From: Robert Schin / RII
To: Nelson (HQ-OE), David
Date: 1/22/04 2:46PM
Subject: Hatch NCV Denial

Dave,

Our DRAFT letter responding to a Hatch request that NRC withdraw an NCV is attached for your concurrence. All of the required concurrences have been obtained, except for yours. Also; C. Casto, H. Christensen, L. Plisco, and L. Reyes have been briefed, have read the DRAFT letter, and have no objections.

The concurrence copy of the letter is on Scott's desk.

Bob Schin

CC: Ogle, Charles R.; Sparks, Scott

A-13

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

EA-03-207

Southern Nuclear Operating Company, Inc.
ATTN: Mr. H. L. Sumner, Jr.
Vice President - Hatch Nuclear Plant
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT - RESPONSE TO INSPECTION REPORT NOS. 05000321/2003006 AND 05000366/2003006

Dear Mr. Sumner:

In your letter dated October 1, 2003, in response to our Triennial Fire Protection Inspection Report 05000321/2003006 and 05000366/2003006, you made several requests. One of those requests was that the NRC withdraw Non-Cited Violation (NCV) 50-366/03-06-04, Unapproved Manual Operator Actions for Post-Fire SSD. In our letter to you dated November 18, 2003, we stated that we were still reviewing additional information that you had provided in response to that NCV. We have now completed our review of your information related to that NCV and are advising you of our decision. Details of our review are in the enclosure to this letter, titled "Evaluation of Licensee Information."

Based on our review of your additional information, we are withdrawing the examples of the NCV related to a high pressure coolant injection (HPCI) pump runaway. Your information has substantiated that the HPCI pump is not vulnerable to cable failures that could cause a runaway condition due to fires in III.G.2 areas, where plant shutdown would be from the control room. Your Safe Shutdown Analysis (SSA) and Fire Procedure differ from your additional information with respect to HPCI vulnerability to a runaway condition due to fires; consequently, those documents are not current with your latest information.

However, we have concluded that your information did not provide a valid basis for withdrawing the example of the NCV related to the local manual operator action for repowering the battery chargers. Also, as explained in the enclosure, you may need to perform additional reviews to verify that this operator action can be performed (will not be affected by the fire) for fires in all fire areas where the action may be needed.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publically Available Records (PARS) component of the NRC's document system (ADAMS).

ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact me at (404) 562-4600.

Sincerely,

Charles A. Casto, Director
Division of Reactor Safety

Docket Nos.: 50-321, 50-366
License Nos.: DPR-57, NPF-5

Enclosure: Evaluation of Licensee Information

cc w/encl:
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SIGNATURE							
NAME	RSchin	CSmith	KO'Donohue	CEvans	COgle	BBonser	DNelson
DATE	1/ /2004	1/ /2004	1/ /2004	1/ /200	1/ /2004	1/ /2004	1/ /2004
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
PUBLIC DOCUMENT	YES NO						

OFFICIAL RECORD COPY DOCUMENT NAME: C:\TEMP\Hatch-NCVdenial-ResponseR2.wpd

EVALUATION OF LICENSEE INFORMATION

On September 1, 2003, NCV 50-366/03-06-04 was identified during a routine NRC inspection at the Hatch nuclear plant. In a letter of October 1, 2003, Southern Nuclear Operating Company requested that the NRC withdraw that NCV for various reasons. The NRC's evaluation of information provided by the licensee to support that request is as follows:

Restatement of NCV 50-366/03-06-04, Unapproved Manual Operator Actions for Post-Fire Safe Shutdown

10 CFR 50, Appendix R, Section III.G.2, requires that where cables or equipment, including associated non-safety circuits that could prevent operation or cause maloperation due to hot shorts, open circuits, or shorts to ground, of redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located within the same fire area outside of the primary containment, one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided: 1) a fire barrier with a 3-hour rating; 2) separation of cables by a horizontal distance of more than 20 feet with no intervening combustibles and with fire detectors and automatic fire suppression; or 3) a fire barrier with a 1-hour rating with fire detectors and automatic suppression.

Contrary to the above, the licensee had not provided the required physical protection against fire damage for power to the station service battery chargers or for HPCI electrical control cables. Instead, the licensee relied on local manual operator actions, without NRC approval. In response to this issue, the licensee initiated CR 2003800166. Because the issue had very low safety significance and has been entered into the licensee's corrective action program, this violation is being treated as an NCV, consistent with Section VI.A of the NRC's Enforcement Policy: NCV 50-366/03-06-04, Unapproved Manual Operator Actions for Post-Fire Safe Shutdown.

Specific Procedure Steps With Unapproved Manual Operator Actions

Specific steps in Abnormal Operating Procedure (AOP) 34AB-X43-001-2, Fire Procedure, Version 10.8, that involved reliance on unapproved local manual operator actions to achieve and maintain hot shutdown, instead of physical protection of cables from fire damage as required by Section III.G.2, included:

- Step 4.15.2.2; ...If a loss of offsite power occurs and emergency busses energize ..."Place Station Service battery chargers 2R42-S026 (2R42-S029), 2R42-S027 (2R42-S030) AND 2R42-S028 (2R42-S031) in service per 34SO-R42-001-2."

- Step 4.15.4.5; ...If HPCI fails to automatically trip on high RPV level... "OPEN the following links to energize 2E41-F124, Trip Solenoid Valve, AND to fail 2E41-F3025 HPCI Governor Valve, in the CLOSED position:

    - TT-75 in panel 2H11-P601
    - TT-76 in panel 2H11-P601"

Enclosure

- Step 4.15.4.6; ...If HPCI fails to automatically trip on high RPV level... "OPEN breaker 25 in panel 2R25-S002 to fail 2E41-F3052, HPCI Governor Valve, in the CLOSED position."

Restatement of Licensee's Response to NCV 50-366/03-06-04

The licensee's response is restated below and separated into six statements, each of which is addressed by the following NRC evaluation.

1. "This issue was not initially characterized as a violation at the exit meeting conducted on July 25, 2003, but was subsequently identified as a NCV during the re-exit held on September 2, 2003.

2. Two sets of steps in a fire procedure were cited as examples in the inspection report. One step is associated with an operator manual action to reenergize certain battery chargers after an assumed loss of offsite power event in conjunction with a fire event. This combination of events is only required by Appendix R for 'alternative' or 'dedicated' shutdown. For Plant Hatch, this represents a Control Room, Computer Room, or Cable Spreading Room fire (Fire Area 0024).

3. In an October 31, 1986 response to a Request for Additional Information regarding an Appendix R Exemption Request on control room emergency lighting, the manual action of reenergizing the battery chargers was described. The January 2, 1987 NRC SER granting the Appendix R lighting exemption also took note of the battery chargers.

4. The manual action is in recognition of the desirability of restoring the battery chargers following any loss of offsite power. Even with no fire-induced cable damage, the procedure step would be used. Thus, the step is not in the procedure for compliance with Appendix R, Section III.G.2. Rather, the inclusion of a step in the fire procedure to manually reenergize the subject battery chargers provides the operators with additional actions that could be performed should such an unlikely event occur.

5. The other steps referenced in the inspection report relate to manual actions to prevent RPV overfill if HPCI fails to automatically trip on high level. These manual actions were not added to the fire procedure due to a 'lack of separation of redundant trains of cables'. Rather, the safe shutdown function of the RCIC system is 'redundant' to the safe shutdown function of the HPCI system. Circuits 'required' for the operation of RCIC and HPCI are separated as required by Appendix R Section III.G.2. RCIC is used for a path 1 shutdown and HPCI is used for a path 2 shutdown.

6. Thus, neither of the manual actions described in this NCV represent a manual action associated with Appendix R Section III.G.2. Based on this information, SNC requests that this NCV be withdrawn."

NRC Evaluation of Licensee's Response

1. The NRC agrees with this licensee statement. At the exit meeting on July 25, 2003, this issue was not characterized as a violation, but instead was characterized as part of an

unresolved item. After further team in-office review of the NRC policy for documenting such issues as Green findings, as stated in NRC Inspection Procedure 71111.05, Fire Protection, this issue was recharacterized as a Green finding and NCV. However, the fact that the issue was recharacterized as an NCV after the inspection team left the site does not constitute a basis for the NRC to withdraw the NCV.

2. The NRC does not agree with this licensee statement. The concern is not an assumed loss of offsite power concurrent with a fire. Instead, the concern is that fires in certain areas of the Hatch plant can cause a loss of offsite power. The Hatch SSA conservatively assumes that a fire in any fire area can cause a loss of offsite power. A more detailed NRC review after receipt of your October 1, 2003, letter indicated that fires in two of the four focus areas for the inspection (4KV switchgear rooms 2E and 2F) could cause fire damage to cables that could result in a loss of offsite power to additional safety-related alternating current (AC) busses and consequently a loss of power to battery chargers that are required to maintain hot shutdown conditions. The Hatch design is such that following such a loss of offsite power, the emergency diesel generators would automatically start but the battery chargers would not be automatically repowered. The station batteries are designed to provide vital direct current (DC) electrical power for two hours, and the battery chargers would have to be locally manually reenergized within that time to maintain the vital DC electrical power that is needed for instrumentation and control that is required to maintain the reactor in a hot shutdown condition.

   10 CFR 50, Appendix R, Section III.G.2 requires that, where fire damage to cables could prevent operation of redundant trains of equipment necessary to maintain hot shutdown conditions, the cables must be physically protected from such fire damage by one of three specified methods. Local manual operation of equipment is not one of the three specified methods. Further, the licensee had received no NRC exemption from this requirement for power to the battery chargers. Consequently, this licensee statement does not constitute a basis for the NRC to withdraw the NCV.

3. The NRC agrees with this licensee statement. In the referenced documents, the licensee requested an exemption from the requirements of Appendix R, Section III.J for 8-hour battery-powered emergency lights in the control room and the NRC granted that exemption. However, an NRC review of the referenced documents determined that they do not constitute an NRC approval to deviate from the Section III.G.2 requirement for physical protection of cables from fire damage that could result in a loss of power to the battery chargers and consequently the instrumentation and controls that are required to maintain hot shutdown conditions. Consequently, this licensee statement does not constitute a basis for the NRC to withdraw the NCV.

4. The NRC agrees that the Hatch abnormal procedures that would be used following a loss of offsite power, without a fire, would include locally manually repowering the battery chargers. However, the specific procedure step that is addressed in this NCV is in the Fire Procedure, which would only be used in the event of a fire. As described above, 10 CFR 50, Appendix R, Section III.G.2 requires that, where fire damage to cables could prevent operation of redundant trains of equipment necessary to maintain hot shutdown conditions, the cables must be physically protected from such fire damage by one of three specified methods. Local manual operation of equipment is not one of

the three specified methods. Consequently, this licensee statement does not constitute a basis for the NRC to withdraw the NCV.

As stated in 2. above, Appendix R, Section III.G.2 requires that power to the battery chargers be physically protected because it is needed to maintain the reactor in a hot shutdown condition following a fire. Use of an operator action to repower the battery chargers during non-fire conditions does not make that action acceptable during a fire. Plant conditions during a fire could be significantly different than plant conditions with no fire. With no fire, two trains of safe shutdown equipment should operate. However, during a fire only one train of safe shutdown equipment may be operable since only one train of safe shutdown equipment is required to be designed to be free of fire damage. Also, a fire may affect the ability of operators to perform local manual operator actions. During the onsite inspection, the licensee verified (and the NRC inspectors checked) that, for a fire in any one of the four fire areas inspected, the local manual action to repower the battery chargers was reasonable (met the criteria of Enclosure 2 to NRC Inspection Procedure 71111.05) because the action was either not affected by the fire or was not needed because the fire would not cause a loss of offsite power. However, the licensee may need to perform additional reviews to verify that this operator action can be performed (will not be affected by the fire) for fires in all fire areas where the action may be needed.

5. The Fire Procedure contained steps to respond to a generic fire issue of potential reactor pressure vessel (RPV) overfill due to HPCI runaway. These steps applied to a fire in any area of the plant, including the four fire areas that were selected to be the focus of the inspection. The licensee's SSA indicated that RPV overfill, which could be caused by a fire-induced HPCI runaway, must be prevented by operator actions to support safe shutdown. 10 CFR 50, Appendix R, Section III.G.2 requires that, where fire damage to cables could cause maloperation of redundant trains of equipment necessary to maintain hot shutdown conditions, the cables must be physically protected from such fire damage by one of three specified methods. Local manual operation of equipment is not one of the three specified methods.

Subsequent to the licensee's letter of October 1, 2003, licensee personnel stated that there was no vulnerability to a HPCI pump runaway due to fires in areas of the plant where shutdown would be from the control room. The licensee personnel provided additional information to the NRC showing the routing through the plant of the specific RPV level instrument cables that could cause a HPCI runaway as a result of fire damage. The NRC inspectors verified that there were two independent trains of high RPV level instruments, either of which would trip the HPCI pump on high RPV level. The inspectors further verified from a review of drawings that the cables for the two independent trains were routed through different fire areas in the plant, except for the cable spreading room or control room. A fire in the cable spreading room or control room would involve evacuation of the control room and use of a different procedure for safe shutdown of the plant. Consequently, there were no III.G.2 fire areas, for which safe shutdown would be accomplished from the control room using the Fire Procedure, where there was a vulnerability to fire damage to cables that could result in a HPCI runaway.

The additional information described above provides a basis for the NRC to withdraw the examples of this NCV dealing with HPCI runaway. It also provides a basis for the licensee to update their SSA and Fire Procedure accordingly.

6. As discussed above, the additional licensee information provides a basis for the NRC to withdraw the examples of this NCV dealing with HPCI runaway. However, the information did not provide a valid basis for withdrawing the example of this NCV related to the local manual operator action for repowering the battery chargers.

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Subject: Hatch NCV Denial
Creation Date: 1/22/04 2:46PM
From: Robert Schin

Created By: RPS@nrc.gov

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CRO CC (Charles R. Ogle)
SES CC (Scott Sparks)

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DJN (David Nelson (HQ-OE))

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MESSAGE	1028	01/22/04 02:46PM	

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