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October, 6, 2010

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269
Licensee Event Report 269/2010-02, Revision 0
Problem Investigation Process No.: O-10-6174

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 269/2010-02, Revision 0, regarding a Unit 1 manual reactor trip due to incorrect indications of increasing reactor coolant pump high vibration.

This report is being submitted in accordance with 10 CFR 50.73 (a)(2)(iv)(A).

This event is considered to be of no significance with respect to the health and safety of the public.

There are no regulatory commitments contained in this report.

Cause analysis for this event is not yet complete. Results will be provided in a supplement to this report.

Any questions regarding the content of this report should be directed to Corey Gray, Regulatory Compliance Group at 864-873-6325.

Sincerely,

T. Preston Gillespie Jr.,
Vice President
Oconee Nuclear Station

Attachment

Document Control Desk
October 6, 2010
Page 2

cc: Mr. Luis Reyes
Administrator, Region II
U.S. Nuclear Regulatory Commission
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

Mr. John Stang
Project Manager
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Mr. Andrew Sabisch
NRC Senior Resident Inspector
Oconee Nuclear Station

INPO (Word File via E-mail)

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 08/31/2010

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose 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.

1. FACILITY NAME

Oconee Nuclear Station, Unit 1

2. DOCKET NUMBER

05000- 0269

3. PAGE

1 of 4

4. TITLE

Manual Reactor Trip due to 1A1 and 1A2 Reactor Coolant Pump high vibration indication

| 5. EVENT DATE | | | 6. LER NUMBER | | | 7. REPORT DATE | | | 8. OTHER FACILITIES INVOLVED | |
|--|--|------|---|---|--------------------------|--|--|---|------------------------------|---------------|
| MO | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REV NO | MO | DAY | YEAR | FACILITY NAME | DOCKET NUMBER |
| 08 | 07 | 2010 | 2010 | - 02 | - 00 | 10 | 06 | 2010 | None | 05000 |
| 9. OPERATING MODE 1 | | | 11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) | | | | | | | |
| 10. POWER LEVEL 100% | | | <input type="checkbox"/> 20.2201(b) | <input type="checkbox"/> 20.2203(a)(3)(i) | | <input type="checkbox"/> 50.73(a)(2)(i)(C) | | <input type="checkbox"/> 50.73(a)(2)(vii) | | |
| | | | <input type="checkbox"/> 20.2201(d) | <input type="checkbox"/> 20.2203(a)(3)(ii) | | <input type="checkbox"/> 50.73(a)(2)(ii)(A) | | <input type="checkbox"/> 50.73(a)(2)(viii)(A) | | |
| | | | <input type="checkbox"/> 20.2203(a)(1) | <input type="checkbox"/> 20.2203(a)(4) | | <input type="checkbox"/> 50.73(a)(2)(ii)(B) | | <input type="checkbox"/> 50.73(a)(2)(viii)(B) | | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(i) | <input type="checkbox"/> 50.36(c)(1)(i)(A) | | <input type="checkbox"/> 50.73(a)(2)(iii) | | <input type="checkbox"/> 50.73(a)(2)(ix)(A) | | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(ii) | <input type="checkbox"/> 50.36(c)(1)(ii)(A) | | <input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A) | | <input type="checkbox"/> 50.73(a)(2)(x) | | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(iii) | <input type="checkbox"/> 50.36(c)(2) | | <input type="checkbox"/> 50.73(a)(2)(v)(A) | | <input type="checkbox"/> 73.71(a)(4) | | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(iv) | <input type="checkbox"/> 50.46(a)(3)(ii) | | <input type="checkbox"/> 50.73(a)(2)(v)(B) | | <input type="checkbox"/> 73.71(a)(5) | | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(v) | <input type="checkbox"/> 50.73(a)(2)(i)(A) | | <input type="checkbox"/> 50.73(a)(2)(v)(C) | | <input type="checkbox"/> OTHER | | |
| <input type="checkbox"/> 20.2203(a)(2)(vi) | <input type="checkbox"/> 50.73(a)(2)(i)(B) | | <input type="checkbox"/> 50.73(a)(2)(v)(D) | | <input type="checkbox"/> | | Specify in Abstract below or in NRC Form 366A | | | |

12. LICENSEE CONTACT FOR THIS LER

NAME

Corey Gray, Regulatory Compliance Engineer

TELEPHONE NUMBER (Include Area Code)

(864) 873-6325

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

| CAUSE | SYSTEM | COMPONENT | MANU-FACTORER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANU-FACTORER | REPORTABLE TO EPIX |
|-------|--------|-----------|---------------|--------------------|-------|--------|-----------|---------------|--------------------|
| X | AB | JX | Indikon | Y | | | | | |

| 14. SUPPLEMENTAL REPORT EXPECTED | | | | 15. EXPECTED SUBMISSION DATE | | MONTH | DAY | YEAR |
|----------------------------------|---|--|----|------------------------------|--|-------|-----|------|
| X | YES (If yes, complete EXPECTED SUBMISSION DATE) | | NO | | | 12 | 06 | 2010 |

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

On August 7, 2010, at 1130 hours, while operating at 100%, Oconee Nuclear Station (ONS) Unit 1 received statalarm 1SA-9-D2 (Reactor Coolant Pump Vibration High). Operators entered the applicable response procedure that resulted in Unit 1 reducing power. Vibration readings continued to increase. At 1451 hours, with power at 17%, Control Room Operators manually tripped Unit 1 when the indicated vibration readings reached procedural limits. The post trip response was normal, with all major operating parameters remaining within expected limits. Operators took appropriate action to stabilize the unit in Mode 3 (hot standby). While the operators were controlling Pressurizer and Letdown Storage Tank Level (per procedure) the standby 1B High Pressure Injection (HPI) pump auto started due to low Reactor Coolant Pump Seal Flow.

Investigation revealed that a false high Reactor Coolant Pump (RCP) vibration indication occurred due to a failed power supply within the control module.

Corrective Actions included replacement of the Unit 1 Control module (500-IM22) and positioning the RCPs vibration equipment Power Supply Selector switches to "Auto".

This event is considered to have no significance with respect to the health and safety of the public.

LICENSEE EVENT REPORT (LER)

| 1. FACILITY NAME | 2. DOCKET | 6. LER NUMBER | | | 3. PAGE |
|--------------------------------|-----------|---------------|----------------------|--------------------|---------|
| Oconee Nuclear Station, Unit 1 | 05000269 | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | 2 OF 4 |
| | | 10 | - 02 - | 00 | |

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

EVALUATION:

BACKGROUND

The Unit 1 vibration sensor system senses motor / pump shaft vibration and motor frame vibration on the four reactor coolant [AB] pumps (RCP). RCPs 1A1 and 1A2 share a common power source which includes redundant power supplies [JX] and RCPs 1B1 and 1B2 share a separate common power source which also includes redundant power supplies. A three position switch in each power source can be in Power Supply No.1 position (or up), Power Supply No.2 position (or down), or the Auto position (or center). When set in the Auto position a relay automatically transfers to the No.2 supply if the No.1 supply fails

There are three pumps per unit in the HPI [BG] System. Normally one pump (either A or B) is operating to supply both normal charging to the Reactor Coolant System (RCS) and seal injection to the Reactor Coolant Pumps. A second pump (A or B) is capable of starting manually via control room switch or automatically via a non-safety low RCP seal injection flow signal. The C HPI pump along with the other two HPI pumps will start in response to an Engineered Safeguards [JE] signal.

This event is reportable per 10CFR 50.73(a)(2)(iv)(A) because a valid Reactor Protective System (RPS) [JC] actuation, including a reactor [RCT] trip occurred.

Prior to this event ONS Unit 1 was operating in Mode 1 at 100% power with no significant activities in progress (testing, surveillance, maintenance, etc.).

At the time of the trip no safety systems or components were out-of-service that would have contributed to this event.

EVENT DESCRIPTION

On August 7, 2010, at 1130 hours, Unit 1 was at 100% steady state power and no work was in progress associated with RCPs when 1SA-9-D2 (RCP Vibration High) statalarm [IB] activated. The Unit 1 control room operator referred to the applicable alarm response guide and dispatched an operator to the RCP status computer. The operator reported that RCP status computer indicated 1A1 RCP vibration spiking.

At 1211 hours the Operations Shift Manager directed Unit 1 Control Room Operators to enter the appropriate Abnormal Procedure (AP) because of the high vibration indication on 1A1 RCP. In addition to the indication on 1A1 RCP, control room operators entered the AP at 1300 hrs due to indicated high vibration on the 1A2 RCP.

At 1435 hours control room operators began reducing Unit 1 power per procedure because of the increasing vibration trend. While station engineering was troubleshooting the cause of the vibration indication, at 1451 hours, the reactor was at approximately 17% power and the vibration readings of

LICENSEE EVENT REPORT (LER)

| 1. FACILITY NAME | 2. DOCKET | 6. LER NUMBER | | | 3. PAGE | |
|--------------------------------|-----------|---------------|----------------------|--------------------|---------|--|
| Oconee Nuclear Station, Unit 1 | 05000269 | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | 3 OF 4 | |
| | | 10 | - 02 - | 00 | | |

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

pumps 1A1 and 1A2 reached their procedural limits requiring an immediate reactor trip. At this point control room operators manually tripped Unit 1 and secured the 1A1 and 1A2 RCPs.

The plant response during the down power was normal and the Post Trip response was normal. No actuation or actuation demands occurred related to emergency feedwater [BA] or engineered safeguards (i.e. Emergency Core Cooling, Containment Isolation [JM], Containment Spray/Cooling, and Emergency Power). A second HPI pump automatically started due to a non-safety signal for low RCP seal injection flow. The second HPI pump operated for a short period (per procedure) to maintain RCP seal flow. This is a routine action to compensate for post-trip RCS temperature and volume changes.

Troubleshooting results revealed that the active power supply (power supply No.2) to the RCP vibration monitoring system had failed.

CAUSAL FACTORS

The manual reactor trip was in accordance with procedure in response to the indicated high vibration on the RCPs as required. The most probable cause for the vibration readings was the failed power supply associated with the RCP vibration monitoring system [IV].

A root cause evaluation team has been formed to investigate the causes and identify appropriate corrective actions to prevent the reoccurrence of this event. At the time of this LER submittal, the root cause evaluation had not been completed. The results of this evaluation will be provided in a supplement to this report.

CORRECTIVE ACTIONS

Immediate:

1. RCPs vibration equipment Power Supply selector switches were set to "Auto" on Unit 1.
2. The failed control module containing the power supply was replaced on Unit 1.

Subsequent and Planned:

Pending completion of the root cause evaluation additional corrective actions are anticipated and will be submitted via a supplement to this report.

SAFETY ANALYSIS

The risk significance of this event has been evaluated. This event was an uncomplicated reactor manual scram with no impacts on any safety systems. All systems responded normally following

LICENSEE EVENT REPORT (LER)

| 1. FACILITY NAME | 2. DOCKET | 6. LER NUMBER | | | 3. PAGE |
|--------------------------------|-----------|---------------|----------------------|--------------------|---------|
| Oconee Nuclear Station, Unit 1 | 05000269 | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | 4 OF 4 |
| | | 10 | - 02 | - 00 | |

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

the trip, no safety limits were challenged and the Unit was placed in Mode 3 without complications. Consequently this event was not considered safety significant.

No safety limits were challenged and shutdown was as expected for a manual trip scenario. Based on analysis this event has a low impact on core damage risk.

ADDITIONAL INFORMATION

A determination of whether there were previous similar events is pending completion of the Root Cause evaluation and a review of the Corrective Action Program data base. A summary of results will be submitted in a supplement to this report.

Energy Industry Identification System (EIIIS) codes are identified in the text within brackets [].

There were no releases of radioactive materials, radiation exposures or personnel injuries associated with this event.

This event has been reported to the Equipment Performance and Information Exchange (EPIX) program. The failed component was a model 500-IM22 vibration monitor control module made by Indikon Company Inc.