



Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

July 13, 1990

Dr. Thomas E. Murley
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

ATTN: DOCUMENT CONTROL DESK

Subject: Dresden Nuclear Station Unit 2
Reactor Head and Upper Shell
Inspection Plan
NRC Docket No. 50-237

Reference: (a) R. Stols to T.E. Murley letter
dated May 4, 1990
(b) R. Stols to T.E. Murley letter
dated July 2, 1990

Dear Dr. Murley:

On April 19, 1990, members of the Nuclear Reactor Regulation's (NRR) and Commonwealth Edison Company's staff conducted a technical meeting to discuss the cracks identified in the Quad Cities Unit 2 Reactor Vessel Head. During that meeting, Commonwealth Edison committed to perform inspections of the reactor vessel head at each of its Boiling Water Reactors (BWR) Plants.

Reference (a) provided a schedule for submitting various information to the NRC. In reference (a), Commonwealth Edison committed to review the fabrication records for the upper vessel structure in order to identify target areas for inspection. A summary of the contract variations for Dresden Unit 2 upper vessel was provided in reference (b).

Attached for your staff's review is the Reactor Head and Upper Shell Inspection Plan for Dresden Unit 2. The Dresden 2 fabrication history review revealed that major mismatches with manual back clad (similar to Quad Cities Unit 2) had occurred at the head-to-flange and shell-to-flange welds during the fabrication process. The records, however, did not provide any information regarding the azimuth of the mismatches. The inspection, therefore, will concentrate on these target areas; however, the inspection plan also encompasses the remainder of the reactor head to verify that cracking is not occurring in other areas. The Inspection Plan will be implemented during the upcoming Unit 2 Refueling Outage currently scheduled to begin September 23, 1990.

The plan delineates that visual examinations be performed for the reactor head-to-flange and vessel shell-to-flange welds to identify any evidence of potential cracks. The inspection plan requires that indication be further examined by ultrasonic examination. The liquid penetrant examination for indications on the vessel shell-to-flange weld is optional, due to radiation exposure considerations.

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Dr. Thomas E. Murley

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July 13, 1990

If there are any questions or comments, please direct them to me at 708/515-7283.

Very truly yours,



Rita Stols
Nuclear Licensing Administrator

cc: A. Davis, Regional Administrator
B. Siegel, Project Manager
B. Elliot, Technical Staff, NRR
S. DuPont, Senior Resident Inspector

t1m/ID73

PROPOSED REACTOR HEAD AND UPPER SHELL INSPECTION PLAN
(DRESDEN UNIT 2)

REACTOR HEAD-TO-FLANGE WELD

1. Direct visual examination, VT-1, of 100% ID of the reactor head. Lighting adequacy must be verified with a 1/32 inch black line on a 18% neutral gray card.

Conditions to be examined for and recorded:

- a). Cracks or linear indications.
 - b). Heavy/unusual rust streaks
 - c). Clad repair and/or clad thickness variations
 - d). Excessive grinding
2. Photograph representative areas of the ID of the reactor head.
 3. Dye penetrant test (PT) the following:
 - a). All linear indications
 - b). All heavy/unusual rust streaks
 - c). Sample of clad repair and/or clad thickness variation areas as determined by GEGo Nuclear Engineering Department (NED).
 - d). Sample of excessive grinding areas as determined by NED.
 4. Ultrasonically test (UT), from the ID, all cracks detected by VT and/or PT.

REACTOR VESSEL SHELL-TO-FLANGE WELD

1. Direct visual examination, VT-1, the ID of the weld (360° band of 15" wide). Remote visual examination is also acceptable.

Lighting adequacy must be verified with a 1/32 inch black line on a 18% neutral gray card. The remote examination system, if used, must be capable of resolving a 0.001 inch wire.

Conditions to be examined for and recorded:

- a). Cracks or linear indications
- b). Heavy/unusual rust streaks
- c). Clad repair and/or clad thickness variations
- d). Excessive grinding

2. PT all linear indications, if desired for crack confirmation.

3. UT, from the ID, directly or remotely:

-all cracks detected by VT, and all linear indications detected by VT which are confirmed to be cracks by PT.

OR:

-all linear indications detected by VT if PT is not performed.

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