

OAK RIDGE NATIONAL LABORATORY

OPERATED BY
UNION CARBIDE CORPORATION
NUCLEAR DIVISION



POST OFFICE BOX Y
OAK RIDGE, TENNESSEE 37830

October 4, 1983

Mr. Gunter Arndt
Mechanical/Structural Engineering Branch
Division of Engineering Technology
NL 238
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Gunter:

This letter summarizes our progress on the Containment Leak Rate Testing Investigations (Fin. No. BO 489) for the month of September 1983.

Technical Highlights

A draft of the final report for this program has been completed. An abstract of the report follows:

Containment leak tightness is verified periodically through pressure tests and the measurement of the subsequent leakage. The verification process is composed of three types of test: Type A tests of the entire containment system; Type B tests of all containment penetrations, except isolation valves; and Type C tests of isolation valves. These tests are conducted in accordance with Appendix J of the Code of Federal Regulations and an industry standard, ANSI/ANS-56.8-1981. Revision of Appendix J, to reflect technological advances and testing experience, has been under consideration for years and has culminated in the issuance of a draft version of a proposed revision to Appendix J. To assist in the revision process, a review of the existing and proposed guidelines in light of utility test data and experience was conducted.

A review of 49 Type A test reports and 46 Type B and C test reports was accomplished. Exemption requests found in 25 reports and 100 Licensee Event Reports (LERs) were also reviewed. Two major findings of the data analysis were that Type A test duration of less than 24 hours are practical and that almost all Type A test failures and delays were caused by excessive leakage through Type B and C tested components. Excessive valve leakage represented 38% of the LERs and highlighted the need for improved

FOIA-85-143

35

October 4, 1983

maintenance, repair and testing of these components. Excessive airlock leakage was generally the result of worn, damaged, mis-aligned, or dirty door seals.

The proposed revision to Appendix J appears to be very responsive to the results of test experience and technological changes. One major change is the requirement that "as found" leakages must be reported as well as "as left" leakages. This change should help eliminate the poor performance of local leak testing programs. The clarification and rewording of several areas also should help reduce the number of exemptions requested. The introduction of a regulatory guide provides a vehicle for the NRC to specify any exceptions to the relevant industry standards and to resolve areas of conflict.

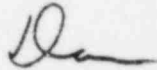
Expenditures

	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>
Expenditure (SK)	7.2	8.9	7.8	8.9	9.2	9.4	7.5	8.7	8.2	9.2	10.6	8.7*
Cumulative (SK)**	14.2	23.1	30.9	39.8	49.0	58.4	65.9	74.6	82.8	92.0	102.6	111.3

*Estimated

** Program Total

Sincerely,



D. J. Naus

DJN:ege

cc: J. R. Dougan