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March 1, 1985
FVY 85-19

U.S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
Region I
631 Park Avenue
King of Prussia, PA 1406

Attention: Dr. Thomas E. Murley, Regional Administrator

References: a) License No. DPR-28 (Docket No. 50-271)

Dear Sir:

Subject: Vermont Yankee 1984 Annual Operating Report

Enclosed herewith please find two (2) copies of the Vermont Yankee Nuclear Power Corporation Annual Operating Report, submitted in accordance with 10CFR50.59(b). This report describes the facility changes, tests, and experiments conducted without prior NRC approval during the year 1984.

We trust this information is acceptable to you; however, should you have any questions, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

R.W. Capstick

R.W. Capstick
Licensing Engineer

RWC/dm
cc: U.S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
Washington, D.C. 20555

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ENCLOSURE I

I. OPERATIONS SUMMARY

A. CHANGES IN FACILITY DESIGN

1. The following changes required authorization from the Commission:

a) EDCR 80-49, Grid Under Voltage Protective System, was completed August 20, 1984.

This EDCR modified the Grid Under Voltage Protective System as required by the NRC in response to the Generic Letter 83-30.

b) EDCR 82-10, RCIC Alternate Shutdown Modification, was completed 2/27/84.*

To satisfy the requirements of 10CFR50.48 and Appendix R, this change provided alternate control facilities for the RCIC system.

c) EDCR 82-11; RHR, Reactor Vent Valves and Service Water Alternate Shutdown Modification, was completed 2/27/84.*

To satisfy the requirements of 10CFR50.48 and Appendix R, this change provided alternate control facilities for the RHR, Reactor Vent and Service Water Systems.

d) EDCR 82-12, Diesel Generator and Feedwater Pump Alternate Shutdown Modification, was completed 2/27/84.*

To satisfy the requirements of 10CFR50.48 and Appendix R, this change provided alternate control facilities for the Diesel Generators and the Reactor Feed Pumps.

* Alternate shutdown capability was operable at the end of the 1983 Refueling Outage. Installation of ancillary equipment was completed 2/27/84.

I.A. 2. The following changes did not require prior commission approval but were reviewed by PORC. It was agreed that each did not involve any unreviewed safety questions as defined in 10CFR50.59(a)(2) based on the information presented.

a) EDCR 81-05, Fast Isolation of Reactor Clean-up (RWCU) System, was completed August 14, 1984.

This change addressed the requirements of NRC I&E Bulletin 79-01B. It installed a high flow isolation system and an additional 4 in. check valve in the RWCU return line.

b) EDCR 83-05, Inaccessible Pipe Support Modification Design, was completed August 23, 1984.

This change was required to partially satisfy the conditions of NRC I&E Bulletins 79-02 and 79-14 by modifying an existing pipe support.

c) EDCR 83-32 , Fuel Pool Cooling E.Q. Modification, was completed August 27, 1984.

As required by 10CFR50.49, this design change will assure operation of the FPC and RBCCW systems long term, post-LOCA with loss of site power and provide control of the system if Reactor Building is not accessible.

d) EDCR 84-400, Motor Control Center 89A & 89B Alternate Source Modification, was completed August 30, 1984.

To satisfy the requirements of 10CFR50.49, this EDCR provided a method of remotely transferring the loads of MCC's 89A & 89B from the UPS 1A and 1B to MCC's 9B & 8B in the event of a failure of UPS 1A & UPS 1B output.

e) EDCR 84-401, 24V DC ECC's Analog Trip Charger Relocation, was completed August 6, 1984.

To satisfy the requirements of 10CFR50.49, the battery chargers for the ECCS batteries were removed from the harsh environment in the Reactor Building and relocated to a non-harsh environment.

f) EDCR 84-403, RCIC Room HVAC Modification, was completed August 31, 1984.

To satisfy the requirement of 10CFR50.49 the HVAC system servicing the RCIC Room was sealed in order to mitigate the effects of a HELB in the RCIC Room.

g) EDCR 84-404, RCIC System HELB Mitigation. EDCR 84-404 was completed August 22, 1984.

This change was implemented concurrently with EDCR 84-403. These modifications sealed off any path which would allow steam from a RCIC HELB to flow into the adjacent Equipment Room.

h) EDCR 84-405, 1984 Weld Overlay Repairs of Recirculation System, was completed August 22, 1984.

The design change consisted of placing a welded overlay on the outside circumference of selected Reactor Recirculation and RHR piping welds to insure full structural integrity mitigating the presence of IGSCC.

i) EDCR 84-406, Analog Instrument Cabinets E.Q. Modification, was completed October 15, 1984.

To satisfy the requirements of 10CFR50.49, this EDCR replaced equipment in the Analog Cabinets with environmentally qualified equipment.

j) EDCR 84-407, Reactor Water Clean-up, was completed August 22, 1984

To satisfy the requirements of 10CFR50.49, this EDCR installed temperature monitoring equipment to detect leakage below the RWCU Hi Flow trip caused by a small line break.

k) EDCR 84-408, Isolation of Non-Nuclear Safety Electrical Equipment, was completed August 22, 1984.

In accordance with 10CFR50.49 this design change isolated non-environmentally qualified non-safety-related equipment located in a harsh environmental from safety-related circuits.

l) EDCR 84-409, RHR/RHR SW Differential Pressure Control Channel Modification, was completed August 27, 1984.

To satisfy the requirements of 10CFR50.49, this change upgraded the existing differential pressure transmitters for the RHR Heat Exchangers E-14-1A + E-14-B with environmentally qualified transmitters.

m) EDCR 84-411, E.Q. Modification to Instrument Racks 25-51 and 25-52, was completed August 14, 1984.

To satisfy the requirements of 10CFR50.49, this EDCR replaced the pressure switches on Racks 25-51 and 25-52 with environmentally qualified pressure switches.

n) EDCR 84-412, RBCCW Surge Tank E.Q. Modification, was completed September 5, 1984.

To satisfy the requirements of 10CFR50.49, this change upgraded the level indication switches for the RBCCW surge tank with class 1E level switches for indicating surge tank level in the Control Room.

o) EDCR 84-413, Replacement of ASCO Solenoids Valves, was completed August 27, 1984.

This design change replaced selected solenoid valves with environmentally qualified solenoid valves and upgraded the RHR Service Water Pump motor bearing cooling water lines to Safety Class 3, Seismic Class 1, as required by 10CFR50.49.

p) EDCR 84-414, Northwest Stairwell Modification, was completed August 22, 1984.

To satisfy the requirements of 10CFR50.49, structural modifications were made so that the Reactor Building stairwell will act as an unrestricted flow path, in the event of a HELB in the Reactor Building.

q) EDCR 84-415, Replacement of Turbine Building Pressure Switches, was completed September 5, 1984.

To satisfy the requirements of 10CFR50.49, this design change replaced unqualified pressure switches with environmentally qualified pressure switches.

r) EDCR 84-417, RCIC Cable Reroute, was completed August 9, 1984.

In response to 10CFR50, Appendix R, Section III.G, this design change separated HPCI and RCIC inboard isolation valve control cabling in order to reduce the probability that both of these systems would be disabled by a single fire.

s) EDCR 84-418, Conduit Fire Barriers, was completed December 19, 1984.

In response to 10CFR50, Appendix R, Section III.G fire barrier materials were installed on safe shutdown related conduits.

t) EDCR 84-421, Shutdown Cooling Isolation Circuitry Modification, was completed August 30, 1984.

This design change eliminated the potential for a single fire to cause both shutdown cooling isolation valves to inadvertently open.

u) PDCR 84-07, Safety Valve Acoustic Accelerometer, was completed September 15, 1984.

This design change replaced the charge converters in response to IE Bulletin 79-01B.

v) PDCR 83-08, Transient Reactor Level Recorder, was completed August 16, 1984.

This PDCR installed two medium range reactor level transmitters and recorders.

w) PDCR 83-09, Deposition Coupon Panel (DCP), was completed October 20, 1984.

This PDCR added a DCP to the Reactor Water Clean-up system to study reactor water nuclide deposition rate and possible passivation techniques.

x) PDCR 84-01, Isolation/Control Valves for Service Water to Motor Generator Lube Oil (MGLO) Coolers, was completed November 15, 1984.

This PDCR improved the throttling of service water flow to the recirc MGLO coolers.

y) PDCR 84-02, Torus Bulk Temperature Monitor Upgrade, was completed September 26, 1984.

To satisfy the requirements of 10CFR50.49, this PDCR upgraded the Torus Bulk Temp. Monitor system by upgrading the cables between the torus penetration and Control Room and replacing the temperature recorder in the Control Room.

z) PAR 82-25, Cooling Tower Wetting System, was completed January 4, 1984.

This PAR installed a sprinkler system inside the cooling towers to pre-wet the wooden columns in the plenum structure.

aa) PAR 83-04, Replacement of Refueling Platform Air Compressor, was completed May 21, 1984.

This PAR replaced an existing refueling platform air compressor with a larger capacity, more reliable compressor.

ab) PAR 83-05, Feedwater Density Compensation Removal, was completed July 29, 1984.

This PAR removed density compensation from the feedwater level, feedwater flow, and steam flow instrumentation.

ac) PAR 83-17, Storm Drain System Modification, was completed September 27, 1984.

PAR 83-17 replaced the existing 3-inch carbon steel discharge line from the Turbine Building Clean Equipment and Floor Drain sump pumps with 4-inch stainless steel piping and rerouted it to the south storm drain.

ad) Temporary Electrical Lifted Lead/Installed Jumper (LL/J) 84-126. LL/J 84-126 was installed 8/2/84 and removed 10/25/84.

This LL/J removed the undervoltage trip capability from the "B" Reactor Protection M-G Set local output breaker in order to perform maintenance. Redundant undervoltage protection was available.

ae) Temporary Mechanical Bypass (MB) 84-04. MB 84-04 was installed 5/22/84 and removed 8/13/84.

This MB provided a water supply to the sanitary services trailer during the refueling outage utilizing the service water system.

af) MB 84-07 was installed 6/15/84 and removed 8/5/84.

This MB installed increased demineralizer capacity to the existing plant makeup demineralizer system during the refueling outage.

ag) MB 84-11 was installed 6/24/84 and removed 8/4/84.

This MB installed a transfer system between the CST and the main condenser hotwell during the refueling outage.

ah) MB 84-17 was installed 8/14/84 and removed 10/1/84.

This MB attached helium leak detection equipment to the existing main condenser off-gas sampling system.

ai) MB 84-18 was installed 9/19/84 and removed 10/1/84.

This MB attached helium leak detection equipment to the main condenser off-gas sampling system.

aj) MB 84-20 was installed 12/15/84 and removed 12/17/84.

This MB attached helium leak detection equipment to the main condenser off-gas sampling system.

B. TEST OR EXPERIMENTS

1. None

C. SAFETY AND RELIEF VALVE CHALLENGES AND/OR FAILURES

1. During 1984 there was one challenge to the reactor relief valves as described below. The safety valves were not challenged nor were there any failures of the safety or relief valves.

a) On 4/16/84, biweekly, partial closure testing was being performed on the Main Steam Isolation Valves (MSIVs) as required by Technical Specifications, Section 4.7.D.1.c. The plant was operating at 100% power steady state, at a reactor pressure and level of 1013 psig, 162 inches respectively. When MSIV-2-80C was tested, the valve continued going shut instead of returning open. Reactor Recirc pump speed was immediately reduced to reduce power and thus reduce steam

flow in an attempt to preclude a MSIV isolation. At 0742, a Primary Containment Isolation occurred due to high steam flow (120%) in the other three main steam lines. Reactor power at this time was 87%. Closure of the MSIVs resulted in a reactor scram and lifting and successful reseating of three primary relief valves.

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