MAR 0 2 1984

Docket No. 99900283/83-02

BIW Cable Systems, Inc.
ATTN: Mr. E. Manchester
President
65 Bay Street
Boston, MA 02125

Gentlemen:

Thank you for your letter of January 13, 1984, in response to our letter dated December 16, 1983. As a result of our review, we find that your response did not include the corrective action you plan to implement to substantiate the conclusions you had reached in your qualification reports B915A and B913. Further, your response does not include your course of action regarding any other BIW qualification reports which might have the same deficiencies.

In response to your request as discussed with your Mr. R. Oppenheim during a telephone call on February 7, 1984, the following examples illustrate the lack of sufficient auditable supporting data for the BIW qualification reports which we reviewed during the subject 83-02 inspection.

Your qualification report B915A did not include sufficient data to support that qualification of the identified cable had been satisfactorily accomplished. An example is your failure to describe test results for all of the 10136-H-002 cables tested as part of the LOCA simulation described by Figure 7 of B915A. Specifically, supporting data files indicated that at least two 10136-H-002 cables were included on the LOCA simulation. Both cables were air oven aged for 60 days at 155°C and irradiated to 200 Mrd prior to the LOCA steam/chemical spray simulation. One cable performed satisfactorily for 161 days; test results for this cable are summarized in Figure 7 of B915A. The second cable experienced electrical degradation starting on day 111 and was removed from the test program on day 132 because of dielectric failure. This cable failure is not mentioned as part of report B915A nor are there file notes or anomaly reports describing why the test failure should not impact qualification status.

RIV		
EQS	SC:EQS	BC:VPB
LBParker/rc	HSPhillips	UPotapovs
2/ /84	2/ /84	3/ /84

C99

In the absence of a test plan, your qualification strategy at the start of testing is unclear. Therefore, test results must be technically judged based on whether the test report and data files audited include those elements normally provided by a test plan. IEEE 323-1974, Section 6.3.1.1 indicates that the test plan should contain the number (quantity) of units to be tested and the performance limits or failure definition. It also requires the test plan to provide mounting and connection requirements, environmental, operating, and measurement sequence in step-by-step detail, and test equipment requirements including accuracies. These data were neither included in your report B915A nor the supporting files. The test plan should describe test strategy, acceptance criteria, and test data required to support qualification. Since a test plan does not exist, it is unclear as to how qualification can be established.

Specifically, your report B915A, Figure 7, never mentions that more than one specimen was tested. The electrical failure of the other specimen is not satisfactorily reconciled in the test file. Moreover, neither the report nor the test file describe the failure definition when more than one specimen is tested and degradation observed. Auditable supporting data (chart records, etc.) for the environmental exposures were not available. Also unavailable were test equipment lists and accuracies, and mounting and connection descriptions. To summarize, the data was insufficient to support that qualification had been satisfactorily accomplished.

Your report B913 describes two LOCA simulations. One test was performed at Franklin Institute Research Laboratories and is further described by Franklin Report F-C3859-1 and states that the units tested were aged 168 hours at 121°C. The second simulation is summarized on page 10 of your report B913 and is referred to as test No. 76J049 and states that the units tested were aged 168 hours at 150°C. Thus these two simulations employed different aging conditions relative to the same insulating material. Please furnish the activation energy and service temperature to justify that the tests performed on the cables represent a 40-year service life.

Please provide the additional information within 25 days of the date of this letter.

Sincerely,

Original Signed By:
Uldis Potapovs

Uldis Potapovs, Chief
Vendor Program Branch

bcc:
JGPartlow, IE
LBParker
DMB-IE:09