

March 20, 2002 Public Meeting

on

Reactor Pressure Vessel Head Degradation

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on
REACTOR PRESSURE VESSEL HEAD DEGRADATION

PURPOSE: To exchange information with stakeholders and respond to questions regarding degradation of the reactor pressure vessel head found at the Davis Besse Nuclear Power plant and NRC's actions to address the issue.

SUCCESS: Participants leave the meeting with clear understanding of the issue, stakeholder perspectives and concerns, and NRC's actions to address the issue and protect public health and safety.

AGENDA

I. INTRODUCTIONS

**Tony Mendiola, Section Chief
DLPM, NRR
U.S. NRC**

II. OVERVIEW OF ISSUE (25 minutes)

**Jack Strosnider, Director
Division of Engineering, NRR
U.S. NRC**

III. QUESTION AND DISCUSSION PERIOD

IV. ADJOURNMENT

OVERVIEW OF ISSUE

- I. Basic Plant and Reactor Pressure Vessel Overview**
- II. Description of Degradation found at Davis Besse**
- III. Safety Implications**
- IV. Industry / licensee actions**
- V. NRC Actions**

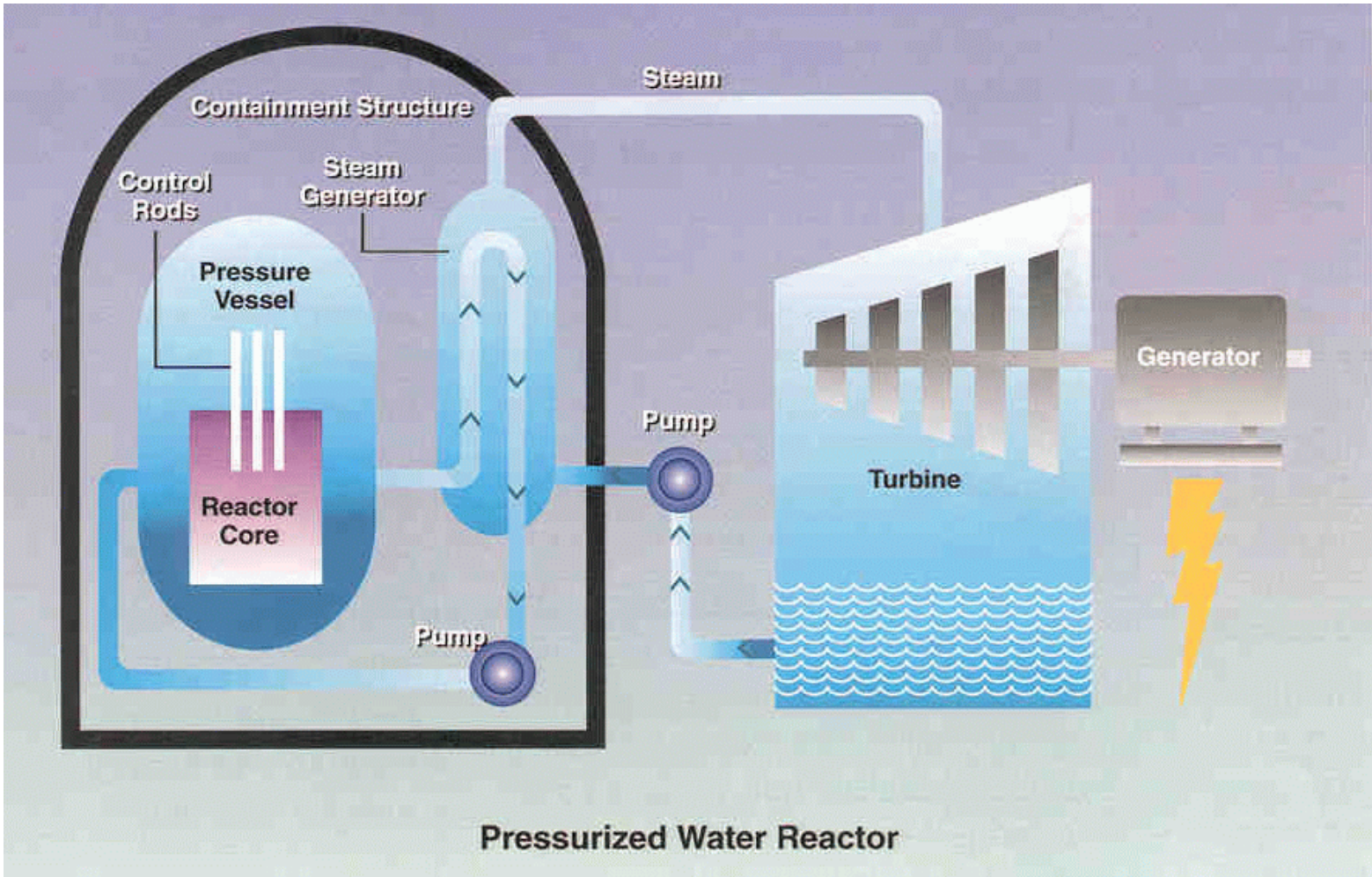


FIG 1: BASIC PLANT SYSTEMS

Reactor Pressure Vessel Head Degradation Location

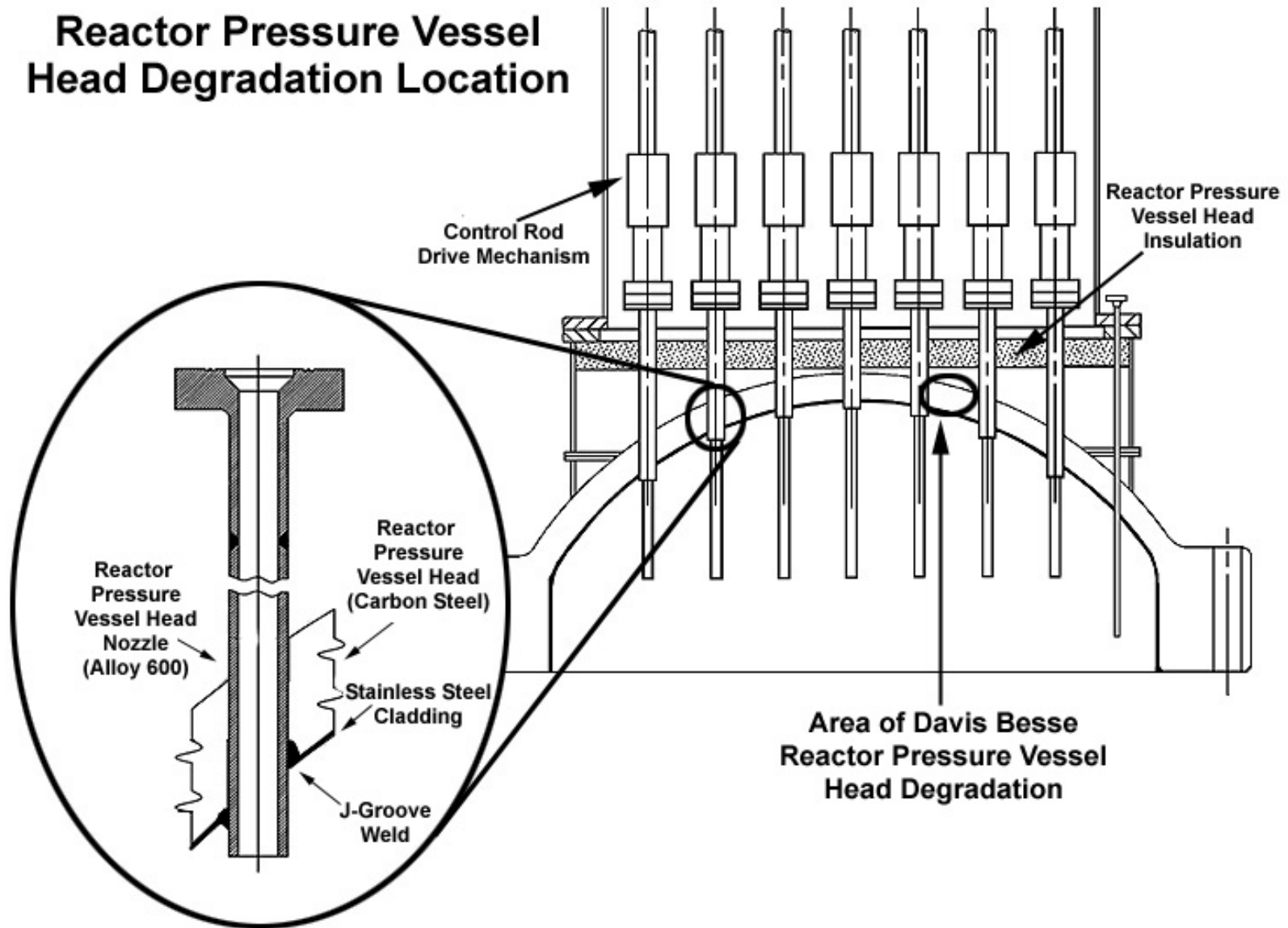


FIG 2: REACTOR PRESSURE VESSEL HEAD

DESCRIPTION OF DEGRADATION FOUND AT DAVIS BESSE

- **INSPECTIONS WERE BEING PERFORMED IN RESPONSE TO NRC BULLETIN 2001-01 REGARDING CRACKING OF CRDM NOZZLE PENETRATION TUBE**

- **NOZZLES INSPECTED WITH ULTRASONIC TESTING**
 - **nozzles 1, 2, and 3 had through-wall cracks that leaked**
 - **nozzles 5 and 47 had cracks that were not through-wall**

- **PROBLEMS ENCOUNTERED DURING REPAIR OF NOZZLE 3**

- **NOZZLE 3 REMOVED FROM REACTOR VESSEL HEAD AND BORIC ACID DEPOSITS REMOVED**

- **IDENTIFIED DEGRADED AREAS ADJACENT TO NOZZLES 1, 2, AND 3**

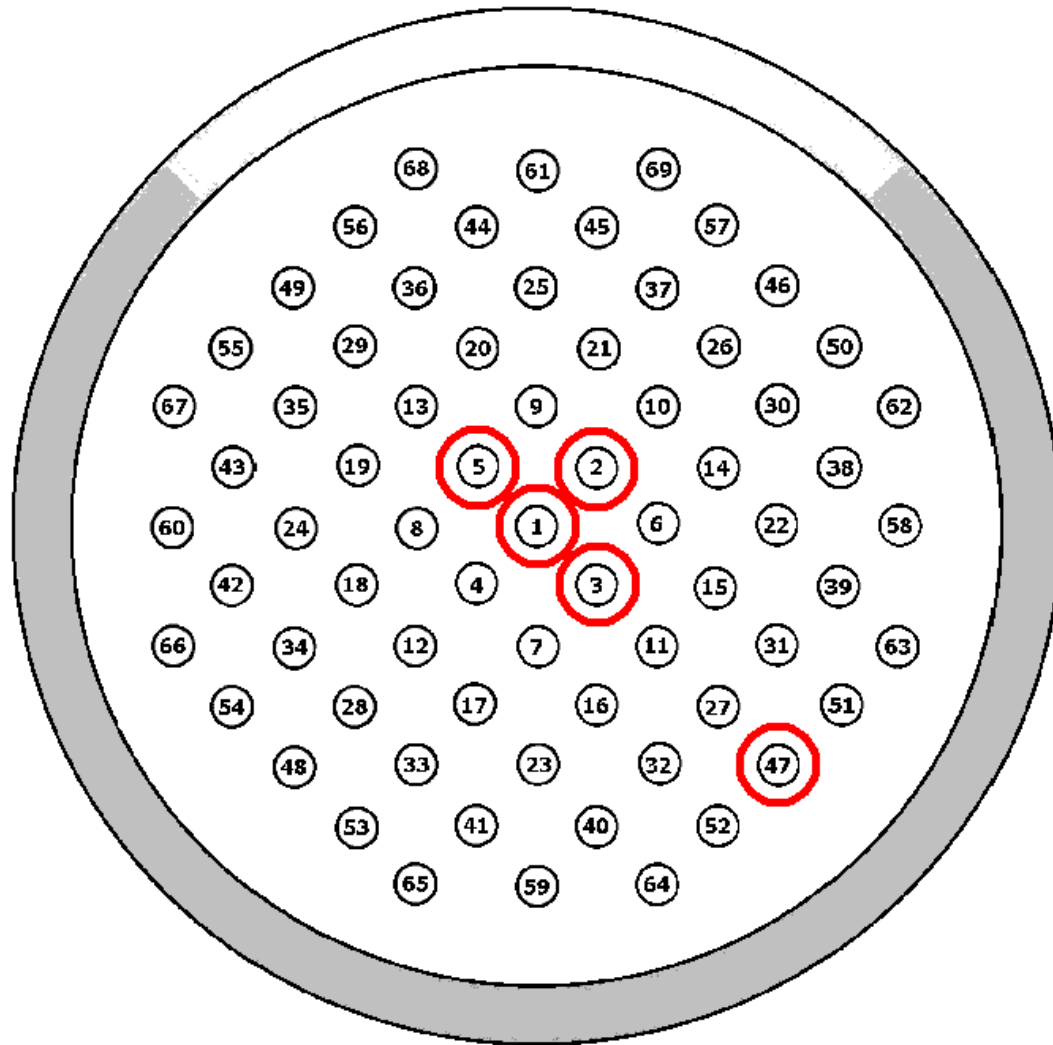
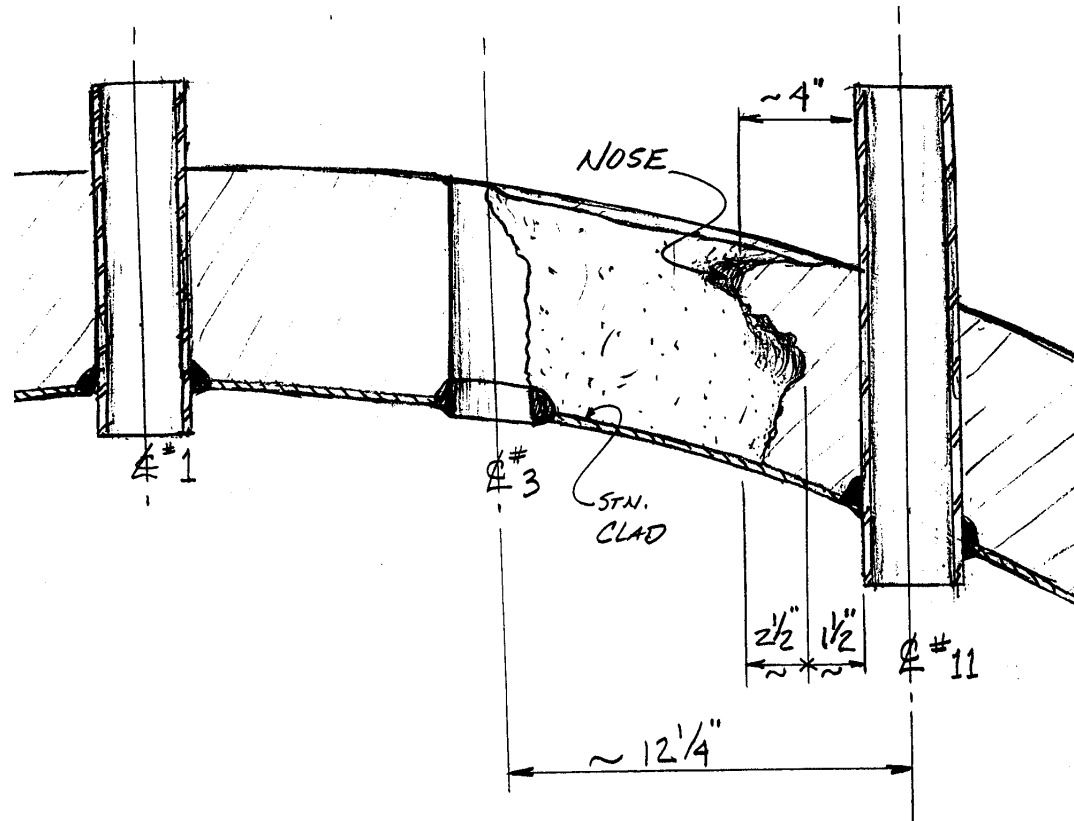


FIG 3: TOP VIEW OF REACTOR VESSEL HEAD



SECTION A-A

FIG 4: CROSS-SECTIONAL SKETCH OF DEGRADED AREA ADJACENT TO NOZZLE 3

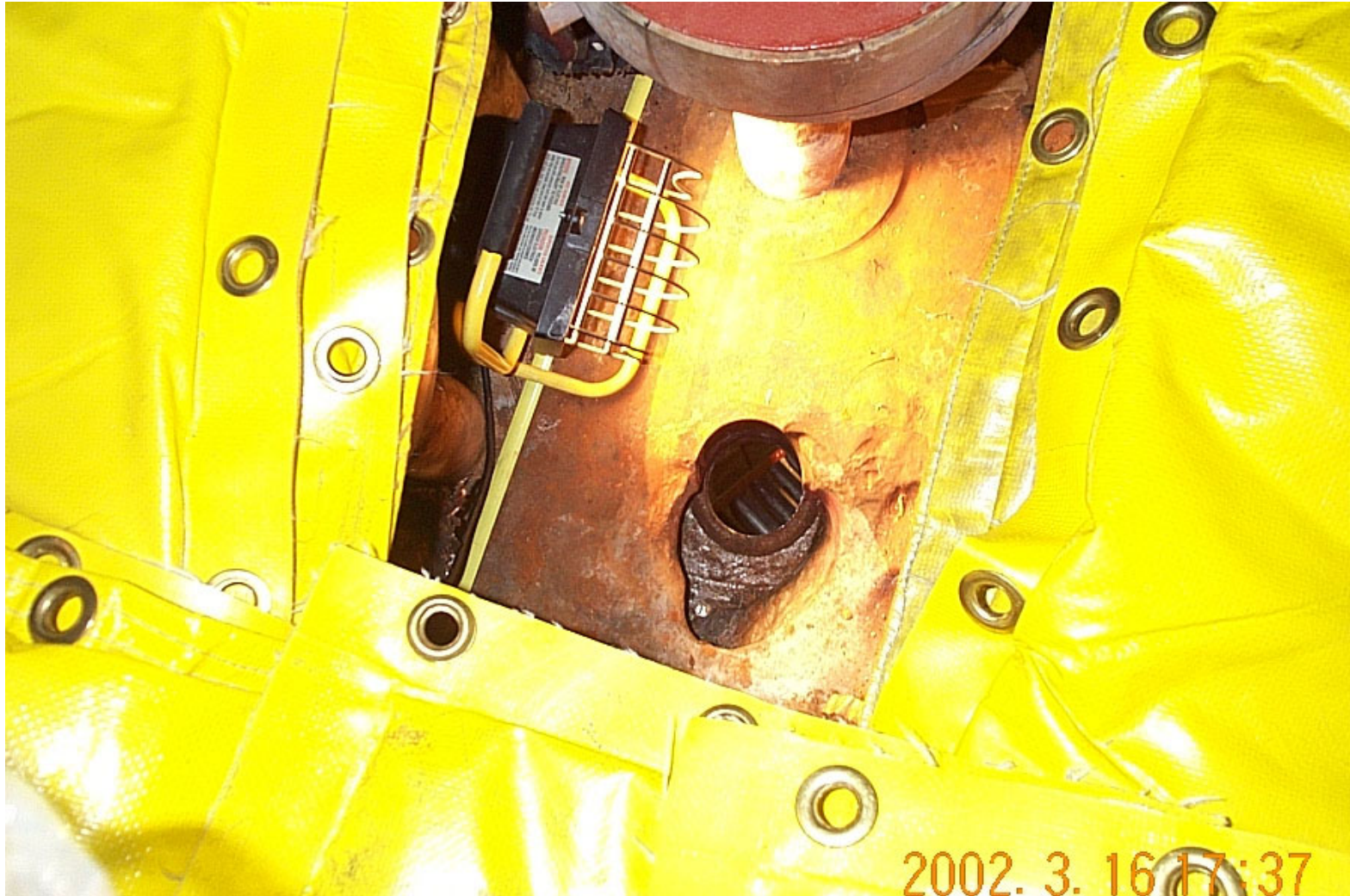


FIG 5: PHOTO OF DEGRADED AREA ADJACENT TO NOZZLE 3

SAFETY IMPLICATIONS

- **VERY SERIOUS DEGRADATION**
 - **Structural Margins Were Significantly Degraded**
 - **Potential for Loss of Reactor Coolant Accident**

- **PLANT IS DESIGNED TO DEAL WITH A LOSS OF COOLANT ACCIDENT**
 - **Emergency Core Cooling Systems, Control of Nuclear Reaction, Containment**
 - **Unwanted Challenge to Systems and Operators**

- **PROMPT ACTION REQUIRED TO CONFIRM THAT SIMILAR PROBLEMS DON'T EXIST AT OTHER PLANTS**

LICENSEE / INDUSTRY ACTIONS

- **LICENSEE ACTIONS**
 - **Plant is in safe, shutdown condition**
 - **Licensee investigating extent and cause of degradation**
 - **Licensee evaluating repair or replacement options**

- **INDUSTRY ACTION**
 - **Industry survey to collect information on status of all pressurized water reactor plants**
 - **Information presented at March 19 public meeting**

NRC Actions

- **INFORMATION NOTICE 2002-11 ISSUED MARCH 12, 2002**
- **NRC AUGMENTED INSPECTION TEAM (AIT) SENT TO SITE**
- **CONFIRMATORY ACTION LETTER ISSUED TO LICENSEE**
- **BULLETIN 2002-01 ISSUED ON MARCH 18, 2002**

BULLETIN REQUIRED INFORMATION

WITHIN 15 DAYS:

- **SUMMARY OF RPV HEAD INSPECTION & MAINTENANCE PROGRAMS**
- **EVALUATION OF ABILITY OF INSPECTION AND MAINTENANCE PROGRAMS TO IDENTIFY DEGRADATION**
- **DESCRIPTION OF CONDITIONS THAT COULD LEAD TO DEGRADATION AND CORRECTIVE ACTIONS TAKEN TO ADDRESS SUCH CONDITIONS**
- **PLANS, BASIS AND SCHEDULE FOR FUTURE INSPECTIONS OF THE REACTOR VESSEL HEAD AND VESSEL HEAD PENETRATION NOZZLES**
- **BASIS FOR CONTINUED OPERATION UNTIL THE INSPECTIONS ARE PERFORMED**

WITHIN 30 DAYS:

- **RESULTS OF INSPECTIONS**

WITHIN 60 DAYS:

- **BASIS FOR CONCLUDING BORIC ACID INSPECTION PROGRAM IS EFFECTIVELY MAINTAINING REACTOR COOLANT PRESSURE BOUNDARY INTEGRITY**