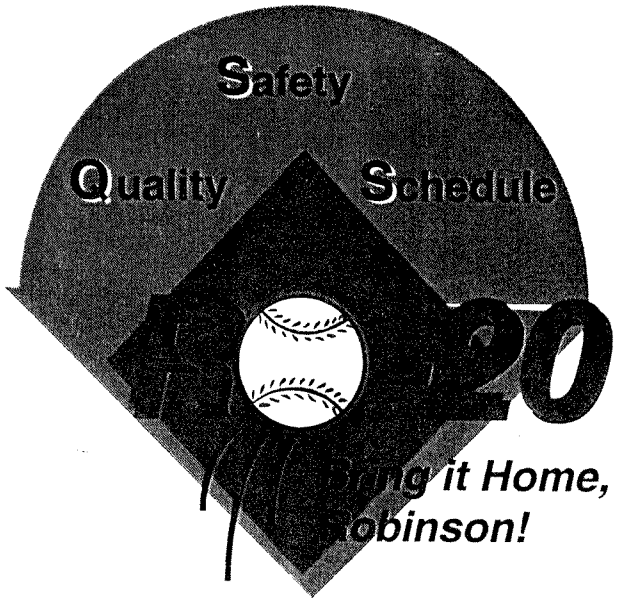

H. B. Robinson Steam Electric Plant, Unit No. 2

Meeting with NRC to Discuss Refueling Outage 20

March 26, 2001

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A Progress Energy Company

Enclosure 2

Agenda

- Introduction.....John Moyer
- Schedule Overview.....Tim Cleary
- Outage Goals.....Tim Cleary
- Major Activities.....Tim Cleary
- Reactor Pressure Vessel Inservice Inspection.....Dan Stoddard
- Closing Remarks.....John Moyer

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Introduction

- Purpose
  - Introduce key Robinson Nuclear Plant (RNP) department managers
  - Provide year 2000 results
  - To discuss key Refueling Outage 20 (RO-20) activities, including Reactor Pressure Vessel (RPV) Inservice Inspection (ISI)

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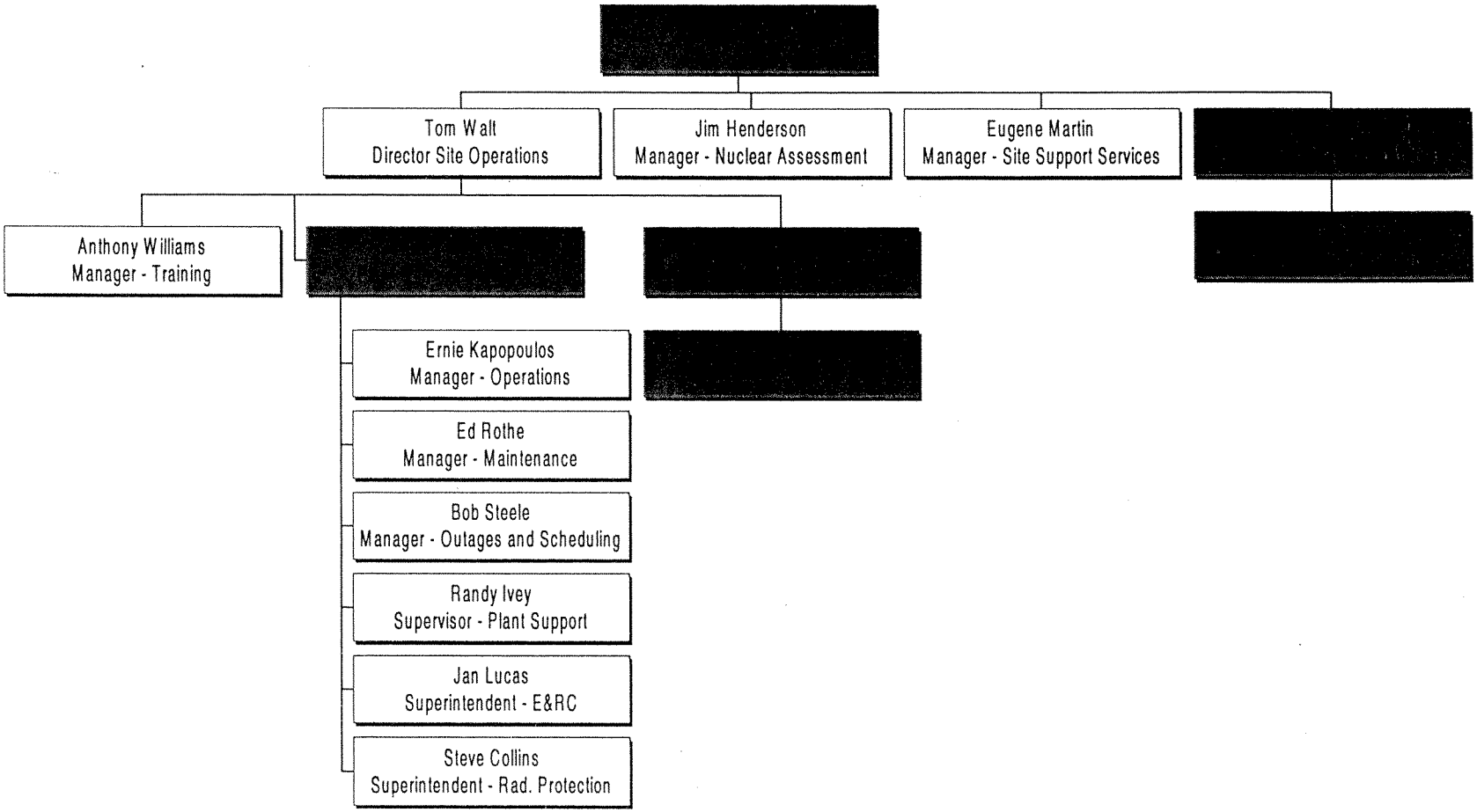
H. B. Robinson Plant, Unit No. 2
Key Department Managers



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Year 2000 Results

Capacity Factor	103.96%
Forced Outage Rate	0.38%
Radiation Dose	8.4 Rem
Personnel Contaminations	5
Maintenance Backlog	176

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Tim Cleary
Plant General Manager

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Schedule Overview

- Current RO-20 Critical Path is ~34 Days
- Major Milestones
  - Unit Off Line 4/7
  - Mode 5 4/7
  - Core Offloaded 4/16
  - RPV ISI Completed 4/22
  - Core Reloaded 4/30
  - Mode 4 5/7
  - Unit On Line 5/10
  - 100% Power 5/14

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Outage Goals

Human Performance Events	≤ 2 Events
OSHA Recordable Injuries	≤ 4 Events
Radiation Exposure	≤100 Rem
Duration (Business Plan)	≤ 37 Days
Budget (Business Plan)	≤ $18 Million

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Major Activities

- Steam Generator Inspections
- Reactor Protection Relay Replacements
- Turbine Project
- Component Cooling Water (CCW) Heat Exchanger Service Water Piping Upgrade
- RPV Inservice Inspection

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Major Activities (Cont'd)

- Fuel Transfer System Upgrade
- 1 Reactor Coolant Pump (RCP) Motor, 2 RCP Seal Replacements
- RCP Oil Level Monitoring Enhancement
- Condenser Tube Leak Repair
- Secondary Piping Replacement (Flow Accelerated Corrosion Program)
- Rod Position Indication Upgrade

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Major Activities (Cont'd)

- Steam Generator Inspections
  - Eddy current examination (B and C)
  - Sludge lancing (A, B, and C)
    - In-bundle using "CECIL" for collar scale removal
  - Tube support plate visual inspection

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Major Activities (Cont'd)

- Reactor Protection Relay Replacements
  - Replacements based on operating experience and aging management concerns (297 relays)
    - No safety or operability concerns
  - Dedicated team of CP&L Technicians
    - Emphasis on human performance
    - Shop expectations established
    - Utilizing RO-19 lessons learned
  - Tested for operability prior to Mode 4

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Major Activities (Cont'd)

- Turbine Project
  - Low pressure turbine inspections
  - Lube oil cooler cleaning
  - Turbine EH oil system upgrade
    - Fatigue failure in June 2000 resulted in non-isolable leak
      - Manual reactor trip initiated by Operators
      - Only Licensee Event Report in 2000
    - Replacing control piping, fittings, and tubing

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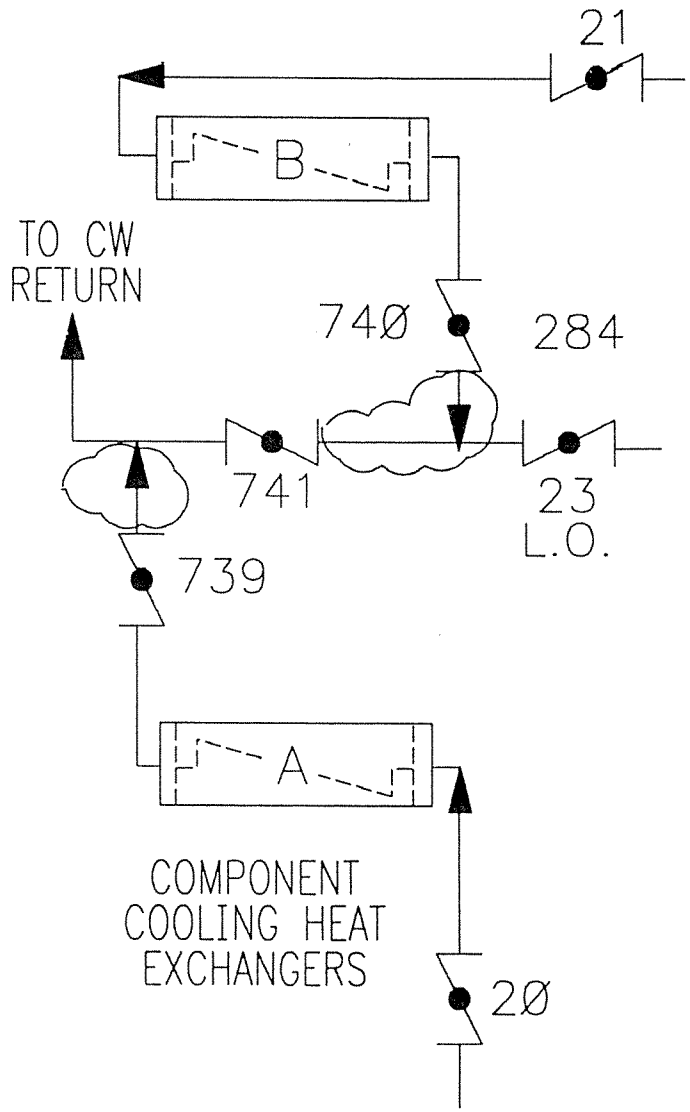
Simplified Diagram of CCW Heat Exchanger Service Water Piping Upgrade



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Dan Stoddard
Manager - Engineering

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RPV Inservice Inspection

- Final Period of Ten-Year ISI Interval
- Significant RPV Inspections Scheduled for RO-20
- Incorporating Lessons Learned from V.C. Summer

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V.C. Summer Lessons Learned

- Team of Plant and Corporate Personnel Formed to Address Implications for Robinson
  - Materials issues
  - Inspection techniques
  - Industry issues
  - Operational considerations and contingencies

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V.C. Summer Lessons Learned (Cont'd)

- Materials Issues
  - Robinson vessel has stainless "safe-ends" welded to reactor vessel nozzles
  - Nozzle-to-safe ends were shop welded and heat treated with vessel; safe end-to-piping field weld is stainless-to-stainless
    - Reduced susceptibility to similar failure
  - Inconel alloys used in reactor coolant system (RCS) have been identified for awareness during walkdowns/inspections

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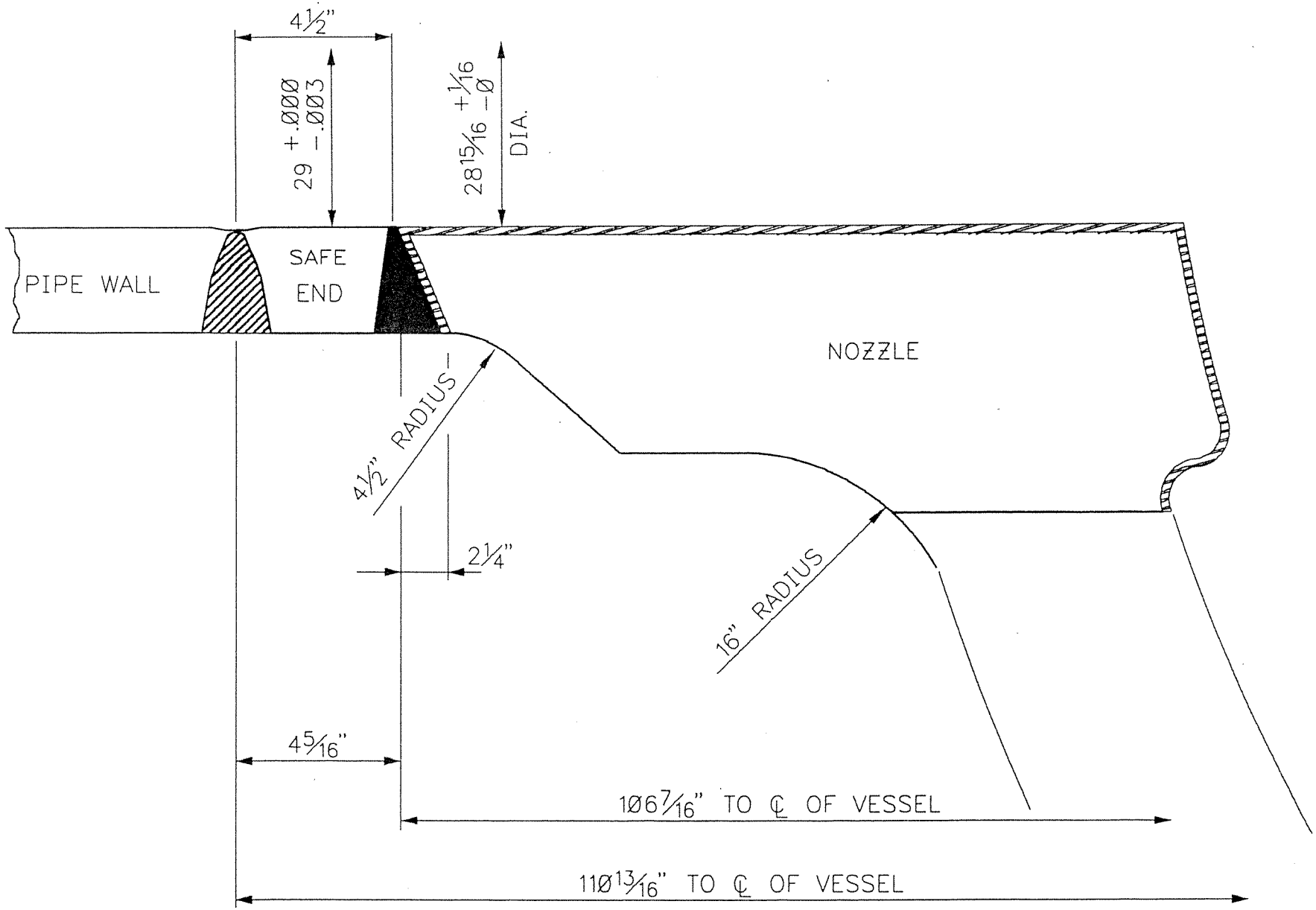
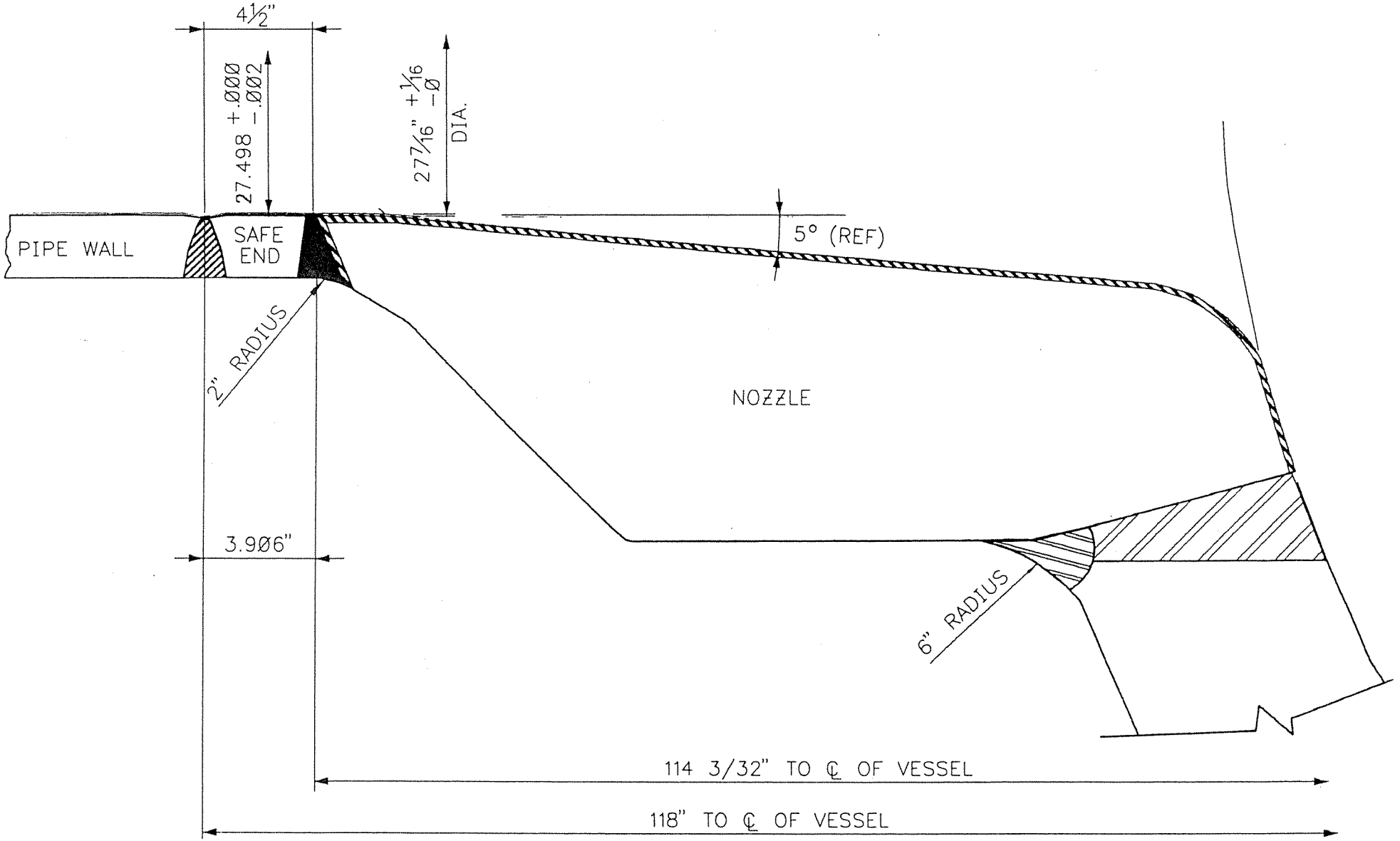


HOT LEG NOZZLE ASSEMBLY



COLD LEG NOZZLE ASSEMBLY

V.C. Summer Lessons Learned (Cont'd)

- Inspection Techniques
  - Reviewed previous inspection history
  - Evaluated weld accessibility
  - Worked with industry (PWR Materials Reliability Program) to identify best available techniques
    - Ultrasonic testing (UT) determined to be the best available and only viable, qualified volumetric inspection technique

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V.C. Summer Lessons Learned (Cont'd)

- Inspection Techniques (Cont'd)
  - Observed qualification of vendor UT technique
    - Electric Power Research Institute (EPRI) concurrence using performance demonstration
    - Identified and compensated for areas of potential lift-off
    - Optimized transducers for maximum coverage
  - Providing enhanced guidance for boric acid walkdowns/inspections
  - Developed bounding flaw analysis

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V.C. Summer Lessons Learned (Cont'd)

- Inspection Techniques (Cont'd)
  - Inspection Plan
    - Inner diameter UT on all nozzle welds
    - Outer diameter VT-2 visual examination on accessible areas of nozzle-to-safe end welds
      - Relief Request No. 32

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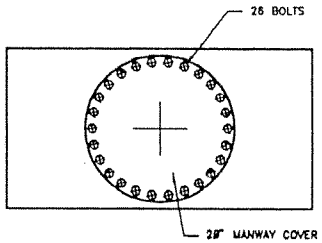
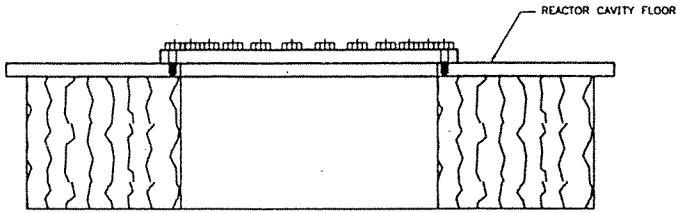
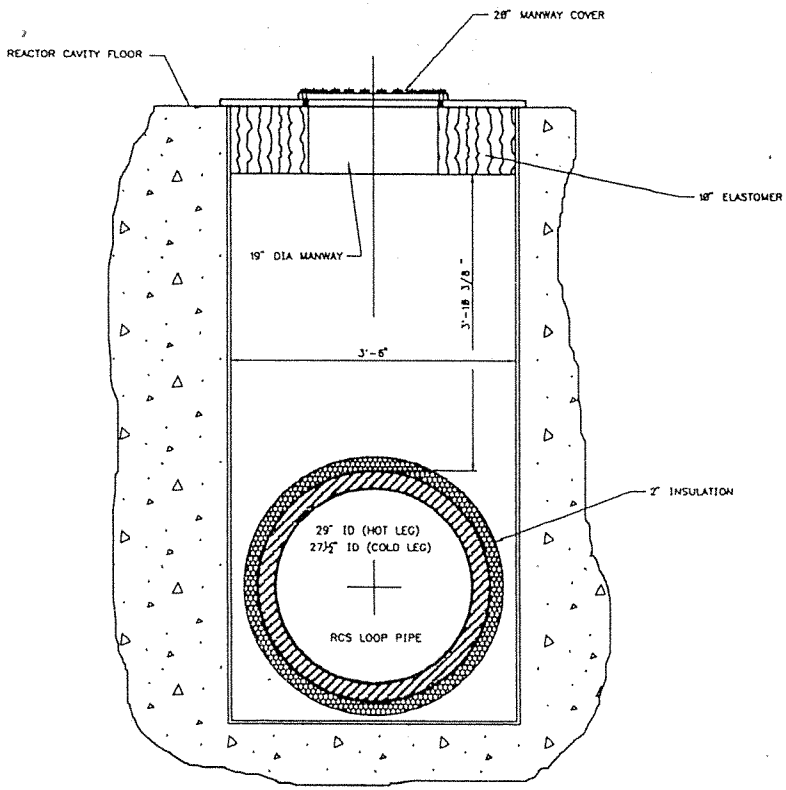


PLAN VIEW

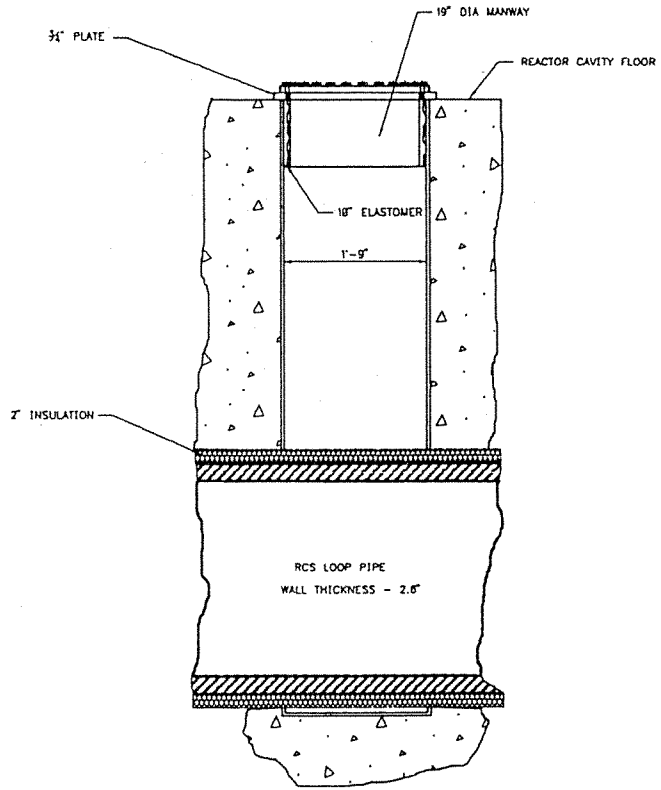


ENLARGED END VIEW

20" MANWAY COVER, PLATE, AND ELASTOMER



END VIEW



SIDE VIEW

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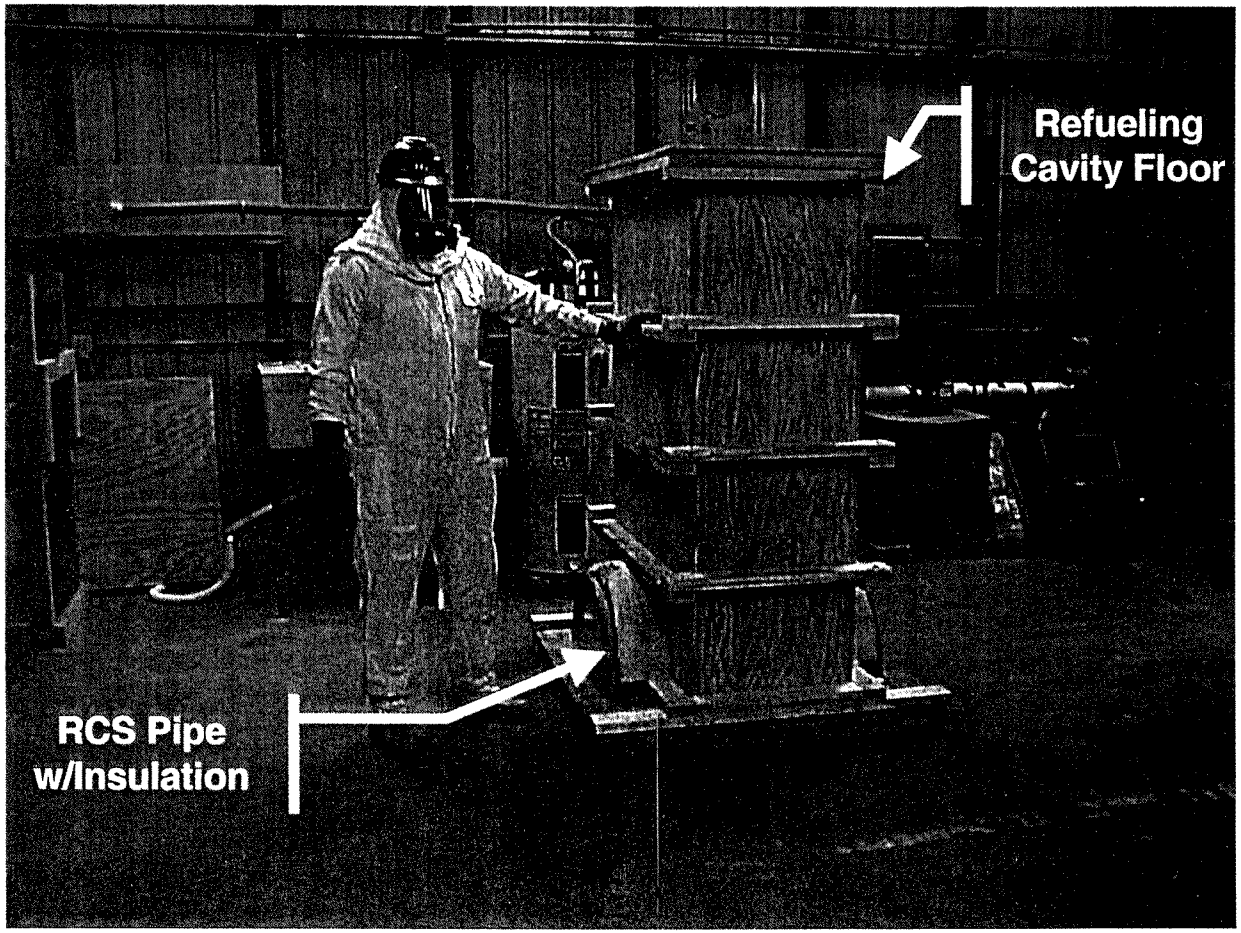
Access Area Mock-Up



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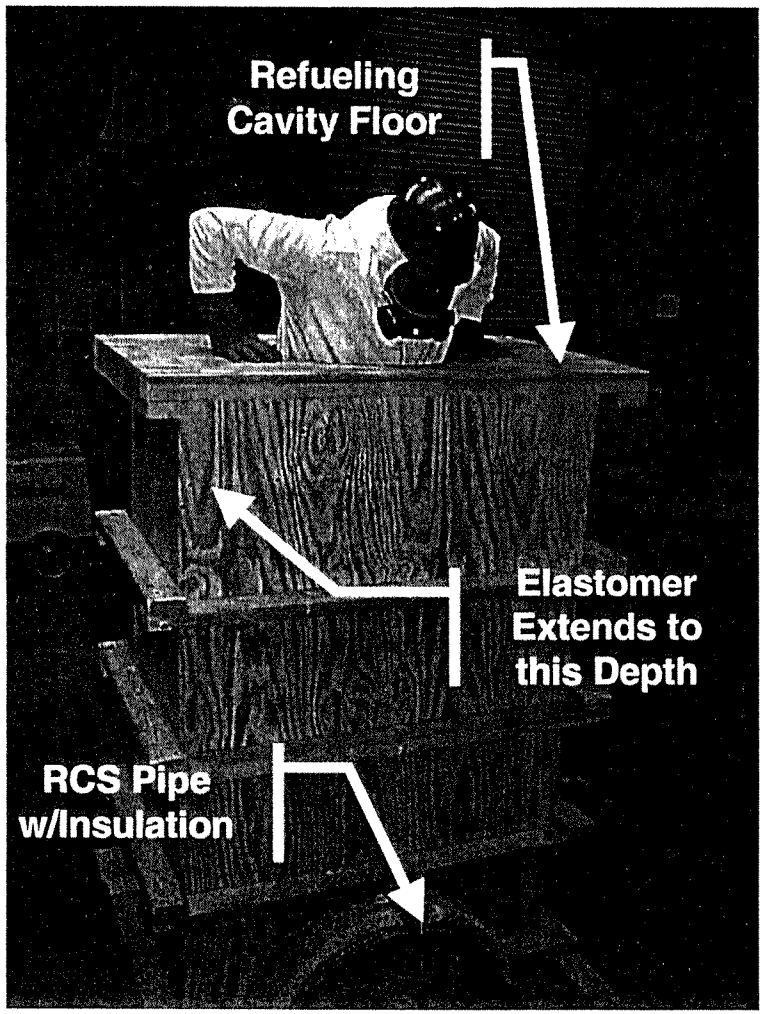
Access Area Mock-Up



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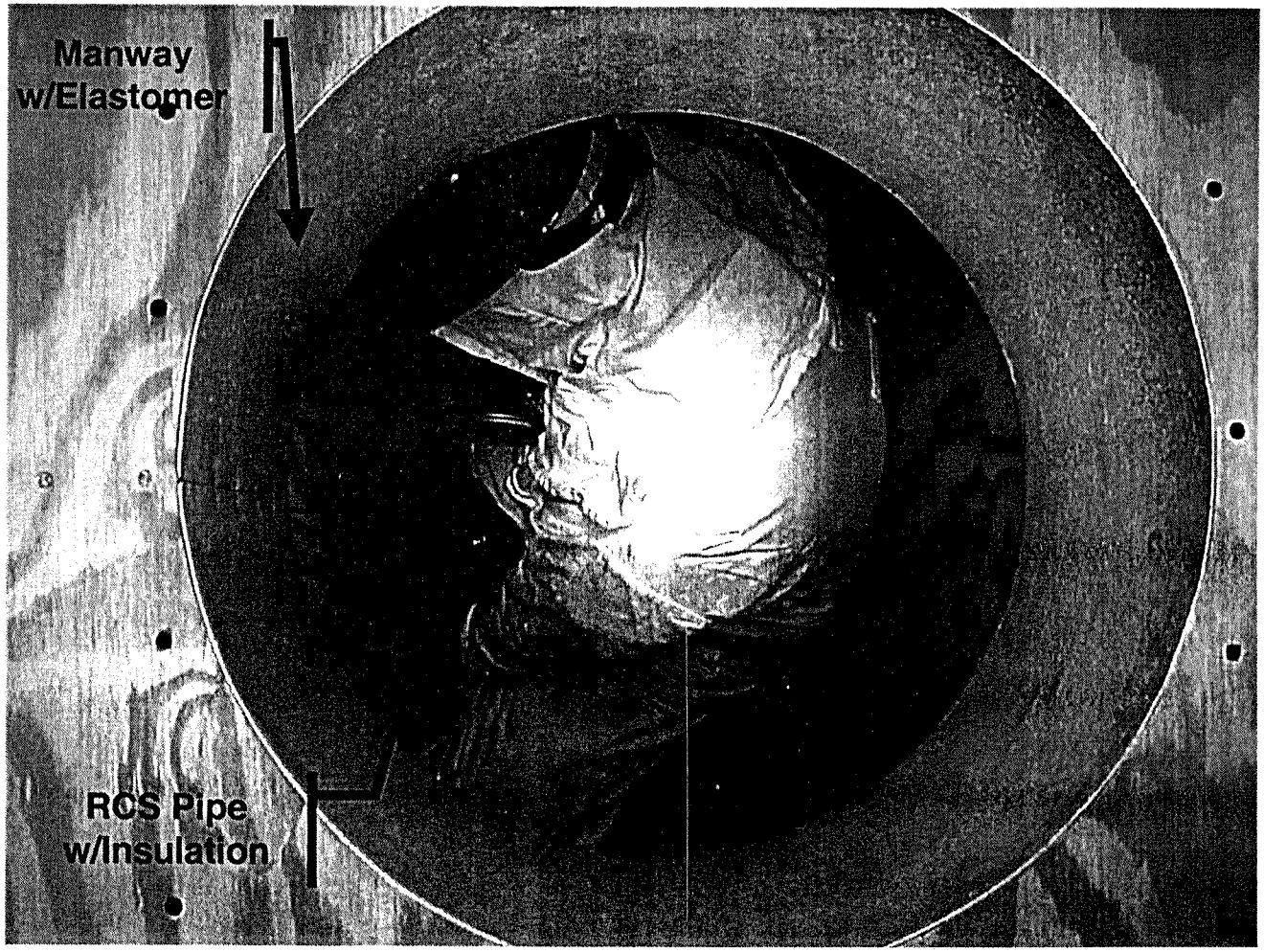
Access Area Mock-Up



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V.C. Summer Lessons Learned (Cont'd)

- Industry Issues
  - Working closely with PWR Materials Reliability Program and plants with spring Ten-Year Inservice Inspections
  - Reviewing available industry operating experience and technical information

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V.C. Summer Lessons Learned (Cont'd)

- Operational Considerations and Contingencies
  - Operations and Chemistry sensitivity
  - Walkdown/inspection sensitivity
  - Contingency plans to evaluate and act upon findings (boric acid deposits, etc.)

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Closing Remarks

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