



WORCESTER
POLYTECHNIC
INSTITUTE

Nuclear Reactor Facility
100 Institute Road
Worcester, MA 01609-2280
(508) 831-5276
(508) 831-5236
FAX (508) 831-5680

December 13, 1990

Mr. Thomas F. Dragoun
Division of Radiation Safety and Safeguards
USNRC, Region I
475 Allendale Road
King of Prussia, PA 19401

RE: License No. R-61
Docket No. 50-134

Dear Mr. Dragoun:

Per our telephone conversation on December 12, 1990, I am submitting the documents which relate to the letter and report from this facility dated December 11, 1990.

As related to items B)1 and B)4 of the report, I am submitting newly implemented Standing Order 1. For item B)3, newly implemented Standing Order 2 is submitted and for item C)1, documentation of additional training is submitted.

Per the above mentioned telephone conversation we understand pending acknowledgement for receipt of this information, NRC authorization to resume operation is given.

Please contact me should you require further information. Thank you again for your assistance and prompt attention to this matter.

Sincerely,

Leo M. Bobek,
Director

cc: Mr. T.S. Micheals, PDNP
Document Control Desk

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PDR ADOCK 05000134
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AD001

Date 12 Dec. 90

STANDING ORDER 1

G.E. LOG-N/PERIOD AMPLIFIER ROUTINE
AND UNSCHEDULED MAINTENANCE

I. Routine Maintenance

- 1) A calibration of the G.E. Log-N/Period Amplifier shall be performed in accordance with the "Calibration of Log N Instrument" procedure on a semi-annual basis.
- 2) The "Log N Calibration Data" sheet shall be completed and forwarded to the Facility Director for review and submittal to the RHSC at the next scheduled meeting.

II. Unscheduled Maintenance

- 1) Any unscheduled maintenance performed on the G.E. Log-N/Period Amplifier shall be followed by a calibration as described in the above part I.
- 2) Replacement vacuum tubes shall be functionally tested on a vacuum tube tester prior to installation.
- 3) If the amplifier is de-energized for any maintenance a minimum 1 hour "warmup" period will be provided before calibration is performed and reactor start-up permitted.
- 4) This unscheduled maintenance shall be documented in the Console Maintenance Records book and forwarded to the Facility Director for review and submittal to the RHSC at the next scheduled meeting.

Approved: 
Facility Dir.

Date 12 Dec 90

STANDING ORDER 2

VERIFICATION OF PERIOD METER PERFORMANCE

- 1). The performance of the G.E. Log-N/Period Amplifier period meter shall be verified by the console operator during power ascension for each day's critical operation.
- 2). Verification shall be made in accordance with the following procedure:
 1. Establish stable positive period between 50 and 100 seconds. (Reg Blade Stationary)
 2. Starting at a power level less than 50 watts perform a period verification using the following procedure:
 - A. Select either linear power meter.
 - B. Without upscaling power meter multiplier, select two power levels with the second being exactly twice the value of the first ex. 10% and 20%
 - C. Record the time it takes for the power to change from level 1 to level 2.
 - D. Obtain the range of the period from Table 1. and or Figure 1.
 - E. Check to see that meter period is within the limits as shown in Table 1 and on Figure 1.
 - F. Record doubling time, indicated period, upper and lower limit, and reg blade height.
 - G. If indicated period does not fall within calculated limits IMMEDIATELY SHUTDOWN THE REACTOR AND INFORM THE SRO.

Approved: 
Facility Dir.

SUPPLEMENTAL OPERATOR TRAINING

DATE 12 DEC 90

PERFORMED BY L. BURK

I. Review of Event

1. Event Chronology
2. Event Analysis
3. Remedial Actions Taken

II. Description of Standing Orders

1. S.O.#1, Log-N/Period Amplifier Maintenance
2. S.O.#2, Verification of Period Meter Performance

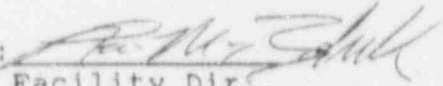
III. WPI Reactor Kinetics

1. Regulating Blade Integral Reactivity Worth From Critical
2. Maximum Reactivity Addition Rate
3. Period Versus Reactivity Addition
4. Equations Relating Period and Reactivity

IV. Discussion, Questions and Answers

ATTENDANCE:

	NAME	RO/SRO	INITIALS
1)	<u>KRAMER, JAMES</u>	<u>u IC</u>	<u>JH</u>
2)	<u>GOVERTSEN, KRISTINE</u>	<u>RO</u>	<u>KG</u>
3)	<u>Rushy, ALTON</u>	<u>RO</u>	<u>AR</u>
4)	<u>JOHN A. MAYRA JR</u>	<u>SRO</u>	<u>JM</u>
5)	<u>Janus, Michael</u>	<u>RO</u>	<u>MT</u>
6)	<u> </u>	<u> </u>	<u> </u>

REVIEWED BY: 

Facility Dir: