



# United States Nuclear Regulatory Commission

---

## Davis-Besse Reactor Vessel Head Degradation Lessons-Learned Task Force

Public Meeting  
November 20, 2002

# Meeting Agenda

---

- Introduction and Opening Remarks Art Howell
- Overview Ed Hackett
- Results Ed Hackett
- Recommendations Ed Hackett
- Future Activities Art Howell
- Discussion/Questions All
- Closing Remarks Art Howell

# Overview

---

## Background

- NRC has taken the initiative to conduct lessons-learned reviews for significant issues
  - ▶ Self-critical
  - ▶ Improvements made
  - ▶ Examples:
    - Indian Point 2 steam generator tube failure (2000)
    - NRC inspections at the South Texas Project (1995)

# Overview

---

## Objectives and Scope

- Perform independent evaluation
- Review:
  - ▶ Reactor oversight process
  - ▶ Regulatory processes
  - ▶ Research activities
  - ▶ International practices
  - ▶ Generic Issues program
- Identify and recommend improvements

# Overview

---

## Composition and Attributes

- Multi-disciplined, experienced team
- No previous significant involvement in Davis-Besse Nuclear Power Station (DBNPS) oversight
- Observation by State of Ohio
- Stakeholder input to task force review activities
  - ▶ Solicited input at two public meetings

# Overview

---

## Review Methods

- Comprised of two groups
- Performed document reviews and conducted interviews
- Conducted fact finding at DBNPS site
- Conducted reviews at NRC Regional and Headquarters Offices

# Overview

---

## Report

- The report is available on ADAMS (the NRC electronic document management system)
  - ▶ Accession number: ML022760414
- The report is also available on the NRC's public website
  - ▶ <http://www.nrc.gov/reactors/operating/ops-experience/vessel-head-degradation/news.html>
- The report issuance was coordinated with other NRC offices because of ongoing NRC reviews
  - ▶ DBNPS plant-specific issues were provided to the NRC's 0350 Oversight Panel for follow up, as appropriate

# Results

---

## Overall Conclusions

- NRC and industry recognized potential for this type of event nearly 10 years ago
- Initial conclusion was that vessel head penetration nozzle cracking was not an immediate safety concern
- NRC and DBNPS failed to learn key lessons from past boric acid-induced degradation events



# Results

---

## Overall Conclusions (continued)

- The leaking nozzle and vessel head degradation event was not prevented
  - ▶ The NRC, DBNPS, and the nuclear industry failed to adequately review, assess, and follow up on relevant operating experience
  - ▶ DBNPS failed to assure that plant safety issues would receive appropriate attention
  - ▶ The NRC failed to integrate known or available information into its assessments of DBNPS's safety performance

# Results

---

## Overall Conclusions (continued)

- Other contributing factors
  - ▶ Guidance and requirements
  - ▶ Staffing and resources
  - ▶ DBNPS communications
  - ▶ Licensing processes and implementation

# Results

---

## **NRC and Industry Review, Assessment, and Follow up of Operating Experience**

- Significant operating experience involving boric acid leakage and corrosion
- Generic Communication Program implementation
- Generic Issues Program implementation
- Operating experience involving foreign nuclear power plants
- Assessment and verification of industry technical information
- NRC operating experience review and assessment capability

# Results

---

## DBNPS Assurance of Plant Safety

- Reactor coolant system leakage symptoms and indications
- Boric acid corrosion control program and implementation
- Owners group and industry guidance
- Internal and external operating experience awareness
- Oversight of safety related activities

# Results

---

## **NRC Assessment of DBNPS Safety Performance**

- Reactor coolant system leakage assessment
- Inspection program implementation
- Integration and assessment of performance data
- Guidance and requirements
- Staffing and resources
- Davis-Besse Nuclear Power Station communications
- Licensing process guidance and implementation

# Recommendations

---

## Recommendation Areas

- Inspection guidance
- Operating experience assessment
- Code inspection requirements
- NRC programs and capabilities (including training and experience)
- Leakage monitoring requirements and methods
- Technical information and guidance
- NRC licensing processes
- Previous NRC lessons-learned reviews

# Future Activities

---

## Senior Management Review Team

- The Senior Management Review Team is reviewing the report's recommendations
- Plans are being established for addressing the recommendations
- Actions are already underway to implement some of the recommendations

# Closing Remarks

---

## Summary

- The NRC conducted a comprehensive, self-critical assessment of its regulatory processes as a result of the DBNPS degraded reactor vessel head.
- The NRC identified a number of areas for improvement and has initiated actions to address these areas.