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April 16, 1982

Mr. Ronald C. Haynes, Regional Administrator
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Subject: I & E Inspection Report 82-03
Notice of Violations
Measuring and Test Equipment Control
R. E. Ginna Nuclear Power Plant, Unit No. 1
Docket No. 50-244

Dear Mr. Haynes:

In accordance with the above subject which stated:

During the inspection conducted on January 1, 1982 through February 28, 1982, and in accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), the following violations were identified.

- A. 10 CFR 50.55a(q)(4) requires, in part, that components which are classified as ASME Code Class 1, 2, or 3 meet the requirements set forth in Section XI of the ASME Boiler and Pressure Vessel Code and Addenda.

Ginna Station Quality Assurance Manual, Appendix C, dated February 1, 1981, paragraphs 2.1 through 3.2, state that the Inservice Pump Testing Program was developed in accordance with the requirements of Article IWP of the 1977 Edition of Section XI of the ASME Boiler and Pressure Vessel Code through the Summer 1978 Addenda, and further, lists the pumps which are tested in accordance with Article IWP of Section XI.

Article IWP-6230 requires that the inservice test program include a reference value, alert limit and required action limit for individual pump bearing temperatures.

Contrary to the above, as of January 7, 1982, the Inservice Pump Test Program did not include a reference value, alert

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limit, or required action limit for bearing temperatures associated with ASME Class 2 or 3 pumps listed in paragraph 3.2 of the Ginna Station Quality Assurance Manual, Appendix C.

- B. 10 CFR 50, Appendix B, Criterion XII, states, "Measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits."

Periodic Test (PT)-31, Safeguard Pump Bearing Temperature Check, Revision 3(4), October 20, 1980 (May 15, 1981), step 4.3, requires that the meter used for bearing temperature measurement be checked for accuracy over the temperature range of interest at intervals not to exceed 18 months.

Contrary to the above, the following instances of failure to properly calibrate measuring and test equipment were noted.

-- The pyrometer used on March 2 and 4, 1981 to measure the bearing temperatures associated with the three safety injection pumps was calibrated over the limited temperature range of 75-120F, where the indicated bearing temperatures ranged from 55-157F.

-- Calibration records were not available for the digital thermometer used on January 18, 1982 to measure the outboard bearing temperatures associated with the two containment spray pumps.

- C. 10 CFR 50, Appendix B, Criterion XII, states, "Measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits."

Ginna Station Quality Assurance Manual, Section XII, Control of Measuring and Test Equipment, Revision 4, June 15, 1980, paragraph 3.4, requires that the calibration frequency for measuring and test equipment be adjusted when instrument history indicates the need.

Contrary to the above, as of January 18, 1982, the

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calibration frequency for two neutron survey instruments had not been reduced, although data from the past three annual calibrations indicated the need for substantial adjustments prior to returning the meters to service.

the following is submitted in response.

In response to Item A:

Although the Ginna Station procedure for performing the bearing temperature requirement (PT-31) does not have specified limits for Alert Range and Required Action Range, there is a limit of 160°F which would require termination of the test. Since this is an ISI requirement, terminating the test would automatically put us into an action statement requiring corrective action.

Table IWP-3100-2 does not tabulate specific criteria, however it does identify a foot note for each column of the table which states "T_b, shall be within the limits specified by the Owner in the pump record." This was interpreted similarly to the quantity for inlet pressure (P_i), which can vary depending on plant status or pressure source, since bearing temperatures can vary with the cooling medium (service water), ambient conditions and type of measuring instrument used.

Extensive efforts have been expended since 1976 to meet the intent of this requirement, including three different generations of test equipment, communications with other plants, communications with pump vendors and revised procedures to improve our methods. All of this effort was made even though the general feeling is that this is not a useful measurement. A bearing temperature problem would most likely occur at a rapid rate, which would not be detected by changes measured at one year intervals. The consensus of opinion from various plants which responded to our inquiry regarding this specific item was that bearing vibration measurements are a much more reliable indicator of bearing problems.

Vendor manuals were also reviewed as a result of this finding and the only mention of temperature relative to bearings was for bearing lube oil limits. One vendor (Worthington) recommended maintaining lube oil temperature between 100°F and 150°F, preferably above 120°F. Another vendor, (Ingersoll Rand) specified lube oil to be maintained between 80°F and 165°F.

Based on all of this information it is our intention to

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continue using 160°F as our limit before corrective action will be taken. Our procedure data sheet will be changed to add a required action statement that if stabilized temperatures can not be attained in accordance with IWP requirements, less than or equal to 160°F, corrective action will be taken. This statement is intended to address the "Acceptable Range", "Alert Range" and "Required Action Range" shown in the IWP Table 3100-2. Reference values will not be listed.

In response to Item B:

Since the start of the ISI Pump and Valve Program there have been numerous problems relative to obtaining and maintaining qualified instruments for the bearing temperature requirement. We are presently on our third generation of instruments for performing this annual check due to concerns about accuracy, repeatability and methods of calibration.

As a result of the most recent findings, including the ones addressed in this inspection report, we have obtained an Omega portable thermometer with thermistor probes. This method should eliminate many past problems encountered with previous instruments which were used.

To correct the problems with calibration, a new procedure will be developed for the instrument with an attached data sheet which specifies the range of interest. The instrument will be sent to an off-site RG&E standards lab for calibration.

Since calibration records could not be provided for the instrument used to test the two Containment Spray Pumps on January 18, 1982, the test will be re-performed using the new Omega thermometer which has been calibrated in the range of interest. This will be performed prior to plant start up.

In response to Item C:

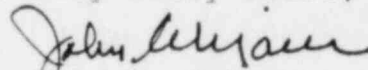
As stated in the finding the two neutron survey instruments in question were found to be significantly out of calibration on three consecutive calibrations. Although there is some question as to whether some of these calibrations were "routine" or performed following instrument maintenance, the current records cannot prove this. These instruments have been sent out to the NBS for calibration so they will be recalibrated prior to being used again this year. We will reduce the calibration frequency to six months for a minimum of two calibrations to determine if problems

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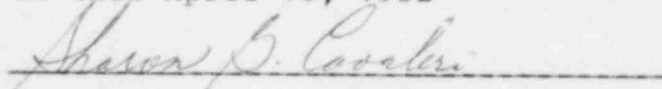
are developing with these instruments. To preclude recurrence of this item, the following changes have been submitted to procedure HP-7.6. "Tagging of Instruments Requiring Calibration or Maintenance".

1. Acceptance criteria have included which either meet or are more conservative than ANSI N323 Radiation Protection Instrumentation Test and Calibration for both log and linear scale survey instruments.
2. A new form has been created which when used properly will give much more information on the history of why and when instrument maintenance and calibrations have been performed.
3. A step has been added to direct the technician to notify a health physicist if an instrument is found outside of the acceptance criteria on two consecutive routine calibrations. The health physicist must then evaluate whether an increase calibration frequency should be established for the instrument in question.
4. The procedure title has also been changed to "Survey Instrument Calibration and Maintenance Records".

Very Truly Yours,


John E. Maier

Subscribed and sworn to me
on this April 16, 1982



SHARON G. CAVALERI
NOTARY PUBLIC, State of N. Y., Monroe County
My Commission Expires March 30, 1983