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VICE PRESIDENT AND GROUP EXECUTIVE
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January 28, 1981

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Virgil C. Summer Nuclear Station
Docket No. 50/395
Electrical Separation Audit

Dear Mr. Denton:

In response to verbal questions raised by the Staff regarding the electrical separation audit report submitted on 1/6/81, we offer the following clarification:

The audit was performed by individuals who had not previously been involved with the design or construction of V. C. Summer Nuclear Station to ensure the independence of the audit. For this reason SCE&G engineering was not intimately involved with the audit.

The audit report has been reviewed by SCE&G. The majority of the discrepancies reported that are described as having documentation prior to the audit are the result of construction decisions based on work schedule. For example, SCE&G construction elected to complete cable installation before installing barriers and tray covers that would interfere with cable installation. These discrepancies were documented and tracked by the SCE&G/QC department.

The majority of the marking discrepancies fell into the category of no color coding on the equipment to which the cable was terminated. The reason for this is the low priority placed on color coding the equipment by construction. This item of work is ongoing and will be completed prior to fuel load.

The discrepancies that were covered by WCAP-8892-A have been reviewed with Westinghouse and are acceptable. A report on this item was submitted by letter to Mr. O'Reilly dated 1/16/81.

A total of 564 circuits and pieces of equipment were field audited, and a total of 347 discrepancies were discovered. An item was listed as a discrepancy before any review was made to see if there was documentation to cover it.

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The discrepancies were broken down into the following four categories:

A. Separation problems	-	99
B. Wrong circuit or equipment ID or color code	-	11
C. No ID on equipment or circuit end	-	47
D. No color code on equipment or circuit end	-	190
TOTAL		347

Following is a breakdown of the separation problems in item A:

<u>Quantity</u>	<u>Explanation</u>
13	Items identified as needing a barrier were identified on NCN-923 as barrier to be installed later.
18	Items identified as needing a barrier and listed in the audit report is not being documented. These items involved a conduit above a stack of trays, and were documented between the conduit and the nearest tray. The cable that was audited was in a lower tray and therefore was thought not to be documented.
9	Items identified as needing a barrier in the main control board (MCB) were identified on NCN-731.
24	Items identified not meeting separation requirements inside cabinets are justified by Westinghouse WCAP-8892A.
19	Items identified as requiring separation but were installed per the separation criteria and are acceptable. For instance separation is not required between associated and non-safety instrument cables.
4	Items identified as requiring barriers but the drawings call for tray covers to be installed which will meet the requirements.
2	Items identified as requiring barriers but there are barriers called for on the drawings to be installed later.
3	Items identified as discrepancies were previously documented on SFR-3180, NCN-1005 and DN-5710.
1	Item identified as a discrepancy was approved and installed per FCR-A-241.
1	Item identified as a discrepancy had been wrapped with a barrier material in accordance with the criteria and should not have been listed.

<u>Quantity</u>	<u>Explanation</u>
1	Item identified as a discrepancy was documented as a turnover exception.
1	Item was listed twice as a discrepancy.
3	Items were identified as discrepancies and had no documentation. Two of these items were conduit that had been bent possibly by someone stepping on it and one involved a flex conduit that had been pushed against a solenoid of the opposite train.

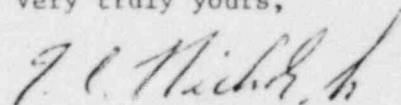
This leaves a total of 3 discrepancies described in the last item above, that were not documented as opposed to the 28 reported in the audit report. The undocumented discrepancies do not indicate a breakdown of the QA program, but are items that most likely occurred after the inspection was complete. The separation discrepancies were not considered significant violations of the separation criteria, because they involved spatial separation between conduits. The conduits provide a double metallic barrier between the circuits.

Of the 11 items in category B, 4 were found to lack color coding and should be in category D, 4 were found to be correct (could have been corrected since the audit), 1 was previously documented and 2 were associated circuits which are not verified for termination by QC. Categories C and D can be grouped together. Most of these fall in the category of work not yet completed as explained previously. Cable ends that were not marked were those in which the cable was tagged when pulled, but the tag was not replaced when the end was cut for terminating. Also in many cases a color coded tag was not used because the cable itself was color coded every 5 feet and this was clearly visible. Other cases involved small instruments in which there was no room to place the tag, and the conduit was tagged with the cable number.

We do not consider the tagging discrepancies as significant, because as pointed out in the audit report, none resulted in an errant pull of the cable. Also there are backup means of identifying the equipment and circuits, such as sequential numbering of the cable every 2 feet, color coding of the cable every 5 feet, marking the conduit with the circuit number (multiple circuit conduits receive a special number, but the circuits can be obtained from computerized listings) and color code and location drawings.

Based on this review, SCE&G concurs with the conclusion of the audit that the separation criteria are being met in the construction of V. C. Summer Nuclear Station and no further auditing is required.

Very truly yours,


T. C. Nichols, Jr.

JAW:TCN:glb

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