VERMONT YANKEE NUCLEAR POWER CORPORATION

P. O. BOX 157 GOVERNOR HUNT ROAD VERNON, VERMONT 05354

> December 12, 1990 VYV #90-391

U.S. Nuclear Regulatory Commission Document Control Desk Washington, D.C. 20555

REFERENCE: Operating License DPR-28 Docket No. 50-271 Reportable Occurrence No. LER 90-17

Dear Sirs:

As defined by 10 CFR 50.73, we are reporting the attached Reportable Occurrence as LER 90-17.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

TEDD

Donald A. Reid

Plant Manager

cc: Regional Administrator USNRC Region I 475 Allendale Road King of Prussia, PA 19406

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All members of the department involved in surveillance procedures will receive training in the techniques of attention to detail.

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VERMONT VANKEE NUCLEAR ROWER STATION	al state of at a	1711	010		n i	11	7		010	o	2 05	o

DESCRIPTION OF EVENT

On October 16, 1990 at 1156 and 1254 hours with the reactor at approximately 20% power while raising power after a 6 week refueling outage the Average Power Range Monitors (APRMs) were inadvertently calibrated lower than required by the Technical Specifications. Above 1% Core Thermal Power (CTP) it is required that the ratio of Core Maximum Fraction of Limiting Power Density (CMFLPD) to Fraction of Rated Power (FRP) referred to as (MOPRAT) be less than 1.0. This ensures that CMFLPD remains below 1.0 should power inadvertently reach 100% (FRP=1.0). Maintaining CMFLPD less than 1.0 ensures the fuel cladding incurs less than 1% plastic strain during operational transients and prevents the clad from failing.

Procedure OP 4400 provides instructions for APRM gain adjustment. The value of MOPRAT was taken from the last core parameters computer (3D Monicore Monitor) case. MOPRAT is inverted to a Gain Adjustment Factor (GAF) which is used to raise the APRM reading above the actual CTP. The table below provides the details of both events.

Date/Time	HEAT BALANCE % CTP	MOPRAT	DESIRED APRM % CTP	ANJUSTED APRM & CTP	MAX. ERROR % CTP
10/16/90 1156 10/16/90 1254	18.96 21.95	1.372 1.463	26.0	25.4 30.9	0.6

After the second event on 10/16/90 at 1254 hours, reactor power was held constant until 2015 hours. From a computer calculation of CTP taken at 1847 hours only one of the six APRMs were still out of specification by 0.2% CTP. The next calibration was performed at 0447 hours on 10/17/90 at 48% CTP in which the MOPRAT used was 1.221, the calibration was performed correctly.

CAUSE OF EVENT

Personnel error was the cause of the event. Procedure OP 4400 is clear as to how the APRMs are to be calibrated. The technician did not have a copy of the procedure but was using the appropriate data sheet, which clearly states the acceptance criterion. The checkoff sheet requires a review and verification, that all the APRM final readings are adjusted to be +2/-0% of the adjusted value. This review is performed at a later date and is the reason that this migcalibration was discovered on 11/14/90.

The technician who made the error had performed this calibration many times over the previous 13 years and is aware that the final readings must be +2/-0% of the adjusted value. The last time he calibrated the APRM requiring a GAF was in June of 1990.

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ANALYSIS OF EVENT

The event did not have any adverse safety implications to public health and safety. The basis for this calibration is protection in the event of an operational transient. At the power level the event occurred it is highly unlikely that any operational transient would have occurred that could have caused a fuel failure.

Ever though operators were unaware of the miscalibration, normal practice is to take actions which bring MOPRAT back to 1.0 by core flow increases and control rod withdrawal. This was confirmed by the MOPRAT used for the next calibration at 0447 hours the next day.

CORRECTIVE ACTIONS

No corrective actions were taken during the event, the deviation was not discovered until the review/verification process after the reactor was at full power.

All members of the department involved in surveillance procedures will receive training in the techniques of attention to detail.

ADDITIONAL INFORMATION

No similar event has occurred at this facility.