

OAK RIDGE NATIONAL LABORATORY

OPERATED BY
UNION CARBIDE CORPORATION
NUCLEAR DIVISION



POST OFFICE BOX Y
OAK RIDGE, TENNESSEE 37830

February 3, 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. B0489) Program for the month of January 1983.

Technical Highlights

A review of the draft report "Criteria for Determining the Duration of Containment Integrated Leakage Rate Tests" by Quadrex Corporation has been completed. Comments on the report have been furnished by telephone to Mr. T. E. Renton of Quadrex and were followed up in letter format. Overall, the criteria specified in the report seem useful. Many of the criteria are in agreement with the preliminary concepts being formulated through our analyses. The principal comment concerned the use of an equation to determine at what point the slope of the leak rate as a function of time has become negligible. Although discussion with Mr. Renton revealed that the equation was developed as the result of the analysis of leak rate data, no discussion of this development is included in the report. Also, some definition of the terms used in the equations were unclear. Because these comments were raised by reviewers, Mr. Renton has stated that an effort will be made to clarify the equation. Also, no mention is made of the report of a minimum test duration or minimum required sets of data such as is done in ANSI/ANS 56.8-1981. Mr. Renton stated that this information was not included because the minimum test duration would be more likely a political compromise among all concerned agencies than a technically justifiable criteria. The remaining comments were minor in nature and have been clarified. Also, Mr. Renton has offered to be of assistance in the future as our evaluation of ILRT procedures continues.

A short term consulting agreement with Mr. Z. Reytblatt of EXTRAN, Inc., has been issued. Mr. Reytblatt's principal objectives are to: (1) identify potential sources of error in leak rate testing as typically

8506170554 850325
PDR FOIA
REYTB LAB5-143 PDR

FOIA-85-143

19

February 3, 1983

conducted, (2) discuss procedures for optimizing the placement and weighting factors for sensors, and (3) discuss potential areas of improvement in the applicable standards. This information, along with other publicly available information from Mr. Reytblatt, will be factored into the evaluation of ILRT procedures and standards.

The general thrust of the remaining work involves a discussion of the proposed revision of Appendix J and a comparison of Appendix J and ANSI/ANS 56.8-1981. Compilation of the information contained in exemption requests and LERs has been initiated and interviews with industry and regulatory personnel are continuing. A plant visit to Browns Ferry has been scheduled for February 8-11 to observe a leak rate test. Additional plant visits will be scheduled as the preliminary test dates become finalized.

Expenditures

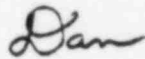
Expenditures under this program during this fiscal year are shown below

	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Jan.*</u>
Expenditure (\$K)	7.2	8.9	7.8	9.0
Cumulative (\$K)**	14.2	23.1	30.9	39.9

*Estimated

**Program Total

Sincerely,



D. J. Naus

DJN:ege

cc: J. R. Dougan