

# RUG IV May 2004 Meeting



USNRC/RIV/DRS

PLANT ENGINEERING BRANCH

# Plant Engineering Branch

- Fire Protection
- Heat Sink Performance
- Maintenance Effectiveness
- Identification and Resolution of Problems

# Fire Protection

- Triennial Inspections
- Common Themes
- Corrective Actions
- License Basis
- Safety Goals
- NFPA 805

# Fire Protection

- Associated Circuits
- Enforcement Discretion
- Manual Actions
- New Fire Protection SDP
- RCP Seal Injection/Cooling Issue

# FIRE PROTECTION INSPECTIONS



- **2ND ROUND OF TRIENNIALS BEGAN THIS YEAR**
- ✓ **RBS - INSPECTION COMPLETED/REPORT ISSUED**
- ✓ **CNS - INSPECTION COMPLETED/REPORT PENDING**
- ✓ **SONGS - INSPECTION SCHEDULED**
- ✓ **ANO - INSPECTION SCHEDULED**
- ✓ **FIVE PLANTS SCHEDULED IN 2005**

# **Fire Protection Inspections (cont.)**



- **COMMON THEMES**
  - ✓ **TIMING OPERATOR ACTIONS IN ALTERNATIVE SHUTDOWN SCENARIOS**
  - ✓ **MANUAL ACTIONS IN LIEU OF III.G.2 PROTECTION**
  
- **CORRECTIVE ACTIONS**
  - ✓ **IMMEDIATE CORRECTIVE ACTIONS MAY INCLUDE APPROPRIATE COMPENSATORY MEASURES**
  - ✓ **NON-COMPLIANCES SHOULD BE CORRECTED IAW TIMELINESS GUIDELINES IN GL 91-18**

# INSPECTION APPROACH



- **LICENSING BASES VARY FROM PLANT TO PLANT**
  - ✓ **10 CFR PART 50, APPENDIX A, CRITERION 3**
  - ✓ **10 CFR 50.48**
  - ✓ **10 CFR PART 50, APPENDIX R**
  - ✓ **LICENSE CONDITION - Fire Protection Program**
    - **SERs, FSAR, FHA, sometimes licensee submittals**
- **OBJECTIVE: PERF DEFICIENCY/SAFETY**
- **NFPA 805: RISK-BASED APPROACH**

# FIRE PROTECTION INITIATIVES



- **ASSOCIATED CIRCUITS**
  - ✓ **RIS 04-03 ISSUED MARCH 2004**
  - ✓ **INTERNAL NRC WORKSHOP - JULY 7-8 (Tentative)**
  - ✓ **PUBLIC MEETING - SEPTEMBER 8-9, 2004 (Tentative)**
  - ✓ **NUREG 1778, KNOWLEDGE BASE FOR POST-FIRE SSD ANALYSIS - Late in 2004 (Tentative)**
  - ✓ **INSPECTIONS TO START JANUARY 2005**



# FIRE PROTECTION INITIATIVES

(Cont.)



- **ASSOCIATED CIRCUITS (Continued)**
  - ✓ **NEI 04-06: ASSOCIATED CIRCUITS SELF-ASSESSMENT**
    - ❖ **Pilot at Davis Besse May 3 - 7; NRC Observed**
    - ❖ **NEI to Perform Pilot in each Region - No RIV Plant, yet**
  
  - ✓ **ENFORCEMENT DISCRETION**
    - ❖ **Some Discussion on Granting Discretion for Those Licensees that Find Their Own Associated Circuits Issues Before NRC Does**

# FIRE PROTECTION INITIATIVES

(Cont.)



- **MANUAL ACTIONS**

- ✓ **DRAFT RULE FOR COMMENT – LATE 2004**
- ✓ **FINAL RULE – Early 2006**
- ✓ **DRAFT REG GUIDE – Late in 2004**
  
- ✓ **IN THE MEANTIME:**
  - ❖ **Manual Actions as Temporary Compensatory Measures**
  - ❖ **How Long can these Non-Compliances be in Place?**
  - ❖ **Interim Enforcement Discretion – Summer 2004**

# FIRE PROTECTION INITIATIVES

(Cont.)



- **NEW FP SDP (IMC 609, APP F)**
  - ✓ **PROVIDED TO NEI FOR COMMENT – Early 2004**
  - ✓ **INTERNAL NRC WORKSHOPS – April & May 2004**
  - ✓ **SHOULD GO INTO EFFECT – June 2004**
  - ✓ **OPPORTUNITIES FOR INDUSTRY/NRC DISCUSSION**
    - ❖ **NEI Fire Protection Forum this September 2004 – SDP will have been in use, giving opportunity for comment/discussion**

# NEW FIRE PROTECTION ISSUE



- **RCP SEAL INJECTION COOLING**
  - ✓ **ISSUES FOUND AT SEVERAL REGION II PLANTS**
    - ❖ **Failure to establish seal cooling within a certain time could lead to seal temperatures rising to a point that initiating subsequent seal cooling could cause thermal shock leading to increased seal leakage and possibly seal failure.**
  - ✓ **PUBLIC MEETING ON JUNE 23-24 (tentative)**

# PROBLEM IDENTIFICATION & RESOLUTION

- Inspection Procedure Revisions
- Inspection Challenges

# PROBLEM IDENTIFICATION & RESOLUTION (PI&R) INSPECTIONS



- **PROCEDURE 71152 REVISED 9/8/2003**
  - ✓ **IN RESPONSE TO RECOMMENDATION FROM THE DAVIS BESSE LESSONS LEARNED TASK FORCE**
  - ✓ **FOCUS ON IDENTIFICATION OF LONGSTANDING EQUIPMENT ISSUES**

# PROBLEM IDENTIFICATION & RESOLUTION (PI&R) INSPECTIONS



- **NEW RESIDENT INSPECTION REQUIREMENTS**
  - ✓ **PLANT STATUS – SCREEN EACH ITEM ENTERED INTO THE CORRECTIVE ACTION PROGRAM**
  - ✓ **SEMI-ANNUAL TREND REVIEW**

# **PROBLEM IDENTIFICATION & RESOLUTION (PI&R) INSPECTIONS**



- **NEW BIENNIAL INSPECTION REQUIREMENTS**
  - ✓ **FIVE-YEAR HISTORY FOR SELECTED SAMPLES**
  - ✓ **AGE-DEPENDENT ISSUES**
    - ❖ **Erosion of Piping**
    - ❖ **Boric Acid Accumulations**
    - ❖ **Aging of Electronic Components**
    - ❖ **Environmental Qualification**
  - ✓ **SEMI-ANNUAL TREND REVIEW**



# PROBLEM IDENTIFICATION & RESOLUTION (PI&R) INSPECTIONS



- **NEW BIENNIAL INSPECTION REQUIREMENTS (CONTINUED)**
  - ✓ **VERTICAL SLICE APPROACH FOR RISK-SIGNIFICANT SYSTEM**
  - ✓ **USE OF OPERATING EXPERIENCE AND CORRECTIVE ACTION ISSUES OF HIGH SIGNIFICANCE**
  - ✓ **SAFETY CONSCIOUS WORK ENVIRONMENT ISSUES, SUCH AS:**
    - ❖ **Factors that could produce a “chilling” effect**
    - ❖ **Reluctance to report such issues**
    - ❖ **Excessive Overtime**
    - ❖ **Unwilling to raise issues that might result in more work**

# PROBLEM IDENTIFICATION & RESOLUTION (PI&R) INSPECTIONS



- **INSPECTION CHALLENGES**
  - ✓ **FIVE-YEAR HISTORY REVIEW**
  - ✓ **LATENT ISSUES**
  - ✓ **ENORMOUS SCOPE**
    - ❖ **Large number of condition reports**
    - ❖ **Samples across all cornerstones (Appendix B or not)**
  - ✓ **USE OF OPERATING EXPERIENCE**
    - ❖ **Industry Information**
    - ❖ **Plant Status**

# PROBLEM IDENTIFICATION & RESOLUTION (PI&R) INSPECTIONS



- **INSPECTION CHALLENGES (continued)**
  - ✓ **COMPLEX CORRECTIVE ACTION PROGRAMS**
    - ❖ **Identification**
    - ❖ **Classification and Prioritization**
    - ❖ **Root Cause and Corrective Action**
  - VARYING CORRECTIVE ACTION PROGRAM SCHEMES**
    - ❖ **Maintenance and Engineering Work Orders**
    - ❖ **Fix-it-now Programs**
    - ❖ **Trending and Maintenance Rule Aspects**

# PROBLEM IDENTIFICATION & RESOLUTION (PI&R) INSPECTIONS



- **INSPECTION CHALLENGES (continued)**
  - ✓ **INTEGRATION OF FINDINGS**
    - ❖ **NRC Inspection Findings**
    - ❖ **NRC Non-Cited Violation Review**
  - ✓ **DOCUMENTATION THRESHOLD DIFFERS**
    - ❖ **Includes Non-Findings**
    - ❖ **Includes Previously-Documented Findings**
    - ❖ **Most Issues have Cross-cutting Aspects**
    - ❖ **Substantive Cross-cutting Issues**
    - ❖ **Assessment in Addition to Findings**

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