Consumers Power Company

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COPY

December 17, 1979

Director, Nuclear Reactor Regulation
Att Mr Dennis L Ziemann, Chief
Operating Reactors Branch No 2
US Nuclear Regulatory Commission
Washington, DC 20555

DOCKET 50-155 - LICENSE DPR-6 -
BIG ROCK POINT PLANT -
CONTAINMENT PURGING AND VENTING
DURING NORMAL OPERATIONS

On December 13, 1979, Consumers Power Company submitted to the NRC a response to the Staff's Interim Position for Containment Purge and Vent Valve Operation Pending Resolution of Isolation Valve Operability which was an attachment to a letter dated October 23, 1979 from Dennis L Ziemann to David A Bixel. At the time of the writing of the above Consumers Power Company letter, information and data from the manufacturer of the valves (Allis-Chalmers) was incomplete. Therefore, Consumers Power Company's response was delayed. This letter is to inform the Staff that final data has been received and our response to the Staff's interim position is enclosed. Consumers Power Company is currently operating Big Rock Point Plant in full compliance with the NRC's Interim Position for Containment Purge and Vent Valve Operation Pending Resolution of Isolation Valve Operability.

R W Huston (Signed)

R W Huston
Senior Licensing Administrator

CC JGKeppler, USNRC

Attachments (Five Pages)

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Item 1

Whenever the containment integrity is required, emphasis should be placed on operating the containment in a passive mode as much as possible and on limiting all purging and venting times to as low as achievable. To justify venting or purging, there must be an established need to improve working conditions to perform a safety-related surveillance or safety-related maintenance procedure. (Examples of improved working conditions would include deinerting, reducing temperature , humidity , and airborne activity sufficiently to permit efficient performance or to significantly reduce occupational radiation exposures), and

Response

Containment entry at Big Rock Point is required on a routine basis to monitor operation of equipment such as rotating machinery, tank levels, system temperatures, etc, to obtain samples for chemical and radioactive analysis, to perform maintenance to defective equipment, maintain consumable items at prescribed levels, change recorder charts and perform required Technical Specifications surveillance testing.

A description and tabulation of these required actions is listed below. The listing is not purported to be all inclusive; however, it does list significant items which require the necessity of a habitable environment within containment.

A. Daily Requirements

1. Operations Department

Operating personnel make rounds in containment every two hours to monitor parameters such as:

a. Clean-Up System Flow, Temperatures, dP.

b. Emergency Condenser Level

c. Liquid Poison Tank Temperatures and Nitrogen Bottle Pressure

d. Fuel Storage Pool Level, Temperatures, Pump Suction and Bearing Temperatures

e. Reactor Cooling Water Tank Level and Pump Monitoring, Liquid Process Monitor Flow

f. Control Rod Drive Filter dP and Pump Monitoring

g. Containment Building dP Control; Heating and Ventilating Unit Operation

h. Visual Monitoring of All Systems for Leak Detection, Fire Monitoring and Equipment Vibration/Heating

2. Chemical

Daily entry is required to obtain samples for reactor coolant analysis, clean-up system analysis (bi-weekly), reactor cooling water analysis (bi-weekly) and emergency condenser system shell side analysis (30-day interval).

3. Health Physics

Daily entry is required to obtain radiological surveys, operational checks of continuous air monitors (environmental and iodine/particulate), operational checks of personnel monitoring stations (friskers) within containment, radiation levels and containment smears of twenty-four (24) separate areas within containment and an air sample for environmental nuclide analysis (more comprehensive radiological surveys are performed on both a weekly and monthly basis.)

4. Maintenance (Including Instrument & Control)

Entry is required periodically for maintenance and inspection of rotating equipment (at least every seven days), instrumentation calibration and repair, leak detection equipment checks (such as dew cell cleaning and saturation, etc).

B. Surveillance Testing

Testing that is required on a periodic basis (including Plant Technical Specifications Requirements) which dictates containment entry is as follows:

1. Daily

a. T1-02 Primary System Leakage Test
(Monitoring of Sump Levels Over a Four-Hour Period)

b. T1-04 Primary Coolant Analysis ($Cl^-$, B)
(Sampling Required)

c. T1-05 Primary Coolant Analysis ($I_2$)
(Sampling Required)

d. T1-06 Primary Coolant Analysis (Crud)
(Sampling Required)

e. T1-07 Primary Coolant Analysis (Filtrate)
(Sampling Required)

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2. Bi-Weekly

   a. Clean-Up System Water Analysis

   b. Reactor Cooling Water Analysis

3. Weekly

   a. T7-02 New Fuel Storage Intrusion Alarm Test (Pu on Site)

   b. T7-26 Level Element Reference Leg Temperature Calculation (Data Gathering of Thirty-One Selected Temperatures)

   c. Control Rod Drive Accumulator Pressure Checks

   d. Gas Bottle Inventory & Removal

   e. Containment Building Heating and Ventilating Operational Checks

   f. Fuel Storage Pool Water Analysis

4. Monthly

   a. T30-03 Control Rod Drive Selector Valve Reduced Pressure Test

   b. T30-22 ECCS Valve Testing

   c. T30-25 Emergency Condenser Shell Side Analysis (Sampling)

   d. T30-34 Fire Protection Surveillance

   e. T30-35 Fire Extinguisher Inspection

5. Quarterly

   a. T90-07 RDS Isolation Valve Test Operation

   b. T90-08 Spent Fuel Storage Pool Liner Leakage Check

   c. T90-09 ECCS Instrument Trip Test

   d. Dew Cell Maintenance (Cleaning and Saturation)

6. Annual

   a. T365-02 Nitrogen Bottle Surveillance (Dating Code Check)

   b. T365-07 Annual Weighing of Fire Extinguishers

   c. T365-08 On-Line Leak Rate Testing of Resin Sluice Isolation Valves

d. T365-09 On-Line and Fuel Pit Drain Isolation Valves

7. Variable

a. TV-24 Control Rod Drive Performance Testing

Item 2

Maintain the containment purge and vent isolation valves closed whenever the reactor is not in the cold shutdown or refueling mode until such time as you can show that:

a. All isolation valves greater than 3" nominal diameter used for containment purge and venting operations are operable under the most severe design basis accident flow condition loading and can close within the time limit stated in your Technical Specifications, design criteria or operating procedures. The operability of butterfly valves may, on an interim basis, be demonstrated by limiting the valve to be no more than 30° to 50° open (90° being full open). The maximum opening shall be determined in consultation with the valve supplier. The valve opening must be such that the critical valve parts will not be damaged by DBA-LOCA loads and that the valve will tend to close when the fluid dynamic forces are introduced, and

Response

Final data from the valve manufacture (Allis-Chalmers) received late December 13, 1979 indicated, based on actual tests, that the 24" supply valve (CV 4097) could be operated up to 65° open. The 24" exhaust valve (CV 4095) could be operated up to 45° open. Limiting factors are shaft torque rating for the supply valve and operator torque capability for the exhaust valve.

This condition was reported to K Ridgeway of the NRC Region III Office by Big Rock Point personnel at 1000 hours on December 14, 1979. At 1130 hours December 14, 1979, a telegram was sent to J G Keppler of Region III indicating that the above valves had both been blocked at the 45° open position.

Item 2.b

Modifications, as necessary, have been made to segregate the containment ventilation isolation signals to ensure that, as a minimum, at least one of the automatic safety injection actuation signals is uninhibited and operable to initiate valve closure when any other isolation signal may be blocked, reset, or overridden.

Response

Modifications at Big Rock Point are not necessary.

The containment ventilation valves close on every trip into the reactor protection system. The valves remain closed and cannot be overriden by any operator action as long as the reactor protection system remains in a trip

condition. The valves may only be reopened (by direct operator action) if the protection system is reset.

Simultaneous with the low reactor water level (and low reactor pressure signals) that initiate low-pressure coolant injection, a low reactor water level trip occurs in the reactor protection system. A mechanism does not exist to inhibit containment ventilation isolation under these conditions.