

OAK RIDGE NATIONAL LABORATORY

OPERATED BY
UNION CARBIDE CORPORATION
NUCLEAR DIVISION



POST OFFICE BOX Y
OAK RIDGE, TENNESSEE 37830

November 28, 1983

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

Dear Gunter:

To better explain my reasoning in recommending that reduced pressure testing be maintained, I have rewritten the last paragraph of Section 3.2 of my report. I have enclosed a revised copy of page 12 for your convenience. I hope you will find this revision satisfactory.

Sincerely,

A handwritten signature in cursive script that reads "James R. Dougan".

James R. Dougan

JRD:ege

Enclosure

cc: D. J. Naus

Check where J.D. is going
J.D. went to TVA. Last day
of NL was 12/2.

EST 12/5/83

FOIA-85-143

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9, 17 all continued to conduct reduced pressure tests to determine the containment leak rate.

The remaining plants all measured higher leakages at full pressure than the reduced pressure. Of these 12 plants, only plants 5 and 14 continued to conduct reduced pressure tests. Plant number 2 failed verification of the reduced pressure test leakage measurement check, but no reasons are apparent as to why the other 9 plants decided against the reduced pressure test. The verification tests were successful in all cases. Plant 10 may be continuing to use reduced pressure tests but no information other than the preoperational test was available.

Reduced pressure testing appears to be a valid alternative to full pressure testing. No indication was found that the methodology was incorrect although it did appear to be unworkable in many instances. However, satisfactory results were obtained in several cases. Therefore, because it has been shown to be workable and it does offer potential benefits to the utilities, reduced pressure testing should be retained as an alternative to full pressure testing provided valid correlations can be defined. Appendix J allows reduced pressure testing but ANSI/ANS-56.8-1981 does not.

3.3 INSTRUMENTATION

The instrumentation of a ^{Type A test} ~~plant~~ is composed of pressure, temperature, and humidity (vapor pressure) measuring devices. A quartz manometer is generally recommended for the pressure sensors, and platinum resistance temperature detectors (RTDs) are recommended for the temperature sensors. Both the chilled-mirror dew point hygrometer and the lithium chloride dew-cell have been used successfully to measure the humidity.¹³ Evaluation of the test reports showed that dewcells were used about 60 percent of the time with the dewpoint hygrometers used the rest of the time.

A sufficient number of pressure, temperature, and vapor pressure sensors are required to adequately sample the containment atmosphere.