Dennis R. Madison
Vice President - Hatch

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SOUTHERN COMPANY

August 15, 2012

Docket Nos.: 50-321

NL-12-1662

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Edwin I. Hatch Nuclear Plant
Licensee Event Report 2012-002-01
Failure of 1C EDG Output Breaker to Close
Results in Condition Prohibited by Technical Specifications

Ladies and Gentlemen:

In accordance with the requirements of 10CFR50.73(a)(2)(i)(B), Southern Nuclear Operating Company hereby submits the enclosed revised Licensee Event Report concerning an event of non-compliance with Technical Specification 3.8.1 for the failure of the 1C emergency diesel generator (EDG) output breaker to close when tested during a plant shutdown for refueling.

This letter contains no commitments to the NRC. If you have any questions, please contact Mr. B. D. McKinney at (205) 992-5982.

Respectfully submitted,

D. R. Madison
Vice President – Hatch

DRM/SBT/msc

Enclosure: LER 2012-002-01

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. D. R. Madison, Vice President – Hatch
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U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. P. G. Boyle, NRR Senior Project Manager– Hatch
Mr. E. D. Morris, Senior Resident Inspector – Hatch

Enclosure

NL-12-1662

Edwin I. Hatch Nuclear Plant – Unit 1

Licensee Event Report 2012-002-01

Failure of 1C EDG Output Breaker to Close
Results in Condition Prohibited by Technical Specifications

NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013

Estimated burden per response to comply with this mandatory collection request: 80 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 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resources@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.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Edwin I. Hatch Nuclear Plant Unit 1	05000 321	1 OF 7

4. TITLE

Failure of 1C EDG Output Breaker to Close Results in Condition Prohibited by Technical Specifications

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
03	10	2012	2012	- 002 -	01	08	16	2012	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE

4

10. POWER LEVEL

0

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: *(Check all that apply)*

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☒ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Edwin I. Hatch / Steven Tipps – Principal Engineer – Licensing	912-537-5880

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
B	EK	BKR	W120	Yes					

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

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

During the performance of the 1C emergency diesel generator (EDG) loss of offsite power (LOSP) logic system functional test (LSFT), on March 10, 2012, at 2350 EST, the EDG output breaker failed to close and supply power to the 1G 4kV bus. This failure resulted in the inability to energize the 1G bus and the safety-related buses fed by this bus. The operating crew attempted to restore normal power to the bus, but was unsuccessful. A DC ground indication was also received when the 1C EDG output breaker failed to close. Troubleshooting revealed a connecting screw on the circuit breaker auxiliary switch making contact between terminals 8 and 10, creating a fault between the positive and negative portions of the DC circuit when the LOSP test permissive was applied to the closing circuit for the 1C EDG output breaker. This short prevented the output breaker closing coil from functioning as required.

The direct cause for the failure of the breaker to close is attributed to an apparent vendor quality issue associated with the alternate supply breaker for the 1G emergency bus that occurred at the vendor facility during the manufacturing/assembly process. The installation of a screw on an auxiliary switch termination that penetrated the insulation of an adjacent lug created a short circuit condition that could only be manifested during an actual or simulated LOSP condition. The breaker was replaced and testing performed to confirm the output breaker "close" permissive functioned as required. The condition was reviewed for applicability to 10 CFR 21 and determined to not be reportable.

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor
Energy Industry Identification System codes appear in the text as (EIIS Code XX).

DESCRIPTION OF EVENT

During the performance of the 1C emergency diesel generator (EDG)(DG) loss of offsite power (LOSP) logic system functional test (LSFT), on March 10, 2012, at approximately 2350 EST, with Unit 1 in a refueling outage in cold shutdown (Mode 4), the EDG output breaker (EK) failed to close and supply power to the 1G 4kV bus. This failure resulted in the inability to energize the 1G bus and the safety-related loads fed by this bus. The operating crew attempted to restore normal power to the bus, but was unsuccessful. A DC ground indication was also received when the 1C EDG output breaker failed to close. There was an indicated ground on the positive leg of the 125 VDC battery system associated with this diesel generator. Initial attempts to isolate the ground were unsuccessful until the ground indication cleared during tagout of the circuit containing the undervoltage relay (EK) approximately 4 hours later. Additionally, the 125 VDC control power breaker for the normal and alternate supply breakers to the 1G 4kV bus was also opened during the same interval in which the ground cleared. An undervoltage relay (27GDX) in the closing circuit for the 1C EDG output breaker was subsequently determined to have experienced arcing during the breaker closure failure. Later it was determined that this short damaged the 1C EDG undervoltage relay in addition to preventing the closure of the output breaker. Subsequent to the "breaker close" failure, attempts to re-energize 4kV bus 1G from the normal supply breaker were unsuccessful with that breaker closing and then immediately tripping. The nature of the failure of the 1C EDG output breaker to close was determined to be limited to the condition that resulted in a grounded condition as a result of the relay failure which was subsequent to the electrical short that was created by a fault between the DC positive and negative when the LOSP test permissive was applied to the closing circuit for the 1C EDG output breaker.

CAUSE OF EVENT

The direct cause for the failure of the 1C EDG output breaker to close is attributed to an apparent vendor quality issue associated with the 1G 4kV bus alternate supply breaker that occurred at the vendor facility during the manufacturing/assembly process. The 1C EDG output breaker's LOSP permissive has a logic tie through the affected 1G 4kv bus alternate supply breaker's auxiliary switch that contained the quality issue. Troubleshooting revealed a connecting screw on the 1G 4kV bus alternate supply breaker auxiliary switch making contact between terminals 8 and 10, creating a short between the DC positive and negative when the LOSP test permissive was applied to the closing circuit for the 1C EDG output breaker. This condition prevented the closing coil from functioning properly. The apparent manufacturing/assembly error involved the installation of a screw on an auxiliary switch termination of the 1G 4kV bus alternate supply breaker by the vendor that penetrated the insulation of an adjacent lug, thereby creating the noted short circuit condition that could only be manifested during an actual or simulated LOSP condition.

The root cause investigation concluded that the root cause of the "as found" condition was attributed to inadequate vendor testing/inspection and design (associated with the use of 5/16" length termination screws). The vendor had no inspection criteria in place to ensure that wires are formed correctly or that air gaps exist between lugs/wires in close proximity to each other. The discovered latent fault was determined to have originated at the original equipment manufacturer (OEM) during assembly of the 1G 4kV bus alternate supply breaker based upon the apparent stress found on the lug and the fact that there was no prior Hatch work history associated with the auxiliary switch on this breaker.

The root cause investigation also reviewed the plant's receipt inspection, preventive maintenance (PM),

and post maintenance testing (PMT) for the 1G 4kV bus alternate supply breaker to determine what role they could have played, if any, in identifying the "as found" condition. The receipt inspection included an assessment of the affected auxiliary switch for damage or wear and an examination to ensure no loose or improper connections or frayed leads existed. It also included cycling the breaker to confirm the contacts would move to their required position called upon. These inspections were performed with the affected auxiliary switch mounted on the breaker in such a way that it required the use of a flashlight and mirror to perform the inspection due to its physical location on the breaker. This is a standard practice when access to subcomponents is limited in this way. The guidance for performing the receipt inspection and PM was determined to be adequate based on the information known at the time the breaker was initially received at the plant. It should also be noted that the damage to the wire whose termination lug was damaged could not be seen until the screw connecting an adjacent wire to its lug was backed out/removed. Such a condition would not reasonably be expected for a new breaker.

The root cause investigation also considered the adequacy of the PMT to ensure that the equipment would perform its intended function when returned to service following maintenance activities. The safety function of the breakers installed in the emergency 4kV switchgear is accomplished by the successful performance of an LSFT which tests the logic circuits that ensures the breakers function when required and that the breaker subcomponents function to cause the related logic string(s) to actuate to cause components to go to their assumed end states. The LSFT was successfully performed during the outage in 2010 with another breaker used as the 1G 4kV bus alternate supply breaker during that test. This LSFT confirmed that the control circuits as well as the installed alternate supply breaker and associated 1C EDG output breaker were functioning properly. Following performance of the planned PM on the1G 4kV bus alternate supply breaker containing the latent vendor quality issue, the breaker was installed in the alternate supply breaker cubicle. Successful completion of the breaker PM ensured the breaker and switch contacts within the affected 1G 4kV bus alternate supply breaker would function when the conditions are present requiring their actuation. Additionally, once the 1G 4kV bus alternate supply breaker was installed, Operations personnel verified that the breaker would open and close under load. Having previously successfully completed the LSFT associated with the 1G 4kV bus alternate supply breaker (this LSFT tests the logic and components interconnected with the alternate supply breaker), the successful completion of the breaker PM should have ensured that the alternate supply breaker contacts would function as required with respect to the LOSP permissive for the 1C EDG output breaker. The root cause investigation concluded that the appropriate PMT to ensure that the 1G 4kV bus alternate supply breaker would perform its intended function when returned to service was successfully completed. In order to recognize that further testing was necessary, foreknowledge of this apparent isolated latent vendor quality issue for this single breaker would have been required. An expectation of such foreknowledge is not reasonable. Additionally, the root cause analyst confirmed the test/PM performed at Plant Hatch is the same tests and inspections recommended by the OEM. The procedures at six other nuclear stations with similar 4kV vacuum circuit breakers installed in their facilities were reviewed and did not include additional testing or checks that would have identified the workmanship issue discovered at Plant Hatch. A review of Hatch procedures, EPRI post maintenance testing guidance, and the INPO – Post Maintenance Testing Good Practice document was performed. This review concluded that none of the plant or industry guidance documents require all portions of every control circuit connected to a breaker be tested upon installation or re-installation of a breaker. When an electrical component such as a relay or a breaker is removed with no wiring terminations disturbed, the standard practice is to reinstall the component in its cubicle once appropriate bench testing has been performed and proper fit-up has been verified. Changing testing methodologies requiring testing of logic strings associated with a replaced component without the right conditions (refueling outage, equipment out of service, etc.) may place the plant at undue risk.

In summary the direct cause of the 1C EDG output breaker failing to close upon demand was attributed to an apparent vendor quality issue associated with an auxiliary switch attached to the 1G 4kV bus alternate supply breaker that occurred at the vendor facility during the manufacturing/assembly process. The root cause of the "as found" condition was attributed to inadequate vendor testing/inspection and the use of the 5/16" length termination screws in the design. The successful completion of the 1G 4kV bus alternate

supply breaker PM and previous completion of the associated LSFT provided adequate post maintenance testing to assure the intended safety function of the affected components was not compromised based on the known condition of the alternate supply breaker at the time it was installed. Due to the unique and limited nature of the apparent manufacturing defect in the 1G 4kV bus alternate supply breaker auxiliary contact circuit, the noted short circuit condition could only be manifested and thereby revealed during an actual or simulated LOSP condition.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This event is reportable as required by 10CFR50.73(a)(2)(i)(B), in that an event and associated condition occurred and existed that was prohibited by the Technical Specifications (TS) LCO 3.8.1, requiring the 1C EDG to be operable during the preceding operating cycle. The breaker containing the breaker auxiliary switch quality issue had a receipt inspection performed in February 2004. The receipt inspection involved visual inspection and complete preventive maintenance (PM) being performed on the breaker that included checks of the cam, links, continuity tests and resistance checks with satisfactory results. This PM was developed based on direction from the vendor to the level of detail used by the vendor in performing similar PM and inspections in their shop. Because of the nature of the internal short caused by the vendor quality issue, functional tests consistent with plant procedures and industry best practices did not identify the presence of the short circuit condition. At the time of this receipt inspection, the latent manufacturing/assembly quality issue was present. This condition was reviewed for applicability under 10 CFR 21 and determined to not be reportable per 10 CFR 21.

The affected (later to be the1G 4kV bus alternate supply) breaker was initially installed in the safety related 1E 4kV switchgear as the normal supply breaker, which is fed by the 1A EDG during LOSP conditions. When installed in this breaker location, the shorted points within this cubicle logic are both connected to DC negative and as a result did not affect the breaker function since there was no difference in voltage. The LOSP LSFT for the 1A EDG was performed March 2004 and every 24 months thereafter with no problems noted.

The affected breaker remained installed as the normal supply breaker for the 1E 4kV switchgear normal supply breaker until the Unit 1 2010 refueling outage. When the LOSP LSFT for the 1C EDG was performed on March 11, 2010, the affected breaker was having PM performed on it and was not installed at that time. Following the PM on the breaker that included a visual inspection, continuity checks of the switch, and performance of a hi-pot test on the auxiliary switch and contacts, it was functionally tested in accordance with the normal functional test requirements for a 4kV breaker prior to installation in the field with no problems noted. The breaker containing the apparent breaker auxiliary switch quality issue was then placed into the 1G 4kV switchgear as the alternate supply breaker on March 16, 2010. It should be noted that the circuit containing the shorted connection was not in the logic string for normal EDG testing and loading of the EDG that is performed on a monthly basis. Only during the LOSP LSFT would the affected logic string be in the circuit. During the 1C EDG LOSP LSFT performed in 2012, the latent condition manifested itself when the shorted circuit was made during the test. This condition prevented the 1C EDG output breaker from closing and re-energizing the 1G 4kV switchgear. As a result, this latent condition has existed since March 16, 2010, and would have prevented the automatic closure of the 1C EDG output breaker in the event of an LOSP condition. The condition was discovered during the Unit 1 2012 refueling outage at a time when the 1C EDG was not required to be operable. A review of the condition and associated timeline was performed, and it was determined that the condition had existed for a period of time greater than that allowed by the TS.

The discovery of this event occurred during the performance of routine TS surveillance testing of EDG 1C during the Unit 1 refueling outage during which time the 1C EDG was not one of the EDGs required to be operable. The 1A and 1B EDGs were operable at the time the 1C EDG failed to tie to its emergency bus. During the preceding operating cycle, the 1A EDG was inoperable on three occasions ranging from approximately 34 hours to 101 hours; not considering the very brief periods of inoperability during monthly surveillance testing. The 1B EDG was inoperable on 10 occasions

ranging from approximately 8 hours to 126 hours; not considering the very brief periods of inoperability during monthly surveillance testing. At no time during the operating cycle were both the 1A and 1B EDGs concurrently inoperable. With either the 1A or 1B EDG inoperable, and given the fact that the 1C EDG could not tie to its emergency bus due to the latent equipment problem, there were periods of time during the preceding operating cycle when two of the three Unit 1 EDGs were inoperable. A review was performed to determine what the impact on nuclear safety would have been from having periods of time when only one diesel was operable and available to perform the required safety function during a design basis accident involving a Loss Of Coolant Accident (LOCA)/LOSP.

The methods and models used to analyze the consequences of the LOCA/LOSP have been refined during the plant lifetime in the form of the SAFER/GESTR-LOCA analyses. These analyses provide results and consequences associated with a LOCA using realistic evaluation methods as documented in the FSAR. The SAFER/GESTR-LOCA analyses were performed with a bounding maximum average planar heat generation rate at the most limiting power and exposure combination and concluded that the peak clad temperature for the nominal or expected case would be insufficient to cause perforation of the fuel cladding. As a result, no cladding perforations would be caused by the LOCA, and no fuel damage would result. This analysis concluded that the reactor can be brought to a cold shutdown condition and maintained in that condition on a long term basis with either two RHR low pressure coolant injection (LPCI) pumps or one core spray pump and one LPCI pump. The 1A EDG provides power for the 'A' LPCI pump, the 'A' RHRSW pump, and the 'A' core spray pump. The 1B EDG serves the 'C' and 'D' RHR LPCI pumps and the 'C' RHRSW pump. The 1C EDG serves the 'B' LPCI pump, the 'B' core spray pump, and the 'B' and 'D' RHRSW pumps. Either the 1A or 1B EDG can provide the needed low-pressure pumps and RHRSW pump(s) to satisfy the minimum assumptions in the SAFER/GESTR-LOCA analysis for Unit 1. For this reason, there was no loss of safety function on Unit 1 during the previous operating cycle as the ability to mitigate the consequences of an accident and bring the reactor to cold shutdown and maintain it in that condition was maintained.

The 1G 4kV bus also provides normal emergency power to the Unit 2 'B' RHR LPCI valve load center which contains the 'B' LPCI injection valve. The 1E 4kV bus provides the normal emergency power to the Unit 2 'A' RHR LPCI valve load center that contains the 'A' LPCI injection valve. The alternate emergency power supply for the Unit 2 'A' RHR LPCI valve load center is provided by the Unit 2 2F 4 kV bus which requires a manual alignment to use this power source for the desired valve load center.

During the previous operating cycle, the 1A EDG was inoperable on three occasions ranging from approximately 34 hours to 101 hours not considering the very brief periods of inoperability during monthly surveillance testing. The 1A EDG provides emergency power to the 1E 4kV bus that provides the normal emergency power to the Unit 2 'A' RHR LPCI valve load center. Prior to removing the 1A EDG from service for planned maintenance, plant procedures required the Unit 2 2F 4kV bus to be realigned to provide the alternate emergency power to the Unit 2 'A' RHR LPCI valve load center. The same SAFER/GESTR-LOCA analysis for Unit 2 assumes the presence of the same combination of low pressure pumps in order to automatically restore reactor vessel inventory and to bring the unit to cold shutdown and allow it to be maintained long term in that condition. In the case of a DBA LOSP/LOCA on Unit 2 and an LOSP on Unit 1 with the 1A and 1C EDGs inoperable, both Unit 2 core spray pumps remain operable and will recover Unit 2 reactor vessel inventory and allow the reactor to be safely shut down. With the LOCA/LOSP occurring on Unit 2, the swing EDG would normally be realigned to provide power to the Unit 2 2F 4kV bus and therefore restore alternate emergency power to the Unit 2 'A' LPCI load center. However, in the assumed condition the 1A EDG is out of service for maintenance and the 1C EDG output breaker will fail to close. For these reasons the swing 1B EDG will remain dedicated to Unit 1 to maintain this unit in a safe condition during LOSP conditions. Based on the nature of the direct cause for the 1C EDG output breaker failing to close, Operations personnel would identify this condition on the 1C EDG, and their procedures would provide the needed direction to manual close the 1C EDG output breaker. Based on discussions with licensed Operations personnel, this could be reasonably expected to be accomplished within 1 to 2

hours from the occurrence of the event. This action restores the Unit 2 'B' RHR LPCI/shutdown cooling flow path before reaching the conditions necessary to allow shutdown cooling to be placed into service. Once RHR shutdown cooling has been placed into service the reactor will be brought to cold shutdown and maintained in that condition.

During the previous operating cycle, when either the 1A or 1B EDG was inoperable there was always one of these EDGs that would remain operable and capable of performing its safety function on Unit 1. Additionally, based on the discussion in the previous paragraph, if a design basis LOCA had occurred on Unit 2 along with an LOSP on both units when the 1A EDG was inoperable, there would be no loss of safety function on Unit 2. In the event that the swing 1B EDG was inoperable with the same conditions present the Unit 2 'A' RHR LPCI load center would continue to have its emergency power source operable which also assures there is no loss of safety function on Unit 2. Based on the nature of the direct cause for the 1C EDG output breaker failing to close, Operations procedures provide the needed direction to allow closure of the 1C EDG output breaker in a matter of 1 to 2 hours thereby providing additional margin in the event of a design basis accident (DBA) LOSP/LOCA condition for either unit.

Based on the fact that the safety function is retained with one EDG on Unit 1 and considering the impact this would have on Unit 2 should the events described actually occur during the previous operating cycle, there was always one Unit 1 EDG operable and adequate low pressure pumps operable on Unit 2 such that this event would not result in a loss of function on either unit. This being the case the event was determined to be of low safety significance.

CORRECTIVE ACTIONS

The 1G 4kV bus alternate supply breaker was replaced by a different breaker and testing of the circuit that had previously contained the apparent latent manufacturing/assembly quality issue was performed to confirm the 1C EDG output breaker "close" permissive functioned as required. Eleven 4kV breakers on the Unit 1 emergency 4kV switchgear, twelve 4kV breakers on the Unit 2 emergency switchgear and seven spare breakers (not installed) have been inspected. This inspection confirmed that the manufacturing/assembly quality issue was not present on these breakers, which continues to support the conclusion that the "as found" condition of the auxiliary switch was an isolated condition. Current plans are to inspect the remaining safety related Unit 1 and 2 breakers in upcoming system outages or refueling outages depending on the ability to remove the breaker from service based on the impact it would have and on the operating Mode of the units. A search of industry operating experience and contact with the vendor revealed no similar conditions or failures in the industry. Based on the initial observations and the subsequent root cause evaluation, this condition continues to be considered to be unique to the subject breaker failure to function.

Additional corrective actions that have been identified and are being tracked by the plant's corrective action program that include:

- Reviewing OEM manufacturing procedures / dedication plan to ensure that each wire termination associated with manufactured vacuum breakers are electrically isolated
- Revising plant procedure to ensure ¼ inch length terminal screws are used and that QC hold points are established to ensure air gaps exist and wires formed properly

ADDITIONAL INFORMATION

Other Systems Affected: None

Failed Components Information:
Master Parts List Number: 1R22-S007
Manufacturer: Westinghouse
EIIS System Code: EK
Reportable to EPIX: Yes

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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Model Number: 50DHP-VR-250U
Type: Vacuum Breaker
Manufacturer Code: W120

Root Cause Code: B
EIIS Component Code: BKR

Commitment Information: This report does not create any new permanent licensing commitments.

Previous Similar Events: None