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Office of Nuclear Reactor Regulation, Director

SUBJECT: Submits feedwater nozzle post-mod rept per 811103 ltr. As-built drawings of sparger/thermal sleeve units encl.

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Northern States Power Company

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April 1, 1982

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Feedwater Nozzle Post Modification Report

The purpose of this letter is to transmit feedwater nozzle post modification information identified in a letter dated November 3, 1981 from L. O. Mayer to the Director of Nuclear Reactor Regulation.

Attachment (1) contains as-built drawings of the sparger/thermal sleeve units with weld and dimension details.

The thermocouples used for the leakage monitoring system are Ailtech Model TC225-10-F. The thermocouples are arranged on the feedwater nozzle as shown in Attachment (2). The thermocouple mounting flange and thermocouple lead hold down clips are spot welded to the nozzle in accordance with Code Case N252.

Actions taken prior to and during the installation to meet ALARA criteria are as follows:

1. The experience of others was obtained by conducting fact finding tours prior to the outage. This was especially useful in sparger removal and pre-NDE cleanup operations. Radiation exposure associated with these opeations showed significant improvement over similar industry experience.

2. Craft personnel were included in software review cycles to provide hands on expertise in developing the most efficient installation operations.

6/9/82

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NORTHERN STATES POWER COMPANY
NUCLEAR SUPPORT SERVICES DEPARTMENT

3. Modular procedures allowed parallel operations to continue while installation problems in other areas were being resolved. Schedule pressure was, therefore, minimized and an atmosphere was created in which additional time could be taken to systematically analyze and resolve installation problems outside of the radiation area.

4. A full scale mock up of a quadrant of the reactor vessel and drywell was used to qualify personnel, procedures and tools.

5. The core spray headers were flushed repeatedly during shutdown prior to the outage to reduce in-vessel and drywell exposure rates.

6. A remote operated hydrolaser was used to decontaminate the reactor vessel interior.

7. The in-vessel shielding system developed for the 1977 clad removal project was re-used. This system uses a steel encased, three foot thick concrete work platform and steel plate wall shielding.

8. The section of piping immediately upstream of the nozzles was cut out and removed from the area.

9. A portable ventilation system with HEPA filters was used to minimize airborne contamination.

10. An automatic welding system was used. No weld repairs were required. Welding machine operators performed the welds from a remote control station located outside of the drywell.

These actions resulted in the following:

1. The total exposure was 107 man-Rem. This is less than one half of the total projected exposure based on dose rate history and best guess schedule expectations.

2. The average dose rate in the feedwater nozzle area of the drywell was reduced by 40%.

3. General dose rate in-vessel was 200 millirem per hour. General dose rate in-vessel during the 1977 clad removal project was 300 millirem per hour.

4. No personnel associated with the feedwater nozzle project were work limited because of radiation exposure limits.

Please contact us if you have any questions relating to the provided information.

L. O. Mayer

L. O. Mayer, PE
Manager of Nuclear Support Services

LOM/bdz

cc: Regional Administrator - III
NRR Project Manager
NRC Resident Inspector
G Charnoff

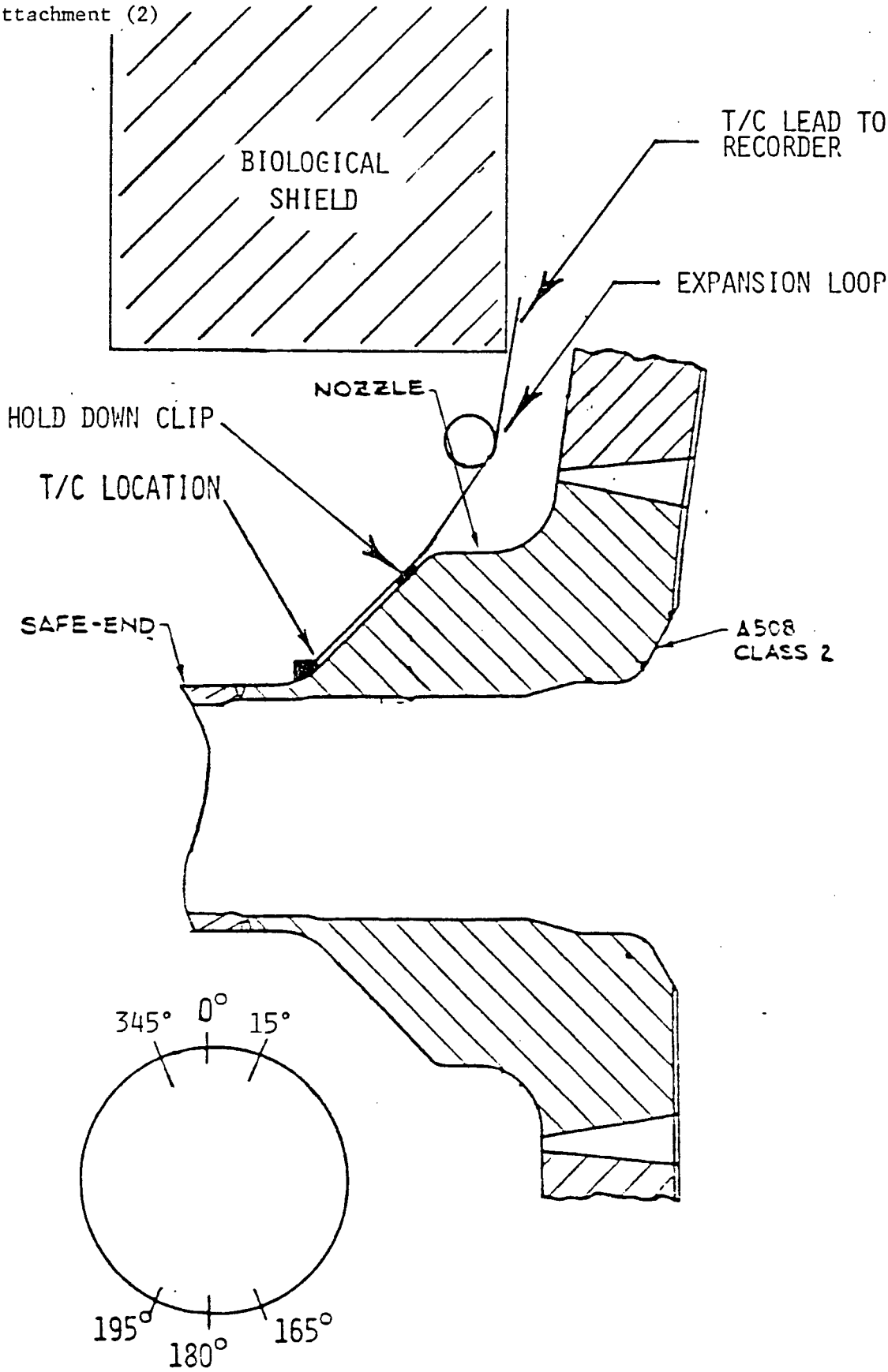
Attachments

Director of Nuclear Reactor Regulation
April 1, 1982
Attachment (1)

ATTACHMENT ONE

SPARGER/THERMAL SLEEVE DRAWINGS

Director of Nuclear Reactor Regulation
April 1, 1982
Attachment (2)



FW NOZZLE T/C LOCATION