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**Do not include proprietary materials.**

DATE OF MEETING

1/19/01

The attached document(s), which ~~was~~ were handed out in this meeting, ~~is~~ are to be placed in the public domain as soon as possible. The minutes of the meeting will be issued in the near future. Following are administrative details regarding this meeting:

Docket Number(s) Project No 691

Plant/Facility Name BWROG

TAC Number(s) (if available) \_\_\_\_\_

Reference Meeting Notice ML0100 50010

Purpose of Meeting (copy from meeting notice) Discuss key issues with the BWROG.

NAME OF PERSON WHO ISSUED MEETING NOTICE

RM Pulsifer

TITLE

Project Mgr.

OFFICE

NRR

DIVISION

DCLPM

BRANCH

PD1-2

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DF03

# **BWRVIP/NRC Management Meeting**

**January 19, 2001**

**NRC Offices  
Rockville, MD**

**BWRVIP**

EOC/NRC-1/19/2001

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## **BWRVIP Key 2000 Activities**

- **Supported NRC review and closure on all BWRVIP guidelines**
- **Supported NRC review of I&E guidelines license renewal appendices**
- **Supported NRC review of BWR Integrated Surveillance Program (ISP) Plan and submitted ISP Implementation Plan**
- **Completed post-Noble Metal Chemical Application poolside examination at a high fuel duty plant**
- **Conducted two pilot assessments of BWRVIP implementation similar to steam generator implementation assessments**
- **Continued complementary BWRVIP and NRC RES work on weldability of irradiated material**
- **Continued transition to a maintenance mode**

**BWRVIP**

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## **BWRVIP Reports Published in 2000 for Submittal to NRC**

1. "BWR Water Chemistry Guidelines - 2000 Revision," BWRVIP-79, March 2000.
2. "Evaluation of Crack Growth in BWR Shroud Vertical Welds (BWRVIP-80)," May 2000.
3. "Guidelines for Selection and Use of Materials for Repairs to BWR Internal Components (BWRVIP-84)," October 2000.
4. "BWR Integrated Surveillance Program Implementation Plan (BWRVIP-86)," December 2000.
5. "Interim Welding Guidelines for BWR Internals (BWRVIP-90)," December 2000.
6. "Reactor Pressure Vessel and Internals Examination Guidelines (BWRVIP-03) Revision 3," December 2000.

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## **Planned 2001 BWRVIP Activities**

- Crack growth model for irradiated stainless steel
- Fracture toughness of irradiated stainless steel
- Generic procedure for inspection of core plate hold down bolts
- Obtain approval of ISP and begin implementation
- Fluence calculation methodology for BWRs
- Conclude pilot assessments of BWRVIP implementation
- Reduced nozzle inspection requirements
- Evaluation of hidden welds
- Document post-NMCA poolside fuel surveillance of Peach Bottom 2
- NMCA experience and application/monitoring guidelines
- Optimizing coolant chemistry using DZO and NMCA
- Development of advanced mitigation techniques
- Re-issue all BWRVIP NRC reviewed reports incorporating NRC Safety Evaluations (SEs)

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## **Integrated Surveillance Program**

- **Discussions with NRC on BWR Integrated Surveillance Program (ISP) began in 1998**
- **BWRVIP submitted ISP in December 1999 (BWRVIP-78) and implementation plan in December 2000 (BWRVIP-86)**
- **Key issues affecting viability of ISP need to be addressed:**
  - NRC approval of requests for deferral of plant capsule withdrawals for more than one operating cycle
  - NRC requirement for updated fluence calculations in the near-term while related BWRVIP work is in process
  - plant implementation and licensing issues need to be identified and resolved
- **Need NRC concurrence on content and implementation of ISP in near-term to maintain viability of ISP**

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## **BWRVIP Implementation Assessments**

- **Conducted two pilot assessments of utility implementation of BWRVIP products in 2000**
  - concluded that both utilities have thoroughly and effectively implemented BWRVIP products
  - identified several areas where BWRVIP guidance can be improved or clarified
- **Considering additional pilot assessments in early 2001**
- **Pursuing INPO involvement for long-term**
- **Evaluate process and results after completing pilot assessments and determine subsequent scope and schedule**

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## **BWRVIP Direction in 2001**

- **Expect closure with NRC on BWRVIP base program guidelines in early 2001**
- **Complete BWRVIP transition to a maintenance mode**
- **Executive oversight and timely response to industry issues will be maintained**
- **Need to continue close coordination between BWRVIP and NRC activities to ensure timely approval and implementation of key products:**
  - License renewal appendices
  - Integrated Surveillance Program
  - Inspection relief for HWC/NMCA
  - Crack growth evaluation in SS and Ni-base alloys
  - RPV I&E guidelines
  - Revised GL 88-01 inspection schedules

**BWRVIP**

**NRC/BWR OWNERS' GROUP  
MANAGEMENT MEETING – January 19, 2001**

**8:30 Opening Remarks**

**BWROG/NRC**

**Appendix R**

Discuss status and closure of BWROG efforts, and BWROG continued support of NEI follow-up actions.

**BWROG**

**Option 2/Option 3**

Brief NRC on Owners' Group progress on Option 2 effort. Discuss BWROG's plans for Option 3 Committee.

**BWROG**

**Tech Spec Issues Coordination**

Discuss BWROG Tech Spec Committee on-going efforts. Including work to prioritize approved changes, and support Risk Informed changes.

**BWROG**

**PASS, H<sub>2</sub>/O<sub>2</sub> Monitors, H<sub>2</sub> Recombiners**

BWROG made a PASS submittal on 11/30/2000. NRC requested to discuss review status including plans on use of CLIP. Submittal for H<sub>2</sub>/O<sub>2</sub> Monitors and H<sub>2</sub> Recombiners currently targeted for February 2001.

**BWROG**

**Pipe Break inside Containment**

Discuss the BWROG review of NRC's GSI for SEP plants.

**BWROG**

**Tech Spec Instrument Uncertainties**

Evaluations of BWR-4 and 6 Standard Tech Spec surveillances have been completed. Results confirm that for non-RG 1.105 parameters no additional instrument uncertainty evaluations are expected to be warranted (nominal setpoints sufficient). For the RG 1.105 parameters the evaluation has determined that less than 10% of the setpoint evaluations are required. This is an area for potential regulatory relaxation for BWRs.

**BWROG**

**10:00 Discussion and Tour of Work Planning Center**

**11:00 BWR VIP**

Status of open submittals

**BWR VIP**

**Loose Parts Monitoring**

Discuss status of submittal and planned resolution of RAI issues.

**BWROG/NRC**

**RCIC, Loss of Safety Function**

NRC status regarding review of BWROG submittal.

**NRC**

**Fluence Calculations**

NRC status regarding review of GE LTR.

**NRC**

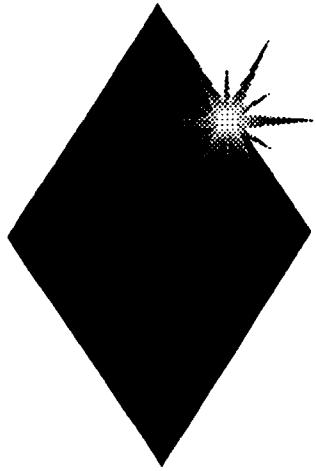
**Control Room Habitability**

NRC status of staff activities for control room habitability.

**NRC**

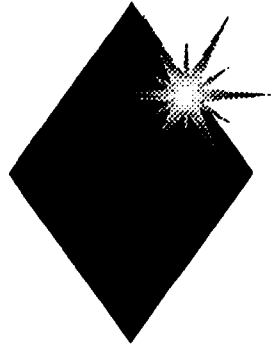
**12:00 Adjourn**

*Presentation to NRC  
on  
Appendix R Committee*



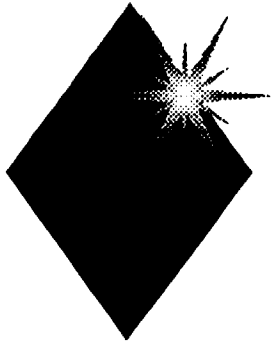
NRC/BWROG Meeting  
January 19, 2001





## *Background*

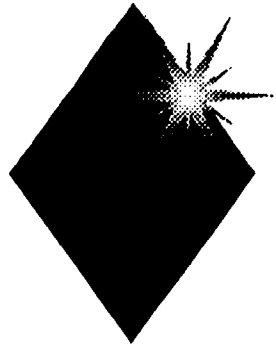
- ◆ Appendix R Issues identified during FPI's/Inspections
- ◆ BWROG Committee formed in Fall 1997
- ◆ Multiple meetings with NRC Staff in '98, '99, & '00
- ◆ Letter to Commissioner Diaz 11/3/98
- ◆ Products delivered to NRC in 1999
- ◆ PWRs have endorsed the BWROG Guidance Document



## *Recent Progress*

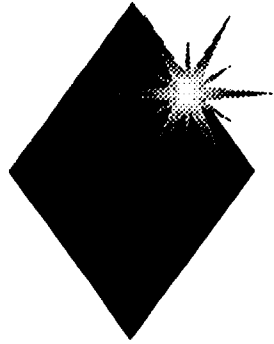
- ◆ BWROG Position on SRV+LPS as “Redundant” Shutdown Paths
  - ◆ Presented BWROG Position to ACRS on October 16 and November 3, 2000
  - ◆ Received letter from ACRS on November 20, 2000 endorsing BWROG Position
  - ◆ Received SER from NRC accepting BWROG Position

***This completes BWROG activity on the SRV/LPS issue***



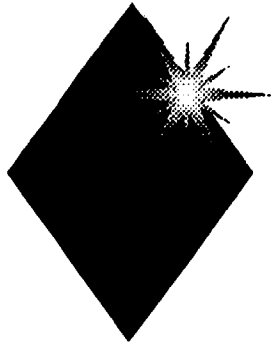
## *Recent Progress*

- ◆ BWROG Guidance Document on performing Post-Fire Safe Shutdown Analysis
  - ◆ Presented positions to ACRS on October 16, 2000
  - ◆ Received letter from NRC on November 20, 2000 ~ recognizes the BWROG document as a valuable contributor to the industry initiative to resolve circuit analysis issues



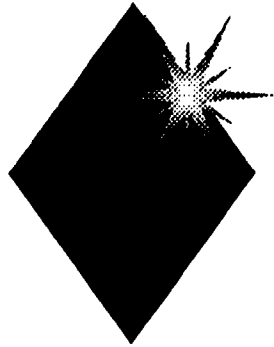
## *Remaining BWROG Actions*

- ◆ The remaining circuit failure issues will be addressed through the NEI CF ITF
  - ◆ Multiple Hot Shorts and Spurious Operations
  - ◆ IN 92-18 mechanistic failures
- ◆ The BWROG will participate in this effort and address any BWR issues with high safety significance



## *Conclusion*

- ◆ NRC has accepted the BWROG Position on SRV + LPS in an SER
- ◆ NRC has recognized the BWROG Guidance Document as a valuable contribution to the industry initiative to resolve the circuit analysis issues



## *Conclusion*

- ◆ The remaining circuit analysis issues will be resolved through an Industry Initiative led by the NEI Circuit Failures - Issue Task Force

*The BWROG will continue to support the NEI effort on resolution of circuit failure issues*

# **BWROG RIP50 OPTIONS 2 and 3**

**BWROG/NRC Management Meeting  
Washington, DC  
January 19, 2001**

**Eric Jebesen (Exelon)**

# PURPOSE OF THE PRESENTATION

- Provide a status of the Option 2 effort
- Express interest in BWROG involvement in Option 3 activities.



# OPTION 2 PILOT

## Purpose of the Committee

- The objective of this committee is to complete a pilot on three common systems.
- The pilot program will:
  - Test the draft NEI classification methodology and
  - Provide economic benefit (or at least cost neutral) for the BWR utilities.

# OPTION 2 PILOT

## Phases

- Phase 1: Cost benefit evaluation
- Phase 2a: Lead plant evaluation  
Lead plant submittal
- Phase 2b: All other plant evaluations
- Phase 3: Generic BWR submittal
- Phase 4: RAI resolution for generic  
submittal

# OPTION 2 PILOT Status

- Phase 1 is complete
- Phase 2a first cut evaluations are complete.
- Committee meeting in January 2001
  - Review draft evaluations and report
  - Discuss the IDP requirements
  - Evaluate needs for exemption

# OPTION 2 PILOT

## Issues/Actions

- Technical issues are being resolved through the NEI Risk Applications Task Force.
  - BWROG is participating in the Task Force and providing input.
- Complete the pilot plant evaluation
  - Support the pilot plant in their Exemption submittal

# OPTION 3 PROGRAM

## Purpose of the Committee

- The purpose of this committee is to address 10CFR50.46 and prioritize other regulations

# OPTION 3 PROGRAM

## Background

- PWR Owners' Groups' have actively been pursuing LBLOCA under Option 3
  - The BWROG has been monitoring progress
- BWROG understanding is that the NRC staff will recommend actions to the commission by the end of June

# OPTION 3 PROGRAM

## Perspective

- LBLOCA Redefinition being evaluated for BWR application
- The BWROG is interested in Option 3 beyond LBLOCA redefinition
- The BWROG views LBLOCA redefinition as only the first step and not the last.

# OPTION 3 PROGRAM

## Actions

- Better define the benefits and costs for LBLOCA redefinition in time for NRC consideration for commission action.
- Identify program activities after LBLOCA redefinition that are logical and beneficial Option 3 initiatives for the BWR.



# **BWROG Tech Spec Issues Coordination**

*Presentation for*

*NRC/BWROG Management Meeting*

*Washington, DC*

*January 19, 2001*

# ***INTRODUCTION***

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- *Committee Objectives*
- *NUREG-1433 and NUREG-1434, Revision 2, Status*
- *Technical Specification Change Prioritization Scheme*
- *CLIP Candidates*
- *Summary*

# COMMITTEE OBJECTIVES

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- *Generic Process Support*
  - Perform initial reviews of all changes initiated by groups internal and external to the BWROG for applicability and threshold
  - Assist in developing BWROG technical position on Technical Specification issues and changes to STS NUREGs
  - Facilitate processing/approval of BWROG initiated changes and STS NUREG post-Revision 2 changes
  - Interface with NRC for approval of proposed changes
  - Track all changes to the NUREGs (all OG/NRC changes)

# *COMMITTEE OBJECTIVES*

## *(Continued)*

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- *BWROG Support: Ensure BWROG Changes*
  - Appropriately identified and tracked
  - Categorized as BWROG specific or generic
  - Marked up accurately and consistent with technical requirements and ITS usage rules
  - Provided in a timely manner to support individual plant and industry schedules

# *NUREG-1433 and NUREG-1434, Revision 2*

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- *Final Revision 2 Industry Reviews Complete 12/2000*
- *Meeting with NRC TSB Week of 1/15/01 to Review Comments*
- *Finalize NUREGs, Revision 2, During First Quarter 2001*

## *Post-STS, Revision 2, Prioritization Scheme*

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- *Developed Criteria for Prioritization of Travelers for Timely and Efficient Processing by Industry and NRC*
  - *Benefit to safety*
  - *Number of plants that would adopt*
- *Established Benefit and Adoption Categories*
- *Prioritized BWROG Travelers and BWROG TSICC Items*
- *Meeting with NRC TSB and NEI TSTF 1/19/01 to Discuss Prioritization Scheme and proposed CLIP Candidates*

# CLIP CANDIDATES

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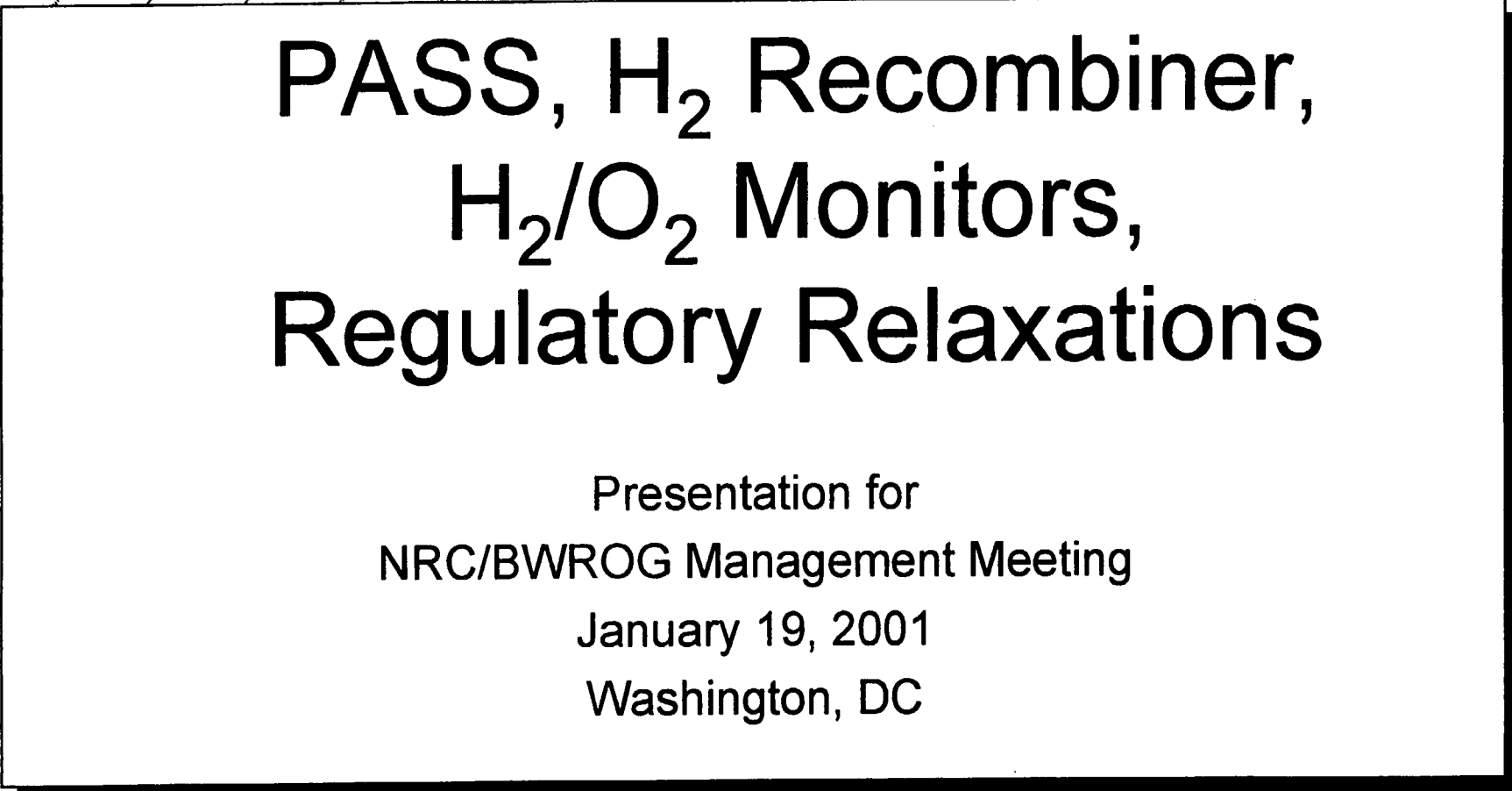
- *TSTF-358 Missed Surveillance Requirements*
- *TSTF-359 Increased Flexibility in Mode Restraints*
- *TSTF-364 Revision to TS Bases Control Program (10CFR50.59)*
- *TSTF-368 Elimination of Pressure Sensor RTT*
- *TSTF-369 Deletion of TS 5.6.4 Monthly Operating Report*
- *Relaxation of PASS Requirements (Traveler to be Developed)*

# SUMMARY

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- *Provide Support of the Generic Technical Specification Change Process*
- *Provide Support to Industry and NRC Initiatives such as the Risk Informed TSTF*
- *Finalize NUREG-1433 and 1434, Revision 2, First Quarter 2001*
- *Developed Traveler Priority Scheme for Timely and Efficient Processing by Industry and NRC*
- *Established List of CLIP Candidates*





# PASS, H<sub>2</sub> Recombiner, H<sub>2</sub>/O<sub>2</sub> Monitors, Regulatory Relaxations

Presentation for  
NRC/BWROG Management Meeting  
January 19, 2001  
Washington, DC

# PASS, H<sub>2</sub> Recombiner, H<sub>2</sub>/O<sub>2</sub> Monitors, Regulatory Relaxations

## Committee Objective:

- Eliminate unnecessary post-accident sampling and analysis requirements for BWRs
- Declassify H<sub>2</sub>/O<sub>2</sub> monitors to non-safety related
- Eliminate requirements for H<sub>2</sub> recombiners and Containment Air Dilution (CAD) systems or relax to non-safety

## Presentation Objective:

- Update NRC Management

# PASS Status

- BWROG Licensing Topical Report NEDO-32991 to eliminate PASS regulatory requirements transmitted to NRC on November 30, 2000.
- Revised BWR Core Damage Assessment Procedure expected to be issued in March 2001.

# PASS Results

- In-plant instruments, in conjunction with analysis methods based on known fuel release characteristics are as good as or better than PASS for collecting and assimilating information to assess core damage following an accident.
- BWR emergency and severe accident response strategies are based on use of available instrumentation and do not require use of PASS.
- BWROG recommendation is to eliminate all PASS regulatory requirements.
- Results similar to CEOG and WOG findings.

# PASS Results

- BWROG evaluated each PASS measurement parameter and provided justification for elimination of each sample/analysis.
- BWROG considered effect of removing PASS from a safety risk perspective
  - BWR PRAs do not rely upon or address PASS.
  - Quantitative risk assessment cannot be made.
  - Risk insights based on review of normal operating, emergency, and severe accident procedures indicate that elimination of PASS has no effect on results of core damage or large early release frequency calculations.

# BWROG PASS Related Commitments

- Provide alternate means for dose projections, BWRs will implement I-131 site survey detection capability for all release points.
- Maintain contingency plan for obtaining and analyzing highly radioactive reactor coolant, suppression pool, and containment atmospheric samples.
- Evaluate and revise (if required) plant-specific EOPs and SAG to assure conformance to the revised BWR Core Damage Assessment Guidance that relies exclusively on in-plant instrumentation to provide assessment of fuel damage.

## PASS Review Schedule

- BWROG will support meeting with NRC staff to discuss PASS submittal at NRC convenience
- NRC SER expected by May 2001
- BWROG plans to submit CLIP submittal within 3 months after SER approval

## **H2 Recombiner, H2/O2 Monitor, CAD System Current Status/Schedule**

- BWROG drafting Licensing Topical Report asking for declassification to non-safety based on low probability of events leading to high iodine concentrations
  - Severe accident scenarios only
  - Consistent with findings by NRC from risk informing 10CFR50.44 program
- Target submittal is March 2001



***Review of the Prioritization  
of GSI 156.6.1***

**Presentation for  
BWROG/NRC Management Meeting  
January 19, 2001**

**Rockville, Maryland**

**Jack Gray  
Entergy Nuclear Northeast**

# **Review of GSI 156.6.1**

## **Prioritization**

### **Presentation Objective**

- Discuss issue and BWROG activities with NRC Management

# **Review of GSI 156.6.1**

## **Prioritization**

### **Background**

- RES has recently prioritized GSI 156.6.1 as “high priority”
- BWROG Potential Issues Resolution Team (PIRT) discussed issue
- Issue discussed at joint NEI/Owners’ group meeting on November 8, 2000

# **Review of GSI 156.6.1 Prioritization**


## **BWROG Work Scope/Schedule**

- Survey affected plants to identify the current licensing bases
- Review NRC prioritization
- Provide feedback to NRC on prioritization
  - Target completion April 2001



# Tech Spec Instrument Uncertainties

Presentation for  
BWROG/NRC Management Meeting  
January 19, 2001  
Washington, DC



# Tech Spec Instrument Uncertainties

## BWROG Committee Objective

- Proactively resolve NRC concerns with respect to Tech Spec instrument uncertainties
- Provide guidance for BWRs to manage instrument uncertainty to assure that plant safety is maintained

# Tech Spec Instrument Uncertainties

## Presentation Objective

- Describe program to NRC management and present preliminary evaluation results

# Tech Spec Instrument Uncertainties Resolution Approach

- **“Screen” BWR Standard Tech Spec Surveillance Requirements to eliminate need for consideration of instrument uncertainties**
  - **Qualitative assessment only**
  - **Industry standards (ASME, etc)**
  - **Conservatism established based on engineering judgement**
  - **EOP variables**
- **For all other surveillances, margin in BWR safety analyses are qualitatively compared to typical instrument uncertainties**



# Tech Spec Instrument Uncertainties Evaluation Results

- For non-RG 1.105 parameters, BWR safety analysis margin is sufficient such that additional instrument uncertainty evaluations are not warranted
- For RG 1.105 parameters, very few of the setpoint evaluations are warranted
- Quantitative assessment of conservatism required if BWR licensing relaxations are pursued for the RG 1.105 parameters



# Tech Spec Instrument Uncertainties Program Status/Conclusions

- BWR-6 and BWR-4 guidance documents completed in January 2001
  - Final reports will be provided to participating utilities in early February
- BWROG has concluded there are no safety issues with current implementation of Tech Spec instrument uncertainty

