

March 17, 1994

LICENSEE: Northern States Power Company
 FACILITY: Monticello Nuclear Generating Plant
 SUBJECT: MEETING SUMMARY OF FEBRUARY 2, 1994

On February 2, 1994, personnel from Monticello Nuclear Generating Plant met with representatives from the NRC to discuss the licensee's plans to repair a core spray header crack during the next refueling outage scheduled for September 1994. The meeting was held at One White Flint North in Rockville, Maryland. A list of attendees is enclosed (Enclosure 1). Overhead slides used during the meeting are also enclosed (Enclosure 2). Five additional slides used during the meeting were found to contain Northern States Power (NSP) proprietary information and have been withheld from public disclosure pursuant to 10 CFR 2.790(b)(5) and Section 103(b) of the Atomic Energy Act of 1954, as amended (NRC letter to NSP dated March 14, 1994). Therefore, these slides are not included in Enclosure 2.

The meeting provided an opportunity for representatives from Monticello Nuclear Generating Plant to meet with NRC technical staff for an informal exchange of information regarding repair and design options and the licensee's current repair and improvement plans.

Original signed by:

Beth A. Wetzel, Acting Project Manager
 Project Directorate III-1
 Division of Reactor Projects - III/IV/V
 Office of Nuclear Reactor Regulation

Enclosures:

1. List of Attendees
2. Overhead Slides

cc: w/enclosures
 See next page

OFFICE	LA:PD31	(A)PM:PD31	PD:PD31
NAME	CJamerson	BWetzel:ctr	LMarsh
DATE	03/17/94	03/17/94	03/17/94

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Northern States Power Company

cc:

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February 2, 1994

Meeting with Monticello Personnel to Discuss

Repair of the Core Spray Header Crack

List of Attendees

<u>Name</u>	<u>Organization</u>
A. Blough	NRC/DRPW/PDIII-1
B. Wetzel	NRC/DRPW/PDIII-1
S. Ray	NRC/RIII
N. Jackiw	NRC/RIII
R. Frahm	NRC/NRR/SRXB
G. Hammer	NRC/NRR/EMEB
W. Koo	NRC/NRR/EMCB
R. Hermann	NRC/NRR/EMCB
L. Banic	NRC/NRR/EMCB
J. Rajan	NRC/NRR/EMEB
K. Manoly	NRC/NRR/EMEB
L. Waldinger	Site General Manager - Monticello
W. Hill	Plant Manager - Monticello
P. Kissinger	Engineer - Monticello

Northern States Power Company

February 2 , 1994

Presentation to NRC/NRR

**Monticello Core Spray Repair
and Improvement Plan**

Table of Contents

- Purpose
- Monticello Introduction
- History of Core Spray Crack
- 1993 Refueling Outage Repair Contingency
- Justification For Continued Operation
- Re-Evaluation of Repair Options
- Current Repair and Improvement Plans

Purpose

Inform NRC/NRR on our core spray repair and improvement plan scheduled for implementation during the September 1994 refueling outage.

Obtain regulatory feedback on this approach due the time constraints to be ready for implementation.

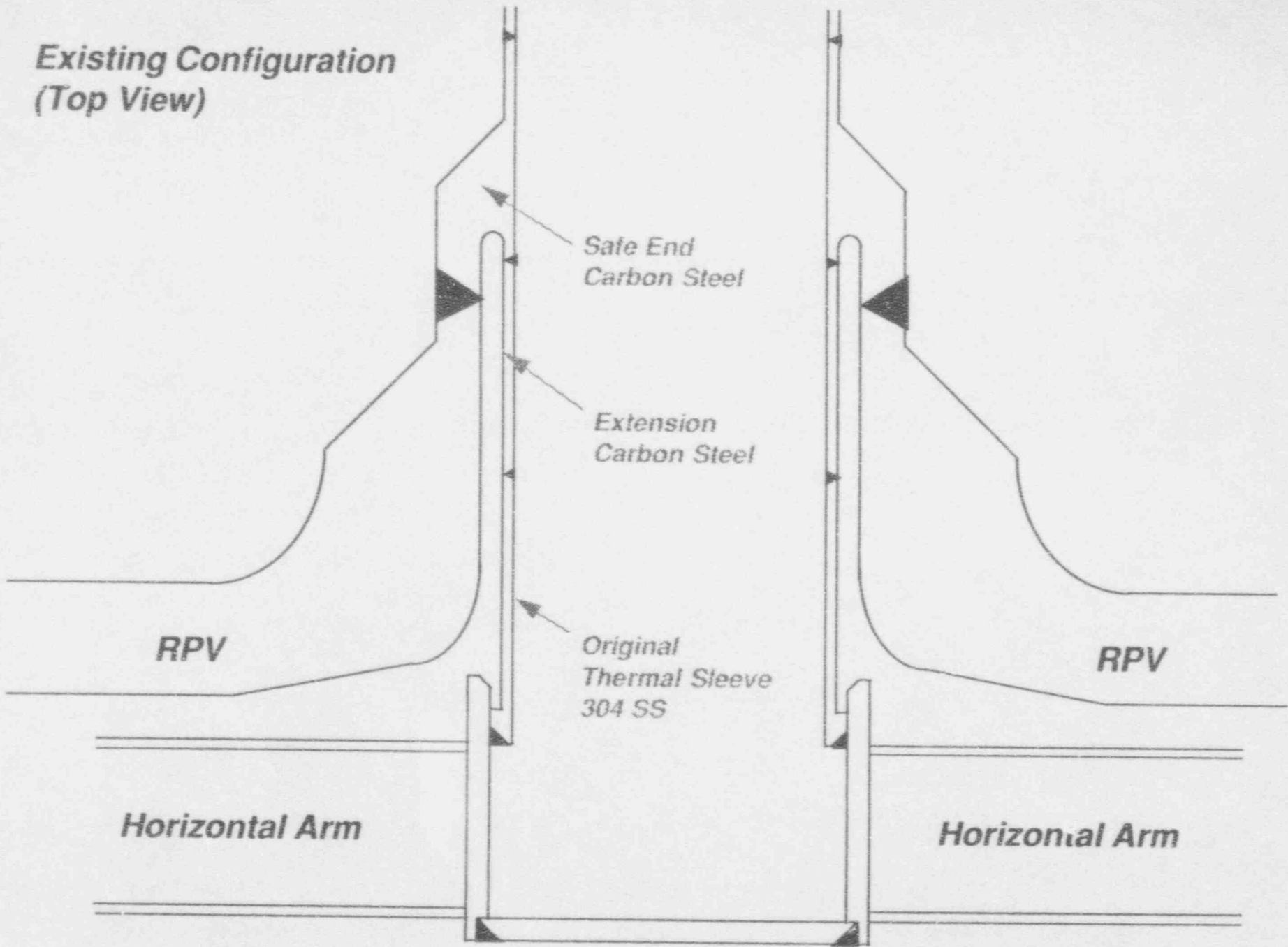
Monticello Introduction

- **570 MWe GE BWR Located in Monticello, MN**
- **Hydrogen Water Chemistry Operation since 1988**
- **Two Independent Core Spray Injection Systems**
- **Core Spray Safe Ends Replaced in 1985**
- **First Core Spray Internal Crack Found in 1993 Refueling Outage**
- **In-Vessel Visual Inspection Every Refueling Outage.**
- **Excellent Operating Water Chemistry History**

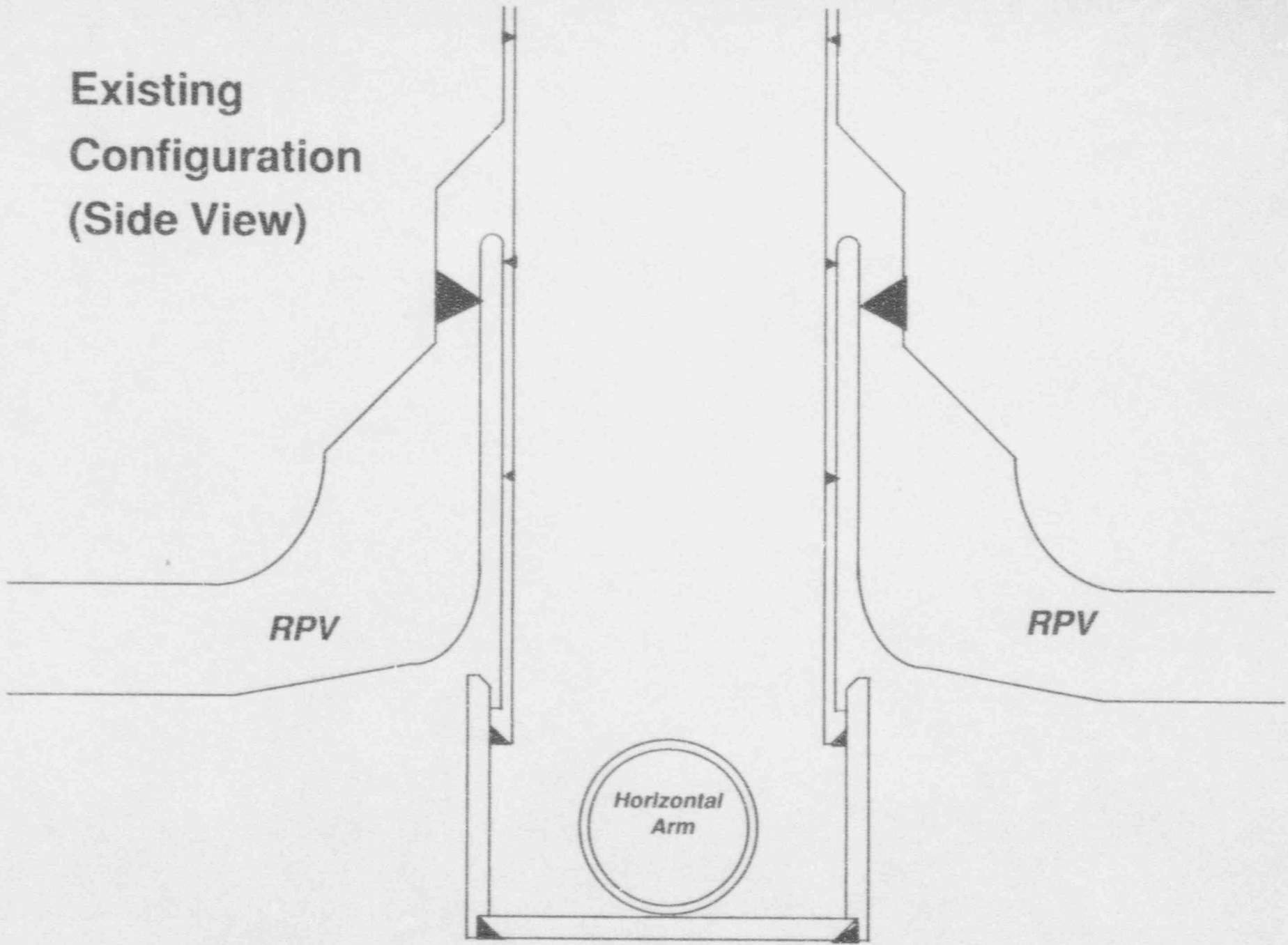
History of Core Spray Crack

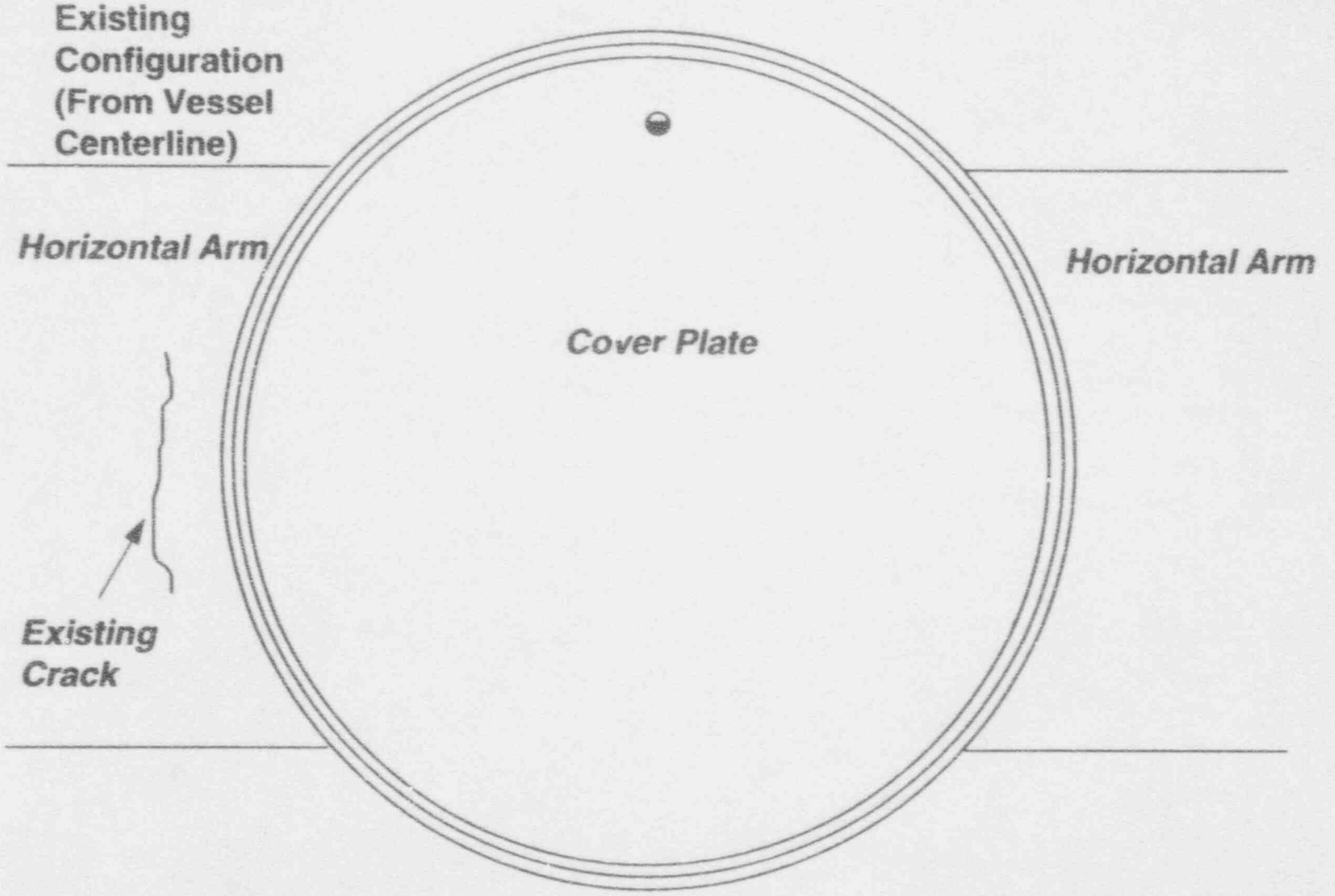
- **Found during February 1993 refueling outage**
 - Augmented visual inspection of CS piping per IE Bulletin 80-13
- **Approximately 2.25 inches long in left arm of the 'B' Core Spray Header**
- **UT performed to characterize crack**
 - through wall
 - established boundaries
- **5 inch schedule 40S pipe (0.258 wall thickness)**

*Existing Configuration
(Top View)*



**Existing
Configuration
(Side View)**

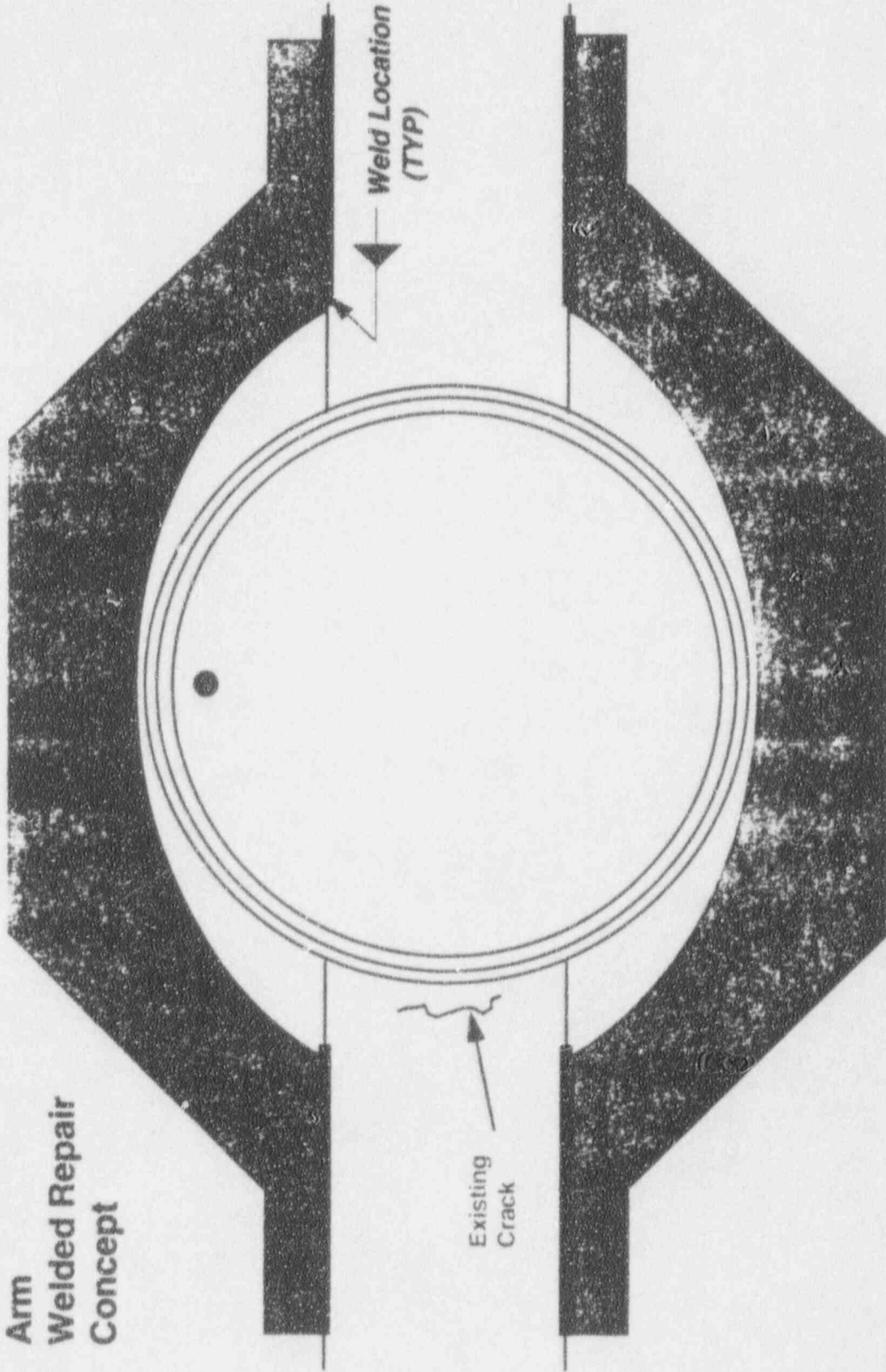




1993 Refueling Outage Repair Contingency

- **Planned on implementation of standard welded bracket fix with underwater divers**
- **Similar to that performed at other GE BWR's**
- **Completed diver weld qualifications**
- **Hardware delivered to site**
- **Procedures and Modification Package ready for implementation**
- **This evolution went in parallel path with justification for continued operation approach**

**Initial Horizontal
Arm
Welded Repair
Concept**



Justification for Continued Operation

- **NSP/GE Analysis**
 - Structural
 - Loose Parts
 - LOCA
- **10 CFR Part 50, Section 50.59 safety evaluation concluded safe operation for one operating cycle**
- **NRC acceptance (March 1993)**
- **Commitments to NRC**
 - Develop modification or repair method that will result in permanent resolution for the crack by the end of the 1994 refueling outage
 - Submit letter to NRC describing plans to resolve problem

Re-Evaluation of Repair Options

- **Conducted post outage meeting**
 - Purpose was to ensure all information retained and action items for next outage addressed
 - Originally planned on welding on the brackets in the 1994 outage (Modification package was complete and hardware on site)
 - NRC approval of one cycle of operation allowed us to review the problem from a broader perspective and come up with a better long term solution to multiple issues involving the core spray T-Box
- **New Approach to resolve issue warranted**
 - Total dose to underwater welding personnel
 - Welded repair did not resolve other concerns about the core spray T-box
 - Critical path time for welded fix approximately 8 days

Current Repair and Improvement Plans

- **Objective**

- Resolve existing crack problem
- Implement proactive improvement plan that would address the following:
 - » Creviced weld in T-Box cover plate
 - » Creviced T-Box to thermal sleeve weld
 - » Symmetric locations to existing crack addressed (Both core spray systems A&B)

- **Result**

- Design that will require much less implementation dose than previous design
- Shorter installation time
- Addresses all above objectives

DISTRIBUTION FOR SUMMARY OF 2/2/94 MEETING

DATED: March 17, 1994

w/enclosures 1&2:

Docket File

NRC & Local

PD31 Reading

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w/enclosure 1 only:

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J. Roe

J. Zwolinski

L. Marsh

A. Blough

C. Jamerson

OGC

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R. Frahm

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cc: Licensee & Service List (with all enclosures)