



# **BACKGROUND**

- **Current economic conditions strongly favor power uprates/plant life extension.**
- **Many licensees are actively planning or have initiated power uprate programs.**

# BACKGROUND (CONT'D)

- In early 1990s, General Electric initiated a generic power uprate program.

# **BACKGROUND (CONT'D)**

- **Westinghouse/Combustion Engineering have recently approached the staff regarding power uprate plans (10-20% uprates).**

# **GE GENERIC UPRATE PROGRAM**

- **GE Generic Uprate Program (initiated in 1991)**
  - Limited to 5% power uprates**
  - Lead Plant: Fermi Unit 2 (ACRS review 9/92)**

# **GENERIC UPRATE PROGRAM (CONT'D)**

- **Most operating BWRs will utilize  
this program**

# **GE EXTENDED UPRATE PROGRAM**

- **GE Extended Power Uprate Program (initiated in 1995)**
  - Uprates of 5% - 20%
  - Lead Plant: Monticello (6.3%)  
(ACRS review 7/98)

# **EXTENDED UPRATE PROGRAM (CONT'D)**

- Encouraged staff/applicant reviews of impact on plant risk
- GE Generic Topical Report addresses program scope/content



# **SIGNIFICANT ISSUES**

- **Anticipated Transients Without Scram (ATWS)**
  - **ATWS recovery**
  - **Operator response times**
- **Core Instability**

# **SIGNIFICANT ISSUES (CONT'D)**

- **Material degradation**
  - **Irradiation-assisted stress corrosion cracking**
  - **Embrittlement of pressure vessel**

# **SIGNIFICANT ISSUES (CONT'D)**

- Flow-assisted corrosion
- Fatigue
- Containment response

# RECENT REVIEWS OF EXTENDED UPDATES

- Duane Arnold Energy Center (15.3% uprate) – ACRS letter dated October 17, 2001
  - Recommended approval of uprate application

# RECENT REVIEWS

- **Dresden/Quad Cities Nuclear Power Stations (17/17.8% uprates)**
  - **ACRS letter to be issued in December 2001**

# RECENT REVIEWS

- **Improved guidance required from staff on detail in safety evaluations.**
- **Need for confirmatory analyses to complement applicant submittals.**