

LICENSEE EVENT REPORT

CONTROL BLOCK: (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

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LICENSEE CODE												LICENSE NUMBER												LICENSE TYPE												CAT 68											

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REPORT SOURCE												DOCKET NUMBER												EVENT DATE												REPORT DATE											

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 The plant was notified by the Architect/Engineer on June 22, 1983,
03 that the control rod drive system, reactor water cleanup system,
04 reactor core isolation system and auxiliary steam system did not have
05 the high energy line break restraints installed as required in the
06 Final Safety Analysis Report (FSAR) supplement 15A. This report is
07 required by Tech. Specs. section 6.9.1.G.1. The health and safety
08 of the public were not affected by this non-repetitive event.

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EVENT YEAR												SEQUENTIAL REPORT NO.												OCCURRENCE CODE												REPORT TYPE												REVISION NO.																																																											
ACTION TAKEN												FUTURE ACTION												EFFECT ON PLANT												SHUTDOWN METHOD												HOURS												ATTACHMENT SUBMITTED												NPRD-4 FORM SUB.												PRIME COMP. SUPPLIER												COMPONENT MANUFACTURER											

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 The cause of this event was due to personnel error. The high energy line
11 break restraints were omitted from four plant systems during construction
12 due to Architect/Engineer design oversight. The plant will correct this
13 problem as detailed in the attached narrative. This event is a defect
14 so it therefore meets the reporting requirements of 10CFR21.

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FACILITY STATUS												% POWER												OTHER STATUS												METHOD OF DISCOVERY												DISCOVERY DESCRIPTION											
ACTIVITY CONTENT												RELEASED OF RELEASE												AMOUNT OF ACTIVITY												LOCATION OF RELEASE																							
PERSONNEL EXPOSURES												PERSONNEL INJURIES												LOSS OF OR DAMAGE TO FACILITY												PUBLICITY												ISSUED DESCRIPTION											

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NRC USE ONLY

NARRATIVE REPORT
FOR LER 50-366/1983-046, Rev. 1
Update Report - Previous Report Date 07/06/83

LICENSEE : GEORGIA POWER COMPANY
FACILITY NAME : EDWIN I. HATCH
DOCKET NUMBER : 50-366

Tech. Specs. section(s) which requires report:

This 14 day LER is required by Tech. Specs. section 6.9.1.8.1 due to the event's showing that the unit was not meeting the requirements of the Hatch Unit Two Final Safety Analysis Report (FSAR), supplement 15A.

Plant conditions at the time of the event(s):

The event date is unknown. At the time of discovery on June 22, 1983, the Unit was in Refuel.

Detailed description of the event(s):

As part of the design of redundant air headers for the drywell pneumatic system, a review was being performed by the Architect/Engineer for postulated break locations and mitigation protection in the main steam pipe chase.

The RCIC steam line in the pipe chase was thus reviewed for pipe break effects. The Hatch Unit Two FSAR Fig. 15A-25 identifies a whip restraint "A" for the RCIC steam line. The Responsible System Engineer was not able to locate the drawings. A field check was made to verify the installation of the restraint. The field check revealed that the subject whip restraint was not installed.

In light of the above, supplements 15A and 15A.A (for High Energy Line Breaks Outside the containment) of the FSAR were reviewed. The whip restraint requirements were identified and a field walkdown was performed to verify their existence.

The inspection revealed that in addition to the RCIC steam line restraint, the following restraints were also missing:

1. Two restraints on the Reactor Water Cleanup (RWCU) System (one on the suction to the pumps and the other on discharge from the pumps) shown in FSAR Fig. 15A-26 and discussed in Paragraph 15A.5.5.
2. Two on auxiliary steam line in the Reactor Building Elevation 130' shown in FSAR Fig. 15A-29.
3. Three on the control rod drive (CRD) system return to the feedwater discussed in FSAR Paragraphs 15A.A.1 and 15A.A.2.

On June 22, 1983, Georgia Power Company was notified by the Architect/Engineer of the events listed above.

Consequences of the event(s):

The restraints in the RCIC and RWCU systems were required to protect the containment isolation valves for the subject lines for postulated breaks downstream of the valves. The restraint requirement for the auxiliary steam lines is not described in the FSAR text, but it is shown in Fig. 15.A-29. Originally in accordance with the Giambusso letter, this line was classified as moderate energy (cracks only). FSAR Paragraph 15A.A.1 classified it as high energy line operating for less than 1% of the plant operating time and required crack postulation only.

The restraint requirement for CRD return is described in FSAR paragraphs 15.A.A.1 and 15.A.A.2. There is no figure referenced in the updated Hatch Unit Two FSAR. However, Figure 15A-13 of the original FSAR identified the whip restraint locations. The CRD line has since been rerouted to return to the Reactor Water Cleanup.

The health and safety of the public were not affected by this event.

This event is considered 10CFR21 reportable.

Status of redundant or backup subsystems and/or systems:

There are no redundant or backup subsystems for the whip restraints not installed; however, the affected systems high energy lines have remained intact. The isolation instrumentation has either been operable for the affected systems or the appropriate Tech. Specs. requirements were followed if they were inoperable.

Justification for continued operation:

The RCIC whip restraints will be installed prior to startup.

Whip restraints on the CRD return line are not needed per the results of the break analysis as explained below:

There are a significant number of essential conduits which would be affected by the postulated CRD return line break in the reactor building at elevation 130. Each of these conduits has been evaluated to assure that its failure would not preclude being able to achieve safe shutdown given such a CRD return line break. At the time of our earlier telephone conversations we indicated that there were three conduits which remained a concern. As reported in later conversations, they have since been evaluated as indicated below, and it has been determined that they will not impact the safe shutdown capabilities of Plant Hatch Unit Two:

1. Conduit number 2E26966 provides control for the Main Steam line condensate drain outboard isolation valve. A loss of isolation capability of the outboard condensate drain isolation valve and a single failure of the inboard valve opens a 1/8 inch orifice hole to the condenser. This does not significantly affect the ability to reach cold shutdown.
2. Conduit 2P2A615 provides control for the outboard MSIV's 2B21-FO28A, B, C, and D. The conduit containing the MSIV outboard isolation valve control cables has a 4 inch diameter and a .474 inch thick wall, and the control rod return pipe has a 3" diameter and a 0.3" thick wall and thus is not assumed to affect the conduit.
3. Conduits 2E27-019, 050, and 057 provide control power to the MSIV leakage control system, disables the system. The system is not required to be operable for a CRD break.

Conduit 2R3B204 contains non-essential circuits under current design criteria and has not required protection from HELB. However, it will be upgraded to an essential status during the addition of redundant Scram Discharge Volume vent and drain valves per IEB 80-17. HELB will be addressed for this conduit and the upgraded circuits as part of that effort.

The Unit Two FSAR mentions CRD insert/withdrawal lines as possible targets of the CRD return line pipe whip. Redesign and rerouting of the CRD return line eliminated this possibility after the issuance of the FSAR but prior to initial operation of the unit. The CRD insert/withdrawal lines are therefore no longer of concern.

Additionally, Georgia Power Company believes that operation of Hatch Unit Two without the RWCU or auxiliary steam line whip restraints for one cycle is justified for the following reasons:

1. The postulated breaks have been considered per the Giambusso letter (Appendix B to Branch Technical Position APC5B 3-1), for postulating terminal end and intermediate break locations. The FSAR figures show the stress levels in the piping to be well below the design criterion. Therefore, when evaluated, the stresses in the piping would not be sufficient to lead to piping failures.
2. The probability of experiencing a pipe break anywhere in the plant is very low and is further reduced when determined for specific break points. We have estimated the probability of an uncontrolled release of reactor coolant, due to rupture of the RWCU piping combined with an additional single failure of the respective inboard isolation valve to be between 10^{-9} and 10^{-7} per year.

3. The containment isolation valves on the RWCU system will automatically isolate to limit blowdown on receipt of a signal indicating a failure in the respective system line. The RWCU valves will isolate on high differential flow, high differential temperature between the inlet and outlet cleanup room ventilation, high ambient temperature or high temperature or high temperature downstream of the non-regenerative heat exchanger (See FSAR 7.6.6).
4. Absence of whip restraints does not affect the equipment or pipe supports, nor does it have an effect upon the stress analyses.
5. The auxiliary steam piping associated with the missing auxiliary steam whip restraints will remain isolated until the missing restraints are installed.

If repetitive, number of previous LER:

This is a non-repetitive event.

Impact to other systems and/or Unit:

Unit One is being evaluated for similar design implementation problems. Bechtel Power Corporation, Gettysburg, Maryland supplied the design package which omitted the above mentioned line break restraints. Bechtel's evaluation indicated that the RCIC and RWCU restraints were required to protect the outboard containment isolation valves of the subject systems from pipe breaks downstream of the valves. An assumed single failure of the inboard valve coupled with the loss of the outboard valve as a result of the break will result in an uncontrolled blowdown. This could cause a significant safety hazard, making this event reportable under the requirements of 10CFR21.

Cause(s) of the event(s):

The cause of this event was attributed to design error. The HELB restraints were omitted from four plant systems due to an Architect/Engineering design oversight.

During construction of Unit Two, these restraints were requested by the design engineer for HELB evaluation. The preliminary feasibility of the design was done, but it does not appear to have been pursued further. One whip restraint on the RWCU return to the feedwater (originally requested for the HELB evaluation) was installed. It appears that this was installed as part of the CRD reroute (that was initiated later) to the RWCU system.

Immediate Corrective Action:

The immediate plan of action for Georgia Power Company was as follows:

1. Proceed expeditiously on design and procurement for the RWCU and RCIC restraints. These locations are in inaccessible areas of the plant.
2. Proceed expeditiously to postulate break locations, and determine the necessity for whip restraints for the rerouted CRD return line to the Reactor Water Cleanup System.
3. Isolate the auxiliary steam line in the Reactor Building so that at this time no failures have to be assumed.

Supplemental Corrective Action:

In accordance with the intent of the FSAR and the requirement to maintain isolation capabilities, the design of pipe whip restraints for the RCIC steam, RWCU pump suction/discharge is in progress (at the time of this report the design for the RCIC restraints has been completed). The design considers the use of energy absorbing material and/or wire ropes to address the dynamic effects of the pipe break. The analysis follows the Bechtel Topical Report, BN-TOP-2 in conjunction with the project civil design criteria.

As previously stated, analysis of the rerouted CRD piping with respect to High Energy Line Break (HELB) revealed that no whip restraints are needed.

On Thursday, June 23, 1983, Engineering personnel walked down Unit One to verify the installation of jet impingement barriers identified in Appendix N of the Unit One FSAR (reference drawing H-15173).

The jet impingement barriers were verified to be installed, with the exception of a barrier plate on the auxiliary steam line in the pipe penetration room at the 130 foot elevation east of the drywell which could not be examined due to the radiation exposure personnel would receive during the inspection. In the interim the auxiliary steam piping associated with this barrier plate has been isolated as it is not required for plant operation.

Whip restraint locations on Unit One were not verified since these are either located in the drywell or in the pipe chase area. Both of these areas are high radiation exposure zones and prohibit inspections at this time (additionally, the drywell is inerted with nitrogen at this time).

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Date 8/17/83

REGION II
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Edwin I. Hatch Nuclear Plant

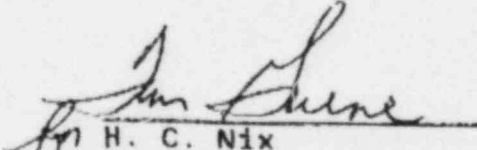
August 10, 1983
GM-83-786

PLANT E. I. HATCH
Licensee Event Report
Docket No. 50-366

United States Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

ATTENTION: Mr. James P. O'Reilly

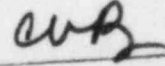
Attached is Licensee Event Report No. 50-366/1983-046, Rev. i. This report is required by Hatch Unit 2 Technical Specifications Section 6.9.1.8.1.


H. C. Nix
General Manager

HCN/SBT/djs

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