



U.S. Nuclear Regulatory Commission
ATTN: NRC Document Control Desk
Washington, DC 20555

Serial: HNP-02-023
10CFR50.73

FEB 25 2002

SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1
DOCKET NO. 50-400
LICENSE NO. NPF-63
LICENSEE EVENT REPORT 2001-004-00

Sir or Madam:

The enclosed Licensee Event Report is submitted in accordance with 10CFR50.73. This report describes a technical specification violation regarding steam generator operability requirements in Mode 4.

Sincerely,

R. J. Duncan II
General Manager
Harris Plant

MSE/mse

Enclosure

c: Mr. J. B. Brady (HNP Senior NRC Resident)
Mr. J. M. Goshen (NRC-NRR Project Manager)
Mr. B. S. Mallett (NRC Regional Administrator, Region II - Acting)

Harris Nuclear Plant
5413 Shearon Harris Road
New Hill, NC 27562

IE22

NRC FORM 366
(MM-YYYY)

U.S. NUCLEAR REGULATORY
COMMISSION

LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1)

Harris Nuclear Plant

DOCKET NUMBER (2)

05000400

PAGE (3)

1 OF 3

TITLE (4)

Reactor Coolant Loops Mode 4 Technical Specification Violation

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																																					
MO	DAY	YEAR	YEAR	SEQUENT IAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER																																				
12	25	01	2001	- 04 - 00		02	25	2002		05000																																				
OPERATING MODE (9)			4			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR ' : (Check all that apply) (11)																																								
POWER LEVEL (10)			000			<table border="1"> <tr> <td>20.2201(b)</td> <td>20.2203(a)(3)(i)</td> <td>50.73(a)(2)(i)(C)</td> <td>50.73(a)(2)(vii)</td> </tr> <tr> <td>20.2201(d)</td> <td>20.2203(a)(3)(ii)</td> <td>50.73(a)(2)(ii)(A)</td> <td>50.73(a)(2)(viii)(A)</td> </tr> <tr> <td>20.2203(a)(1)</td> <td>20.2203(a)(4)</td> <td>50.73(a)(2)(ii)(B)</td> <td>50.73(a)(2)(viii)(B)</td> </tr> <tr> <td>20.2203(a)(2)(i)</td> <td>50.36(c)(1)(i)(A)</td> <td>50.73(a)(2)(iii)</td> <td>50.73(a)(2)(ix)(A)</td> </tr> <tr> <td>20.2203(a)(2)(ii)</td> <td>50.36(c)(1)(ii)(A)</td> <td>50.73(a)(2)(iv)(A)</td> <td>50.73(a)(2)(x)</td> </tr> <tr> <td>20.2203(a)(2)(iii)</td> <td>50.36(c)(2)</td> <td>50.73(a)(2)(v)(A)</td> <td>73.71(a)(4)</td> </tr> <tr> <td>20.2203(a)(2)(iv)</td> <td>50.46(a)(3)(ii)</td> <td>50.73(a)(2)(v)(B)</td> <td>73.71(a)(5)</td> </tr> <tr> <td>20.2203(a)(2)(v)</td> <td>50.73(a)(2)(i)(A)</td> <td>50.73(a)(2)(v)(C)</td> <td>OTHER</td> </tr> <tr> <td>20.2203(a)(2)(vi)</td> <td>X 50.73(a)(2)(i)(B)</td> <td>50.73(a)(2)(v)(D)</td> <td>Specify in Abstract below or in NRC Form 366A</td> </tr> </table>					20.2201(b)	20.2203(a)(3)(i)	50.73(a)(2)(i)(C)	50.73(a)(2)(vii)	20.2201(d)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(A)	20.2203(a)(1)	20.2203(a)(4)	50.73(a)(2)(ii)(B)	50.73(a)(2)(viii)(B)	20.2203(a)(2)(i)	50.36(c)(1)(i)(A)	50.73(a)(2)(iii)	50.73(a)(2)(ix)(A)	20.2203(a)(2)(ii)	50.36(c)(1)(ii)(A)	50.73(a)(2)(iv)(A)	50.73(a)(2)(x)	20.2203(a)(2)(iii)	50.36(c)(2)	50.73(a)(2)(v)(A)	73.71(a)(4)	20.2203(a)(2)(iv)	50.46(a)(3)(ii)	50.73(a)(2)(v)(B)	73.71(a)(5)	20.2203(a)(2)(v)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(C)	OTHER	20.2203(a)(2)(vi)	X 50.73(a)(2)(i)(B)	50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A
20.2201(b)	20.2203(a)(3)(i)	50.73(a)(2)(i)(C)	50.73(a)(2)(vii)																																											
20.2201(d)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(A)																																											
20.2203(a)(1)	20.2203(a)(4)	50.73(a)(2)(ii)(B)	50.73(a)(2)(viii)(B)																																											
20.2203(a)(2)(i)	50.36(c)(1)(i)(A)	50.73(a)(2)(iii)	50.73(a)(2)(ix)(A)																																											
20.2203(a)(2)(ii)	50.36(c)(1)(ii)(A)	50.73(a)(2)(iv)(A)	50.73(a)(2)(x)																																											
20.2203(a)(2)(iii)	50.36(c)(2)	50.73(a)(2)(v)(A)	73.71(a)(4)																																											
20.2203(a)(2)(iv)	50.46(a)(3)(ii)	50.73(a)(2)(v)(B)	73.71(a)(5)																																											
20.2203(a)(2)(v)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(C)	OTHER																																											
20.2203(a)(2)(vi)	X 50.73(a)(2)(i)(B)	50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A																																											

LICENSEE CONTACT FOR THIS LER (12)

NAME Mark Ellington, Project Analyst - Licensing

TELEPHONE NUMBER (Include Area Code)

(919) 362-2057

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANU- FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU- FACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)	MO	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On December 25, 2001 at 0503, with the Harris Nuclear Plant (HNP) shutdown for Refueling Outage 10 (RFO10), the plant entered Mode 4 from Mode 3 without satisfying Technical Specification (TS) 3.4.1.3. The TS requires at least two reactor cooling loops operable with one of these loops in operation. Two residual heat removal loops were operable but not in operation and no reactor coolant loops were operable since all steam generator levels indicated below the TS Mode 4 operability limit of 74% wide range. The TS 3.4.1.3 was revised as part of the Steam Generator (SG) replacement in RFO10. The requirement to maintain Wide Range (WR) SG level greater than or equal to 74% in Mode 4 was added as a result of the license amendment to replace SGs. Previously, SG level was monitored using narrow range level with an operability limit of 10% narrow range. Therefore, this event was the initial failure to meet this operability requirement.

Cause: Mindset. No one in the control room anticipated that steam generator water inventory would have to be increased above the normal narrow range band in order to maintain operability in transitioning from Mode 3 to Mode 4. Corrective actions: (1) Revise plant procedures to clarify Mode 4 steam generator operability requirements. (2) Coached licensed operator supervisors and reactor operators on this event.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
Harris Nuclear Plant, Unit 1	0500040	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2001	-- 004	-- 00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

I. DESCRIPTION OF EVENT

SUMMARY:

On December 25, 2001 at 0503, with the Harris Nuclear Plant (HNP) shutdown for Refueling Outage 10 (RFO10), the plant entered Mode 4 from Mode 3 without satisfying Technical Specification (TS) 3.4.1.3. The TS requires at least two reactor cooling loops operable with one of these loops in operation. Two residual heat removal loops were operable but not in operation and no reactor coolant loops were operable since all steam generator levels indicated below the TS Mode 4 operability limit of 74% wide range. The TS 3.4.1.3 was revised as part of the Steam Generator (SG) replacement in RFO10. The requirement to maintain Wide Range (WR) SG level greater than or equal to 74% in Mode 4 was added as a result of the license amendment to replace SGs. Previously, SG level was monitored using narrow range level with an operability limit of 10% narrow range. Therefore, this event was the initial failure to meet this operability requirement.

With no RHR loops in operation, Technical Specification 3.4.1.3 requires at least one operable reactor coolant loop and its associated operable steam generator to be in operation. Surveillance Requirement 4.4.1.3.2 requires wide range (WR) level to be greater than 74% in order to have the steam generator considered OPERABLE. The TS 3.4.1.3 Action statement requires immediate initiation of corrective action to return the required loops to OPERABLE status.

Contrary to these requirements, during this event, the plant entered Mode 4 from Mode 3 with no operating reactor coolant loops operable, since all steam generator levels were less than 74%. Both RHR loops were operable but neither was operating. This condition was unrecognized, and uncorrected, for about four hours after entry into Mode 4.

A root cause investigation of the event identified the root cause to be a failure to accurately read and apply the surveillance criteria given in the surveillance procedure. This failure was caused by habit intrusion among the main control room staff. Based on their pre-refueling outage 10(RFO10) experience, no one in the control room expected that SG water inventory would have to be increased above the normal operating band in order to maintain SG operability in going from Mode 3 to Mode 4.

Event Summary:

The plant entered Mode 4 from Mode 3 without satisfying Technical Specification 3.4.1.3 that requires at least two reactor coolant loops operable with one of these in operation. Two RHR loops were operable but not in operation and no reactor coolant loops were operable since all steam generator levels indicated below the Technical Specification Mode 4 operability limit of 74% wide range.

Prior to Mode 4 entry, plant procedure GP-007 requires the operator to "verify Mode 4 portion of OST-1022 is performed SAT." The unit senior control operator (USCO) directed the reactor operator (RO) to check the Mode 4 surveillance requirements in parallel with performance the routine surveillance requirements for Mode 3. The RO misinterpreted the SG level criteria for Mode 4 and reported that reactor coolant loop surveillance requirements for Mode 4 were satisfied. Additionally, GP-007 requires completion of the Minimum Equipment List (MEL) to ensure the status of required components is known. The GP-007 MEL does not contain specific SG operability criteria, so when the Shift Supervisor - Operations (SSO) completed the MEL, he assumed the reactor coolant loop operability and operation were requirements for Mode 4 were met since no related equipment had been identified in Mode 3 as being Inoperable.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
Harris Nuclear Plant, Unit 1	05000	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 3
		2001	004	00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

II. CAUSE OF EVENT

Mindset. No one in the control room anticipated that SG water inventory would have to be increased above the normal NR operating band in order to maintain operability in going from Mode 3 to Mode 4.

III. SAFETY SIGNIFICANCE

There were no adverse plant safety or equipment consequences from this event. The intent of the Technical Specification was met in that adequate reactor coolant loops were in operation although the specific text of the surveillance was not adhered to. The actual steam generator level during this event was always well above 30% NR which is the backup instrumentation specified by TS to be used if the WR level instrument is inoperable. This event is being reported as a violation of TS in accordance with 10 CFR 50.73(a)(2)(i)(B).

IV. CORRECTIVE ACTIONS

Corrective actions: (1) Revise plant procedures to clarify Mode 4 steam generator operability requirements. (2) Coached licensed operator supervisors and reactor operators on this event.

V. PREVIOUS SIMILAR EVENTS

The TS 3.4.1.3 was revised as part of the SG replacement in RF010. The requirement to maintain WR SG level greater than or equal to 74% in Mode 4 was added as a result of the license amendment to replace SGs. Previously, SG level was monitored using narrow range level with an operability limit of 10% narrow range. Therefore, this event was the initial failure to meet this operability requirement.

There have been other events at HNP where personnel cognitive errors resulting in TS violations. However, no other additional causes or corrective actions resulted from this review of previous operating experience as it pertained to this event.