Nebraska Public Power District

COOPER NUCLEAR STATION
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CNSS830194

March 17, 1983

Mr. John T. Collins, Regional Administrator
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region IV
611 Ryan Plaza Drive
Suite 1000
Arlington, Texas 76011

Dear Sir:

This report is submitted in accordance with Section 6.7.2.B.3 of the Technical Specifications for Cooper Nuclear Station and discusses a reportable occurrence that was discovered on February 18, 1983. A licensee event report form is also enclosed.

IE-22

Report No.: 50-298-83-02
Report Date: March 17, 1983
Occurrence Date: February 18, 1983
Facility: Cooper Nuclear Station
Brownville, Nebraska 68321

Identification of Occurrence:

An inadequacy was observed in the implementation of administrative and procedural controls developed to perform source range rod block tests per Table 4.2.C, Note 2 (Page 77) of the Technical Specifications.

Conditions Prior to Occurrence:

The reactor was in hot shutdown. Preparations for a reactor startup were in progress.

Description of Occurrence:

The hot plant startup of February 18, 1983 was conducted without performing testing of the source range monitor (SRM) control rod block actuation as required per Table 4.2.C, Note 2 (Page 77) of the Technical Specifications.

Designation of Apparent Cause of Occurrence:

Attachment "A" to General Operating Procedure 2.1.2 (Hot Startup Procedure) did not distinguish between the SRM functional tests required during normal operation and the SRM functional tests required to be performed within one week of reactor startup.

Analysis of Occurrence:

Hot Startup Procedure 2.1.2, Attachment "A" completed on February 9, 1983 required among other SRM checks that Step 1.C. "Functional Test Complete (not required within 1 week)" be performed. The operators reviewed the SRM surveillance procedures recently completed and noted the SRM functional tests had been completed within one week and determined no further testing was required. In a subsequent review of startup and surveillance procedure documentation, it was noted that two SRM functional tests exist:

a. Surveillance Procedure (S.P.) 6.1.1 to be performed within one week prior to startup which includes the Technical Specification requirements found on Table 4.2.C (Note 2) for SRM rod block testing and,

b. Surveillance Procedure 6.1.1A which is routinely performed during reactor operation but does not include SRM rod block actuation.

S.P. 6.1.1A recently performed during reactor operation was taken by the operators involved to meet the requirements of S.P. 6.1.1. Step 1.C of the startup checklist was incorrectly determined to be already satisfied although in fact it was not fully complete in that SRM rod blocks were not tested.

A more detailed description of the source range blocks is provided herein. With the reactor mode switch in "Startup" or "Refuel", a rod block is applied if any of the following conditions exist, unless the monitor is bypassed:

1. SRM Upscale Trip
2. SRM Downscale Trip
3. SRM Inop Trip
4. SRM Detector not fully inserted into the core when the SRM count is below 200 cps and any IRM range switch is on either of the two lowest ranges.

Whether S.P. 6.1.1 or 6.1.1A is performed, all the above functions are tested locally on the SRM instrument. The primary difference between the S.P.s is that for the S.P. performed prior to startup (6.1.1) the appropriate remote annunciators and computer alarms are sounded and checked and the rods are blocked and verified so by attempting to notch out a rod while conditions giving the rod block are present.

The purpose for each trip and a discussion of the trips is as follows:

1. SRM Upscale:

   (a) This assures that no control rod is withdrawn unless the SRM detectors are properly retracted during a reactor startup.

(b) SRM detectors could be damaged or their life significantly shortened if not withdrawn. Operator action by following the startup procedure 2.1.2 reenforces the interlock and avoids SRM detector damage.

2. SRM Downscale:

(a) This assures that no control rod is withdrawn unless the SRM count rate is above the minimum prescribed for low neutron flux level monitoring.

(b) Neutron flux level increasing without the operator having knowledge of the source range level could result in a power excursion. Operator action by following startup procedure 2.1.2 ensured the visible SRM neutron flex level was above the minimum required by technical specifications. Observation of the SRM instruments following the scram and throughout the startup procedure (which was completed within 24 hours) indicated the SRMs continually indicated far in excess of the minimum count rate required by Technical Specifications. Any power excursion that could possibly result from the absence of rod blocks would have been terminated by a high flux level trip by the intermediate range monitors which is the reactor safety protective action for a fast period in the source range.

3. SRM Inop:

(a) This assures that no control rod is withdrawn during low neutron flux level operations unless proper neutron monitoring capability is available in that all SRM channels are in service or properly bypassed.

(b) All SRMs were operable before and during the startup and proper neutron monitoring capability was available on all SRM channels. Protective action, if required, would be as outlined in 2(b) above. The availability of such protective action was ensured by the performance of intermediate range functional tests which were completed satisfactorily prior to startup.

4. Detector Not Full Inserted:

(a) This assures no control rod is withdrawn unless all SRM detectors are properly inserted when they must be relied upon to provide the operator with neutron flux information.

(b) All SRMs were fully inserted as required by the scram recovery checklist step 2.1.2, item 1.b and 1.d. Protective action, if required, existed as outlined in paragraphs 2 and 3 above.

Based on the fact that all other Technical Specifications were met and all other procedural requirements were implemented correctly, this occurrence presented no adverse consequences from the standpoint of public health and safety.

Corrective Action:

The operators involved were immediately informed of the oversight to prevent recurrence of this event. A procedure change to specify the correct S.P. was initiated for Station Operation Review Committee approval on February 18, 1983. The wording of the procedure clearly specifies the S.P. requirements and use of the procedure will prevent recurrence of this event. A copy of this LER will be routed to all licensed personnel.

Sincerely,

L. C. Lessor
Station Superintendent
Cooper Nuclear Station

LCL:cg
Attach.