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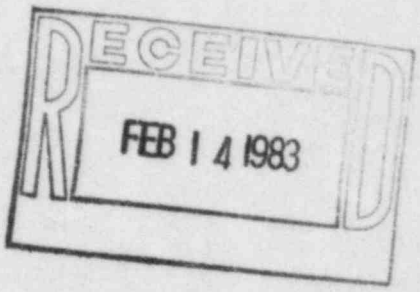
Department of Engineering Mechanics
February 10, 1983



Mr. Uldis Potapovs
Chief Vendor Program Branch
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

Reference: Your letter of 11/26/82, Docket No. 99900909/82-03
Inspection of SwRI Data Logs by Al Smith, 11/29/82, Docket No. 99900909/82-04
My telecon with S. Phillips of 12/6/82
Our meeting with NRC Region IV Officials at SwRI 1/18/83, Docket No. 99900909.

Dear Sir:

This letter is in response to your above referenced letter of November 26, 1982. Attached to this letter is Report No. 99900909/82-03 in which it is indicated in Section B.3. that "SwRI documented test failures for the five Pyco temperature elements and one NAMCO limit switch that were outside the acceptable performance limits." Attached is a copy of the SwRI Laboratory Data Log for this project indicating the results which were recorded with regard to the Pyco temperature elements. At no time did SwRI document that these elements were "test failures" although we did document on 10/5/82 that the elements did not meet tolerance limits for the measurements made on that day. Subsequent testing (see Laboratory Data Log 10/15/82) indicated that this was a result of our test setup and not the performance of the temperature elements. Measurements on that date with a better test setup indicated that the temperature elements were well within tolerances. This matter was discussed in our above referenced telecons and meetings and a subsequent inspection of the data logs as given in Section D.2.a. of your report No. 99900909/82-04 (letter referenced above) confirmed that the temperature elements were within tolerance limits.

We respectfully submit that the statement "SwRI documented test failures for the five Pyco temperature elements" as appears in your report 99900909/82-03 was incorrect. SwRI never documented any test failures nor do we as common practice ever document any test item failures until all of the test data have been obtained, a final report has been written, and the data and final report have been reviewed by the Project Manager, the Group Leader for nuclear testing, an independent engineering reviewer who affixes his professional seal to the report, and the Division of Engineering and Materials Sciences Vice President. Specifically, whether a test item has failed is not a judgment

that we leave up to the technician obtaining the data alone. It is only after these data have been reviewed by our professional engineering staff that such a judgment would be made and officially documented by SwRI. Typically when a test item appears to have failed because at some point in testing it does not meet tolerance limits, as in this particular case, it is our practice to review our equipment and measurement techniques to substantiate that the test results are valid. As in this case this may require an alternate test setup that takes days or possibly weeks to arrange.

The above comments which apply to the five Pyco temperature elements, apply to the one NAMCO limit switch. The pertinent Southwest Research Institute Laboratory Data Log page is appended. The statement "SwRI documented test failures..." for this NAMCO limit switch is also incorrect. Subsequent testing of the NAMCO limit switch indicated that readings were obtained out of tolerance because insufficient current was being applied across the contacts during the measurement. Subsequent testing showed the NAMCO limit switch was within tolerance when the appropriate current value was used. This fact was substantiated by NRC inspections (see Section D.2.b. report No. 99900909/82-04).

As we discussed in our above meeting of 1/18/83, we feel an appropriate revision of wording in your report 99900909/82-03 eliminating the wording "SwRI documented test failure" is in order. Also the wording "The above test failures were documented on SwRI Log Sheets..." should be revised. Barring actual revision or elimination of this wording, a notation in the report indicating these statements are incorrect would be adequate in our view.

Please let me know if there are any questions with regard to this matter. We hope you can appreciate the fact that this matter is of no small consequence to our sponsor and to the industry since it is not in anyone's best interest to give the impression that test failures are occurring when, in fact, they are not. We hope in the future problems of this type will be eliminated by more thorough discussion at exit interviews.

Sincerely yours,

Roger L. Bessey
Group Leader

RLB:dr
Encl.

cc: D. D. Kana
H. N. Abramson
B. E. Mabrito

APPROVED:

for H. Norman Abramson, Vice President
Engineering and Materials Sciences

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LABORATORY DATA LOG

Nutech Grand Gulf 1 & Clinton 1

TEST ITEM IDENT. A-1 Pyco Temp. Element PAGE ___ OF ___

TEST PROCEDURE REF. SwRI Test Plan 02-7124

TEST NAME PROJECT NO. 02-7124-001

DATE	TIME	OBSERVATIONS
9-20-82	10:30 to 17:30	Set-up to run functional check on Pyco Temp. Element *A-1 as follows: Using Despatch oven model LDB 2-27 SN# 124729 as heat source for 100 to 350°F readings. Leads from thermocouple A-1 in reference ice bath at 32°F and mV readings (output) monitored on an H.P. 3466A SN# 1716A-01910. Take readings at 100, 150, & 200°F.
9-21-82	8:30 to 11:00	Finished Baseline functionals on A-1 at 250, 300 & 350°F All readings were within tolerances. All reading are recording on the next page.
9-21-82	14:00	Took item A-1 to Rad. Lab for irradiation.
10-4-82	11:20	Pick-up item A-1 from RAD. LAB.
10-5-82	8:00 to 15:30	Performed functional check on pyco temp. Element A-1 after irradiation. Used same test equipment as BASELINE run on 9-20-82. Results are recorded on data sheet, Element did not meet tolerances at 300 & 350°F as set by Nutech. Tests witnessed by NRC representative.
10-15-82	14:00 to 16:00	Re-performed functional on pyco temp. Element A-1 because of errors in test set-up which may have caused Item to not meet specs. Used a NESLAB exacal High temp. oil bath model EX-250HT SN# 81-C6873-1 for Temp. medium. Used Brooklyn Thermometer company Thermometers, ASTM Thermometer to monitor temp. An H.P. 3466A DVM SN# 1716A-01910 used to monitor the voltage. Results on sheet for Post Radiation functional check A. Test Item PASSED, was within specs.

Tests Conducted By: S. K. Wilson Witness SwRI Gov't

DESIGNATED ORIGINAL

Certified By: Roxanne Clark

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LABORATORY DATA LOG

Nutech - Grand Gulf 2 and Clinton 2

TEST ITEM IDENT. A-6 PYCO Temp. Element PAGE ___ OF ___

TEST PROCEDURE REF. SwRI Test Plan 02-7124

TEST NAME PROJECT NO. 02-7124-001

DATE	TIME	OBSERVATIONS
9-20-82	10:30 to 17:30	Set-up to run Baseline functionals on Pyco A-6 using Dispatch oven model LDB 2-27 SN# 124729 as heat source for 100-350°F. Leads from A-6 in reference ice bath at +32°F. Output monitored on H.P. 3466A SN# 1716A-01910. Readings taken at 100, 150 & 200°F.
9-21-82	8:30 to 11:00	Completed functional checks on A-6 at 250, 300 & 350°F All readings are within tolerances and are recorded on the next page.
9-21-82	14:00	Took item A-6 to Rad. LAB for irradiation.
10-4-82	11:20	Pick-up item A-6 from RAD. LAB.
10-5-82	8:00 to 15:30	Performed functional check on Pyco temp. Element A-6 after irradiation. Used same equipment as on Baseline on 9-20-82. The results are recorded on separate data sheet. Element A-6 did not meet tolerances at 260, 300 & 350°F as specified by Nutech. NRC representative witnessed functional checks.
10-15-82	14:00 to 16:00	Re-performed function check on A-6 because of error in test set-up which caused items to be out of spec. Used a NESLAB exCal High temp. oil bath model EX-250 HT SN# 81-C6873-1 for Temp medium. Used Brooklyn Thermometer company Thermometers, ASTM standard to monitor temp. Used an H.P. 3466A DVM SN# 1716A-01910 to read mV. Results on sheet for Post Radiation functional check A. Test Item A-6 was within specs.

Tests Conducted By: S.K. Wilson Witness SwRI Gov't

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LABORATORY DATA LOG

Nutech Grand Gulf 3 and Clinton 3

TEST ITEM IDENT. A-7 Pyco temp Element PAGE ___ OF ___

TEST PROCEDURE REF. SwRI Test Plan 02-7124

TEST NAME PROJECT NO. 02-7124-001

DATE	TIME	OBSERVATIONS
9-20-82	10:30 to 17:30	Run Baseline Functional on A-7 using Despatch oven model LDB 2-27 sn# 124729 as heat source for 100 to 350°F. Leads from A-7 are in an ice reference bath at +32°F. Voltage output monitored on an H.P. 3466A sn# 1716A-0191[illegible] Readings taken at 100, 150 & 200°F.
9-21-82	8:30 to 11:00	Completed Baseline functional on A-7, readings taken at 250, 300 & 350°F. All reading were within tolerances and are recorded on the next page.
9-21-82	14:00	Took item A-7 to Rad. Lab for irradiation.
10-4-82	11:20	Pick-up item A-7 from Rad. LAB.
10-5-82	8:00 to 15:30	Performed functional check on Pyco temp. Element A-7 after irradiation. Used same equipment as Baseline on 9-20-82. Results recorded on separate data sheet, Element A-6 did not stay within tolerances at 250, 300 & 350°F as specified by Nutech. NRC representative witnessed the tests.
10-15-82	14DOC to 16:00	Re-performed functional check on A-7 because of error in test set-up which caused out of spec. readings. Used a NESLAB excal high temp oil bath model EX-250HT sn# 81-C687 3-1 for Temp. Medium. Used Brooklyn Thermometer company Thermometers, ASTM standard to monitor Temp. Used An H.P. 3466A DVM sn# 1716A-01910 to take mV readings. Results shown on Post Radiation functional check A. Test Item A-7 was within specs.

Tests Conducted By: S.R. Wilson Witness SwRI Gov't

SOUTHWEST RESEARCH INSTITUTE

LABORATORY DATA LOG

Nutech Grand Gulf 2 and Clinton 2

TEST ITEM IDENT. A-8 Pyco temp. Element PAGE ___ OF ___

TEST PROCEDURE REF. SwRI Test Plan 02-7124

TEST NAME PROJECT NO. 02-7124-001

DATE	TIME	OBSERVATIONS
9-20-82	10:30 to 17:30	Set-up to run Baseline functionals on Pyco A-8 using Despatch oven model LDB2-27 sn# 124729 as the heat source for 100 to 350°F. Leads from A-8 in reference ice bath at +32°F. Output volts were monitored on H.P. 3466A sn# 1716A-01910. Readings taken at 100, 150 & 200°F.
9-21-82	8:30 to 11:00	Completed functional checks on A-8 at 250, 300 & 350°F, all readings were within tolerance and shown on next page.
9-21-82	14:00	Took item A-8 to Rad. Labs for irradiation.
10-4-82	11:20	Pick-up item A-8 from RAD. LABS.
10-5-82	8:00 to 15:30	Performed functional check on Pyco temp. Element A-8 after irradiation. Used same equipment as on Baseline on 9-20-82. Results are recorded on separate data sheet. Element A-8 did not meet tolerances at 250, 300 & 350°F as specified by nutech. NRC representative witnessed the tests.
10-15-82	14:00 to 16:00	Re-performed functional check on A-8 because of errors in test set-up which caused out of spec. readings. Used a NESLAB excal high temp. oil bath model EX-250HT sn# 81-C6873-1 for Temp. Medium. Used Brooklyn Thermometer company Thermometers, ASTM standards to monitor Temp. Used an H.P. 3466A DVM sn# 1716A-01910 to read mV. Results on sheet for Post Radiation functional check A. Test item A-8 was within specs.

Tests Conducted By: S. R. Wilson Witness SwRI Gov't

SOUTHWEST RESEARCH INSTITUTE

LABORATORY DATA LOG

Nutech Graded Gulf 3 and Clinton 3

TEST ITEM IDENT. A-9 Ryco temp. Element PAGE ___ OF ___

TEST PROCEDURE REF. SwRI Test Plan 02-7124

TEST NAME PROJECT NO. 02-7124-001

DATE	TIME	OBSERVATIONS
9-20-82	10:30 to 17:30	Set-up to run Baseline functionals on Ryco A-9 using Despatch oven model LOB-2-27 sn# 124729 as heat source for 100 to 350°F. Leads from A-9 in reference ice bath at +32°F. Output voltage was monitored useing an H.P. 3466A sn# 1716A-01910. Readings taken at 100, 150 & 200°F.
9-21-82	8:30 to 11:00	Completed functional checks on A-9 at 250, 300, 350°F, all readings were within tolerance and are shown on next page.
9-21-82	14:00	Took item A-9 to Rad Labs for irradiation.
10-4-82	11:20	Pick-up item A-9 from Rad. Lab.
10-5-82	8:00 to 15:30	Performed functional check on Ryco temp. Element A-9 after irradiation. Used same equipment as Baseline on 9-20-82. Results are recorded on separate data sheet. Element A-9 did not meet tolerances at 250, 300 & 350°F as specified by Nutech. NRC representative witnessed the tests. Thermocouple A&B were O.K. at 250°F, C&D were out of spec.
10-15-82	14:00 to 16:00	Re-performed functional check on A-9 because of Test set-up error which caused out of spec. readings. Used a Neslab excal high temp. oil bath model EX250HT sn# 81-C6873-1 for Temp. Medium. Used brooklyn Thermometer, ASTM standard to monitor temp. & H.P. 3466A DVM sn# 1716A-01910 for mV readings. Results on sheet for Post Rad. funct. check A. Item A-9 in spec.

Tests Conducted By: S.K. Wilson Witness SwRI Gov't

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LABORATORY DATA LOG

Nutech Grand Gulf 1 and Clinton 1

TEST ITEM IDENT. B-1 & B-1A Namco limit switch and PAGE ____ OF ____.

TEST PROCEDURE REF. Actuator Arm.

TEST NAME PROJECT NO. 02-7124-001

DATE	TIME	OBSERVATIONS
9-17-82	10:55	Perform continuity check on Namco limit switch. Switch has four sets of contacts labeled A&B, C&D, E&F, G&H A&B and E&F are N.C. while C&D and G&H are N.O. contacts. Will use H.P. 3466A DVM SN# 1716A-01910 To check continuity. Operate switch to demonstrate that contacts change state. All sets changed states when switch was actuated. Resistance measured on all contacts (when conducting) was ~.0021 to 000.
9-21-82	14:00	Took item B-1 w B-1A attached to Rad. lab for irradiation.
10-4-82	11:20	Pick-up item B-1 with B-1A attached from RAD. LAB.
10-6-82	8:25	Performed continuity check on contacts of B-1 w/B-1A attached. N.C. A,B & EF were N.C.. N.O. contacts CD & GH were N.O.. Resistence of contacts AB & EF when closed was 0.0018 Ω or less. Resistence of C,D when closed was 0.013 Ω. On contacts GH they would operate intermittently, when they did close resistance was from ~18 Ω to ~1.8 Ω. All readings taken with an H.P. 3466A DVM noted above, on 20 Ω scale.
10-13-82	11:00	Put B1 & B-1A into Despatch oven LDB-2-27 SN# 124729 at +150°C for Aging. Temp. monitored on chart recorder.
10-20-82	8:00	Turn oven off and allow to cool to Ambient before running functional check on item B1 & B1A.
	9:05	Upon removing B-1 & B-1A from oven it was observed that a substance that looks like oil was leaking from the bottom seal.

Tests Conducted By: S.R. Wilson Witness SwRI Gov't

Timothy A. Fay

MP&L Brian J. Heistman

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