

TRANSMITTAL OF MEETING HANDOUT MATERIALS FOR IMMEDIATE PLACEMENT IN THE PUBLIC DOMAIN

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Do not include proprietary materials.*

DATE OF MEETING

12/9/99

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. 669

Plant/Facility Name

EPR1

TAC Number(s) (if available)

M95869

Reference Meeting Notice

11/24/99

Purpose of Meeting
(copy from meeting notice)

TO DISCUSS FUTURE USE OF

RISK-INFORMED TECHNOLOGY

NAME OF PERSON WHO ISSUED MEETING NOTICE

L. OLSHAN

TITLE

PROJECT MANAGER

OFFICE

NRR

DIVISION

DLPM

BRANCH

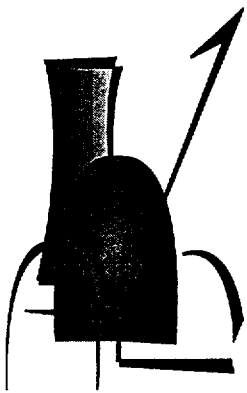
PD II-1

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Docket File/Central File
PUBLIC

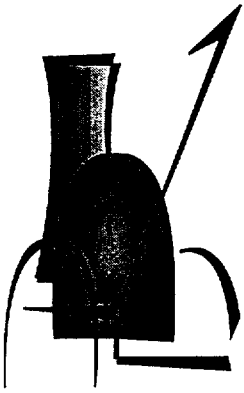
PDR. REVGPEPRI

DF03.



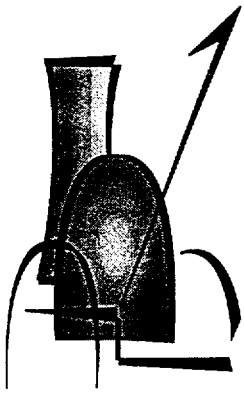
Risk & Performance- Informed Applications

December 9, 1999
Two White Flint



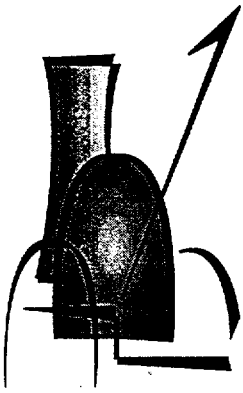
Purpose of Meeting

- **Continue NRC/Industry dialogue for Ongoing Risk and Performance Informed Applications**
- **Present Short and Long Term R&D Objectives**
- **Discuss Schedule**



Agenda

- **Purpose of Meeting**
- **Anticipated RI-ISI Submittals**
- **Additional RI-ISI Applications**
- **Performance Driven Issues**
- **Integrity Management Issues**
- **Inspection Issues**
- **Coordination/Integration of Appropriate Issues**
- **Update of TR-1126576, Rev B**
- **Schedule**
- **Action Items**

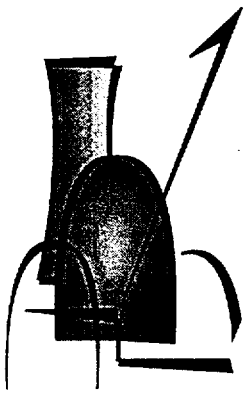


RI-ISI Submittals

- **Follow-on Plants (1999)**
 - submitted - one
 - expected shortly - one (2 unit)

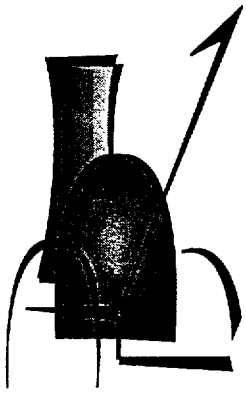
- **Follow-on Plants (2000)**
 - low estimate is 12
 - best estimate is 20

- **NRC Review and Approval Schedule**



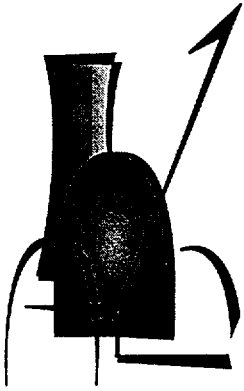
Additional RI-ISI Applications

- **Living RI-ISI Program Requirements**
- **Inspection Volumes**
- **Relief Requests**
- **Alternative surface exam req'ts**
- **LCM/LR**



Performance Driven Issues

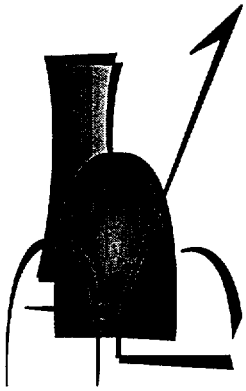
- **Integration of Revision to
Generic Letter 88-01**
 - **G.L. 88-01 only**
 - **88-01 on SS & RI on CS**
 - **RI on both SS & CS**



Performance Driven Issues - Containment

Current Rule

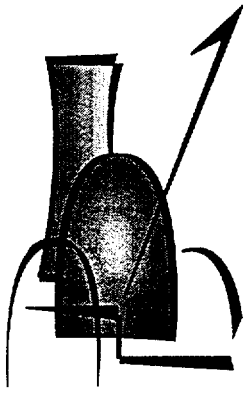
- ASME Section XI, '92 Edition, '92 Addenda Subsections IWE and IWL as modified by 10 CFR 50.55a(a)
- Subsection IWE provides rules to inspect the surface of metal containments, steel liners of concrete containments, pressure-retaining bolts, seals, and gaskets, containment vessel welds, and pressure-retaining dissimilar metal welds
- Subsection IWL provides rules for examination of concrete pressure-retaining shells and shell components, and for examination of unbonded post-tensioning systems



Performance Driven Issues - Containment

Initiation of Rule

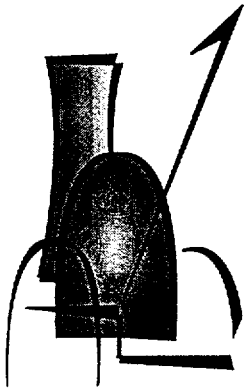
- **From survey, NRC observed large variation among plants related to performance and effectiveness of 10 CFR 50, App. J required visual exams**
- **New rules will ensure that acceptable margins in containment structural integrity are maintained**
- **Utilities incorporating new rule into their ISI plans; required to complete first period exams in 5 years (9/9/01)**



Performance Driven Issues - Containment

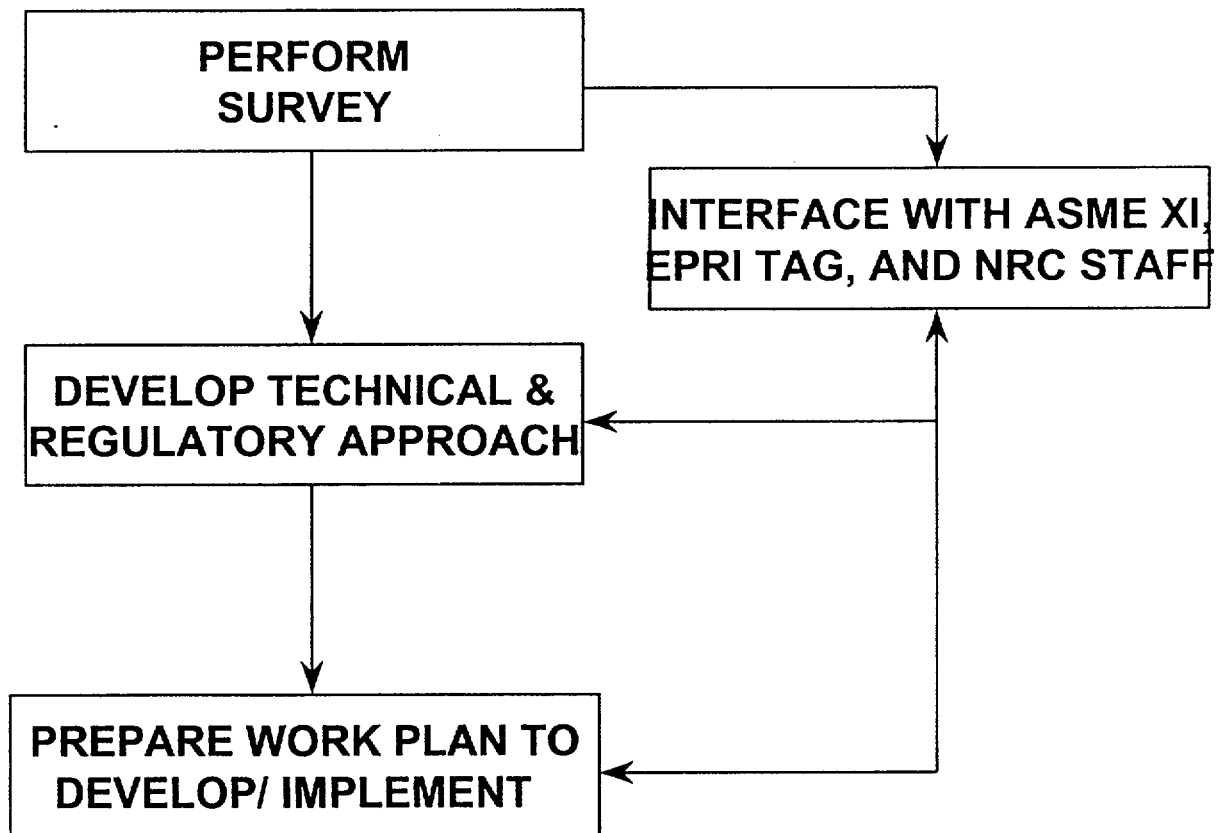
Current Status

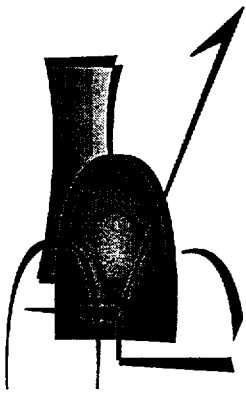
- **ASME Section XI has continued to further develop Subsections IWE/IWL**
- **EPRI Technical Advisory Group has been developing industry guidance for implementing IWE/IWL requirements**
- **Utilities have filed relief requests to:**
 - **address a number of Code implementation issues, e.g., seals & gaskets, re-torquing or re-tensioning pressure retaining bolting, etc.**
 - **use 1998 Edition of ASME XI that has been revised to address many of the issues above.**
- **EPRI Technical Advisory Group and Several Owners Groups Expressed Strong Interest in Performance Based Approach**



Performance Driven Issues - Containment

Proposed Steps to Performance Based Containment Examinations

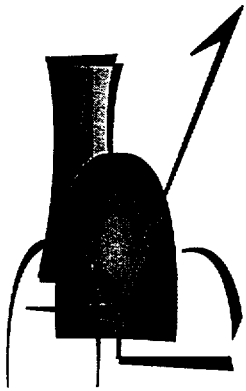




Performance Driven Issues - Containment

Elements of Survey

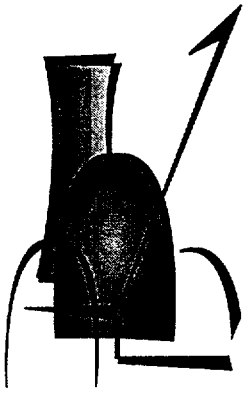
- Containment type design, materials, and volume
- Results of any Maintenance Rule efforts and NRC audits
- Identification of general areas/locations of degradation and postulated mechanisms
- Current Code and regulatory commitments, items viewed as unnecessary burden, time to implement each requirement, incurred or expected costs
- State of PRA model for severe accidents including LERF definition and value, Level 2 PRA postulated mechanisms, locations and distribution of max hole sizes, design and best estimate containment pressures
- Related 10 CFR 50 Appendix J containment leak rate test information



Performance Driven Issues - Containment

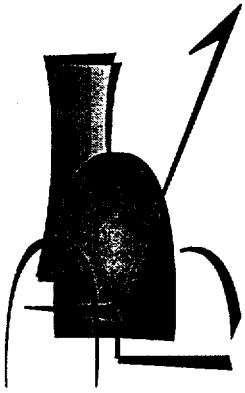
Benefits

- **Provide preliminary qualitative risk insights as initial support for utility members who are filing relief requests**
- **Should achieve safety and economic benefits similar to that achieved for the RI-ISI piping application -**
 - **maintain or reduce risks associated with containment integrity**
 - **reductions to personnel radiation exposure**
 - **reductions in projected inspection costs**



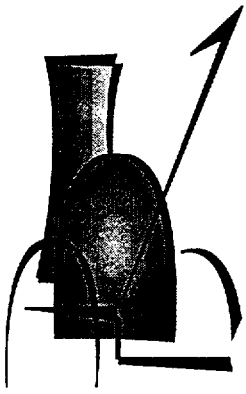
Integrity Management Issues

- **Break Exclusion Zone (BER/HELB) Piping**
 - **SRP 3.6.1 Protection Against Postulated Piping Failures...**
 - **ASB 3-1 (Giambusso Letter)**
 - **SRP 3.6.2 Determination of Rupture Locations...**
 - **MEB 3-1 (Section B.1.b)**
 - **~ 50% of Class 2 inspections are not due to SXI req'ts ***
- * for some plants



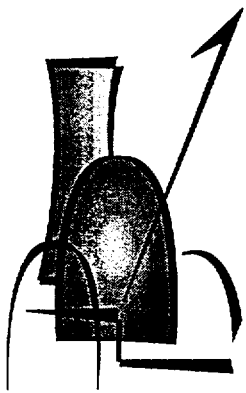
Integrity Management Issues

- **Break Exclusion Zone (BER/HELB) Piping**
 - **In-scope systems typically included within FAC program**
 - **RI-ISI has identified a limited number of locations susceptible to thermal fatigue locations**
 - **Consequence of Failure can be medium to high**
 - **expected to be very plant specific**



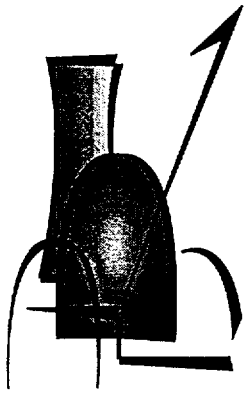
Integrity Management Issues

- **Break Exclusion Zone (BER/HELB) Piping**
 - **Nine Mile Point, Unit 2**
 - **RI-ISI application underway**
 - **Scope = Class 1, 2 and BER piping**
 - **Submittal scheduled for October, 2000**



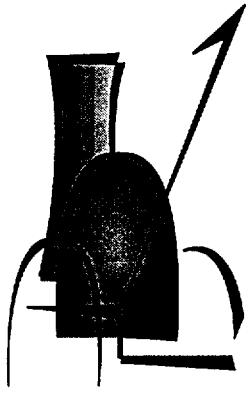
Integrity Management Issues

- **MRP ITG - thermal fatigue of small bore piping**
 - **Current Section XI req'ts**
 - **Alternative selections**
 - **Risk-informed selections**
 - **Inspectability**



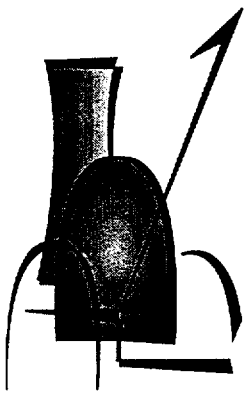
Appendix VIII, PDI, and Other Inspection Issues

- **Appendix VIII is mandated by new rule**
 - **Phased schedule of implementation**
 - **Piping (except DM and overlays) examinations covered effective May 22, 2000**
 - **PDI will meet with NRC in January to review implementation status**



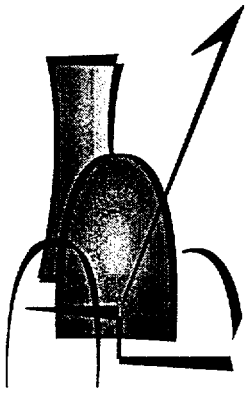
Appendix VIII, PDI, and Other Inspection Issues

- **Appendix VIII is mandated by new rule (cont.)**
 - **PDI program is compatible with RI-ISI damage mechanism assessment**
 - **Addresses detection of cracking on counterbore transition for thermal fatigue**
 - **Large range of piping diameters from 2" SCH 160**
 - **Includes thin wall piping down to 0.237"**
 - **IGSCC specific procedures**



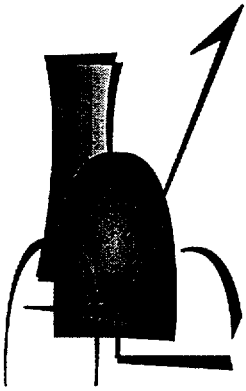
Appendix VIII, PDI, and Other Inspection Issues

- **MRP Thermal fatigue ITG is addressing detection of thermal fatigue in small bore HPSI piping**
 - **PDI has been briefed on the MRP program**
 - **PDI performance data supports good same-side detection and sizing for circumferential cracks in small bore piping**
 - **Any relevant qualification issues stemming from the MRP program will be fed back to PDI for consideration**



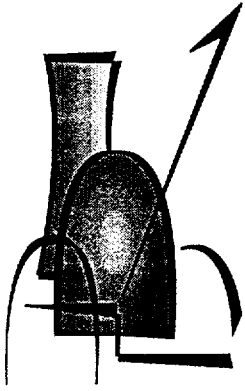
Appendix VIII, PDI, and Other Inspection Issues

- **PDI is evaluating approach for qualifying UT from the inside of nozzles to replace surface examination**
 - **Effort is being coordinated with RI-ISI**
 - **Risk evaluation shows little benefit to qualifying this examination**
 - **PDI will address this issue with NRC in January**
- **No other qualification issues that are pertinent to RI-ISI implementation are foreseen**
- **Any relevant NDE issues stemming from RI-ISI implementation will be coordinated with PDI**



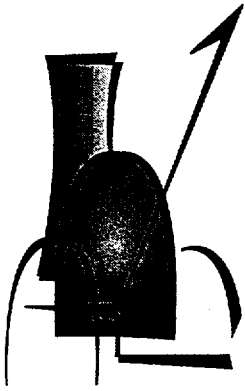
Coordination & Integration

- **Within Industry**
- **Industry and NRC**
- **NRC Non-Nuclear Power
Plant Issues**



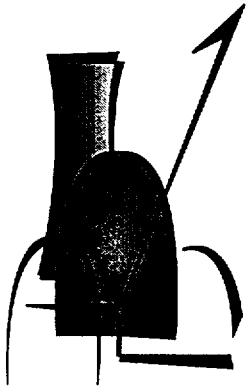
Update of TR-112657, Rev B

- **Previous topics**
- **Full credit for augmented programs**
- **Delta risk requirement for Class 1 piping**
- **Resolution of plant specific issues identified in SER**



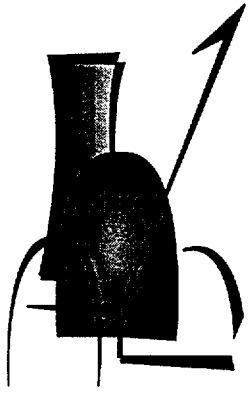
Schedule

- **Short term**
- **Next Meeting**
 - **suggest early April**
 - **suggest three per year**
- **Long Term**



Action Items





Concluding Remarks

- Industry
- NRC