Omaha Public Power District

1623 HARNEY ■ OMAHA, NEBRASKA 68102 ■ TELEPHONE 536-4000 AREA CODE 402

February 8, 1979

Director of Nuclear Reactor Regulation
ATTN: Mr. Robert W. Reid, Chief
Operating Reactors Branch No. 4
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Reference: Docket No. 50-285

Gentlemen:

The Omaha Public Power District received a letter from the Commission, dated November 29, 1978, concerning the practice of containment purging during normal plant operation. The District replied with a letter dated December 28, 1978. This letter is to inform the Commission that, after further correspondence with our vendor, the District has learned that our reply contained incomplete information. This discrepancy is corrected in the attachment to this letter, which provides change pages to our reply of December 28, 1978.

Pending completion of the staff's review of our letter of December 28, 1978, this letter, and additional information to be provided to the Commission as described in the attachment, the District continues to commit to limit purging to an absolute minimum, not to exceed 90 hours per year; however, this does not preclude venting through the two inch vent line to keep containment pressures within Technical Specification limits.

Sincerely,

T. E. Short
Assistant General Manager

KJM/BJH:jmm

Attach.

cc: LeBoeuf, Lamb, Leiby & MacRae
1757 "N" Street, N. W.
Washington, D. C. 20036

A001
S/1
ADD C GRIMES w/ENCL
ADD M. MLYNIEC AS w/ENCL

7902200026

B.4 Provisions for Testing During Reactor Operation

Provisions for testing the availability of the valves in question are made as follows:

a. The valves are placed in the non-accident position, an accident signal is then generated, and the valves' movement to their accident position is verified.

b. The leakage rate of the purge valves on line is performed, one penetration at a time, in accordance with the test methods outlined in Technical Specification 3.5(3).

B.5 Analyses Regarding the Purge System Design

a. The containment purge system isolation valves are designed to close, including instrumentation delays, within five seconds. This design capability is provided in order to minimize the release of containment atmosphere to the environs and to mitigate offsite radiological consequences. An analysis of radioactive effluents escaping to the environment from the containment via the containment purge valves, after a LOCA, was performed using the following conservative sequence of events.

Following a LOCA, the purge valves will receive a signal to close within three seconds and will be closed within two additional seconds (see FSAR, subsection 7.3.2.6). In this time, it is assumed that the contents of the reactor coolant system are emptied into the containment vessel, and fission products contained in the water are available to pass through the purge valves. This is a conservative assumption since the blowdown is not complete at this time. The resulting activity releases are estimated to be:

1. 31 dose equivalent curies of I-131; and

2. 590 dose equivalent curies of XE-133.

Applying a five-percentile atmospheric dispersion factor of 6.30 E-04 sec/m^3 for ground level releases, the two-hour doses at the exclusion area boundary are:

1. 10.0 rems to the thyroid; and

2. 0.04 rems to the whole body.

Therefore, the containment purge system isolation design assures that, in the event of a LOCA, the radiological consequences would not exceed 10 CFR Part 100 limits.

b. There are no safety-related fans, filters, and ductwork located in the vicinity of the containment purge system, especially beyond the purge system isolation valves (FSAR, Sections 6.0 and 9.10). Therefore, the loss of function or inoperability of the containment purge system, due to the environment created by escaping air/steam, will not affect the performance of any safety-related equipment required to function following a LOCA.

c. The consequences of the reduction in the containment pressure resulting from the partial loss of containment atmosphere, due to the five-second closure time of 42-inch containment purge valves, during the accident for ECCS back pressure determination, are presently being evaluated. The results of such evaluation, along with any necessary course of action, will be provided to the Commission by April 15, 1979.

d. The leakage rate criteria for the purge and vent isolation valves is determined by subsection 3.5(3)b. of the Technical Specifications in which the combined leakage rate for all contributing valves is insured to be less than 0.6 La (where La means the maximum allowable leakage rate at the DBA pressure equivalent to 60 psig). Each individual valve's leakage rate is reviewed for its leakage contribution and maintainability to insure that the combined leakage of 0.6 La is not exceeded.

Evaluation of Purge and Vent Isolation Valves Capability to Close Against Dynamic Forces of DBA

The large 42-inch containment purge valves PCV-742 A, B, C, D and the smaller 2-inch vent line valves HCV-746 A, B are capable of closing against the dynamic forces of a design basis loss-of-coolant accident as described in the FSAR. Section 7.3.2.6 of the FSAR states that, in a DBA, the purge valves will receive a signal within three seconds and will be closed within another two seconds. In addition to the evidence presented in the FSAR, the District has received verification from the valve manufacturers that valve closure can be accomplished against a DBA pressure of 60 psig.

2. REVIEW OF SAFETY ACTUATION SIGNAL CIRCUITS WHICH INCORPORATE A MANUAL OVERRIDE FEATURE

The District has reviewed all safety actuation signal circuits which incorporate a manual override feature to ensure that overriding of one safety actuation signal does not also cause the bypass of any other safety actuation signal, that sufficient physical features are provided to facilitate adequate administrative controls, and that the use of each such manual override is annunciated at the system level for every system impacted.

The valve control circuits for all valves actuated by the following safeguards actuation signals were inspected, both on an individual basis as well as a system basis: PPLS, CPHS, CRHS, CSAS, STLS,