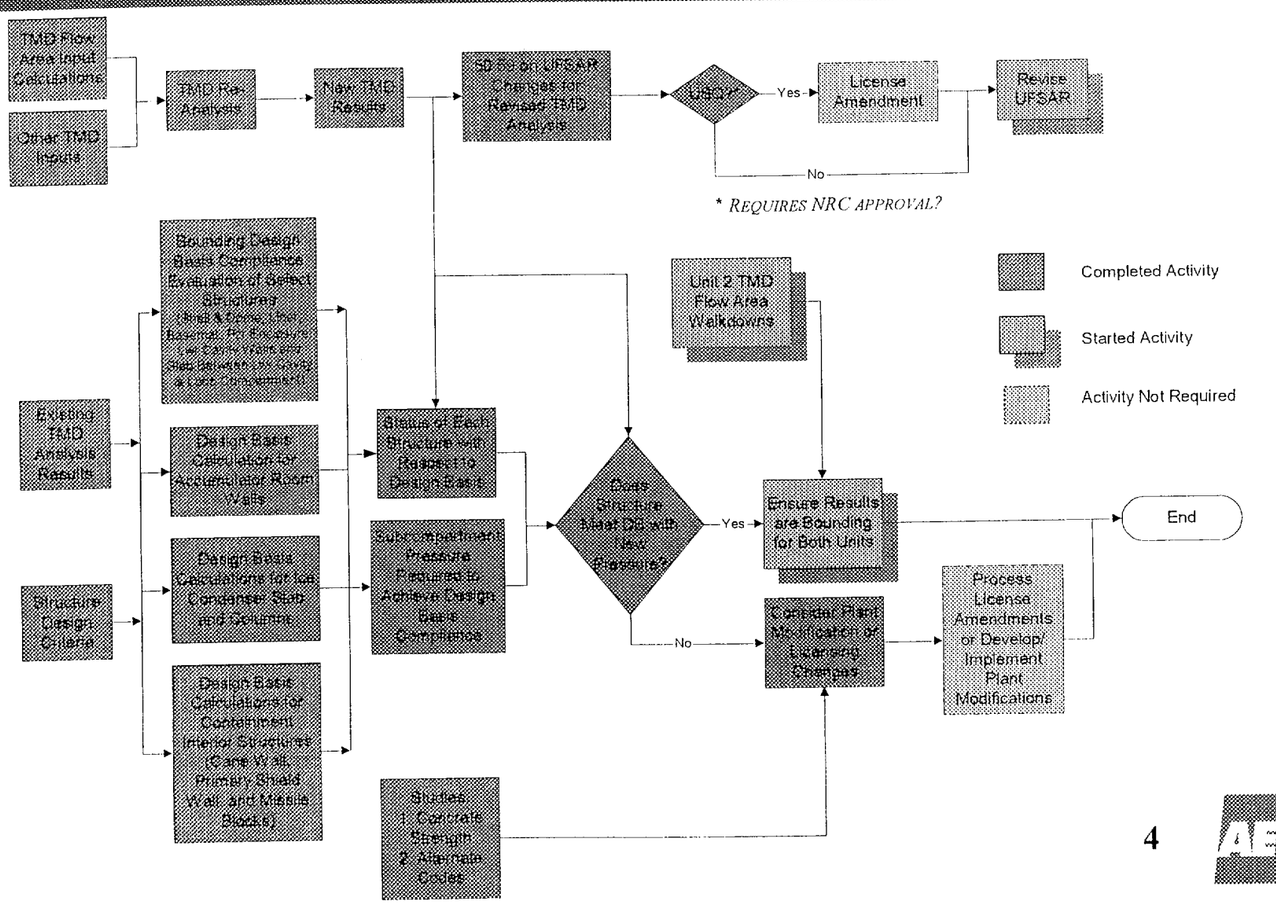




Operability Determination Evaluation (ODE) Results

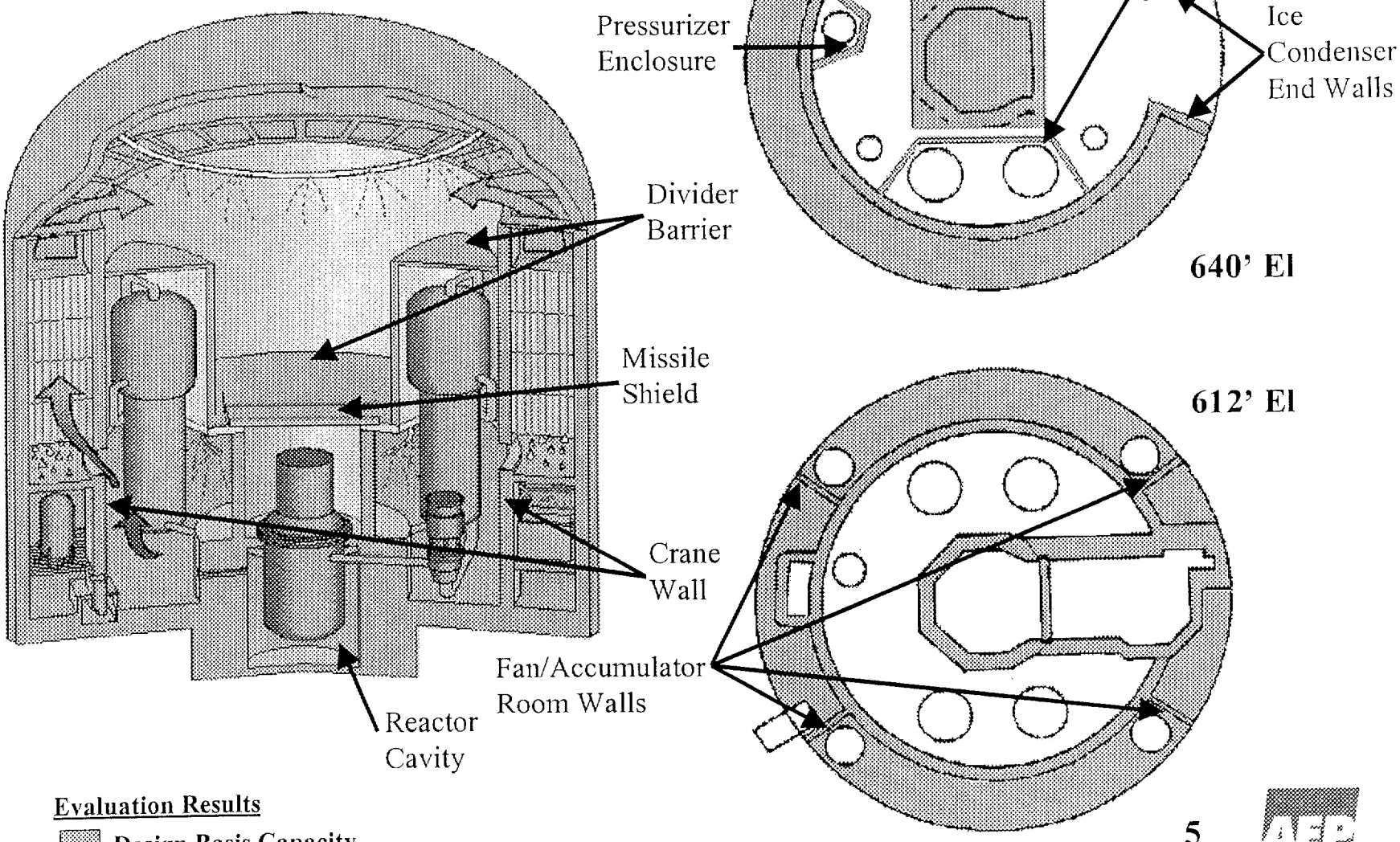
- Design Basis Capacity
- Operable Capacity

Project Status



Project Results

Structures May 2001



Evaluation Results

- **Design Basis Capacity**
- **Operability Capacity**

Project Results:
Historical Perspective

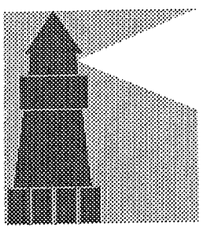
- 1973 -- As Originally Licensed
  - ACI-318-63/AISC-69/ASME Press. Vessel Code, 1968 ed.
  - Use of Transient Mass Distribution (TMD) model approved

- 1989 -- As Currently Licensed
  - Same codes and TMD model apply
  - Shift from peak pressure to nodal differential pressure (psid)
  - Structural element margins unchanged

Project Results:
What Has NOT Changed

- Applicable Codes
- Subcompartment Design Stress Criteria Margins
- TMD Model

Code of Record and TMD Methodology Unchanged



Project Results:
What HAS Changed

- **TMD Inputs and Nodalization**
  - Physical characteristics refined
  - Increased nodes
- **Concrete Strength**
  - FSAR: Minimum compressive strength 3,500 psi at 28 days
  - Now: Assume test-based 28-day compressive strength: 4,424 psi
    - Conservative relative to test results
- **Reinforcing Steel Material Specification**
  - FSAR: Minimum yield strength of 40,000 psi (40 ksi)
    - Vast majority of containment sub-structures continue to apply standard
  - Now: Minimum Certified Material Test Report values for ice condenser end walls & missile shield (44/50 ksi)

Project Results

Analyses Confirm Containment Structures Comply with Design Bases Requirements

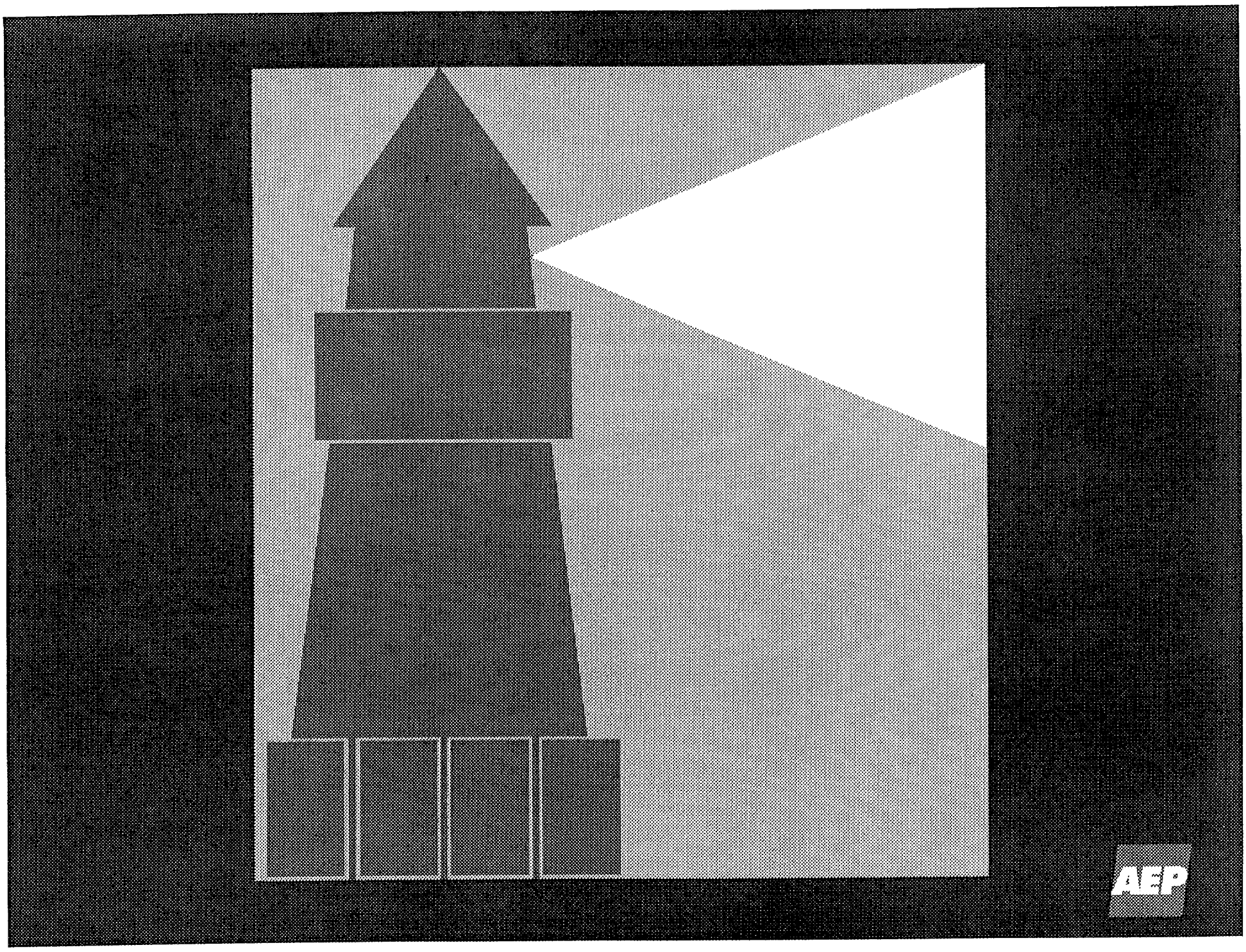
Remaining Activities

- Close-out Project Paperwork
- Complete Third Party Reviews
- Complete Unit 2 Walkdowns

Conclusion

- Evaluation Phase of Project Complete
- Structures Have Necessary Design Margins
- Licensing Basis Changes Do Not Require Submittal
- Project Close-out Activities on Schedule

Analyses Confirmed Design Bases Compliance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