Reactor Building Containment
Integrated Leak Rate Test
Sequoyah Nuclear Plant Unit 1
Conducted December 3-5, 1985

Docket Number 50-327

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Test Report

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1.0 INTRODUCTION

As prescribed in Sequoyah Nuclear Plant (SNP) unit 1 Technical Specification 4.6.1.2, the leakage of air from the boundary forming the reactor building primary containment is limited to 0.25 percent by weight of the containment air mass per day at a pressure of P_a, 12.0 psig. In conformance with Title 10, Code of Federal Regulations, Part 50, Appendix J, Sequoyah Technical Specifications require that a reactor building CILRT be performed as part of the surveillance programs to demonstrate the continuing leak-tight integrity of the reactor building primary containment.

The second in-service reactor building CILRT was successfully completed on Sequoyah unit 1 by personnel of Tennessee Valley Authority (TVA) on December 3-5, 1985. This test was conducted in accordance with a plant approved surveillance instruction, SNP SI-156, which is on file at the plant site. This surveillance instruction implements the requirements of Sequoyah unit 1 technical specifications and 10 CFR 50, Appendix J. The American National Standard for Containment Testing, ANSI 45.4-1972, the proposed American Nuclear Society for Containment Testing, ANS 56.8, and the procedure outlined in Becthel's topical report, "Testing Criteria for Integrated Leakage Rate Testing of Primary Containment Structures for Nuclear Power Plants" (BN-TOP-1, Revision 1) provided guidance for the procedure implemented by the surveillance instruction.

Sequoyah unit 1 is a 3,411 megawatts thermal, pressurized-water reactor employing an ice condenser pressure suppression containment. The Final Safety Analysis Report defines the calculated peak accident pressure, P_a, to be 12.0 psig. The reactor building containment is divided into four major compartments for the CILRT analysis--the lower ice condenser compartment which houses the energy-absorbing ice beds, the upper ice condenser compartment which encloses the support equipment for the ice condenser system, the lower compartment which contains the reactor and the main piping systems, and the upper compartment which provides for a large work area within containment and also can accommodate the displaced air mass from the other compartments in the unlikely event of a loss-of-coolant accident (LOCA). These four compartments are connected by means of blowout panels located between the lower compartment and the lower ice condenser compartment and between the upper and upper ice condenser compartments. In the event of a LOCA, steam flows from the lower compartment through the ice condenser compartments and into upper containment. The upper compartment is sealed from the lower compartment to ensure that any steam released in an accident will be forced through energy-absorbing ice beds. For the performance of the CILRT, the lower and upper compartments were not sealed from each other to promote the free flow of air in containment.

This report outlines the objectives, principal events, special equipment used, and analysis of the test results for the CILRT conducted on December 3-5, 1985 on Sequoyah unit 1.

2.0 SUMMARY

The Sequoyah Nuclear Plant unit 1 in-service reactor building Containment Integrated Leak Rate Test (CILRT) was conducted on December 3-5, 1985 in conjunction with the cycle 3 refueling outage. The CILRT was successfully completed in 24 hours and 20 minutes and included 147 data samples.

The calculated Total Time Leak Rate (TTLR) for the CILRT was 0.07239 percentage of containment air mass per day (% per day). The associated reportable "as found" 95% upper confidence limit (UCL), which includes the type B and C leakage for testable penetrations in service at the time of the CILRT and the difference between the "as found" minimum and "as left" minimum path leakage rates for tests performed in conjunction with the unit 1, cycle 3 refueling outage, was 0.11032% per day. The "as left" 95% UCL value of 0.09632% per day includes the type B and C leakage for testable in-service penetrations only.

The mass leak rate (MLR) for the CILRT was 0.05150% per day. The associated reportable "as found" 95% UCL was 0.06788% per day and the reportable "as left" 95% UCL was 0.05388% per day.

NRC inspection item no. 50-327/85-44-01 occurred prior to the performance of the CILRT and involved the calibration data used for the eight mensor quartz manometer pressure gauges measuring containment pressure. This follow-up item has been resolved, yielding no significant impact on the success of the December 3-5 CILRT and subsequent verification test. A detail description of inspection item no. 50-327/85-44-01 and its resolution are contained in Section 5 and Appendix E of this report.

A second NRC inspection follow-up item (No. 50-327/85-44-02) originated from a CILRT test procedure prerequisite problem. The problem resulted from the omission of an earlier permanent instruction change to the CILRT test procedure (SI-156). Test engineers reviewed the test procedure used to conduct the CILRT on Sequoyah unit 1 and found no additional typographical errors or changes to the procedure that would affect the validity of the test results. A discussion of inspection follow-up item No. 50-327/85-44-02 is contained in Appendix E of this report.

3.0 TEST PURPOSE AND RESULTS

3.1 Test Purpose

The objective of the in-service Containment Integrated Leak Rate Test was to demonstrate the continuing leak-tight integrity of the unit 1 reactor building containment for return-to-power operation.

For Sequoyah unit 1, the leak-tight integrity is defined in Technical Specification 4.6.1.2 to be that the leakage of air from containment is not to exceed 0.1875 percent per day (0.0078 percent per hour) at peak accident pressure, P_a.

3.2 Test Results

The initial pressurization of primary containment to 12.75 psig was completed at 1351 hours on December 2, and the pressurization penetration (X-54) was isolated.

The initial stabilization period began at 1412 hours on the 2nd, but was aborted at 2212 hours due to the inadvertent disconnection of the cable providing communication between the data acquisition system and the mini-computer. After the cable was reconnected, CILRT stabilization period was restarted at 2215 hours on December 2, 1985.

Significant decreases in temperature and pressure were experienced in all compartments at 8.1 hours into final CILRT stabilization and continued for approximately 20 minutes before the parameters normalized. The average temperature decreased by more than 0.39°F over the 20 minute period and was accompanied by a 0.03 psi decrease in average pressure shown graphically in figures 10 and 11 respectively. Plant operations personnel were contacted to attempt to determine the cause of these transient conditions. A survey of plant equipment and environment indicators yielded no evidence that would account for the changes in pressure and temperature profile.

The final stabilization period was completed at 0632 hours on December 3rd after 8.3 hours of data was taken. TABLE 7 indicates that the average containment temperature for the last 4 hours of stabilization was stable, and met the temperature stabilization criteria suggested in ANS/ANSI 56.8.

During the initial stabilization period, the primary containment boundary was tested for previously undetected leakage using a leakage detection solution. No significant leakage was discovered other than that found during the type B&C testing. The temperature and pressure data taken during the stabilization period are shown graphically in figures 10 and 11.

The CILRT sampling began immediately after stabilization was reached at 0656 hours on the 3rd.

The Reactor Coolant System (RCS) Pressurizer water level was continuously monitored by the CILRT data acquisition system throughout the CILRT period so that adjustments could be accurately made to the containment free air volume calculations. Other component level changes in the RCS were taken into consideration by recording the reactor coolant drain tank (RCDT) level at the beginning and ending of the test. The RCDT level at the start of the test was 30 percent and at the end of the test the RCDT was recorded at the 25 percent level. This represents a slight increase in the containment free air volume over the 24-hour CILRT period,

which would decrease the actual CILRT leak rate by approximately 0.00011% per day. However, due to the insignificant magnitude of the decrease in the actual leakage rate, a conservative route was chosen and the test results were not adjusted for the amount of free air volume added during the duration of the test. Test engineers requested that operations control the water level in the primary system so that no abrupt level changes would occur.

The CILRT was conducted for 24.3 hours and 147 data samples were collected. The leak rate reported by the TOTAL TIME (TTLR) method was 0.07239 percentage of containment air mass per day (0.0030%) per hour), and is shown graphically in figure 12. The observed 95 percent upper confidence limit for the total time leak rate was 0.09602% per day. The reportable "as found" 95% UCL which includes the type B and C test for leakage testable penetrations that were in-service at the time of the test and also includes the difference between the "as found" minimum and "as left" minimum path leakage rates for type B and C tests performed prior to the CILRT during the cycle 3 refueling outage was 0.11032% per day. The reportable "as left" 95% UCL for the Total Time method, composed of the observed 95% UCL and the leakage from penetrations in-service during the test, was 0.09632% per day.

The measured mass leak rate (MLR) was 0.05150% per day and is shown graphically in figure 14 with an observed 95% UCL of 0.05358% per day. The reportable "as found" 95% UCL for the MLR method was 0.06788% per day and the reportable "as left" 95% UCL was 0.05388% per day.

After the completion of the CILRT, a supplemental imposed leakage verification test was conducted to check the results of the CILRT. The imposed leakage was measured using a mass flow meter technique, utilizing a Hastings Mass Flowmeter. A leakage rate (L_R) of 0.09775 L_A was imposed on the containment building.

The calculated containment total time leak rate (L_{RM}) during the 20.8 hour verification test was 0.31204 percentage of containment air mass per day shown graphically in figure 34. Agreement, as shown in Appendix B using TTLR between the CILRT and the verification test was achieved and was found to be -0.0325 L_A which is clearly within the ±0.25 L_A required by 10 CFR 50, Appendix J.

The calculated MLR during the verification test was 0.31074 percentage of containment air mass per day and is shown graphically in figure 36. Agreement, using MLR, between CILRT and the verification test was also achieved and was found to be +0.0449 L_A.

The leak-tight integrity of Sequoyah Nuclear Plant unit 1 was accurately measured and recorded by computer-based instrumentation. The computer-based data acquisition system provided reliable, immediate calculations of test data, which allowed test engineers to more easily monitor important test parameters.

The CILRT and subsequent verification test were completed at 0545 hours on December 5, 1985.

4.0 CONDUCT OF TEST

In compliance with Surveillance Instruction SNP SI-157, local leak rate tests were performed on containment closures (hatches and resilient seals), bellows, and electrical penetrations. Two electrical penetrations, X-143E and X-168E, were replaced during the cycle 3 outage and tested per SNP SI-157 prior to the CILRT. Local leak rate tests were also performed on valves forming the boundary of the primary containment in accordance with surveillance instruction SNP SI-158.1. The above mentioned surveillance instructions were performed prior to the CILRT. All valves and penetrations satisfactorily met leakage requirements prior to the performance of the CILRT except two ERCW in-board check valves 67-562A and 67-562B. These valves had excessive local leakage rates and were scheduled to be replaced prior to the performance of the CILRT. However, the materials did not arrive in time for installation and a decision was made to perform the CILRT using a conservative valve line-up claiming only the out-board, motor-operated valves 67-83 and 67-99, respectively, as single barriers. Valves, 67-562A and 67-562B, will be repaired or replaced and local leak rate tests performed prior to start-up of unit 1.

Appendix D shows a complete summary of the LLRT performed on SNP unit 1 since the CILRT performed in December 8-9, 1982.

Figure 1 depicts the sequence of events for the CILRT and its verification conducted December 3-5, 1985. The following is an accounting of significant events occurring during the test program.

Date and Time		Event
11/29/85	1030	All CILRT instrumentation in place and calibrated.
12/02/85	0345	Received administrative control of unit 1 reactor building.
12/02/85	0400	Upper and lower air lock doors passed LLRT. All prerequisites completed.
12/02/85	0410	Began containment pressurization.
12/02/85	0501	Average containment pressure = 2.11 psig.
12/02/85	0525	Average containment pressure = 2.62 psig. Noticed lower ice compartment pressure readings lower than other compartments.
12/02/85	0530	Entered U-1 containment to replace lower ice compartment pressure sensing hose.
12/02/85	0539	Average containment pressure = 3.47 psig. Lower ice compartment correctly tracking with other compartments.
12/02.85	0700	Average containment pressure = 6.06 psig. Shut compressors down for first holding period.

Date and Time		Event
12/02/85	0710	Resumed containment pressurization.
12/02/85	0729	Average containment pressure = 6.65 psig.
12/02/85	0744	Average containment pressure = 7.16 psig. Shut compressors down for 2nd hold point.
12/02/85	0759	Resumed containment pressurization.
12/02/85	0839	Average containment pressure = 8.46 psig. Shut compressors down for 3rd hold point.
12/02/85	0851	Resumed containment pressurization.
12/02/85	0926	Average containment pressure = 9.61 psig. Shut compressors down for 4th hold point.
12/02/85	0937	Resumed containment pressurization.
12/02/85	1017	Average containment pressure = 10.78 psig. Shut compressors down for 5th hold point.
12/02/85	1018	Replaced suspected bad mensor calibration data (dated 10/21/85) with good calibration data from previous SNP U-2 CILRT performed 11/84.
12/02/85	1301	Average containment pressure = 12.0823. Shut compressors down for 6th hold point.
12/02/85	1311	Resumed containment pressurization.
12/02/85	1351	Average containment pressure = 12.74 psig. Shut compressors down, test pressure reached.
12/02/85	1356	Closed manual isolation valve on CILRT pressurization penetration (X-54). Compressor discharge line vented.
12/02/85	1411	Began stabilization period data sample no. 1.
12/02/85	1423	Removed DPE-5 from CILRT due to suspect readings.
12/02/85	1530	Began bubble testing of penetrations and leakage paths.
12/02/85	1730	Found two small leaks on valve packing on root valves on panel 1-L-188.
12/02/85	2202	Had problem with stabilization data sample no. 44 when RS232 interface cable from the mini-computer to the data logger came loose. Repairs made immediately.

Date and Time		Event
12/02/85	2215	Rebased stabilization period start at sample no. 45 following data logger cable problem and repairs.
12/03/85	0622	The average containment pressure experienced a 0.03 psig pressure drop, which was recorded in all four compartments. Subsequent investigations by CTS test engineers and the shift engineer did not reveal anything out-of-order.
12/03/85	0632	Stabilization criteria completed with data sample no. 92.
12/03/85	0656	Began CILRT with base @ data sample no. 93.
12/04/85	0716	Concluded CILRT after 24 hours @ data sample no 239. Reportable MLR value 0.05150% per day and a TTLR value of 0.07239% per day.
12/04/85	0800	Imposed leakage for verification test of approximately 100% L_A.
12/04/85	0854	Verification sampling began with sample no. 250.
12/04/85	2059	TTLR within -.25 L_A, however continued to sample since TTLR slowly increasing.
12/04/85	2100	Continued verification data sampling following significant increases in the leakage rates, which continue to improve the agreement calculations.
12/05/85	0544	Verification completed with 20.8 hours of data, samples 250 through 500. Verification per 10 CFR 50, Appendix J method was -3.25% for TTLR.
12/05/85	0825	Began containment depressurization.
12/05/85	1455	Began post test instrumentation in-place functional checks.
12/05/85	0200	Completed post test in-place functional checks of CILRT instrumentation. Released administrative control of U-1 reactor building.

5.0 MEASUREMENTS AND CALIBRATIONS

5.1 Test-Equipment

Table 1 lists the range, accuracy, and repeatability of the special test equipment used in the unit 1, cycle 3 CILRT. Prior to the start of the CILRT, all test equipment was calibrated by the TVA Central Laboratories or other facilities with standards traceable to the national Bureau of Standards.

NRC inspection follow-up item no. 50-327/85-44-01 occurred prior to the start of the CILRT involving the calibration data entered for the eight mensor quartz manometers measuring containment pressure. Test engineers discovered, just prior to CILRT pressurization, that the mensor quartz manometers were significantly varying from each other by as much as 0.4 psi. A comparison was then made to a set of previously confirmed calibration data for the eight mensor manometers and the current calibration data was obviously incorrect. To minimize the impact to the critical path refueling outage schedule, test engineers made the decision to proceed with the CILRT using the previously confirmed calibration data. Following the entry of the previous mensor pressure calibration data, excellent agreement was obtained among all compartments.

The TVA central laboratory was notified that a problem existed with the calibration data for the mensor gauges. The lab later discovered that during a recent revision to the computer program that generates the mensor calibration reports, an error had been made causing a mismatch between the instrument identification number and the actual calibration data for that instrument. The central laboratory took action to correctly match instrument I.D. and calibration reports data. Following the CILRT, the laboratory provided corrected calibration reports for the eight mensor quartz manometers. Test engineers then re-entered the corrected calibration data and the comparison indicated no significant change to the original CILRT and verification test results. Appendix E, Closeout of NRC Inspection Follow-up Item No. 50-327/85-44-01, contains correspondence and details of the resolution of the inspection follow-up item.

After installation of all special test equipment inside containment, each sensor was checked for functional operation. The special test instrumentation interfaces with a portable minicomputer which produces highly accurate remote scanning of temperature, pressure, and dewpoint sensors. Upon test completion and depressurization each sensor was again functionally checked to ensure adherence to calibration.

Pressurization for the CILRT was achieved using portable high-capacity air compressors. The compressors were rated at 3,500 SCFM of dry, oil-free air, and brought containment to test pressure in approximately 10 hours, including final "topping off" stages of pressurization.

5.2 Sensor Location

Table 2 lists the final volumetric weighing factor for each temperature and dewpoint sensor based on the 4-compartment model. Figures 3 through 8 indicate sensor locations. The pressure sensors were divided so that initially two sensors measured each of the four compartments through penetrations X-27C, X-87D, X-87A, and X-98. Utilizing two pressure sensors per compartment allows the removal of any one malfunctioning pressure gauge during the test and continue to accurately monitor containment pressure. An additional pressure gauge measured barometric pressure at the test station.

5.3 Computer-Based Data Acquisition and Data Reduction

The raw test data measured by the special test instrumentation during the Sequoyah Nuclear Plant unit 1 CILRT was scanned and collected by a microprocessor based data acquisition system. This raw test data was automatically presented to a portable minicomputer system for correction to calibration curves and reduction to containment leak rate. The minicomputer produced immediate statistical and graphical results of the containment test parameters, including temperature, pressure, vapor pressure, mass, total time leak rate, and mass leak rate plots.

These calculated results were reported automatically to the test director as the data was collected. Figure 2 depicts the functional relationship between the special test instrumentation and the data acquisition and analysis system.

All calculations performed by the minicomputer system were in conformance with the procedure outlined in ANS 56.8, ANSI 45.4 and Bechtel Topical Report (BN-TOP-1), Revision 1).

Source listings for all computer programs are on file with the Division of Nuclear Services, Mechanical Branch, in Chattanooga, Tennessee. Table 3 identifies the principal function of each computer program.

5.4 Reactor Building Containment Model

An ice condenser pressure suppression containment presents special problems not normally encountered in the leak testing of dry containment structures. The pressure suppression design feature requires the reactor building containment to be divided into distinct compartments, where vastly different temperatures and vapor pressures may exist. While each compartment is vented to the containment atmosphere during the performance of the CILRT, the direct circulation of air is limited.

Since an ice condenser containment typically exhibits a 40°F temperature differential between the ice compartments and others, it is necessary to compensate by compartmentalization so the leak rate is accurately measured. For Sequoyah unit 1 CILRT, a 4-compartment containment model was used to measure the leak rate. The free air mass is calculated individually for each compartment, and containment leak rate is calculated from the sum of the compartmental masses. Each sensor within a compartment is volume weighted for the calculation of compartment average temperature and vapor pressure.

6.0 ANALYSIS OF TEST DATA

The previous sections of this report have discussed the general test conduct, calibration methods, and test equipment. In this section events and problems that influenced the test results are discussed and are used to formulate conclusions on the performance of the Sequoyah unit 1, cycle 3 CILRT.

6.1 Instrument Check

The data presented in this section reflects the test results following recalibration and deletion, if necessary, of the special test equipment used during the test.

One humidity sensor was deleted prior to the start of the CILRT due to erratic readings. DPE-5, as shown in Figure 6, was deleted and its volume weight was set equal to zero, with the volume weights for DPE's 4 and 6 adjusted accordingly.

Four of eight Mensor Quartz Manometers measuring containment pressure were found to be slightly non-conservatively out of tolerance in the range of pressure used during the CILRT when the gauges were recalibrated following the CILRT. The calibration report provided by TVA's Central Laboratory indicated that the manometers were producing readings slightly higher than the actual pressure. Test engineers corrected each pressure reading taken by the manometers during the CILRT and subsequent verification test.

During the post-CILRT analysis of graphical and tabular results, a problem was discovered with one of the two mensor quartz manometers measuring the upper compartment pressure. At 11.17 hours and 16.5 hours into the CILRT, significant changes in the slope of the leak rate were experienced as shown in figure 56. After close examination of the compartment parameters, it was determined that the changes in the leak rate slope were due to changes in the upper compartment pressure. Subsequently, the readings of the two quartz manometers which combined to establish the upper compartment pressure, were compared. Results showed that gauge #2 did not experience the above mentioned changes in pressure profile (see figure 18). Therefore, the changes in upper compartment pressure profile were induced by gauge #1 shown graphically in figure 9. Further investigation yielded no evidence to confirm the pressure profile changes actually occurred. In each instance gauge #1 appeared to be sticking just prior to the change in profile.

The vendor was contacted in an attempt to determine the reason for the behavior of gauge #1. The vendor, Mensor Corporation, suggested that a "flat spot" on one or more bearings in the "Null" assembly could produce the behavior pattern that was experienced with gauge #1 during the test. The "Null" assembly is a critical interface of the drive unit responsible for the output of the manometer. When the "Null" assembly bearing reached a position such that the "flat spot" portion of the bearing was supporting the drive shaft, the drive mechanism would experience a "binding effect" and would remain stationary until the change in pressure, i.e., the force exerted on the drive, was great enough to overcome the binding force, thereby allowing the output of the quartz manometer to adjust to the true pressure value.

Based on the review and analysis of all compartmental data compiled during the Unit 1 CILRT, test engineers deleted gauge #1 from the CILRT and subsequent verification test, and then performed the final data reduction analysis using the remaining quartz manometers.

The corrections made to the final CILRT and verification test data did not effect the success of the CILRT performed on unit 1. In addition, all final test results and reported data in this report reflect the above mentioned corrections unless otherwise stated.

The instrumentation error analysis of Appendix A indicates that the instrumentation used in the unit 1, cycle 3 CILRT was accurate to 0.06655 L_A in determining the containment leak rate for unit 1, far surpassing the recommendations of ANS 56.8 which states that the measuring system be capable of detecting 0.25 L_A.

6.2 Discussion of Graphical and Tabular Results

The December 3-5, 1985, CILRT that was performed on unit 1 at Sequoyah Nuclear Plant was concluded after 147 samples of data were taken in 24.33 hours of testing. Figure 12 is a graphical representation of the TTLR and figure 14 is a graphical representation of the MLR, expressed as a percentage of containment air mass per day, during the CILRT. Table 4 lists a summary of important measured parameters and corresponding results for each sample of the CILRT. Additional raw data measurements, such as RCS water levels, were accumulated throughout the test and are necessary to complete the various leakage rate calculations.

The upper compartment pressure profile, a representation of mensor quartz manometer pressure gauge #2 (see section 6.1) shown graphically in figure 20, suggests that six uncharacteristic pressure drops occurred during 24-hour CILRT. In every instance, the pressure quickly recovered to resume the original rate of declination. After examination of all compartment parameters, no evidence was found to support that the drops in pressure actually occurred. In addition, there were no events recorded by plant operations personnel during the test that would account for the behavior of the upper compartment pressure profile. Test engineers contacted Mensor Corporation to gain insight into possible explanations for the behavior of gauge #2. Although the vendor was able to provide several possible explanations for the periodic pressure drops, the actual cause has yet to be determined. The periodic drops in pressure had no significant impact on the results of the unit 1 CILRT and subsequent verification test. Even though the upper compartment and average mass profiles proportionately followed the pressure drops (see figures 21 and 17), the slope of the leak rate curves virtually remained unaffected.

During the CILRT, the trends throughout all other compartments were predictable. For instance, examining the upper ice compartment temperature shown graphically in figure 26, the ice condenser air handling unit defrost cycles can be monitored. Figures 18 through 33 depict compartmental temperatures, vapor pressures, absolute pressures, and masses for the unit 1 CILRT.

Figures 15 through 17 show graphical representations of average temperatures, pressures, and masses during the hour 24.33 CILRT.

Final results indicate a calculated TTLR of 0.07239 percent per day and a MLR of 0.05150 percent per day. The "as found" 95% upper confidence limit (UCL) for the total time method was 0.11032 per day with an "as left" 95% UCL value of 0.09632 per day. The "as found" and "as left" 95% UCL's for the mass leak rate method were 0.06788 and 0.05388 per day respectively.

After instrumentation received post-test calibrations, the calibration reports indicated that all instrumentation used in the unit 1 CILRT and subsequent verification test was in proper tolerance, with the exception of items already mentioned.

6.3 Discussion of Agreement (Verification Test)

Appendix J to 10 CFR 50 specifies the technique for the calculation of agreement between the CILRT and its subsequent verification. Appendix J requires the absolute value of the difference between the measured containment leak rate with a superimposed leak and the sum of the imposed leak and the measured containment leak rate be less than 0.25 L_A.

The verification test was concluded at 0545 hours on December 5, 1985.

After collecting 251 samples in approximately 20.8 hours, agreement, as prescribed by Appendix J of 10 CFR 50, between the CILRT (L_{AM}) and the imposed leak rate (L_R) was reached at -0.0325 L_A using TTLR, which is well within the $\pm$ 0.25 L_A allowable limit.

Agreement was also reached using MLR and was found to be +0.0449 L_A. Appendix B details the methods of agreement calculations.

A summary of important data collected during the 20.8 hour verification test is shown in Table 5.

Three distinct changes in temperature profile occurred during the verification test in the "ICE-LOWER" compartment (see figure 52) and resulted in corresponding changes in the ice-lower compartment mass profile and in slope of the leakage rate curves shown graphically in figures 34, 35, 36, and 37. The first change occurred approximately 4 hours into the verification test when the ice-lower compartment began a cooling trend. The cooling trend decreased the rate of mass loss in the compartment and thereby decreased the leakage rate.

The cooling trend was approximately 5 hours in duration and was followed by a 7-hour warming trend which began at 9 hours into verification. The warming trend increased the rate of compartmental mass loss and resulted in an increase in leakage rate. Following the warming trend, the compartment experienced a second cooling trend. The cooling began at approximately 15 hours into verification and continued through the end of the 20.8 hour verification test. The cooling trend again resulted in a decrease in the rate of compartment and average mass loss and in leakage rate values. The changes in ice-lower temperature profile appeared to be related to the ice condenser air-handling unit defrost cycles.

Figures 40 through 55 depict the compartmental temperatures, vapor pressures, absolute pressures, and masses for the 20.8 hour verification test. Figures 38 through 39 show graphical representations of average temperature, and pressure.

7.0 CONCLUSIONS

The reactor building containment integrated leak rate test performed on Sequoyah Nuclear Plant unit 1, cycle 3 December 3-5, 1985, recorded a calculated TTLR of 0.07239 percentage of containment air mass per day, which clearly demonstrates the leaktight integrity of unit 1. The total "as found" and "as left" leak rates of 0.11032 and 0.09632% per day respectively were considerably less than the allowable 0.1875 percent of containment air mass per day as prescribed under Sequoyah Technical Specifications.

The technique of multicompartment modeling coupled with a computer-based data acquisition system yielded immediate results that accurately measured and displayed the unit 1 containment leak rate.

TABLES

Table 1

Measured Parameter	Manufacturer and Model No.	Number Used		Instrument Specification
Containment Temperature	Leeds & Northrup Model No. 178055	49	Range: Accuracy: Repeatability:	0-250°F ±0.1°F ±0.001°F
Containment Pressure	Mensor Corporation Model No. 10100-001	7	Range: Accuracy: Repeatability:	0-30 psia, 400,000 counts F.S. ±0.015 percent reading ±0.0005 percent reading
Containment Dewpoint	Foxboro Corporation Model No. 2701 RG	12	Range: Accuracy: Repeatability	-50 to +142°F ±1°F dewpoint ±0.10°F
Analog to Digital Converter	Acurex Corporation Autodata Ten/10	1	Accuracy:	±0.001°F dewpoint ±0.001°F temperature ±1 count pressure
Verification Flow	Teledyne-Hastings Mass Flow Meter Model AHL 25 with H-3M Transducer TVA No. 469936	1	Range: Accuracy: Repeatability:	0-5 SCFM ±2 percent of range $\pm 1/2$% of range
Mensor Chamber Temperature	Princo ASTM 19L	8	Range: Accuracy:	49% to 57%C °0.12°C
Atmospheric Pressure	Mensor Corporation Model No. 10100-001	1	Range: Accuracy:	0-30 psia ±0.015% reading
RCS Pressurizer Water Level	Plant Process Transmitter Model LT-68-321	1	Range: Accuracy:	0-100 level ±5 percent F.S.

TABLE 2

VOLUMETRIC WEIGHTING GROUPS

	Temperature	Number of Transducers	Segment Volume	Volumetric Weight Per Sensor by Compartment (Percent)
I.	Upper compartment	14	651,000	7.1429
II.	Lower compartment	25	383,720	4.0000
III.	Ice-upper compartment	6	47,000	16.6667
IV.	Ice-lower compartment	4	110,500	25.0000
		49		
	Dewpoint			
I.	Upper compartment	3	651,000	33.3333
II.	Lower compartment	2	383,720	50.000
III.	Ice-upper compartment	4	47,000	25.000
IV.	Ice-lower	3	110,500	33.333
		12		

TABLE 3

CONTAINMENT LEAKAGE MEASUREMENT
MINICOMPUTER ROUTINE SUMMARY

Routine Name	
FORESQ	a. Automatically acquires, stores, and corrects raw data to calibration curves. b. Calculates volumetric weighted containment air mass and leak rates as defined by ANS 56.8 (draft). c. Prints for each sample a summary with average parameters and containment leak rate.
TABLE	Provide a summary for all samples from test start of average parameters, including calculated containment leak rate.
TALLY	a. Calculate statistical confidence levels for the measured leak rate from the test start. b. Provide a summary comparison of reportable leak rates as defined by ANS 56.8 (draft).
BASE	Allow test director to change the sample considered the test base.
PLOTSQ	Provides graphical display of test data.
VERIFY	Calculates "induced-leakage" results during verification test.
TTSUM	Provides complete sample by sample summary of total time leak rates, UCL, and data convergence trends.
ISG	Performs ISG calculations recommended by ANS 56.8 (draft).

TENNESSEE VALLEY AUTHORITY
CONTAINMENT LEAKAGE MEASUREMENT
TEST SUMMARY
CLEAR
ALL COMPARTMENTS

SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	P-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
93	0.000	68.1130	26.6610	162868.66	0.0000000	0.0000000	0.0000000
94	0.166	68.0181	26.6577	162875.78	-0.8081576	-0.8081576	-0.8081576
95	0.333	67.9691	26.6558	162878.80	-0.2666152	-0.5371659	-0.5371659
96	0.500	67.9258	26.6513	162863.86	1.3206190	0.0824760	0.0481235
97	0.666	67.8679	26.6488	162864.75	-0.0787470	0.0421536	0.1323113
98	0.833	67.8418	26.6466	162860.59	0.3674716	0.1072400	0.1990319
99	1.000	67.8006	26.6448	162861.70	-0.0980904	0.0730055	0.1683371
100	1.166	67.7586	26.6432	162864.53	-0.2500597	0.0268470	0.1468683
101	1.333	67.7187	26.6418	162867.88	-0.2956456	-0.0134224	0.0978086
102	1.500	67.6950	26.6408	162869.20	-0.1174269	-0.0250251	0.0610969
103	1.666	67.6756	26.6385	162860.64	0.7570522	0.0531967	0.0799532
104	1.833	67.6192	26.6359	162862.16	-0.1340108	0.0361757	0.0718039
105	2.000	67.6177	26.6353	162859.31	0.2514406	0.0541163	0.0722489
106	2.166	67.5505	26.6334	162867.22	-0.2432569	-0.0022222	0.0565515
107	2.333	67.5355	26.6325	162866.42	0.1148540	0.0014864	0.0450093
108	2.500	67.5209	26.6307	162859.70	0.5940474	0.0409890	0.0495415
109	2.666	67.4897	26.6286	162856.34	0.2970359	0.0569925	0.0568826
110	2.833	67.4786	26.6279	162855.41	0.0828955	0.0586163	0.0635682
111	3.000	67.4252	26.6269	162845.39	-0.8828410	0.0062174	0.0225858
112	3.166	67.4250	26.6220	162835.83	2.6138251	0.1434204	0.0813204
113	3.333	67.3966	26.6217	162842.63	-0.6010678	0.1057472	0.0736584
114	3.500	67.3864	26.6239	162858.47	-1.4010513	0.0344745	0.0667721
115	3.666	67.3498	26.6216	162855.17	0.2915019	0.0461581	0.0815147
116	3.833	67.3650	26.6210	162846.56	0.7612622	0.0722494	0.0857467
117	4.000	67.3424	26.6199	162846.70	-0.0124351	0.0705123	0.0851752
118	4.166	67.2956	26.6196	162859.16	-1.1011933	0.0265265	0.0787176
119	4.333	67.2875	26.6180	162851.92	0.6396557	0.0501091	0.0764225
120	4.500	67.2609	26.6173	162855.66	-0.3302092	0.0360215	0.0714795
121	4.666	67.2501	26.6158	162849.50	0.5443491	0.0541277	0.0760543
122	4.833	67.2440	26.6156	162850.13	-0.0552660	0.0504038	0.0693950

STOP --

TABLE 4
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TENNESSEE VALLEY AUTHORITY
CONTAINMENT LEAKAGE MEASUREMENT
TEST SUMMARY
CILRT
ALL COMPARTMENTS

SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	P-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
123	5.000	67.2312	26.6146	162847.59	0.2238263	0.0561841	0.0683786
124	5.166	67.2174	26.6133	162843.23	0.3854713	0.0668057	0.0703952
125	5.333	67.2064	26.6122	162839.78	0.3053562	0.0742574	0.0728715
126	5.500	67.1721	26.6075	162821.55	1.6124808	0.1208663	0.0879973
127	5.666	67.1589	26.6098	162839.78	-1.6126614	0.0698910	0.0813629
128	5.833	67.1368	26.6086	162838.84	0.0829039	0.0702624	0.0838398
129	6.000	67.1194	26.6081	162841.23	-0.2114062	0.0624390	0.0825031
130	6.166	67.1160	26.6073	162837.17	0.3592470	0.0704596	0.0828900
131	6.333	67.0944	26.6070	162841.84	-0.4131444	0.0577346	0.0811835
132	6.500	67.0910	26.6058	162835.56	0.5554491	0.0704949	0.0814139
133	6.666	67.0678	26.6055	162840.48	-0.4352418	0.0578526	0.0798500
134	6.833	67.0452	26.6037	162836.61	0.3426680	0.0647983	0.0797654
135	7.000	67.0369	26.6032	162836.23	0.0331622	0.0640449	0.0786215
136	7.166	67.0148	26.6025	162838.58	-0.2072642	0.0577360	0.0773110
137	7.333	66.9966	26.6012	162836.09	0.2196970	0.0614162	0.0764626
138	7.500	66.9783	26.6008	162838.91	-0.2487173	0.0545232	0.0749845
139	7.666	66.9625	26.5994	162835.03	0.3426713	0.0607882	0.0743239
140	7.833	66.9554	26.5993	162836.97	-0.1713397	0.0558498	0.0730197
141	8.000	66.9307	26.5982	162837.61	-0.0566520	0.0535062	0.0716709
142	8.166	66.9244	26.5986	162841.91	-0.3799682	0.0446606	0.0694721
143	8.333	66.8907	26.5975	162845.64	-0.3302295	0.0371635	0.0664431
144	8.500	66.8996	26.5927	162813.34	2.8559361	0.0924280	0.0699284
145	8.666	66.8691	26.5947	162835.22	-1.9347382	0.0534551	0.0670213
146	8.833	66.8690	26.5936	162827.98	0.6397597	0.0645154	0.0669119
147	9.000	66.8441	26.5928	162830.73	-0.2432024	0.0588178	0.0654354
148	9.166	66.8344	26.5920	162829.42	0.1160719	0.0598584	0.0641454
149	9.333	66.8246	26.5916	162829.45	-0.0027636	0.0587401	0.0627215
150	9.500	66.7875	26.5913	162838.77	-0.8235642	0.0432640	0.0595341
151	9.666	66.7894	26.5900	162829.81	0.7917100	0.0561667	0.0621999
152	9.833	66.7775	26.5898	162832.11	-0.2058906	0.0517257	0.0603662

STOP --

TENNESSEE VALLEY AUTHORITY
CONTAINMENT LEAKAGE MEASUREMENT
TEST SUMMARY
CLCK1
ALL COMPARTMENTS

SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	F-T-F LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
153	10.000	66.7699	26.5869	162829.14	0.2653649	0.0552845	0.0562254
154	10.166	66.7698	26.5889	162828.50	0.0566547	0.0553067	0.0562471
155	10.333	66.7471	26.5879	162829.72	-0.1077825	0.0526766	0.0535445
156	10.500	66.7322	26.5872	162827.88	0.1630544	0.0544781	0.0553803
157	10.666	66.7070	26.5866	162833.78	-0.5224327	0.0454180	0.0461853
158	10.833	66.7212	26.5861	162825.64	0.7199087	0.0557927	0.0567961
159	11.000	66.7093	26.5852	162823.69	0.1727414	0.0575639	0.0585972
160	11.166	66.7033	26.5856	162828.11	-0.3910553	0.0508693	0.0517665
161	11.333	66.6795	26.5851	162827.30	-0.3703306	0.0446763	0.0454722
162	11.500	66.6815	26.5847	162828.70	0.3178128	0.0486339	0.0495082
163	11.666	66.6597	26.5786	162798.67	2.6558688	0.0958720	0.0980431
164	11.833	66.6494	26.5818	162821.06	-1.9805212	0.0567290	0.0578833
165	12.000	66.6362	26.5822	162827.52	-0.5707207	0.0480658	0.0492447
166	12.166	66.6292	26.5784	162806.91	1.8226411	0.0723695	0.0740823
167	12.333	66.6024	26.5818	162835.22	-2.5042031	0.0375627	0.0385203
168	12.500	66.6058	26.5800	162820.77	1.1012769	0.0517429	0.0529813
169	12.666	66.5830	26.5782	162817.69	0.4490942	0.0569699	0.0583432
170	12.833	66.5890	26.5778	162814.58	0.2763838	0.0598184	0.0612720
171	13.000	66.5658	26.5771	162817.78	-0.2846808	0.0554028	0.0567765
172	13.166	66.5534	26.5765	162817.25	0.0469652	0.0553981	0.0583966
173	13.333	66.5535	26.5773	162821.59	-0.3841746	0.0499041	0.0525454
174	13.500	66.5519	26.5765	162817.41	0.3703454	0.0547602	0.0575824
175	13.666	66.5174	26.5749	162818.03	-0.0557769	0.0523305	0.0550781
176	13.833	66.5178	26.5744	162814.94	0.2738194	0.0550946	0.0579335
177	14.000	66.4966	26.5742	162820.55	-0.4961173	0.0485343	0.0510759
178	14.166	66.4770	26.5738	162824.62	-0.3067701	0.0443551	0.0467140
179	14.333	66.4797	26.5736	162821.50	0.2224803	0.0464257	0.0488544
180	14.500	66.4650	26.5722	162817.14	0.3855464	0.0503224	0.0529698
181	14.666	66.4569	26.5712	162814.22	0.2584197	0.0528683	0.0556458
182	14.833	66.4287	26.5712	162822.67	-0.7476341	0.0436965	0.0460782

STOP --

TENNESSEE VALLEY AUTHORITY
CONTAINMENT LEAKAGE MEASUREMENT
TEST SUMMARY
CURT
ALL COMPARTMENTS

SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG. F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	P-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
183	15.000	66.4367	26.5715	162822.00	0.0594707	0.0438711	0.0543252
184	15.166	66.4225	26.5703	162818.95	0.2694671	0.0463494	0.0538512
185	15.333	66.4074	26.5700	162821.59	-0.2335425	0.0433020	0.0521737
186	15.500	66.4115	26.5697	162818.23	0.2971055	0.0460359	0.0517565
187	15.666	66.4175	26.5683	162807.27	0.9700705	0.0558635	0.0518619
188	15.833	66.3912	26.5672	162808.75	-0.1313907	0.0538939	0.0519850
189	16.000	66.3988	26.5668	162807.27	0.1312895	0.0546997	0.0520120
190	16.166	66.3700	26.5671	162814.84	-0.6202736	0.0472381	0.0517446
191	16.333	66.3625	26.5657	162808.95	0.5209926	0.0530668	0.0516524
192	16.500	66.3544	26.5664	162815.45	-0.5749091	0.0457298	0.0512387
193	16.666	66.3342	26.5645	162809.97	0.4850602	0.0501216	0.0510170
194	16.833	66.3260	26.5645	162812.80	-0.2501392	0.0471495	0.0507790
195	17.000	66.3186	26.5633	162807.34	0.4823042	0.0511143	0.0508194
196	17.166	66.3288	26.5633	162803.87	0.3054235	0.0538793	0.0508631
197	17.333	66.3230	26.5637	162807.75	-0.3413512	0.0500801	0.0506803
198	17.500	66.3063	26.5628	162806.94	0.0718666	0.0502824	0.0505471
199	17.666	66.2958	26.5613	162800.89	0.5348197	0.0548568	0.0506597
200	17.833	66.2971	26.5605	162795.88	0.4436570	0.0584837	0.0510349
201	18.000	66.2893	26.5603	162797.00	-0.0995081	0.0570761	0.0511054
202	18.166	66.2803	26.5597	162795.98	0.0898331	0.0573267	0.0511659
203	18.333	66.2751	26.5597	162797.19	-0.1064256	0.0558385	0.0510896
204	18.500	66.2579	26.5583	162794.31	0.2542964	0.0576255	0.0510954
205	18.666	66.2476	26.5580	162796.16	-0.1630955	0.0556505	0.0509715
206	18.833	66.2335	26.5576	162797.83	-0.1478798	0.0538548	0.0508151
207	19.000	66.2357	26.5573	162795.45	0.2100845	0.0557244	0.0509090
208	19.166	66.2118	26.5562	162796.05	-0.0525183	0.0547877	0.0508331
209	19.333	66.2036	26.5565	162800.22	-0.3690341	0.0504398	0.0505705
210	19.500	66.2076	26.5554	162792.14	0.7145043	0.0563116	0.0509875
211	19.666	66.1860	26.5545	162792.84	-0.0621940	0.0553075	0.0508681
212	19.833	66.1861	26.5535	162787.17	0.5017304	0.0590570	0.0528177

STOP --

TENNESSEE VALLEY AUTHORITY
CONTAINMENT LEAKAGE MEASUREMENT
TEST SUMMARY
LILRT
ALL COMPARTMENTS

SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	P-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
213	20.000	66.1626	26.5497	162771.39	1.3959520	0.0701926	0.0537032
214	20.166	66.1497	26.5494	162773.66	-0.2004421	0.0679570	0.0540521
215	20.333	66.1449	26.5496	162776.34	-0.2377462	0.0654522	0.0542384
216	20.500	66.1461	26.5529	162796.08	-1.7458670	0.0507343	0.0544639
217	20.666	66.1307	26.5510	162788.73	0.6495659	0.0555615	0.0546565
218	20.833	66.1265	26.5512	162791.20	-0.2183896	0.0533708	0.0545875
219	21.000	66.1122	26.5499	162787.88	0.2943965	0.0552826	0.0546568
220	21.166	66.0941	26.5499	162793.28	-0.4782152	0.0510835	0.0545455
221	21.333	66.0922	26.5495	162791.66	0.1437460	0.0518067	0.0543782
222	21.500	66.0748	26.5490	162793.80	-0.1893467	0.0499381	0.0541992
223	21.666	66.0812	26.5482	162786.87	0.6123011	0.0542617	0.0541908
224	21.833	66.0725	26.5473	162783.89	0.2639874	0.0558617	0.0542085
225	22.000	66.0661	26.5474	162786.41	-0.2225428	0.0532535	0.0542505
226	22.166	66.0470	26.5464	162786.44	-0.0027643	0.0533286	0.0542303
227	22.333	66.0449	26.5463	162786.72	-0.0248802	0.0527450	0.0541105
228	22.500	66.0379	26.5459	162786.05	0.0594318	0.0527944	0.0540594
229	22.666	66.0422	26.5459	162784.42	0.1437426	0.0534626	0.0540726
230	22.833	66.0251	26.5454	162786.41	-0.1755456	0.0517917	0.0538746
231	23.000	66.0073	26.5449	162788.66	-0.1990278	0.0499748	0.0537064
232	23.166	66.0140	26.5458	162793.34	-0.3262023	0.0472697	0.0534134
233	23.333	65.9929	26.5452	162795.22	-0.2543040	0.0451163	0.0530539
234	23.500	66.0063	26.5449	162789.22	0.5307484	0.0485588	0.0528640
235	23.666	65.9944	26.5431	162781.67	0.6675607	0.0529159	0.0528473
236	23.833	65.9767	26.5427	162784.61	-0.2598672	0.0507296	0.0527585
237	24.000	65.9572	26.5432	162793.94	-0.8251451	0.0446498	0.0523490
238	24.166	65.9559	26.5435	162796.14	-0.1948723	0.0429984	0.0519755
239	24.333	65.9598	26.5438	162796.89	-0.0663432	0.0423497	0.0514992

STOP --

TENNESSEE VALLEY AUTHORITY
CONTAINMENT LEAKAGE MEASUREMENT
TEST SUMMARY
VERIFICATION TEST
ALL COMPARTMENTS

SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	P-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
250	0.000	65.8598	26.5331	162763.09	0.0000000	0.0000000	0.0000000
251	0.083	65.8511	26.5324	162761.91	0.2101438	0.2101438	0.2115489
252	0.167	65.8485	26.5325	162762.91	-0.1769402	0.0165892	0.0165898
253	0.250	65.8523	26.5318	162757.67	0.9261655	0.3197948	0.2687389
254	0.333	65.8371	26.5310	162757.09	0.1022962	0.2654174	0.2853198
255	0.417	65.8274	26.5312	162761.36	-0.7548864	0.0613791	0.1421902
256	0.500	65.8392	26.5300	162750.48	1.9242311	0.3718652	0.2796385
257	0.583	65.8446	26.5300	162748.91	0.2792533	0.3586313	0.3380904
258	0.667	65.8295	26.5287	162746.34	0.4534455	0.3704785	0.3726855
259	0.750	65.8270	26.5282	162743.92	0.4285680	0.3769282	0.3924874
260	0.833	65.8229	26.5278	162742.89	0.1825148	0.3574866	0.3945003
261	0.917	65.8120	26.5281	162747.58	-0.8295041	0.2495837	0.3489368
262	1.000	65.7937	26.5274	162749.27	-0.2986128	0.2039014	0.3018740
263	1.083	65.7884	26.5268	162747.23	0.3594377	0.2158638	0.2729994
264	1.167	65.7920	26.5269	162746.86	0.0663677	0.2051861	0.2474077
265	1.250	65.7817	26.5265	162747.75	-0.1576019	0.1810004	0.2217034
266	1.333	65.7736	26.5261	162747.97	-0.0387090	0.1672683	0.1990654
267	1.417	65.7902	26.5261	162743.06	0.8681871	0.2084954	0.1955728
268	1.500	65.7807	26.5252	162740.09	0.5253520	0.2260955	0.1974350
269	1.583	65.7731	26.5248	162739.97	0.0221235	0.2153610	0.1963710
270	1.667	65.7765	26.5233	162730.39	1.6949836	0.2893327	0.2157822
271	1.750	65.7754	26.5231	162729.02	0.2433399	0.2871401	0.2301988
272	1.833	65.7695	26.5220	162723.78	0.9263585	0.3161876	0.2491558
273	1.917	65.7550	26.5223	162730.25	-1.1450071	0.2526759	0.2492611
274	2.000	65.7610	26.5216	162724.28	1.0563171	0.2861532	0.2572498
275	2.083	65.7555	26.5213	162723.98	0.0525413	0.2768079	0.2613329
276	2.167	65.7421	26.5211	162727.50	-0.6222004	0.2422353	0.2573145
277	2.250	65.7345	26.5206	162726.33	0.2073956	0.2409432	0.2545207
278	2.333	65.7248	26.5195	162722.73	0.6361052	0.2550496	0.2541723
279	2.417	65.7193	26.5192	162723.14	-0.0718993	0.2437757	0.2522491
280	2.500	65.7230	26.5193	162722.14	0.1769823	0.2415478	0.2500055
281	2.583	65.7267	26.5185	162716.41	1.0148892	0.2664868	0.2525737

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SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	P-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
282	2.667	65.7007	26.5172	162716.55	-0.0248926	0.2573824	0.2533522
283	2.750	65.7070	26.5176	162716.56	-0.0027655	0.2494988	0.2523994
284	2.833	65.7061	26.5174	162715.89	0.1189148	0.2456570	0.2515884
285	2.917	65.6995	26.5168	162714.28	0.2848436	0.2467743	0.2503185
286	3.000	65.7029	26.5167	162712.38	0.3373910	0.2492887	0.2506923
287	3.083	65.7113	26.5157	162703.61	1.5516765	0.2844717	0.2551063
288	3.167	65.6815	26.5156	162711.91	-1.4685766	0.2383514	0.2527368
289	3.250	65.7015	26.5151	162702.75	1.6206063	0.2737819	0.2561541
290	3.333	65.7005	26.5150	162702.58	0.0304227	0.2676975	0.2583026
291	3.417	65.6860	26.5139	162700.06	0.4453386	0.2720257	0.2601467
292	3.500	65.6879	26.5137	162698.09	0.3484834	0.2738430	0.2622894
293	3.583	65.6860	26.5135	162697.55	0.0968021	0.2697247	0.2633581
294	3.667	65.6984	26.5125	162690.80	1.1948186	0.2907393	0.2674431
295	3.750	65.6658	26.5117	162692.77	-0.3485032	0.2765369	0.2689666
296	3.833	65.6727	26.5108	162685.55	1.2780052	0.2982937	0.2732710
297	3.917	65.6545	26.5104	162688.41	-0.5061758	0.2811819	0.2749795
298	4.000	65.6556	26.5102	162686.94	0.2599983	0.2807381	0.2766805
299	4.083	65.6575	26.5106	162688.70	-0.3125540	0.2686327	0.2767184
300	4.167	65.6593	26.5104	162686.86	0.3264251	0.2697854	0.2783186
301	4.250	65.6397	26.5094	162686.23	0.0221277	0.2649290	0.2759653
302	4.333	65.6442	26.5091	162683.94	0.4951082	0.2693512	0.2759858
303	4.417	65.6501	26.5093	162683.13	0.1438328	0.2669815	0.2758239
304	4.500	65.6489	26.5086	162678.95	0.7385297	0.2757075	0.2768672
305	4.583	65.6336	26.5079	162679.69	-0.1300246	0.2683325	0.2757545
306	4.667	65.6364	26.5076	162677.39	0.4066148	0.2707982	0.2758046
307	4.750	65.6263	26.5075	162679.98	-0.4591771	0.2579955	0.2745824
308	4.833	65.6204	26.5070	162678.27	0.3042691	0.2587906	0.2732633
309	4.917	65.6127	26.5059	162674.45	0.6750240	0.2658387	0.2728036
310	5.000	65.6035	26.5053	162673.94	0.0912838	0.2629286	0.2726286
311	5.083	65.6066	26.5050	162671.28	0.4702516	0.2663232	0.2734789
312	5.167	65.6162	26.5043	162663.97	1.2945960	0.2828970	0.2737721
313	5.250	65.6098	26.5041	162664.70	-0.1300187	0.2763438	0.2745527

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SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	P-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
314	5.333	65.5981	26.5038	162666.67	-0.3486070	0.2665833	0.2743230
315	5.417	65.5988	26.5035	162664.16	0.4453758	0.2693299	0.2742732
316	5.500	65.5855	26.5032	162666.50	-0.4149528	0.2589655	0.2733583
317	5.583	65.5871	26.5023	162660.73	1.0207691	0.2703270	0.2734687
318	5.667	65.5836	26.5018	162658.77	0.3486155	0.2714750	0.2738506
319	5.750	65.5829	26.5009	162653.44	0.9433572	0.2812039	0.2746132
320	5.833	65.5897	26.5008	162650.72	0.4813769	0.2840590	0.2759875
321	5.917	65.5742	26.5002	162652.17	-0.2572920	0.2764367	0.2761163
322	6.000	65.5584	26.4997	162654.17	-0.3541191	0.2676820	0.2759280
323	6.083	65.5529	26.4998	162656.75	-0.4565388	0.2577664	0.2750050
324	6.167	65.5653	26.5003	162656.30	0.0802279	0.2553664	0.2735239
325	6.250	65.5542	26.4999	162657.44	-0.2019535	0.2492704	0.2721560
326	6.333	65.5480	26.4993	162655.06	0.4205028	0.2515200	0.2708434
327	6.417	65.5555	26.4992	162652.55	0.4454687	0.2540347	0.2697951
328	6.500	65.5560	26.4989	162650.42	0.3762507	0.2555983	0.2687750
329	6.583	65.5316	26.4971	162646.86	0.6307815	0.2603421	0.2683776
330	6.667	65.5337	26.4964	162642.30	0.8078607	0.2671791	0.2685322
331	6.750	65.5369	26.4958	162637.39	0.8687512	0.2745992	0.2689942
332	6.833	65.5268	26.4954	162638.53	-0.2020046	0.2687884	0.2691922
333	6.917	65.5239	26.4948	162635.66	0.5090889	0.2716790	0.2693202
334	7.000	65.5271	26.4942	162631.42	0.7498127	0.2773643	0.2700519
335	7.083	65.5344	26.4945	162631.03	0.0691727	0.2749142	0.2706757
336	7.167	65.5106	26.4941	162636.08	-0.8937136	0.2613336	0.2699619
337	7.250	65.5074	26.4934	162633.22	0.5063993	0.2641456	0.2698368
338	7.333	65.5009	26.4935	162635.78	-0.4537680	0.2559913	0.2692287
339	7.417	65.5078	26.4931	162631.45	0.7664131	0.2617198	0.2687426
340	7.500	65.5057	26.4927	162629.81	0.2905253	0.2620373	0.2685009
341	7.583	65.5070	26.4926	162628.92	0.1577370	0.2608899	0.2680865
342	7.667	65.4998	26.4916	162624.38	0.8051828	0.2667990	0.2680210
343	7.750	65.4990	26.4915	162624.11	0.0470395	0.2644356	0.2679023
344	7.833	65.4874	26.4907	162622.36	0.3099077	0.2649165	0.2677338
345	7.917	65.4903	26.4911	162624.09	-0.3071440	0.2588974	0.2671725

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SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	P-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
346	8.000	65.4884	26.4905	162621.05	0.5396456	0.2618167	0.2669234
347	8.083	65.4881	26.4901	162618.94	0.3735565	0.2629654	0.2668490
348	8.167	65.4922	26.4902	162617.95	0.1743286	0.2620593	0.2665124
349	8.250	65.4872	26.4895	162615.33	0.4648792	0.2641039	0.2664448
350	8.333	65.4807	26.4893	162615.89	-0.0996322	0.2604678	0.2661279
351	8.417	65.4668	26.4882	162613.91	0.3514310	0.2613653	0.2658679
352	8.500	65.4757	26.4882	162610.72	0.5645101	0.2643324	0.2658474
353	8.583	65.4744	26.4872	162605.66	0.8965926	0.2704628	0.2662258
354	8.667	65.4586	26.4871	162609.81	-0.7361143	0.2607907	0.2659113
355	8.750	65.4722	26.4868	162603.41	1.1347392	0.2691030	0.2661581
356	8.833	65.4645	26.4861	162602.00	0.2490647	0.2689117	0.2664196
357	8.917	65.4598	26.4864	162604.81	-0.4981337	0.2617474	0.2660457
358	9.000	65.4502	26.4854	162601.75	0.5474028	0.2643413	0.2660319
359	9.083	65.4548	26.4853	162599.95	0.3182963	0.2648333	0.2658864
360	9.167	65.4416	26.4847	162599.94	0.0027674	0.2624508	0.2657202
361	9.250	65.4502	26.4848	162598.16	0.3154886	0.2629258	0.2655342
362	9.333	65.4476	26.4843	162596.03	0.3763766	0.2639354	0.2654491
363	9.417	65.4599	26.4836	162588.13	1.4003605	0.2739798	0.2659740
364	9.500	65.4394	26.4832	162591.47	-0.5923574	0.2663867	0.2660653
365	9.583	65.4450	26.4817	162580.50	1.9426470	0.2809473	0.2668177
366	9.667	65.4338	26.4808	162578.44	0.3653463	0.2816713	0.2675435
367	9.750	65.4311	26.4803	162576.67	0.3127626	0.2819341	0.2683669
368	9.833	65.4331	26.4794	162570.55	1.0851425	0.2887297	0.2693994
369	9.917	65.4310	26.4796	162572.44	-0.3349213	0.2834971	0.2701520
370	10.000	65.4232	26.4799	162577.28	-0.8580528	0.2739873	0.2704130
371	10.083	65.4202	26.4795	162575.47	0.3210683	0.2743734	0.2706654
372	10.167	65.4095	26.4797	162580.36	-0.8663405	0.2650312	0.2704703
373	10.250	65.4124	26.4798	162579.80	0.0996537	0.2636859	0.2702876
374	10.333	65.4101	26.4791	162576.30	0.6199843	0.2665537	0.2701146
375	10.417	65.3987	26.4782	162574.30	0.3542844	0.2672523	0.2701541
376	10.500	65.4085	26.4773	162565.67	1.5278703	0.2772435	0.2706888
377	10.583	65.4013	26.4762	162561.47	0.7447017	0.2809167	0.2711977

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SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	F-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
378	10.667	65.3982	26.4754	162557.72	0.6643438	0.2839059	0.2719661
379	10.750	65.3842	26.4745	162556.38	0.2380620	0.2835482	0.2725110
380	10.833	65.3928	26.4740	162550.73	0.9993151	0.2890445	0.2742993
381	10.917	65.3807	26.4727	162546.48	0.7529727	0.2925785	0.2743135
382	11.000	65.3773	26.4731	162550.20	-0.6589588	0.2853773	0.2749302
383	11.083	65.3691	26.4722	162547.27	0.5204387	0.2871397	0.2755980
384	11.167	65.3672	26.4723	162548.33	-0.1882472	0.2835937	0.2761454
385	11.250	65.3834	26.4723	162543.39	0.8747901	0.2879646	0.2768255
386	11.333	65.3694	26.4718	162544.41	-0.1799712	0.2845260	0.2773079
387	11.417	65.3765	26.4718	162542.11	0.4069533	0.2854156	0.2778382
388	11.500	65.3700	26.4711	162539.92	0.3875801	0.2861522	0.2783459
389	11.583	65.3684	26.4696	162531.28	1.5309619	0.2950929	0.2792479
390	11.667	65.3522	26.4694	162535.52	-0.7502941	0.2876332	0.2798927
391	11.750	65.3343	26.4684	162534.61	0.1605974	0.2867307	0.2802144
392	11.833	65.3398	26.4675	162527.84	1.1987851	0.2931420	0.2809289
393	11.917	65.3371	26.4681	162532.80	-0.8776690	0.2849631	0.2812606
394	12.000	65.3336	26.4677	162531.17	0.2879331	0.2849809	0.2817662
395	12.083	65.3320	26.4668	162526.16	0.8888476	0.2891364	0.2821727
396	12.167	65.3409	26.4671	162525.48	0.1190541	0.2879702	0.2827415
397	12.250	65.3338	26.4667	162524.92	0.0996736	0.2866882	0.2830851
398	12.333	65.3304	26.4664	162524.41	0.0913678	0.2853675	0.2833389
399	12.417	65.3166	26.4661	162526.61	-0.3903910	0.2808359	0.2835078
400	12.500	65.3589	26.4657	162511.17	2.7358444	0.2971745	0.2843060
401	12.583	65.3327	26.4646	162512.52	-0.2381302	0.2936317	0.2848839
402	12.667	65.3220	26.4638	162511.44	0.1910564	0.2939549	0.2853668
403	12.750	65.3200	26.4635	162510.16	0.2270540	0.2925219	0.2859827
404	12.833	65.3022	26.4630	162512.61	-0.4347885	0.2878039	0.2861758
405	12.917	65.3178	26.4628	162506.53	1.0771143	0.2928858	0.2866136
406	13.000	65.3042	26.4628	162510.73	-0.7448704	0.2862408	0.2868601
407	13.083	65.3077	26.4623	162507.03	0.6562443	0.2885911	0.2872356
408	13.167	65.2934	26.4614	162505.64	0.2464434	0.2833219	0.2875293
409	13.250	65.3053	26.4614	162502.28	0.5954276	0.2902472	0.2878447

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410	13.333	65.2929	26.4610	162503.78	-0.2658343	0.2867743	0.2880825
411	13.417	65.3030	26.4611	162501.09	0.4762821	0.2879467	0.2882460
412	13.500	65.3053	26.4606	162497.27	0.6784363	0.2903504	0.2887152
413	13.583	65.3051	26.4594	162490.09	1.2712343	0.2963547	0.2892883
414	13.667	65.3070	26.4583	162482.52	1.3431177	0.3027239	0.2899583
415	13.750	65.3027	26.4591	162488.23	-1.0136167	0.2947544	0.2903646
416	13.833	65.3190	26.4579	162475.94	2.1794760	0.3060884	0.2912183
417	13.917	65.3049	26.4568	162473.78	0.3821988	0.3065400	0.2920671
418	14.000	65.2964	26.4569	162476.86	-0.5456848	0.3014736	0.2925716
419	14.083	65.2816	26.4567	162480.00	-0.5566777	0.2964014	0.2929981
420	14.167	65.2864	26.4563	162476.75	0.5760533	0.2980406	0.2934316
421	14.250	65.2872	26.4555	162471.59	0.9139491	0.3016331	0.2940311
422	14.333	65.2788	26.4551	162471.53	0.0110800	0.2999439	0.2945516
423	14.417	65.2778	26.4543	162467.50	0.7145649	0.3023333	0.2950737
424	14.500	65.2839	26.4546	162467.22	0.0498546	0.3008817	0.2955966
425	14.583	65.2698	26.4540	162467.91	-0.1218670	0.2984671	0.2959703
426	14.667	65.2707	26.4531	162462.20	1.0109380	0.3025050	0.2964954
427	14.750	65.2702	26.4527	162460.06	0.3795134	0.3029360	0.2968751
428	14.833	65.2572	26.4516	162457.56	0.4431723	0.3037193	0.2974092
429	14.917	65.2553	26.4516	162458.38	-0.1440332	0.3012193	0.2977134
430	15.000	65.2543	26.4516	162458.59	-0.0387780	0.2993307	0.2980995
431	15.083	65.2601	26.4502	162448.03	1.8726772	0.3080030	0.2987573
432	15.167	65.2654	26.4470	162427.44	3.6509020	0.3263323	0.2998725
433	15.250	65.2662	26.4503	162446.47	-3.3743269	0.3061475	0.3004408
434	15.333	65.2676	26.4503	162446.08	0.0692515	0.3048593	0.3009388
435	15.417	65.2725	26.4504	162445.20	0.1551450	0.3040485	0.3012423
436	15.500	65.2785	26.4506	162444.80	0.0720221	0.3028002	0.3016717
437	15.583	65.2542	26.4494	162444.17	0.1108035	0.3017723	0.3019753
438	15.667	65.2545	26.4478	162434.42	1.7285413	0.3093438	0.3025206
439	15.750	65.2562	26.4480	162435.19	-0.1357429	0.3069902	0.3029396
440	15.833	65.2627	26.4470	162427.67	1.3326739	0.3123738	0.3035884
441	15.917	65.2480	26.4464	162428.47	-0.1412893	0.3100000	0.3040527

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442	16.000	65.2411	26.4461	162428.84	-0.0664888	0.3080398	0.3045109
443	16.083	65.2477	26.4464	162428.55	0.0526368	0.3067159	0.3048569
444	16.167	65.2289	26.4463	162433.47	-0.8727847	0.3006459	0.3050727
445	16.250	65.2321	26.4457	162428.59	0.8643275	0.3035277	0.3054127
446	16.333	65.2322	26.4452	162425.52	0.5457617	0.3047578	0.3057438
447	16.417	65.2250	26.4457	162430.38	-0.8615995	0.2988462	0.3058086
448	16.500	65.2311	26.4441	162419.20	1.9807884	0.3073206	0.3062389
449	16.583	65.2121	26.4436	162421.45	-0.3990107	0.3037758	0.3064582
450	16.667	65.2029	26.4429	162420.50	0.1689996	0.3031002	0.3066255
451	16.750	65.1967	26.4428	162421.83	-0.2354927	0.3004230	0.3067432
452	16.833	65.2080	26.4425	162416.63	0.9225695	0.3034934	0.3070078
453	16.917	65.1969	26.4420	162416.89	-0.0471061	0.3017670	0.3071246
454	17.000	65.2040	26.4416	162412.77	0.7314787	0.3038656	0.3072690
455	17.083	65.1995	26.4414	162412.39	0.0664952	0.3027070	0.3074056
456	17.167	65.1993	26.4411	162410.55	0.3269356	0.3028212	0.3076595
457	17.250	65.2039	26.4404	162404.69	1.0390018	0.3063668	0.3078639
458	17.333	65.1898	26.4404	162408.97	-0.7592956	0.3012521	0.3080205
459	17.417	65.1789	26.4397	162408.08	0.1579298	0.3005646	0.3081309
460	17.500	65.1868	26.4404	162409.53	-0.2576764	0.2979089	0.3080235
461	17.583	65.1960	26.4395	162401.48	1.4269047	0.3032451	0.3082292
462	17.667	65.1843	26.4379	162395.28	1.1001691	0.3069923	0.3084550
463	17.750	65.1718	26.4374	162395.50	-0.0387930	0.3053692	0.3086433
464	17.833	65.1740	26.4373	162394.30	0.2133615	0.3049370	0.3088684
465	17.917	65.1759	26.4371	162393.03	0.2244468	0.3045602	0.3090478
466	18.000	65.1559	26.4362	162393.45	-0.0748162	0.3028046	0.3091831
467	18.083	65.1604	26.4360	162391.19	0.4018448	0.3032568	0.3093547
468	18.167	65.1553	26.4361	162393.80	-0.4627573	0.2997477	0.3093279
469	18.250	65.1561	26.4357	162390.98	0.4987723	0.3006513	0.3093401
470	18.333	65.1401	26.4356	162394.91	-0.6955223	0.2961304	0.3093143
471	18.417	65.1414	26.4350	162390.70	0.7454848	0.2981558	0.3094006
472	18.500	65.1346	26.4345	162390.09	0.1080694	0.2972984	0.3093005
473	18.583	65.1379	26.4337	162384.14	1.0557588	0.3006888	0.3093837

TENNESSEE VALLEY AUTHORITY
CONTAINMENT LEAKAGE MEASUREMENT
TEST SUMMARY
VERIFICATION TEST
ALL COMPARTMENTS

SAMPLE	HOURS SINCE START	AVERAGE TEMPERATURE (DEG F.)	CORRECTED PRESSURE (PSIA)	TOTAL MASS OF AIR (LBM)	P-T-P LEAK RATE (% PER DAY)	TOTAL TIME LEAK RATE (% PER DAY)	MASS LEAK RATE (% PER DAY)
474	18.667	65.1538	26.4324	162371.11	2.3111160	0.3096402	0.3097143
475	18.750	65.1284	26.4319	162375.95	-0.8591167	0.3044548	0.3099295
476	18.833	65.1295	26.4314	162372.63	0.5903599	0.3057135	0.3100365
477	18.917	65.1207	26.4315	162375.80	-0.5625277	0.3018942	0.3100993
478	19.000	65.1262	26.4301	162365.77	1.7791518	0.3083551	0.3101959
479	19.083	65.1202	26.4297	162366.02	-0.0443430	0.3068153	0.3103687
480	19.167	65.1043	26.4296	162369.36	-0.5931678	0.3029091	0.3104359
481	19.250	65.0863	26.4293	162373.16	-0.6734446	0.2986894	0.3103960
482	19.333	65.1068	26.4288	162363.91	1.6406152	0.3044567	0.3104770
483	19.417	65.1015	26.4289	162366.45	-0.4517491	0.3012159	0.3106494
484	19.500	65.1008	26.4287	162365.56	0.1579712	0.3006020	0.3105956
485	19.583	65.0815	26.4279	162366.17	-0.1081010	0.2988642	0.3105097
486	19.667	65.0834	26.4274	162362.42	0.6651429	0.3004094	0.3106379
487	19.750	65.0929	26.4267	162355.11	1.2970586	0.3046014	0.3106695
488	19.833	65.0931	26.4263	162352.84	0.4018846	0.3050059	0.3107228
489	19.917	65.0894	26.4260	162352.22	0.1108815	0.3041925	0.3109270
490	20.000	65.0885	26.4255	162349.45	0.4905850	0.3049641	0.3109270
491	20.083	65.0727	26.4254	162353.38	-0.6957002	0.3008191	0.3109346
492	20.167	65.0760	26.4250	162350.03	0.5931326	0.3020209	0.3110321
493	20.250	65.0674	26.4245	162349.80	0.0415756	0.3009486	0.3109840
494	20.333	65.0748	26.4244	162346.92	0.5100644	0.3018003	0.3110167
495	20.417	65.0667	26.4241	162347.25	-0.0582069	0.3003314	0.3110180
496	20.500	65.0567	26.4238	162348.27	-0.1801639	0.2983800	0.3109887
497	20.583	65.0568	26.4236	162347.02	0.2217388	0.2980674	0.3109303
498	20.667	65.0626	26.4230	162341.55	0.9702477	0.3007675	0.3108960
499	20.750	65.0729	26.4229	162337.80	0.6652438	0.3022244	0.3108649
500	20.833	65.0539	26.4226	162341.86	-0.7206975	0.2981401	0.3107416

TABLE 6
TESTABLE PENETRATIONS REQUIRED TO BE IN SERVICE DURING TEST PERFORMANCE

Penetration	Description	Justification	Leakage Rate Added to 95% UCL
X-27(C)	Integrated Leak Rate System Pressure	Isolation valves required to be open to monitor containment pressure.	0.0000 SCFH
X-47A	Ice Condenser System	Glycol cooling supply to air handling units in ice condenser required to ensure ice condition is maintained.	0.1846 SCFH
X-47B	Ice Condenser System	Same as X-47A.	0.0000 SCFH
X-54	Thimble Renewal	Used as pressurization point for air compressors.	0.0000 SCFH
X-98	Integral Leak Rate System Pressure	Same as X-27(C).	0.0000 SCFH
X-114	Ice Condenser System	Glycol return from air handling units required to ensure ice condition is maintained.	0.0000 SCFH
X-115	Ice Condenser System	Same as X-114.	0.0000 SCFH
X-118	Hatch	Used as source for verification flow and post test depressurization	0.0000 SCFH

TABLE 6
TESTABLE PENETRATIONS REQUIRED TO BE IN SERVICE DURING TEST PERFORMANCE (Continued)

Penetration	Description	Justification	Leakage Rate Added to 95% UCL
X-46	Waste Disposal	Used to provide leakoff for RCP seals.	0.1006 SCFH
X-110	UHI	Required since reactor coolant pressure will exceed test pressure.	0.0000 SCFH
X-87A	Integrated Leak Rate System Pressure	Same as X-27C.	0.0000 SCFH
X-87D	Integrated Leak Rate System Pressure	Same as X-27C.	0.0000 SCFH

TENNESSEE VALLEY AUTHORITY
CILRT
TEMPERATURE STABILIZATION

TEMP. STABILIZATION CRITERIA:
ABS(AVG. RATE OF TEMP. CHANGE FOR LAST 4 HOURS - AVG. RATE OF TEMP. CHANGE FOR LAST HOUR)
MUST BE LESS THAN OR EQUAL TO 0.5 (DEG.F/HR.)

SAMPLE NO.	TIME	TEMPERATURE	RATE OF CHANGE OF CONTAINMENT TEMP.(DEG.F/HR)
68	4.202	69.0144	0.0000
69	4.369	68.9996	0.0888
70	4.536	68.9572	0.2546
71	4.702	68.9657	0.0514
72	4.869	68.9247	0.2343
73	5.036	68.9323	0.0340
74	5.202	68.9440	0.0700
75	5.369	68.9322	0.0705
76	5.536	68.8906	0.2499
77	5.702	68.8832	0.0443
78	5.869	68.8840	0.0048
79	6.036	68.8616	0.1343
80	6.202	68.8669	0.0316
81	6.369	68.8493	0.1055
82	6.536	68.8324	0.1015
83	6.759	68.8270	0.0240
84	6.925	68.8061	0.1258
85	7.092	68.8097	0.0215
86	7.259	68.7905	0.1152
87	7.425	68.7967	0.0372
88	7.614	68.7901	0.0347
89	7.781	68.7774	0.0762
90	7.947	68.7479	0.1771
91	8.114	68.5684	1.0769
92	8.281	68.3545	1.2837

THE AVG. RATE OF TEMPERATURE CHANGE FOR THE LAST 4 HOURS= 0.1853 (DEG.F/HR).

THE AVG. RATE OF TEMPERATURE CHANGE FOR THE LAST HOUR= 0.4476 (DEG.F/HR).

THE TEMP. STABILIZATION CHECK INDICATED A VALUE OF 0.2623 DEG.F/HR.,
WHICH IS ONLY 52.46 PERCENT OF THE RECOMMENDED 0.5(DEG.F/HR).

STABILITY CHECK INDICATES COND. ARE FAVORABLE TO PROCEED WITH CILRT.
STOP --

TABLE 7

FIGURES

SQNP (1) - CYCLE (3)

CILRT - SEQUENCE OF EVENTS

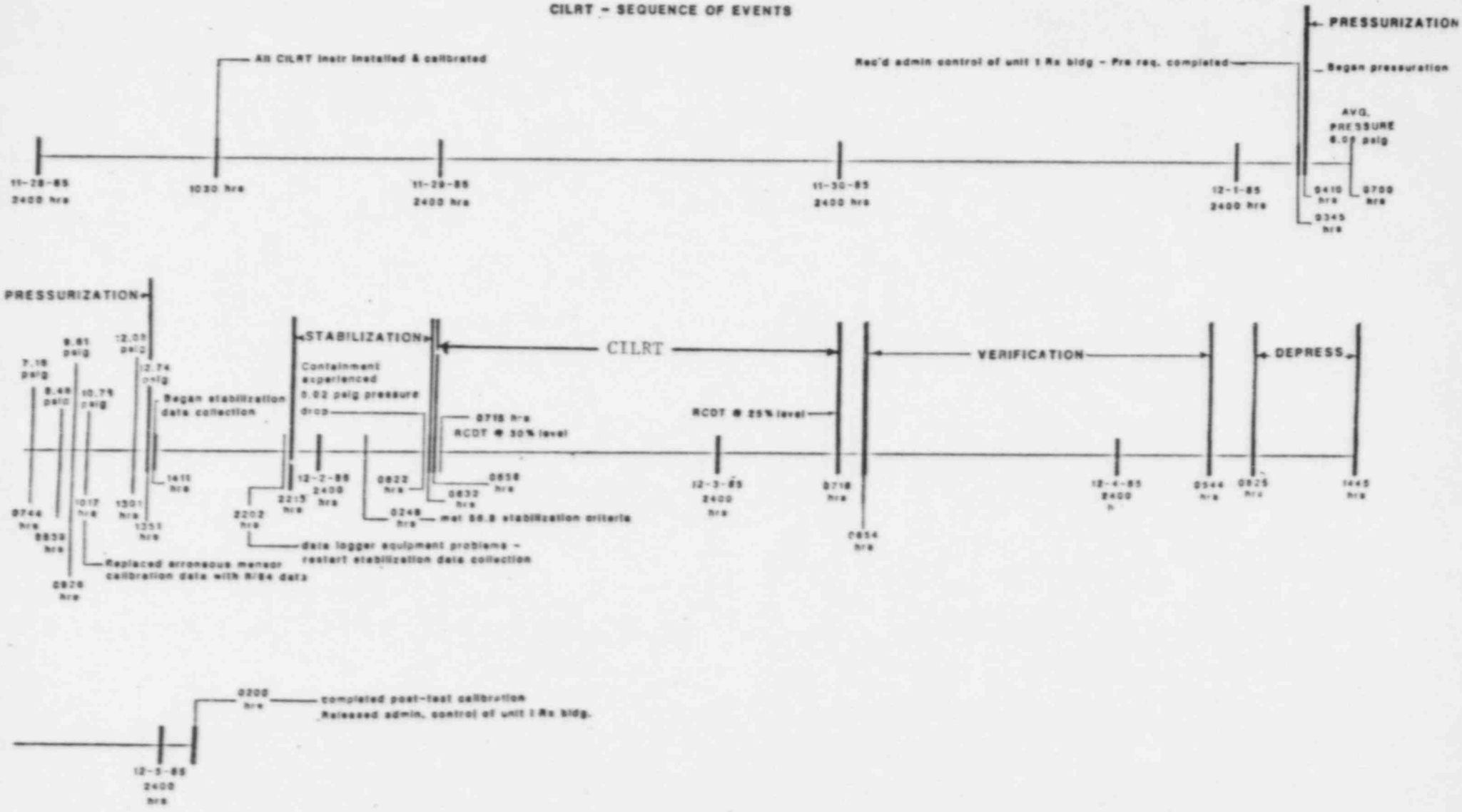


FIGURE 1

COMPUTER BASE ACQUISITION AND DATA REDUCTION SYSTEM

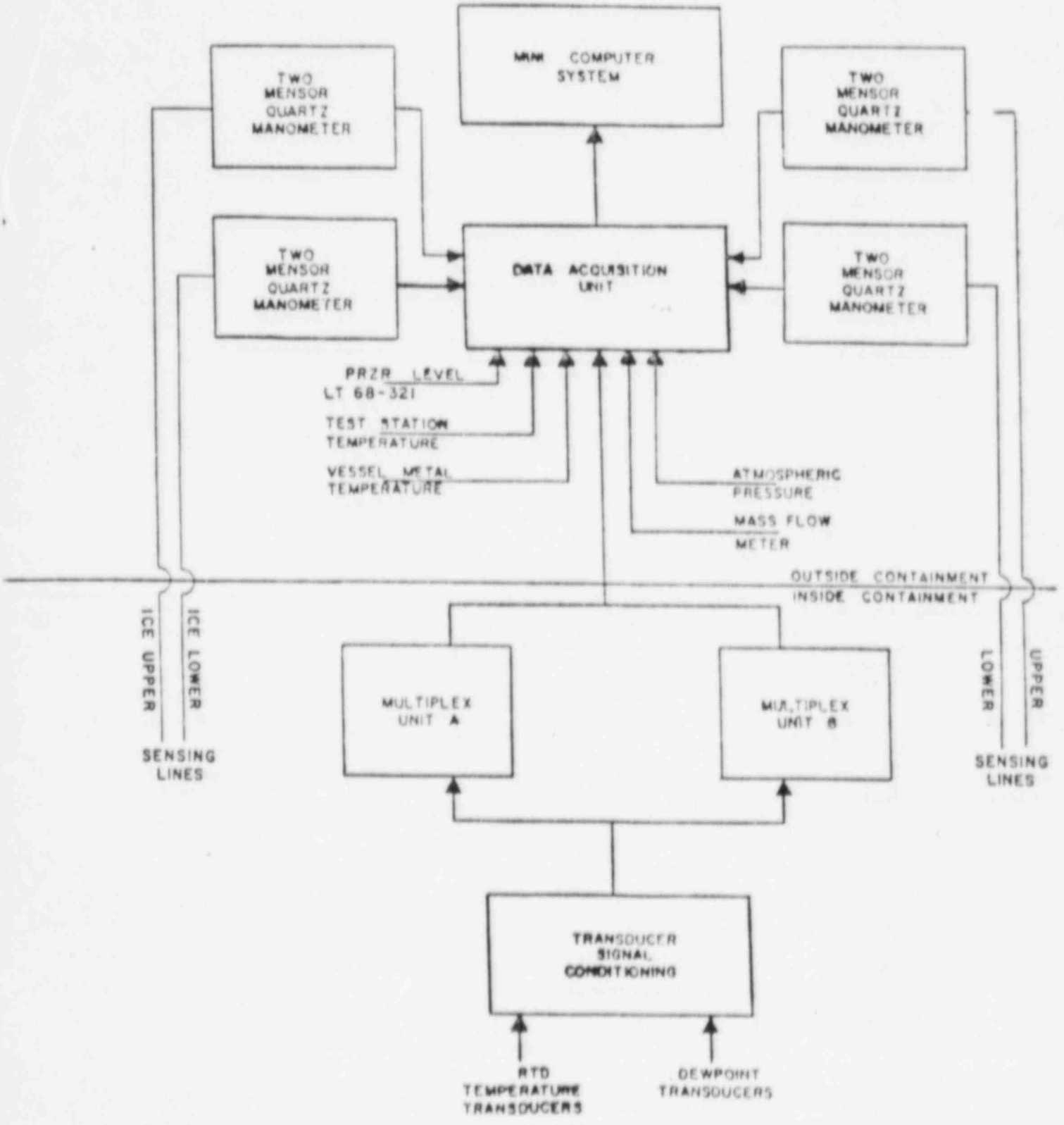


Figure 2

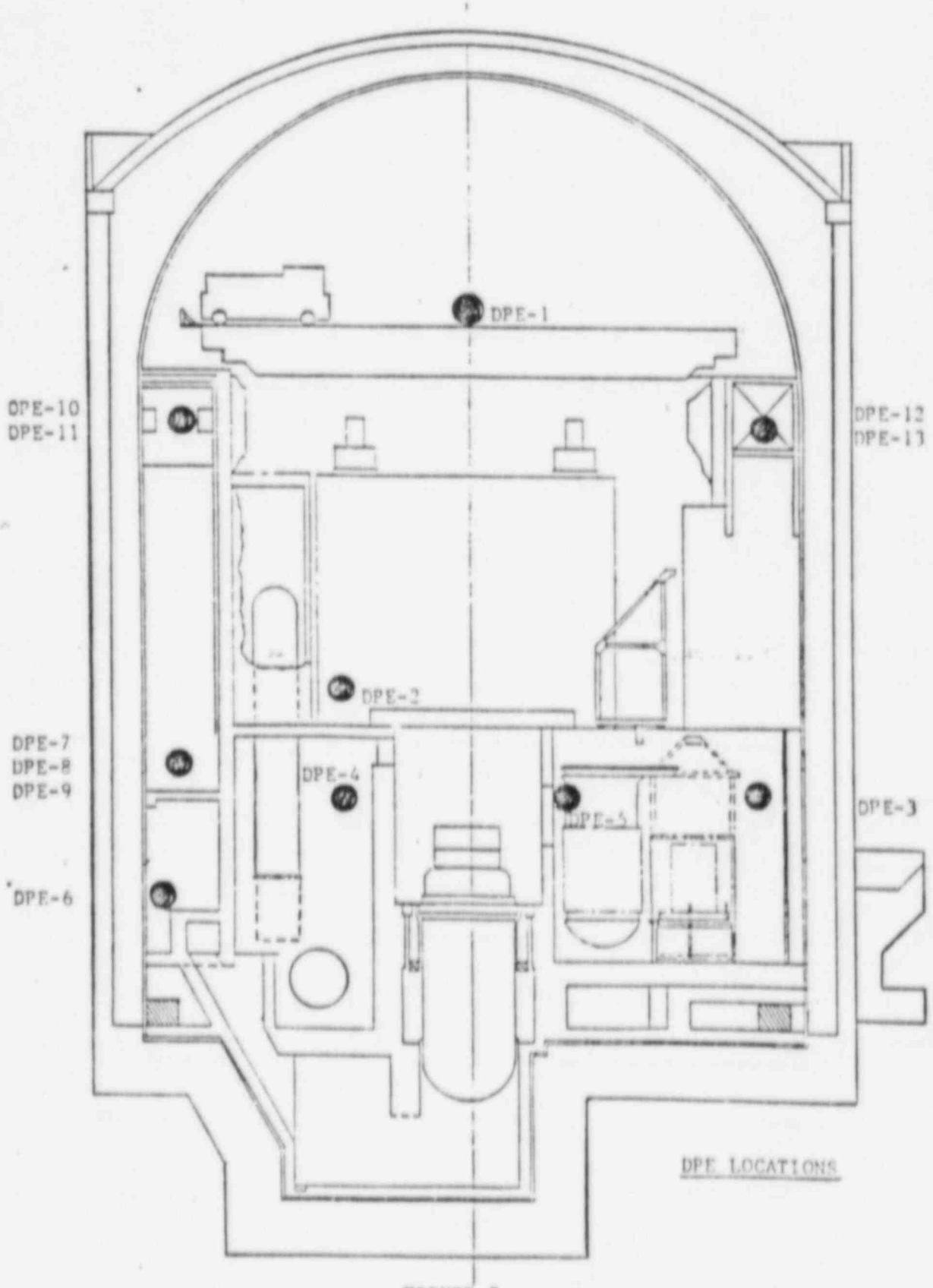
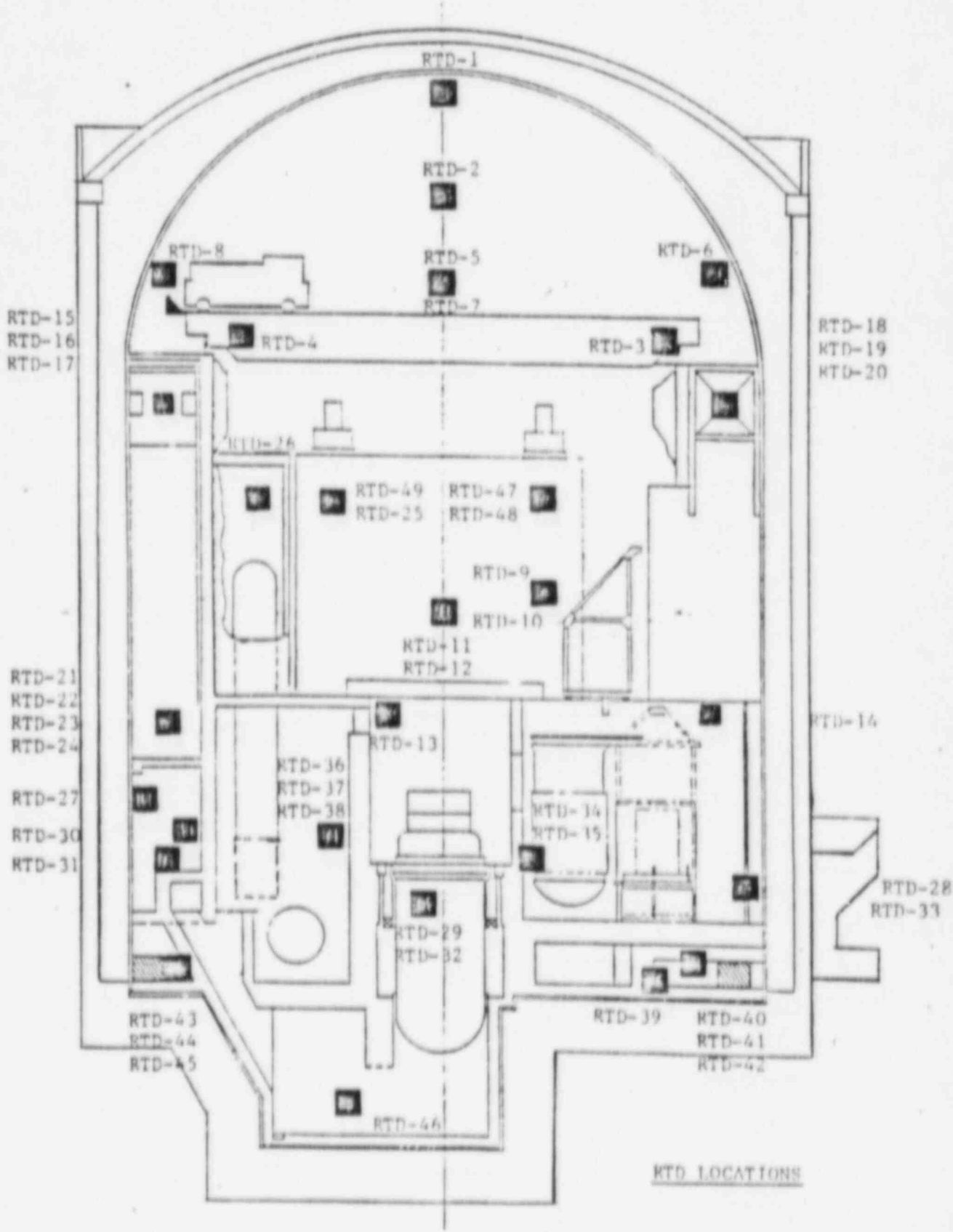
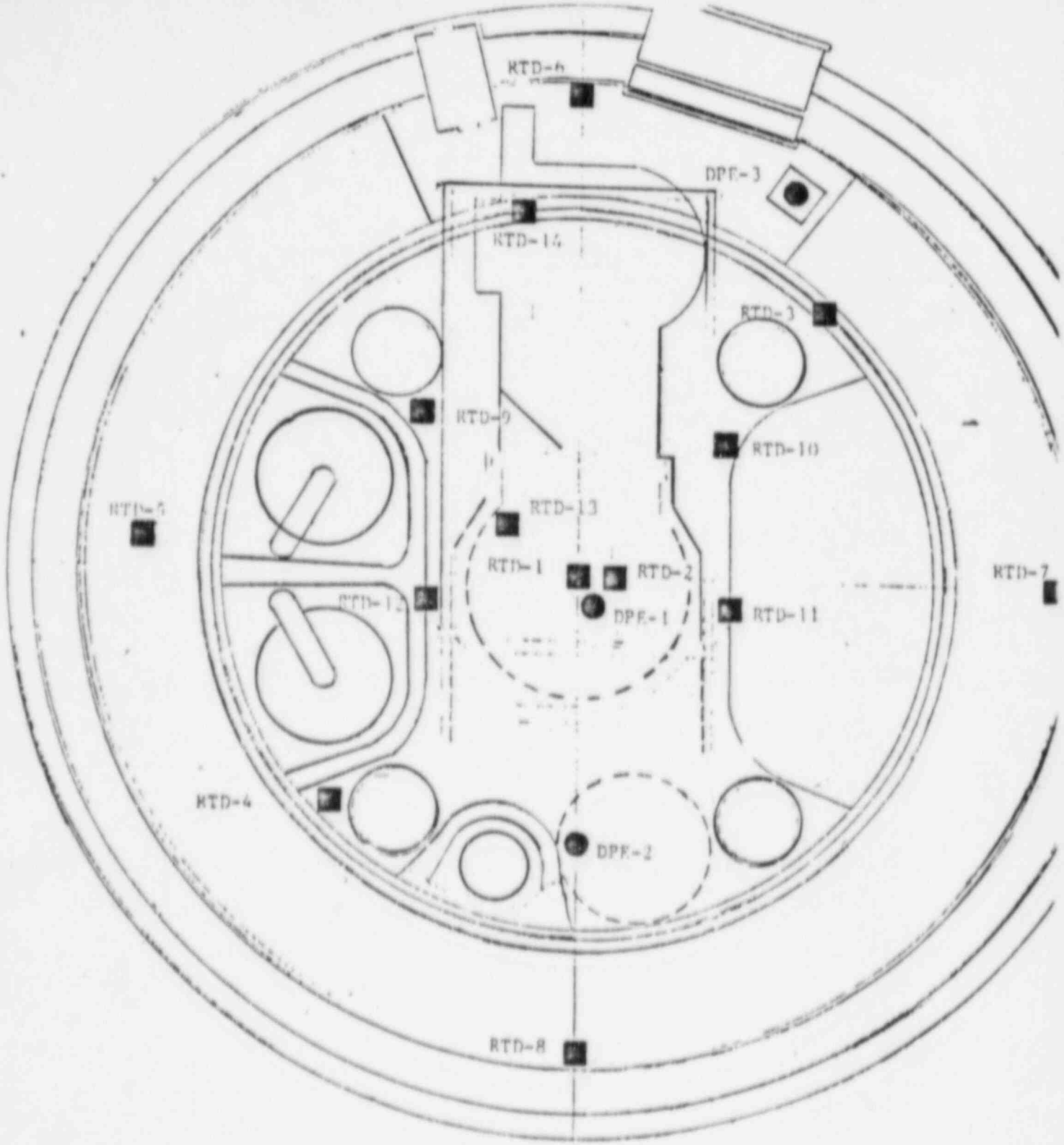

DPE-1
DPE-10
DPE-11
DPE-12
DPE-13
DPE-2
DPE-7
DPE-8
DPE-9
DPE-4
DPE-5
DPE-3
DPE-6
DPE LOCATIONS

FIGURE 3



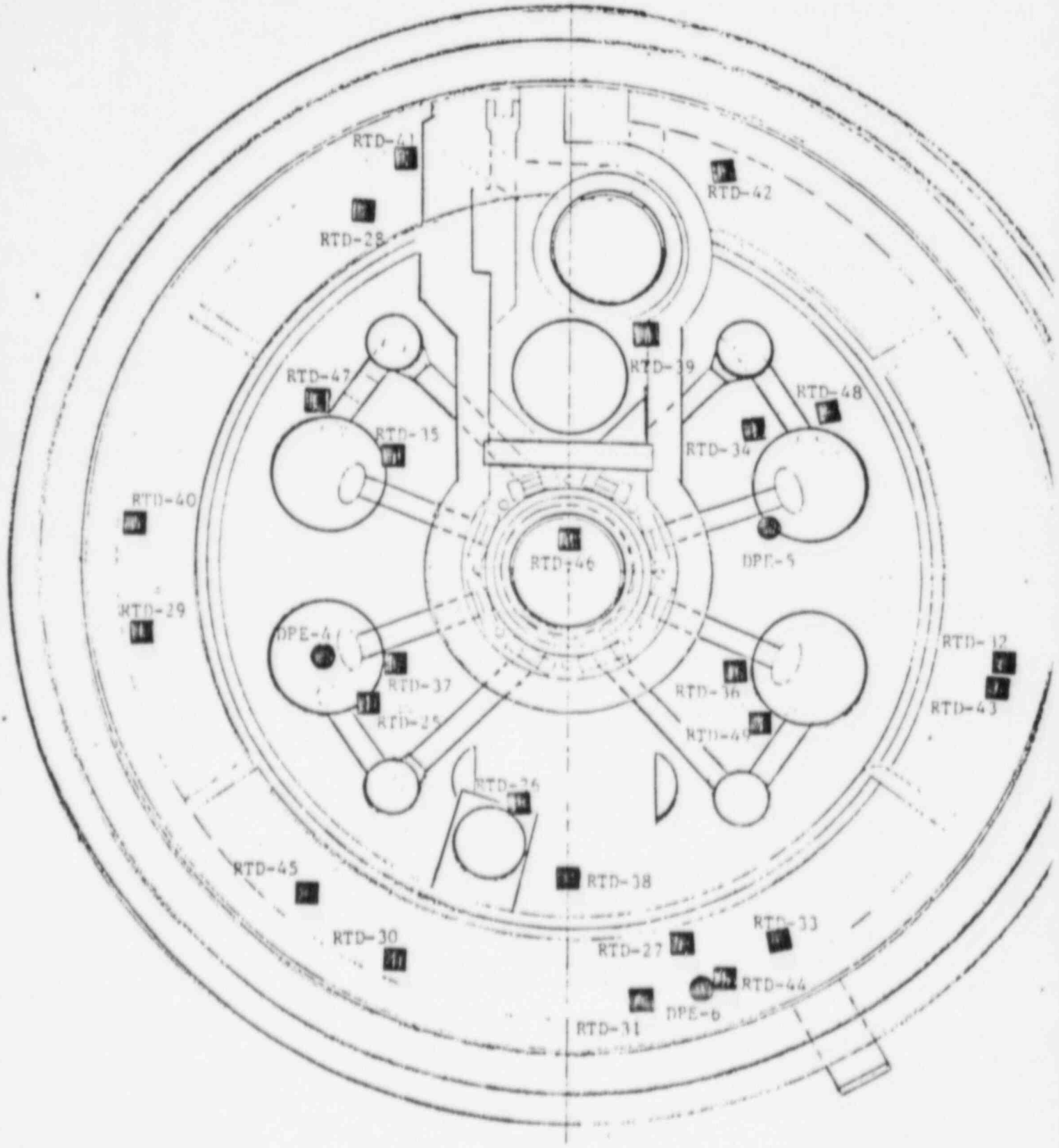
RTD LOCATIONS

FIGURE 4



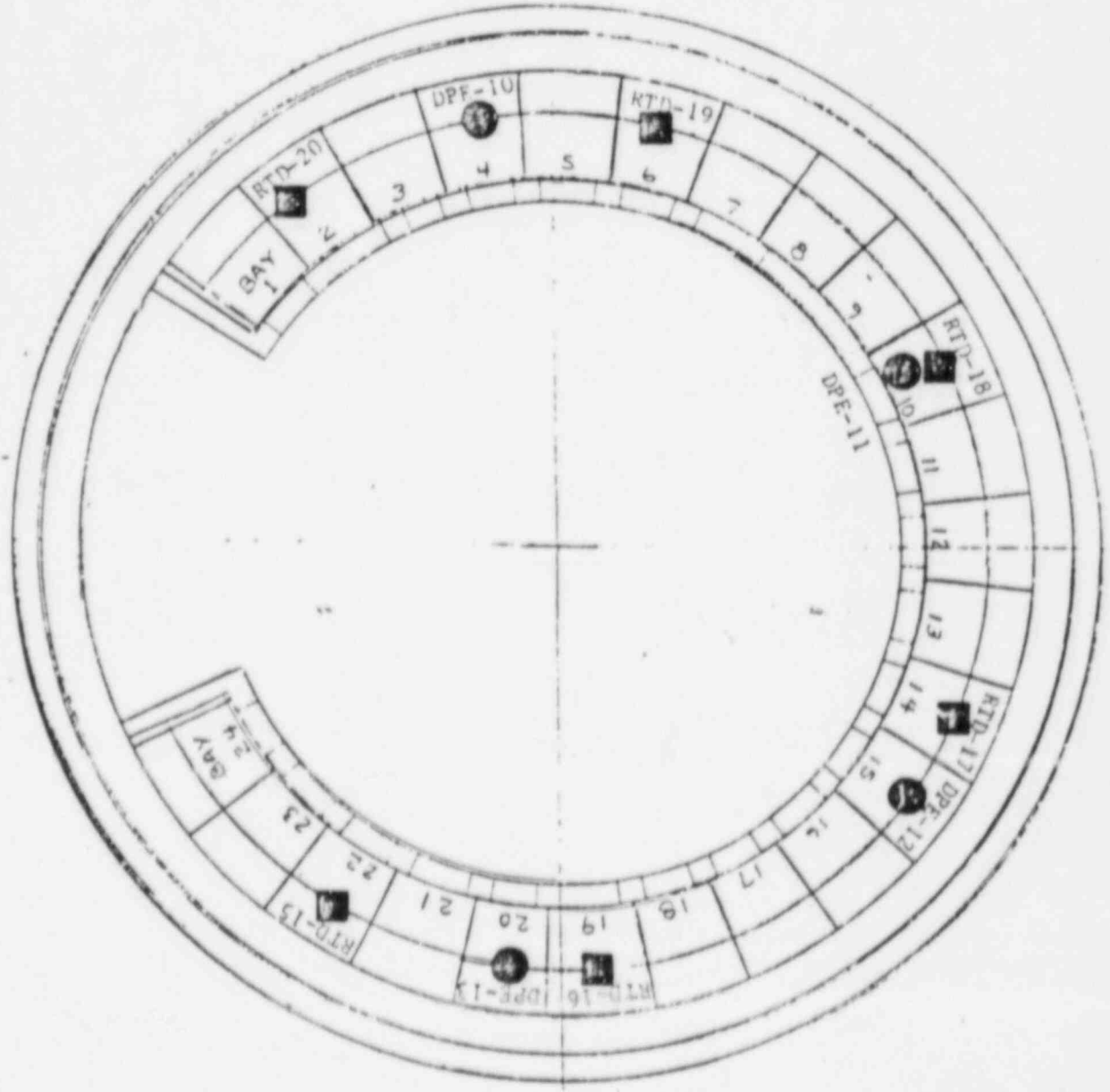
PLAN-UPPER COMPARTMENT
SENSOR LOCATIONS

FIGURE 5



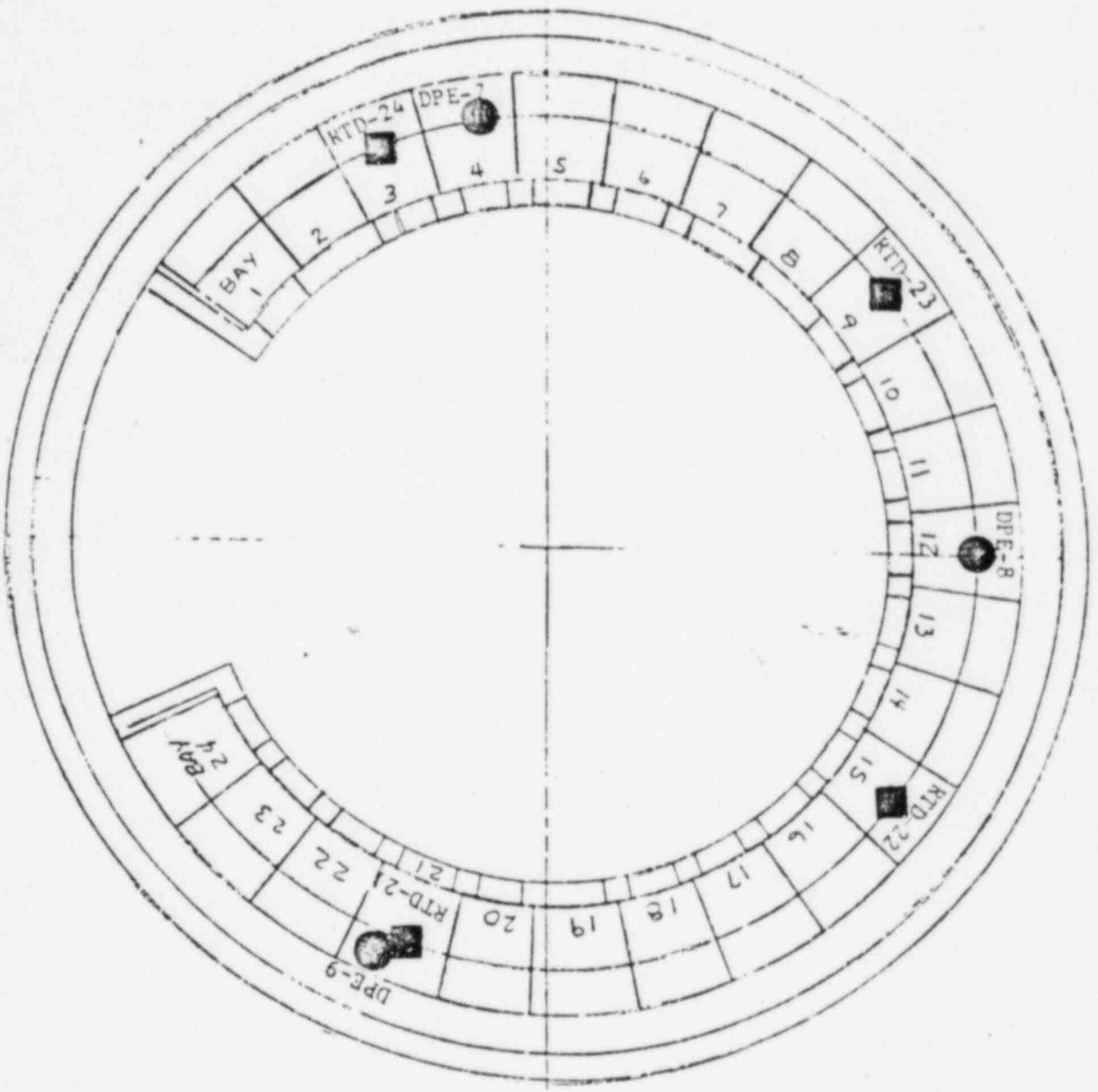
PLAN-LOWER COMPARTMENT
SENSOR LOCATIONS

FIGURE 6



UPPER ICE COMPARTMENT

FIGURE 7



LOWER ICE COMPARTMENT

FIGURE 8

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

UPPER PRESSURE PLOT

MENSOR QUARTZ MANOMETER GAUGE #1

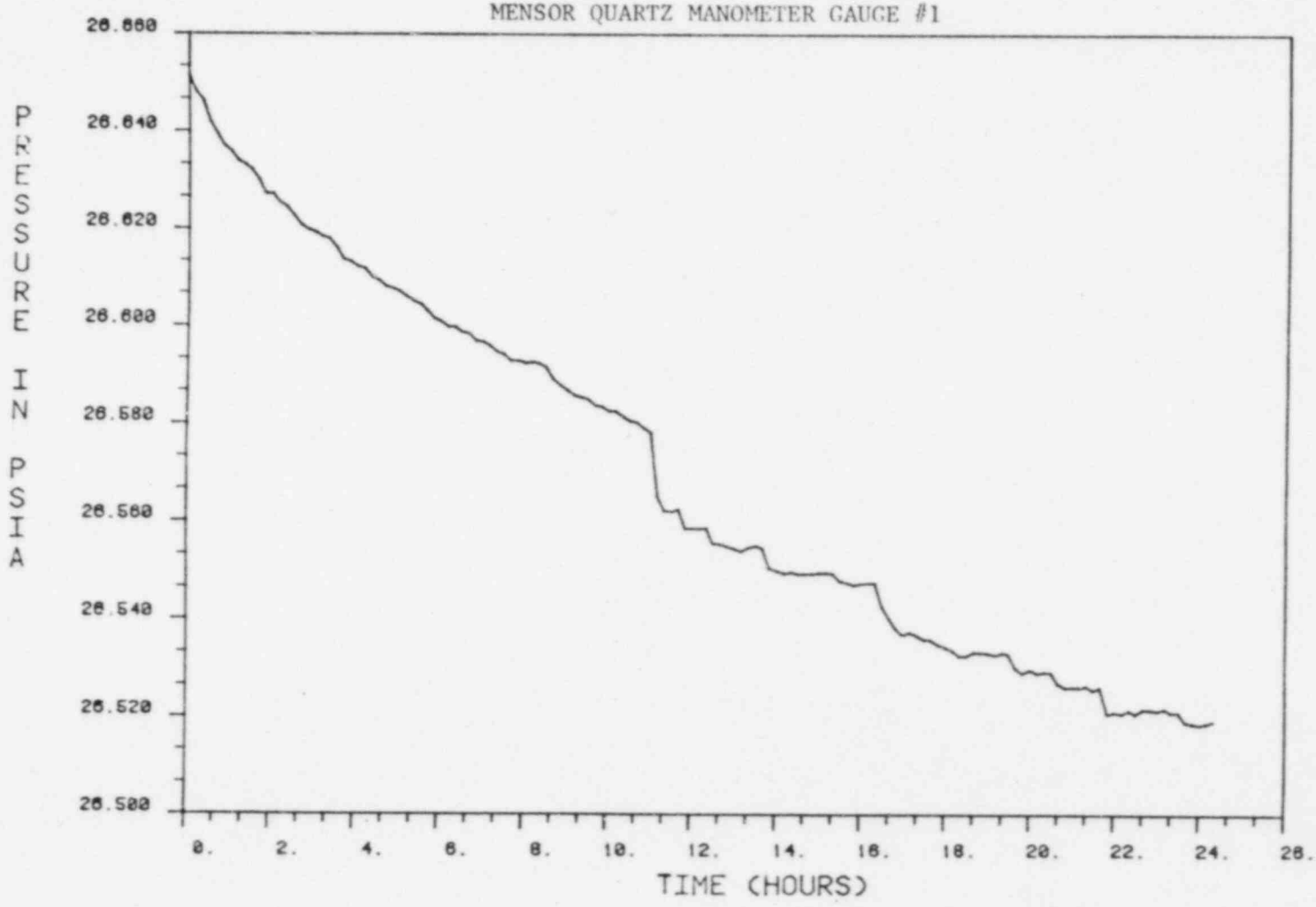


FIGURE 9

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
FINAL STABILIZATION AND CILRT
AVERAGE TEMPERATURE PLOT

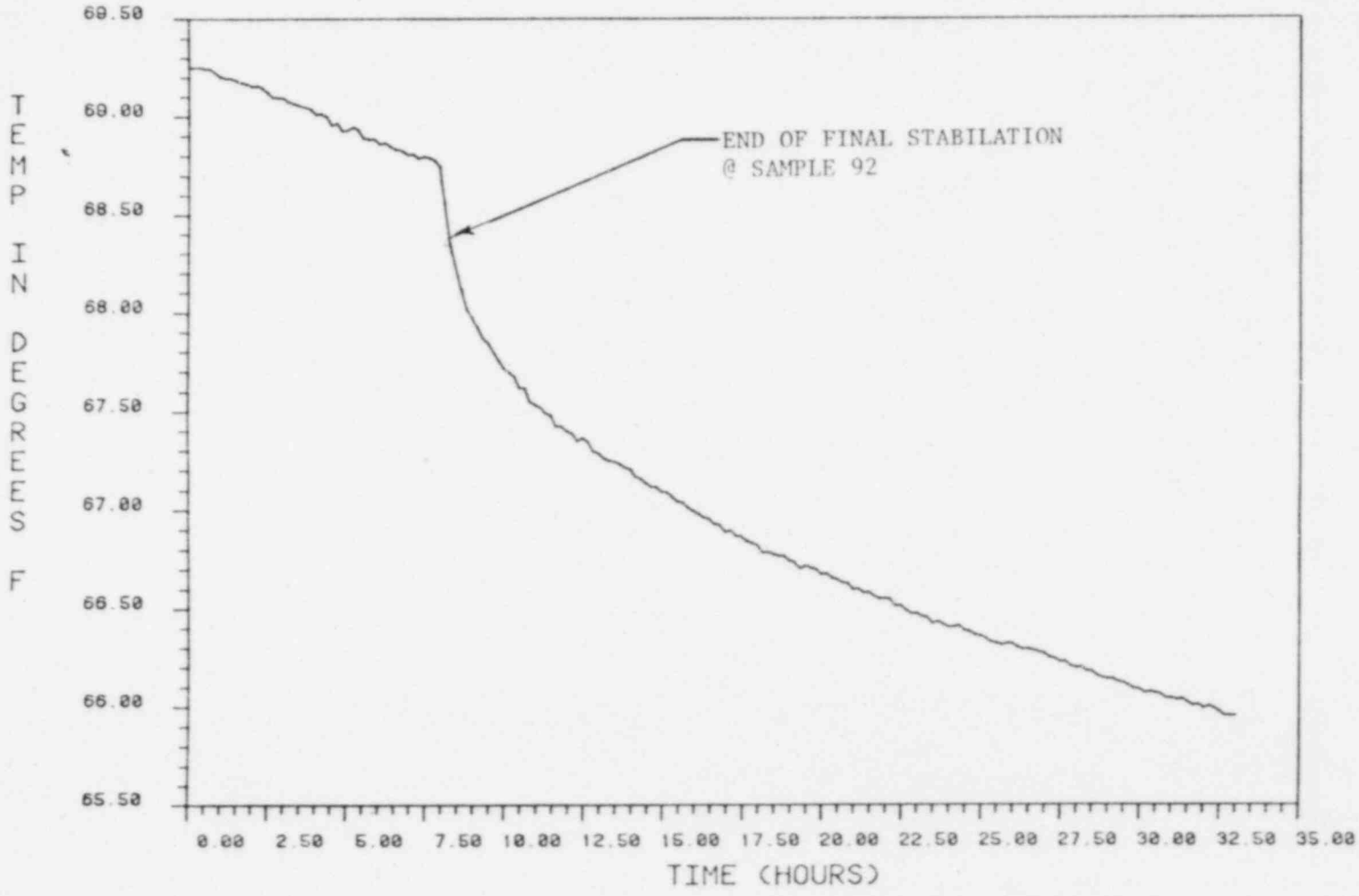


FIGURE 10

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)

FINAL STABILIZATION AND CILRT
AVERAGE PRESSURE PLOT

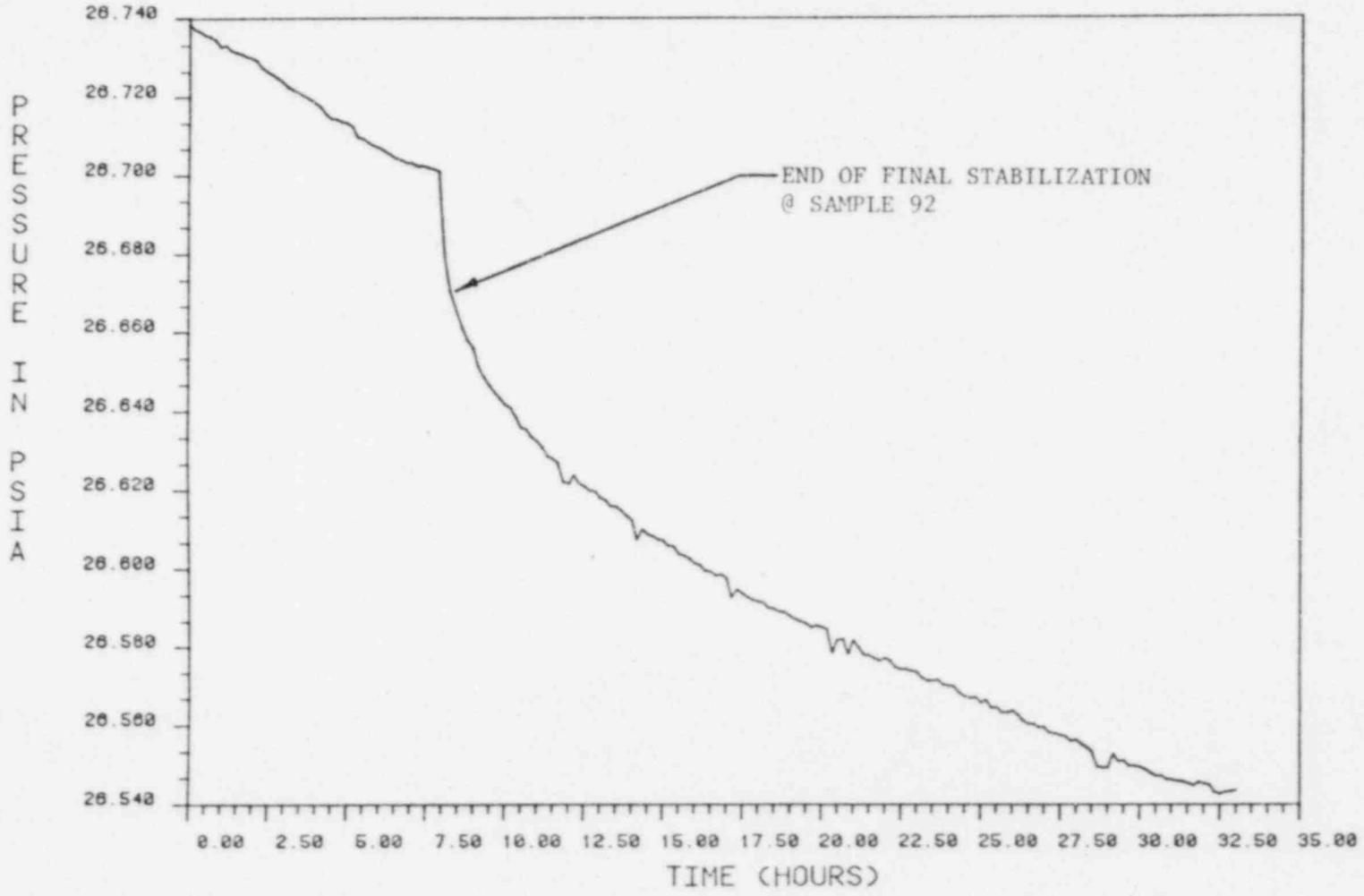


FIGURE 11

TENNESSEE VALLEY AUTHORITY
SQNP-UNIT 1-CYCLE(3)

CILRT

CALCULATED TOTAL TIME LEAK RATE PLOT

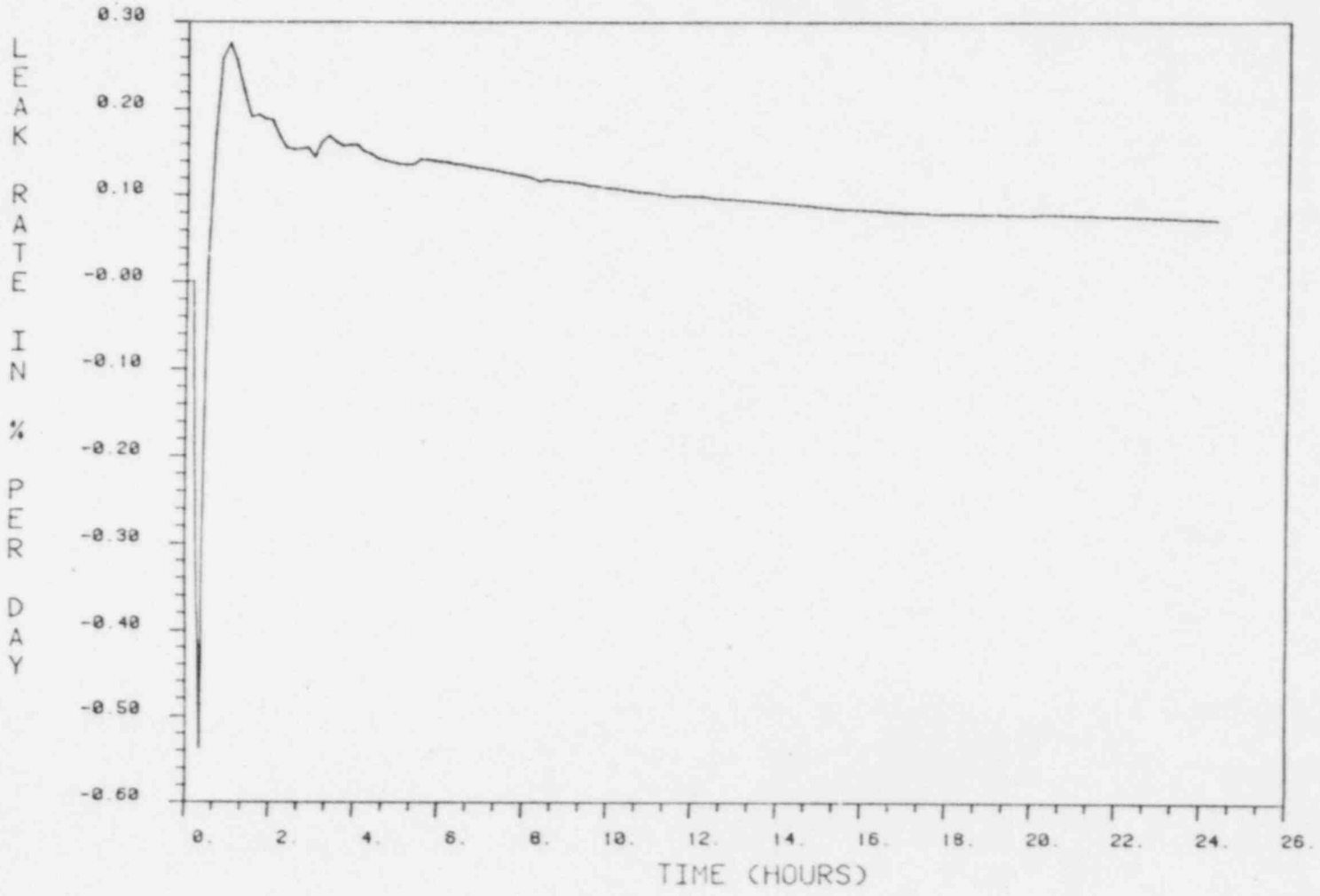


FIGURE 12

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

TOTAL TIME LEAK RATE PLOT

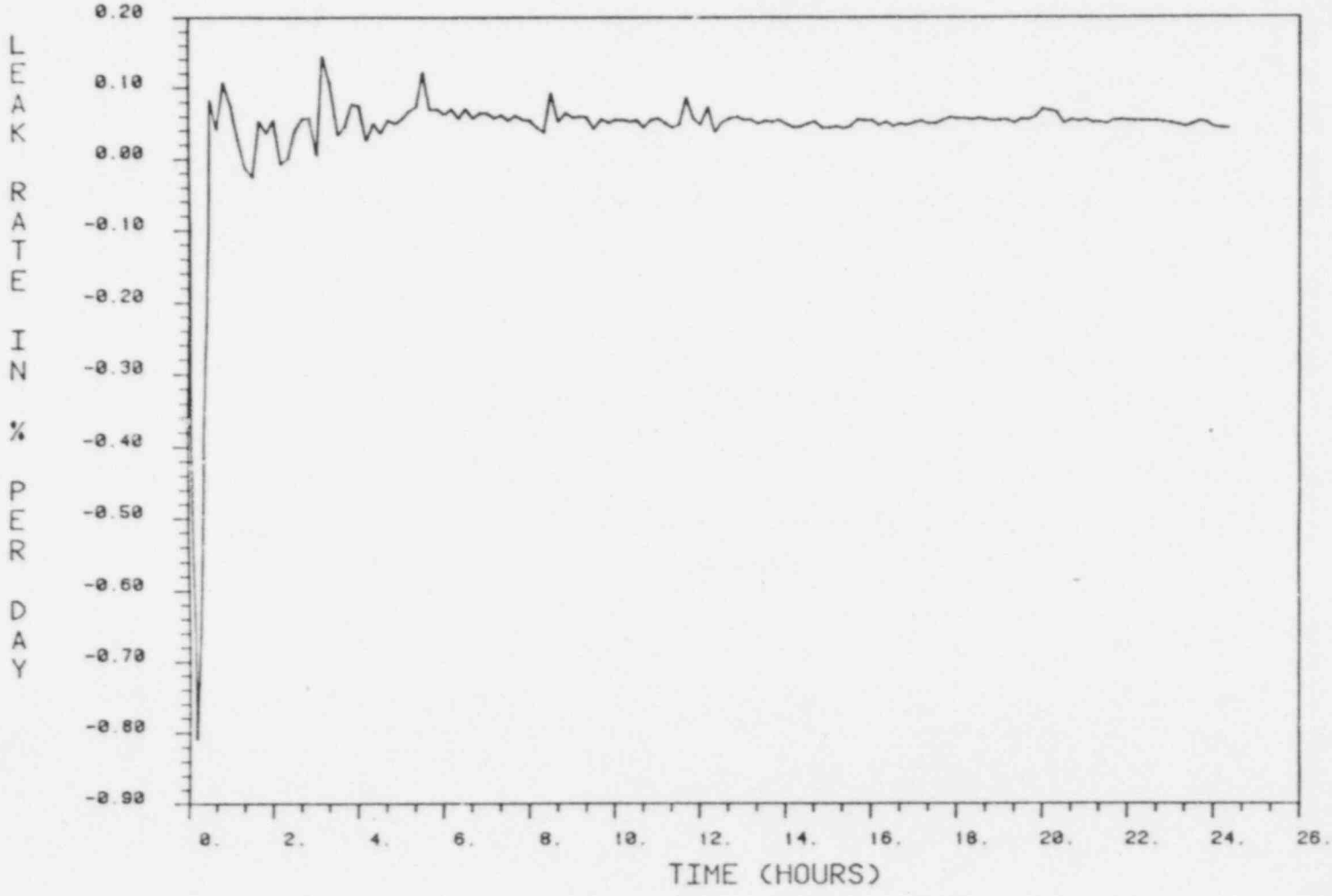


FIGURE 13

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

MASS LEAK RATE PLOT

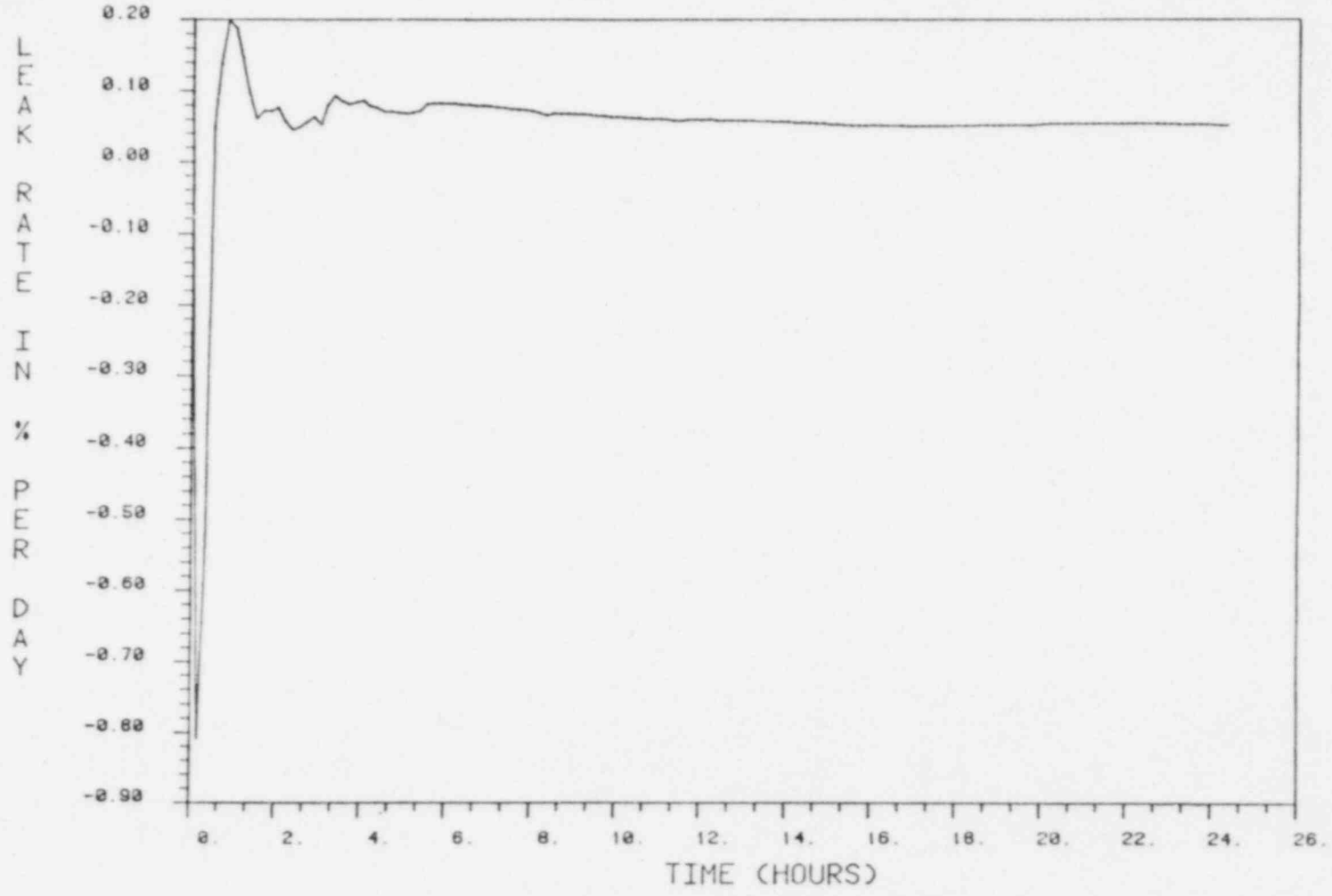


FIGURE 14

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

AVERAGE TEMPERATURE PLOT

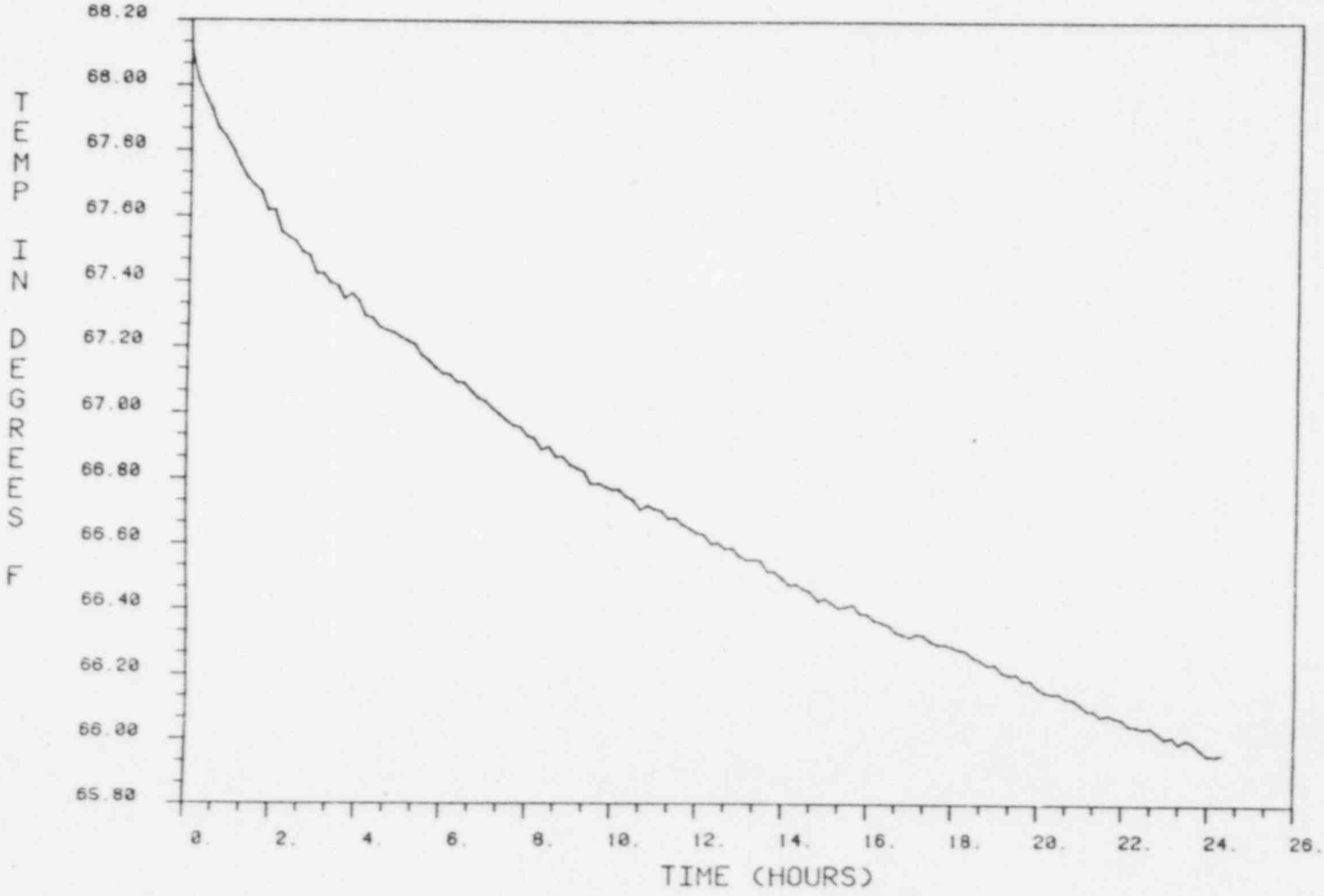


FIGURE 15

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

AVERAGE PRESSURE PLOT

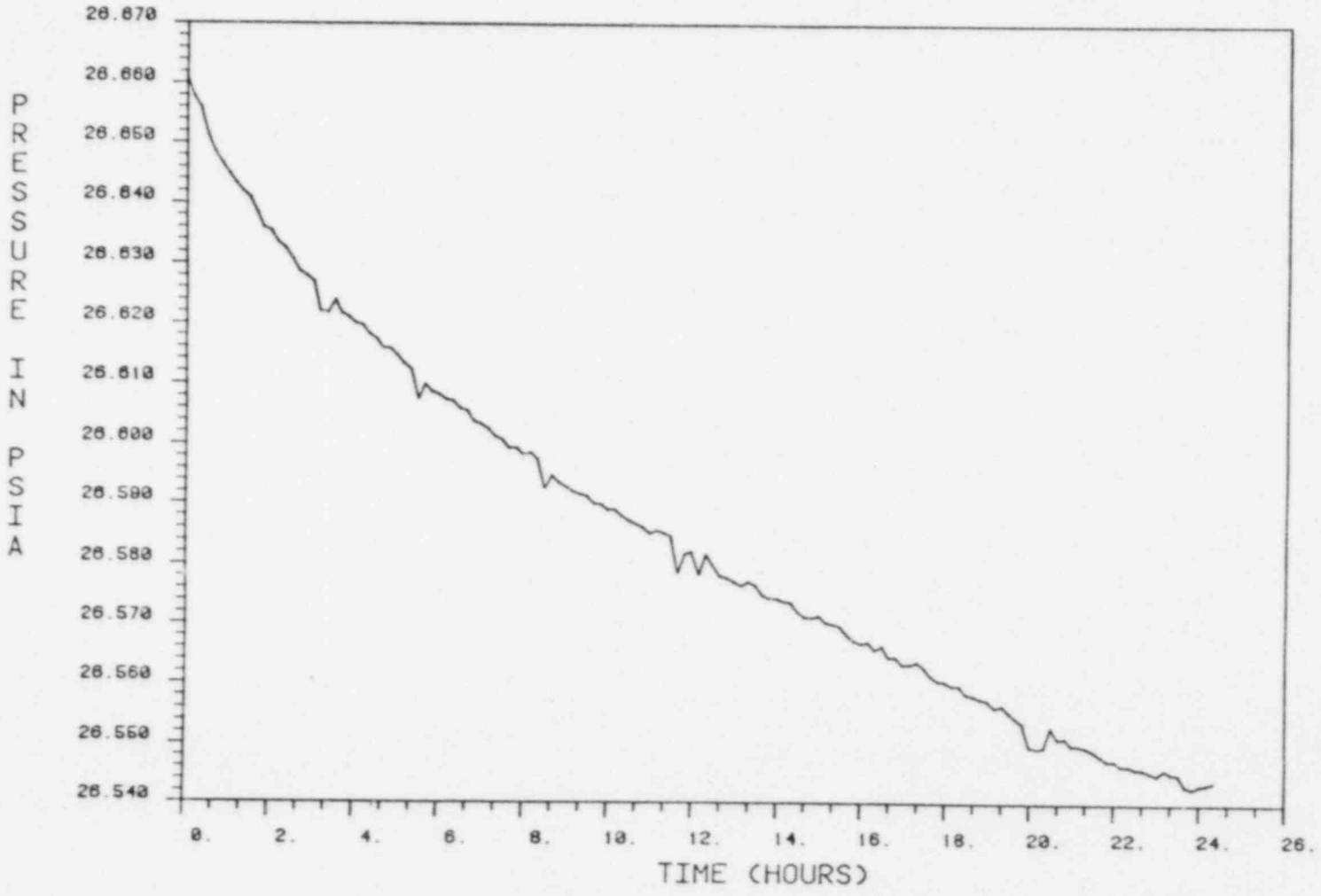


FIGURE 16

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

AVERAGE MASS PLOT

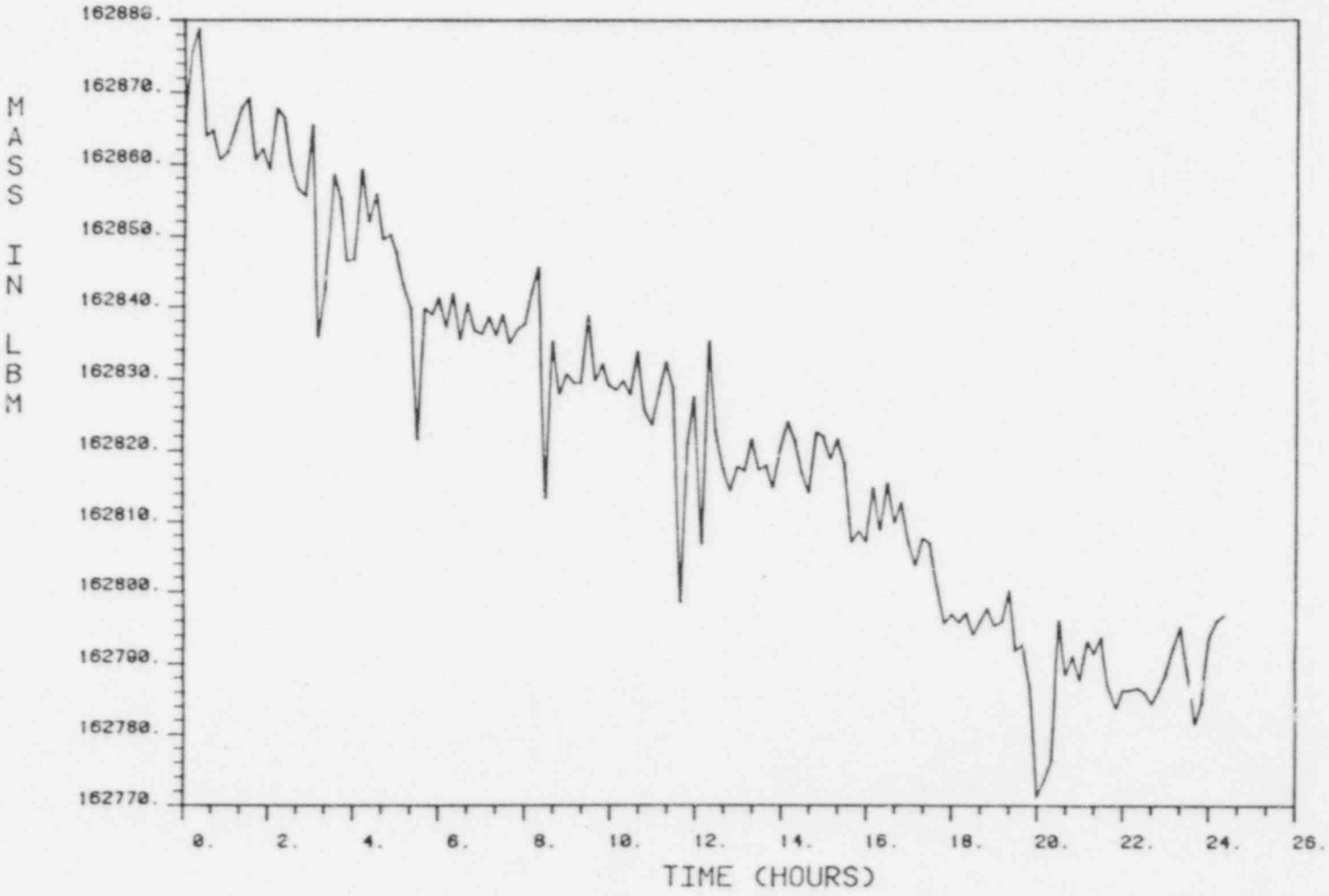


FIGURE 17

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

UPPER TEMPERATURE PLOT

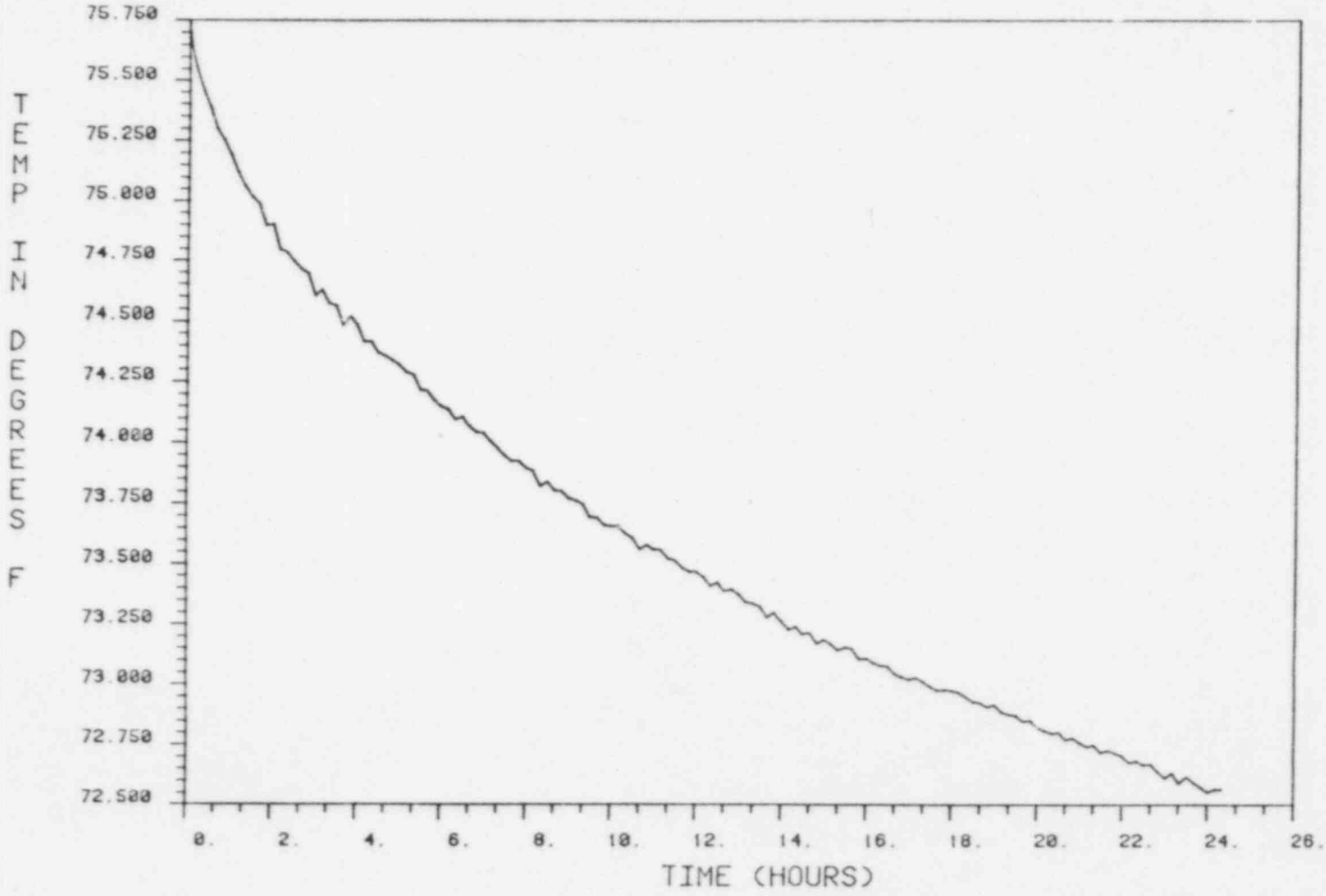


FIGURE 18

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

UPPER VAPOR PRESSURE PLOT

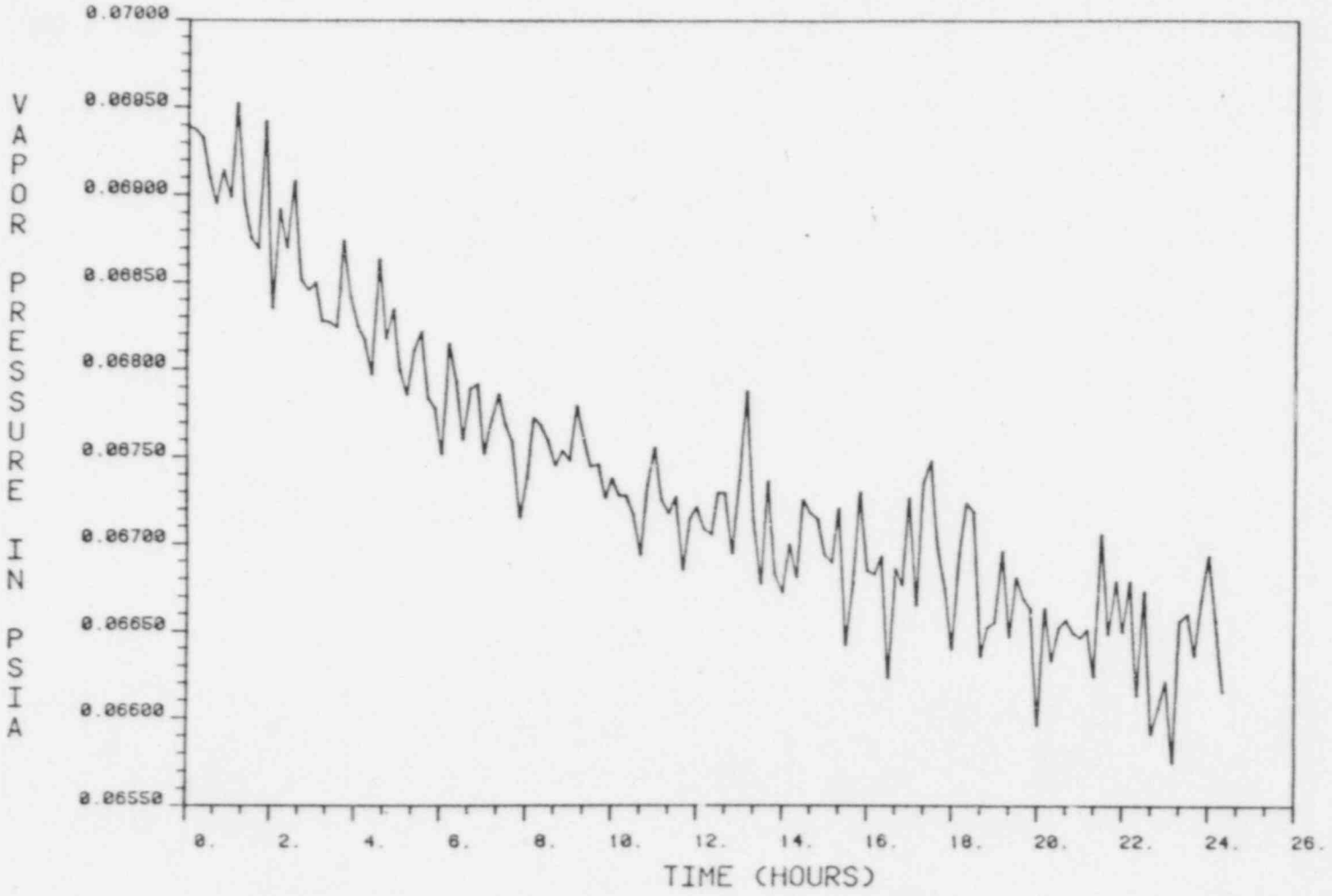


FIGURE 19

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

UPPER PRESSURE PLOT

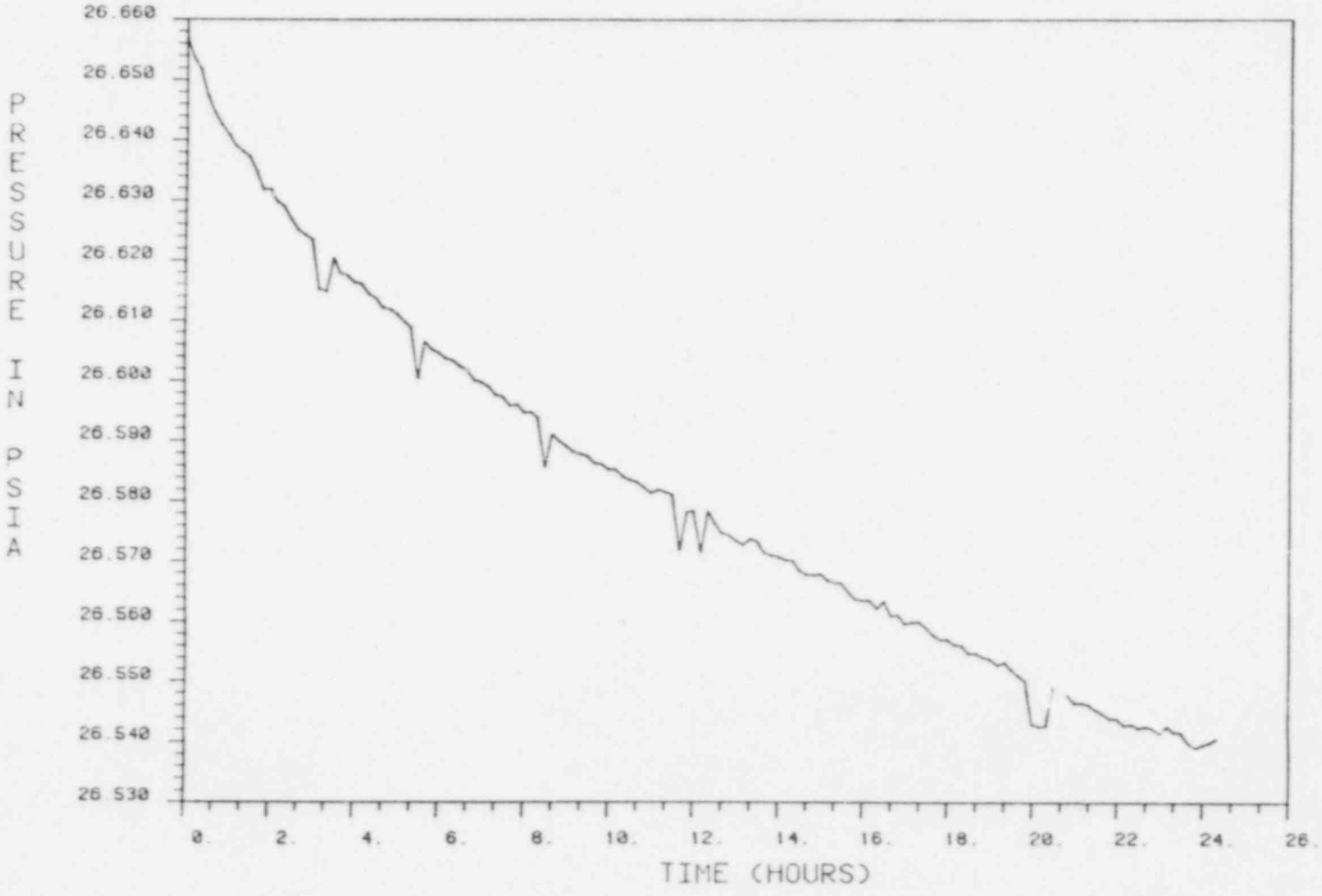


FIGURE 20

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

UPPER MASS PLOT

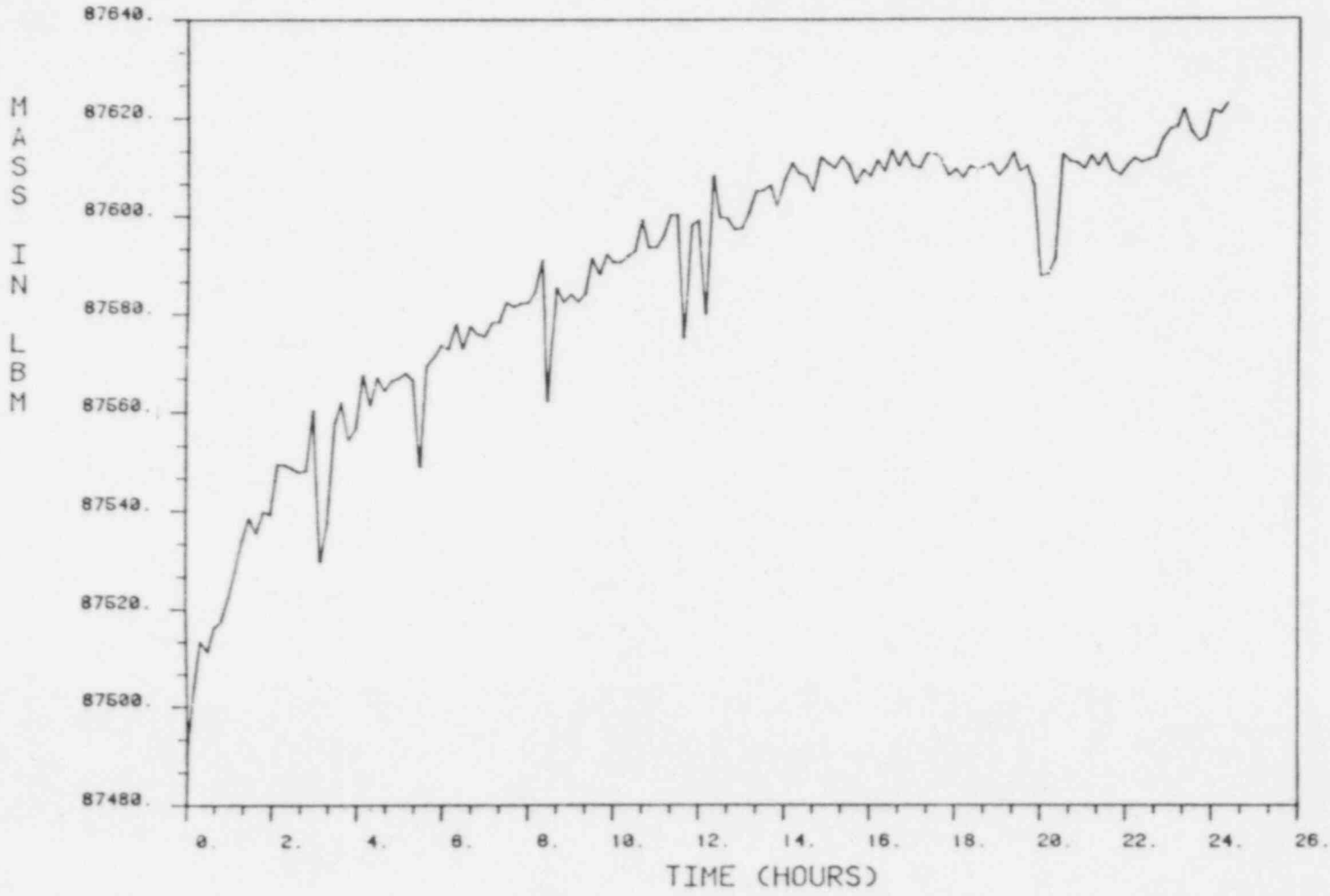


FIGURE 21

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

LOWER TEMPERATURE PLOT

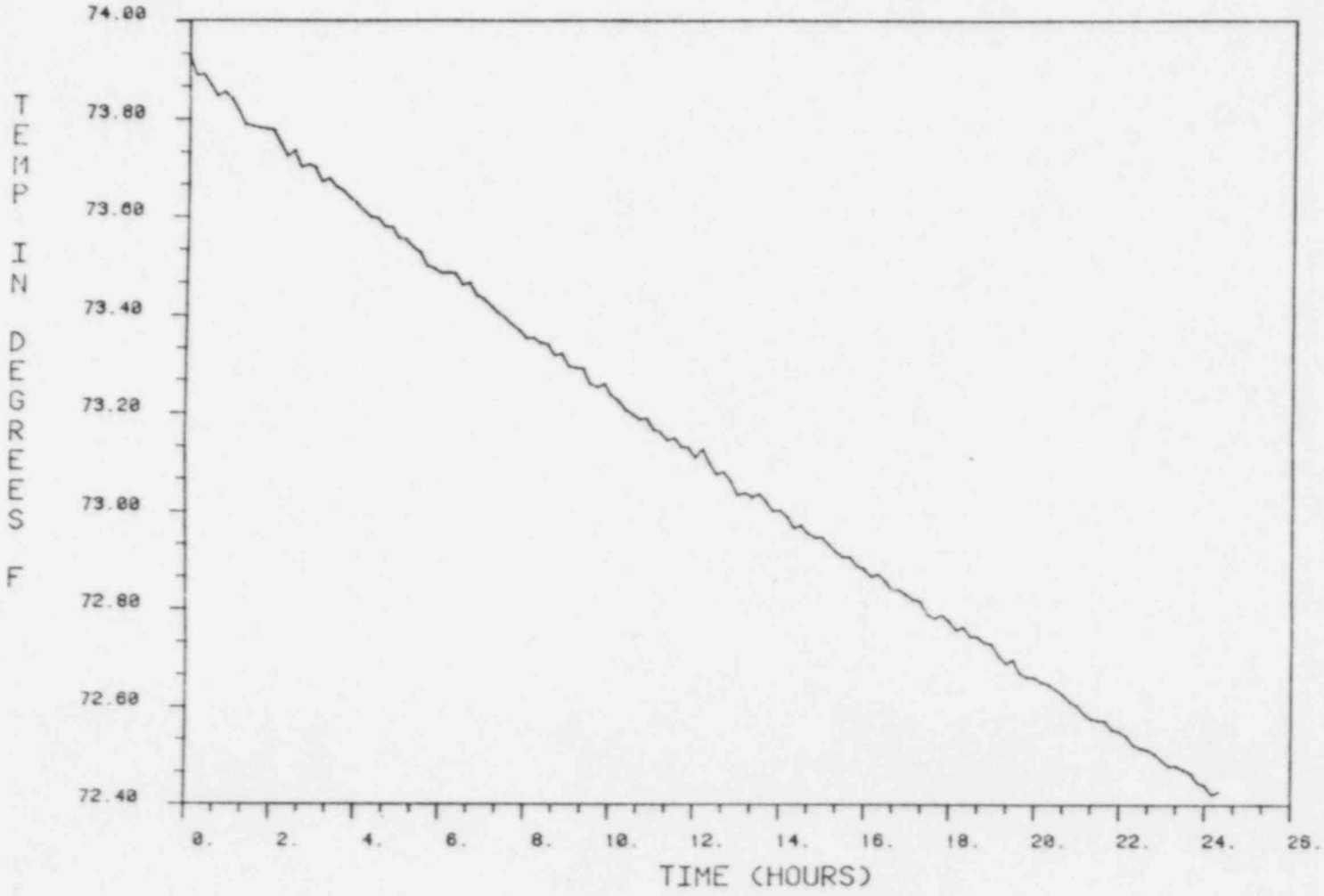


FIGURE 22

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

LOWER VAPOR PRESSURE PLOT

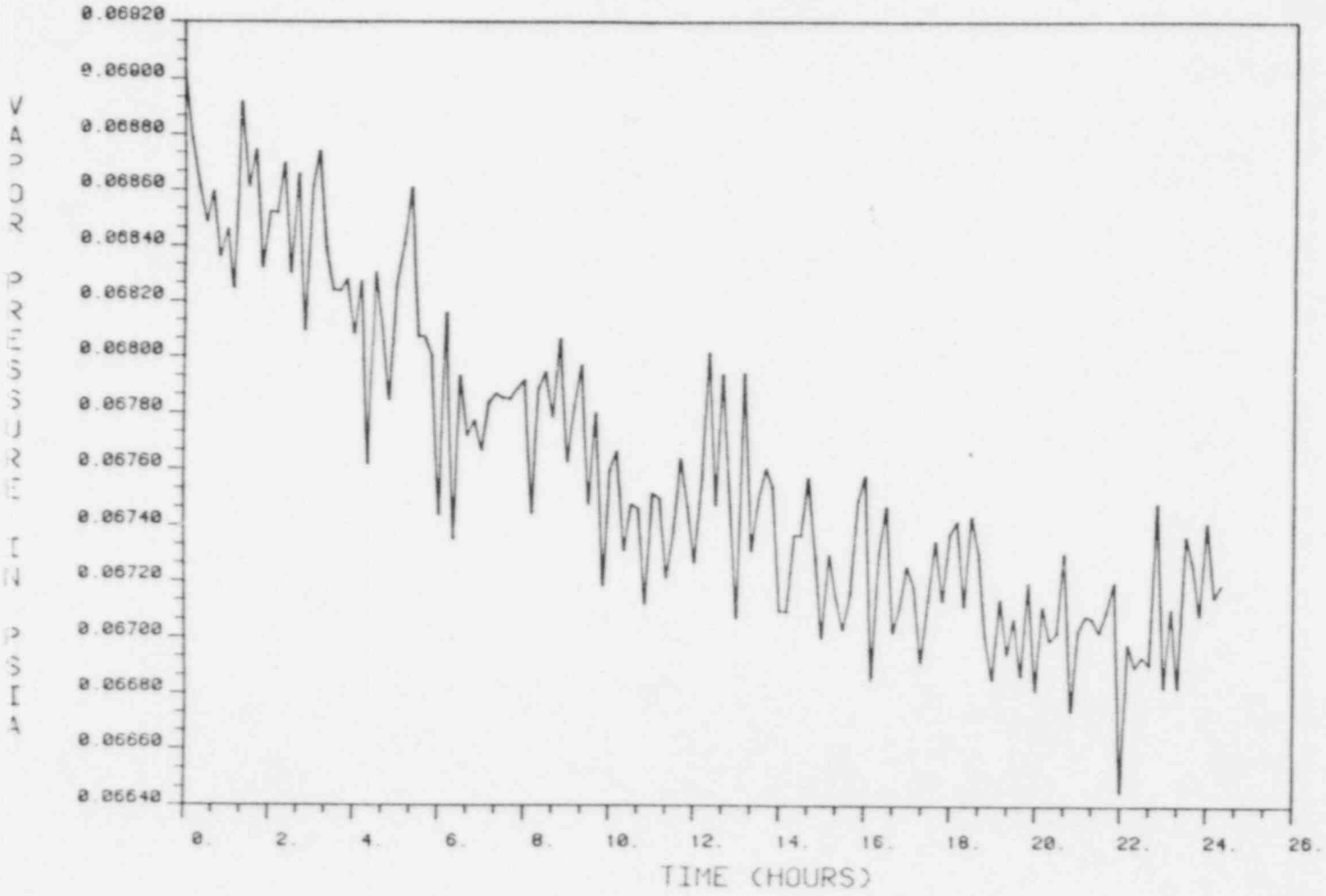


FIGURE 23

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

LOWER PRESSURE PLOT

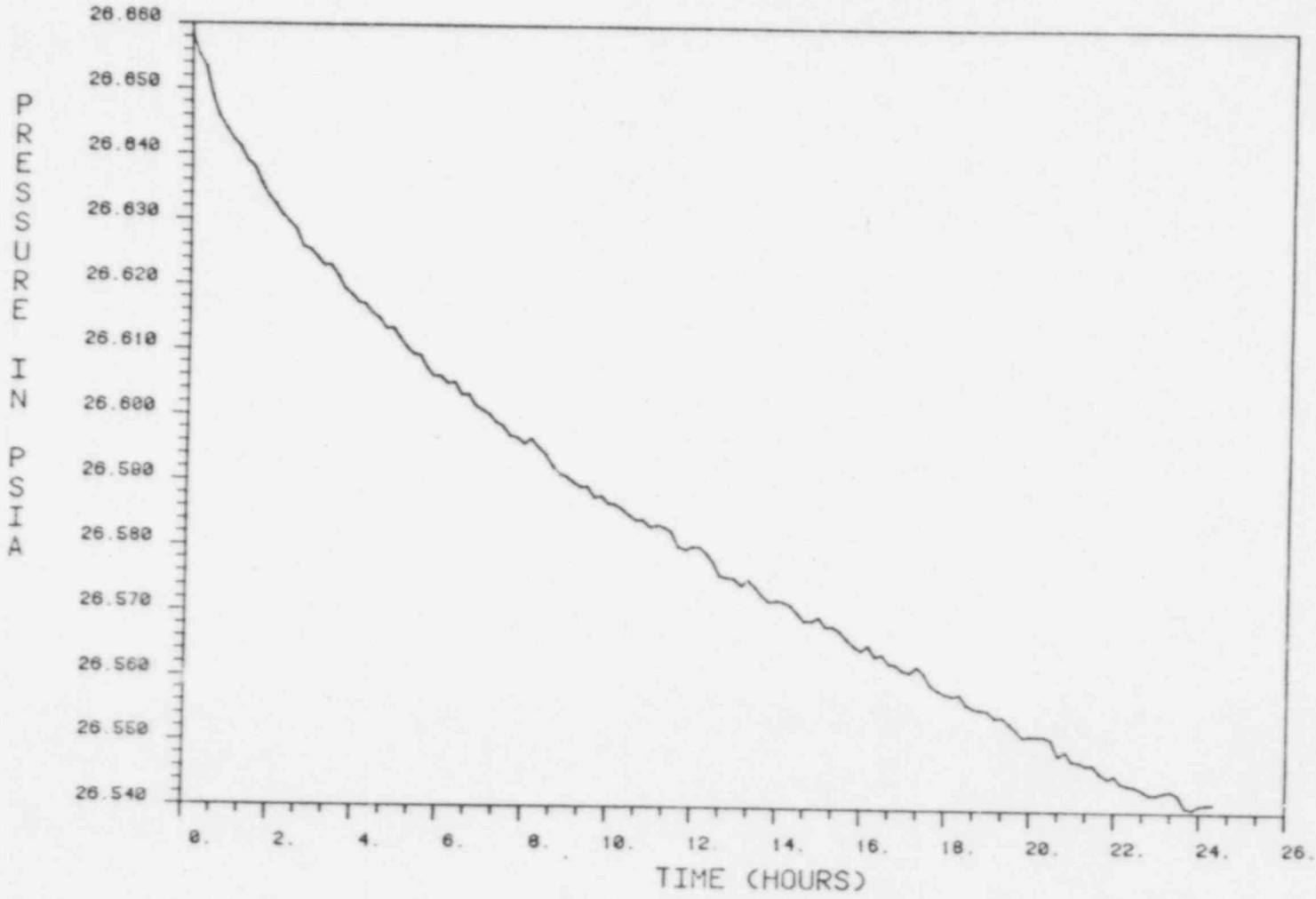


FIGURE 24

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

LOWER MASS PLOT

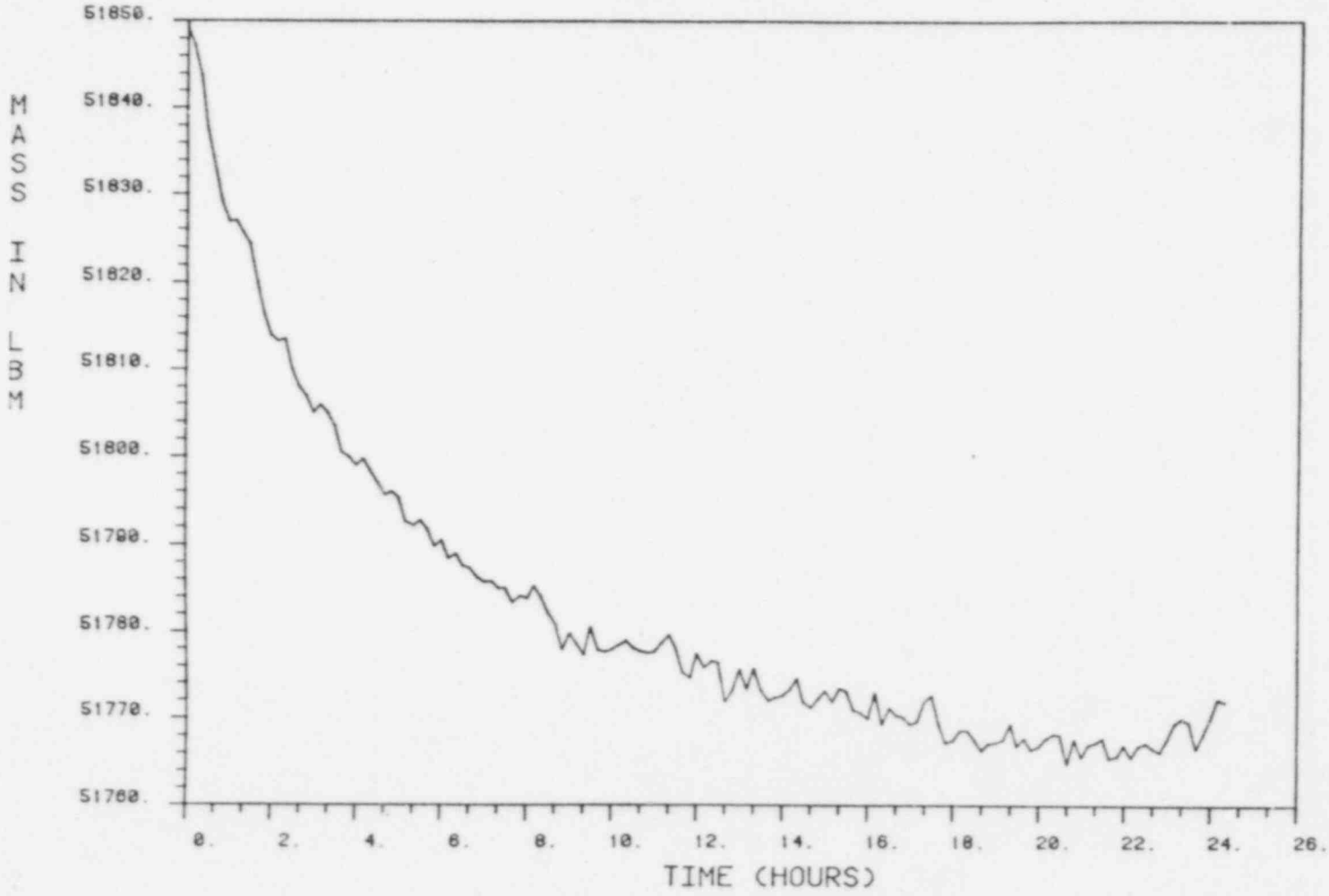


FIGURE 25

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

ICE-UPPER TEMPERATURE PLOT

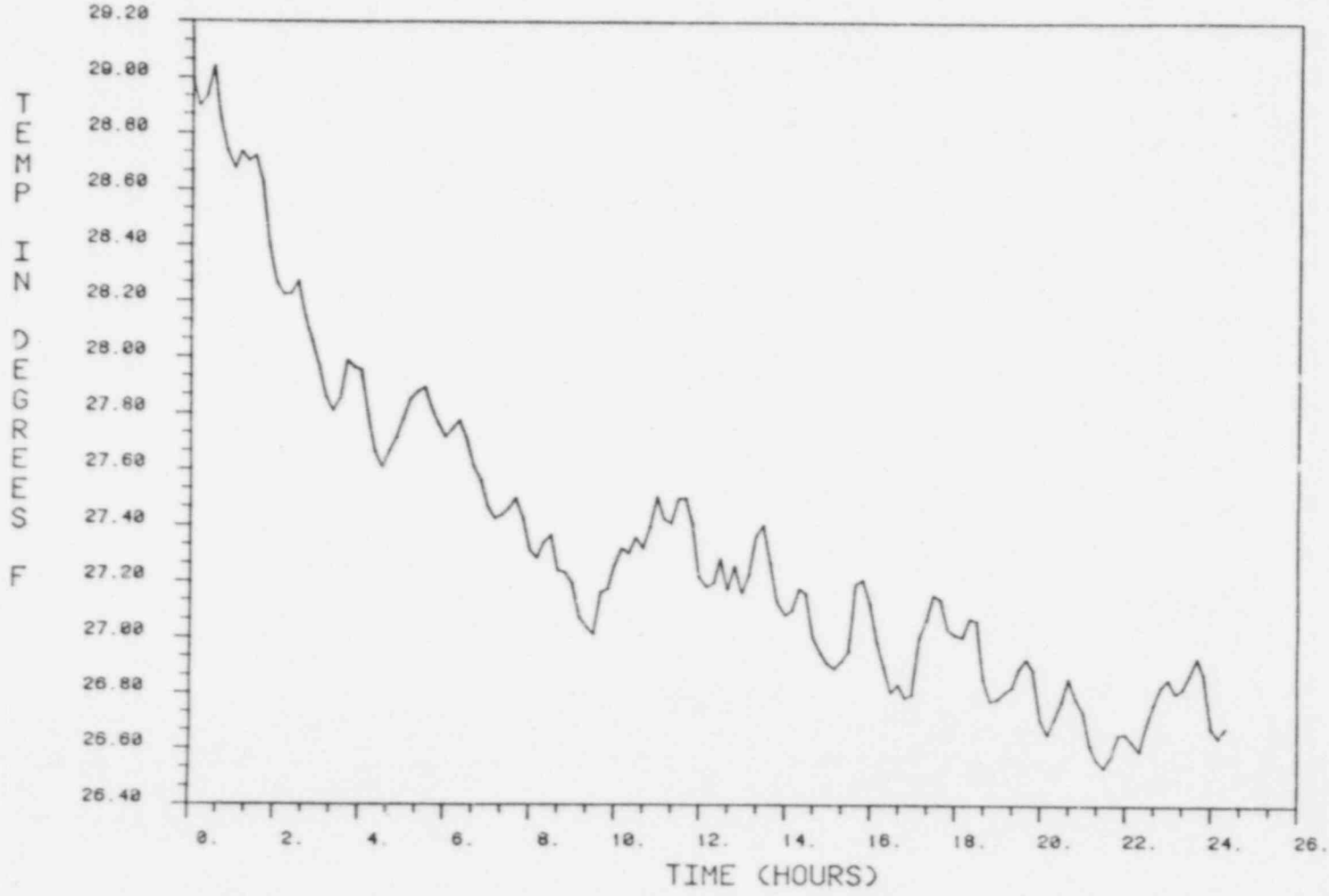


FIGURE 26

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

ICE-UPPER VAPOR PRESSURE PLOT

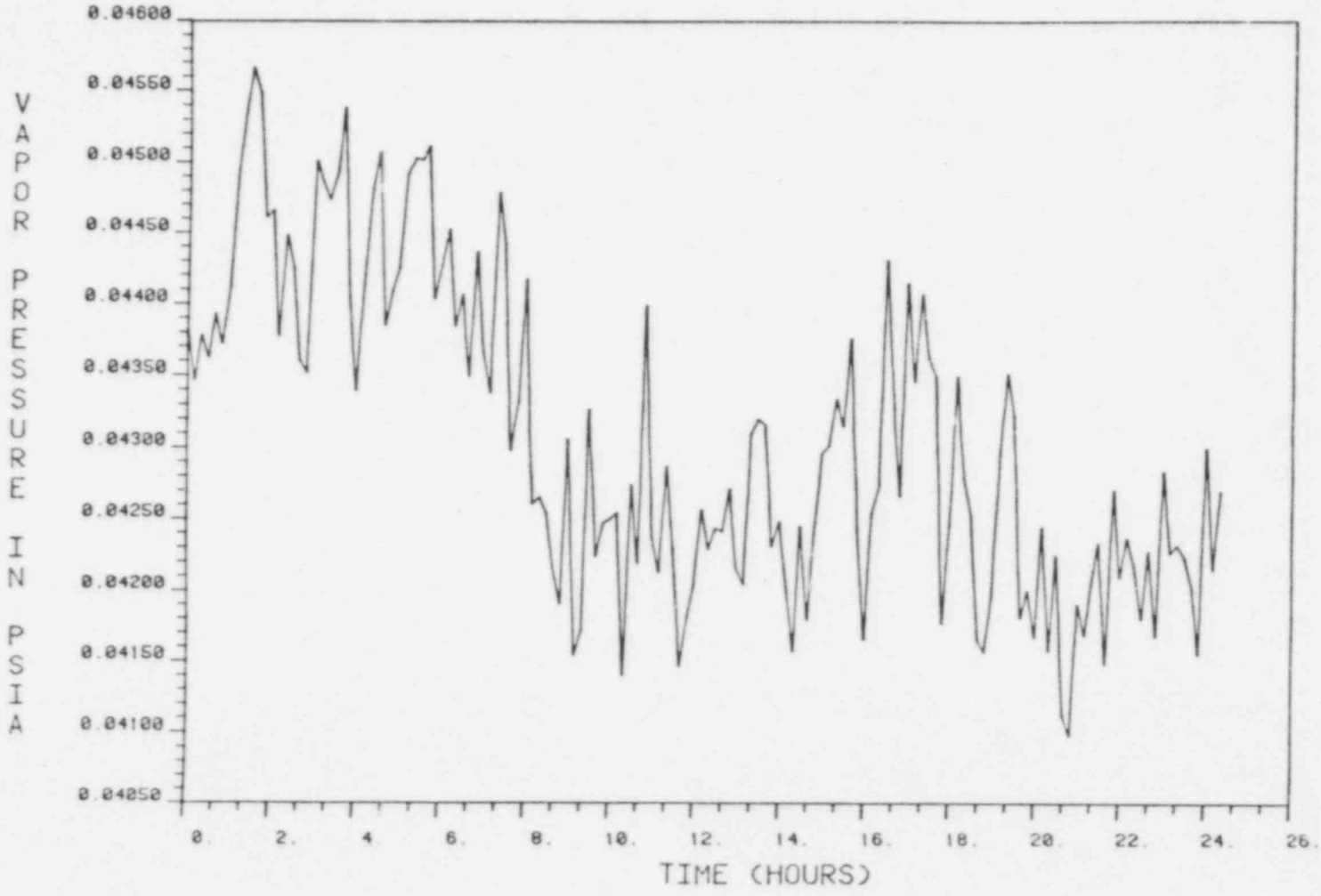


FIGURE 27

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

ICE-UPPER PRESSURE PLOT

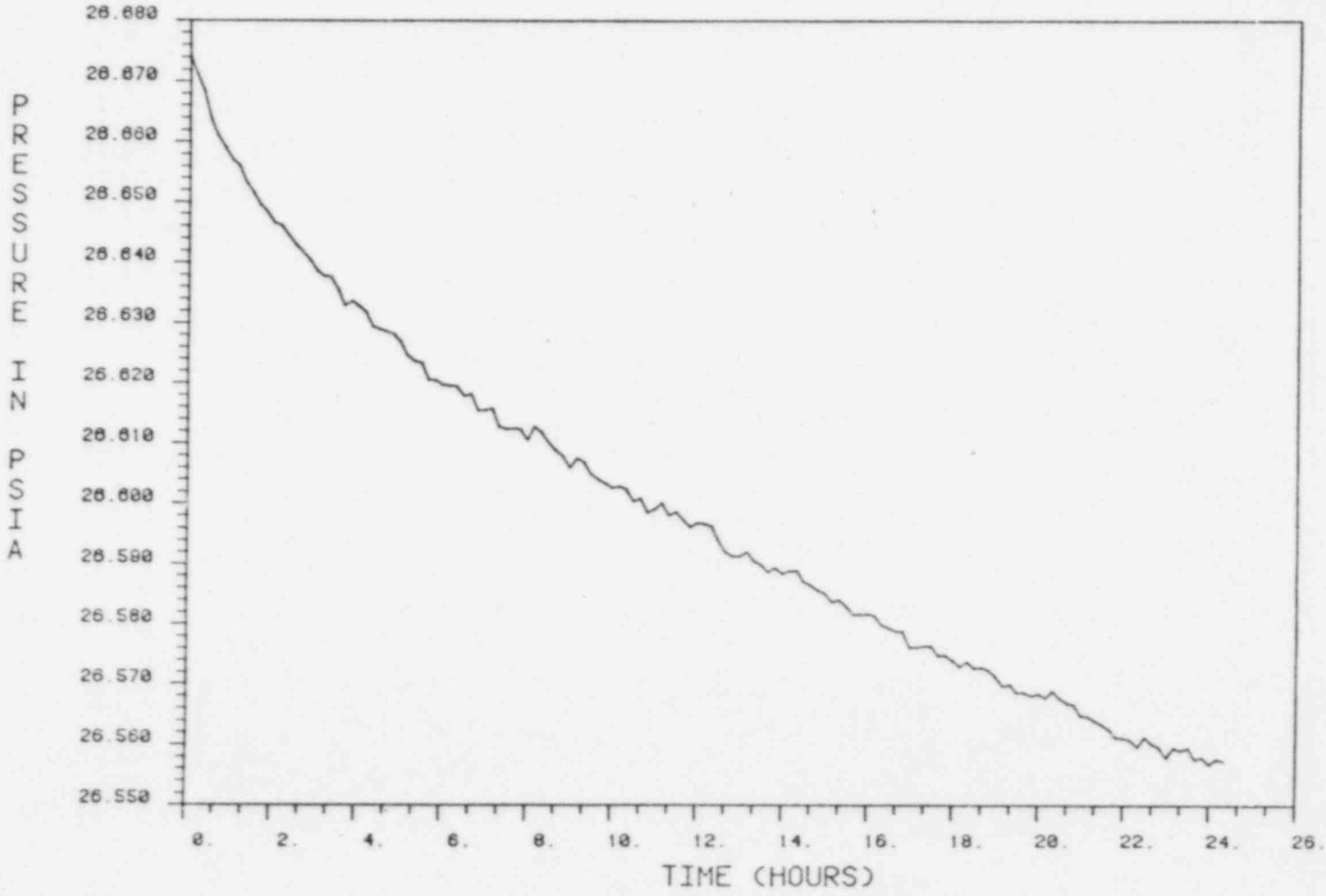


FIGURE 28

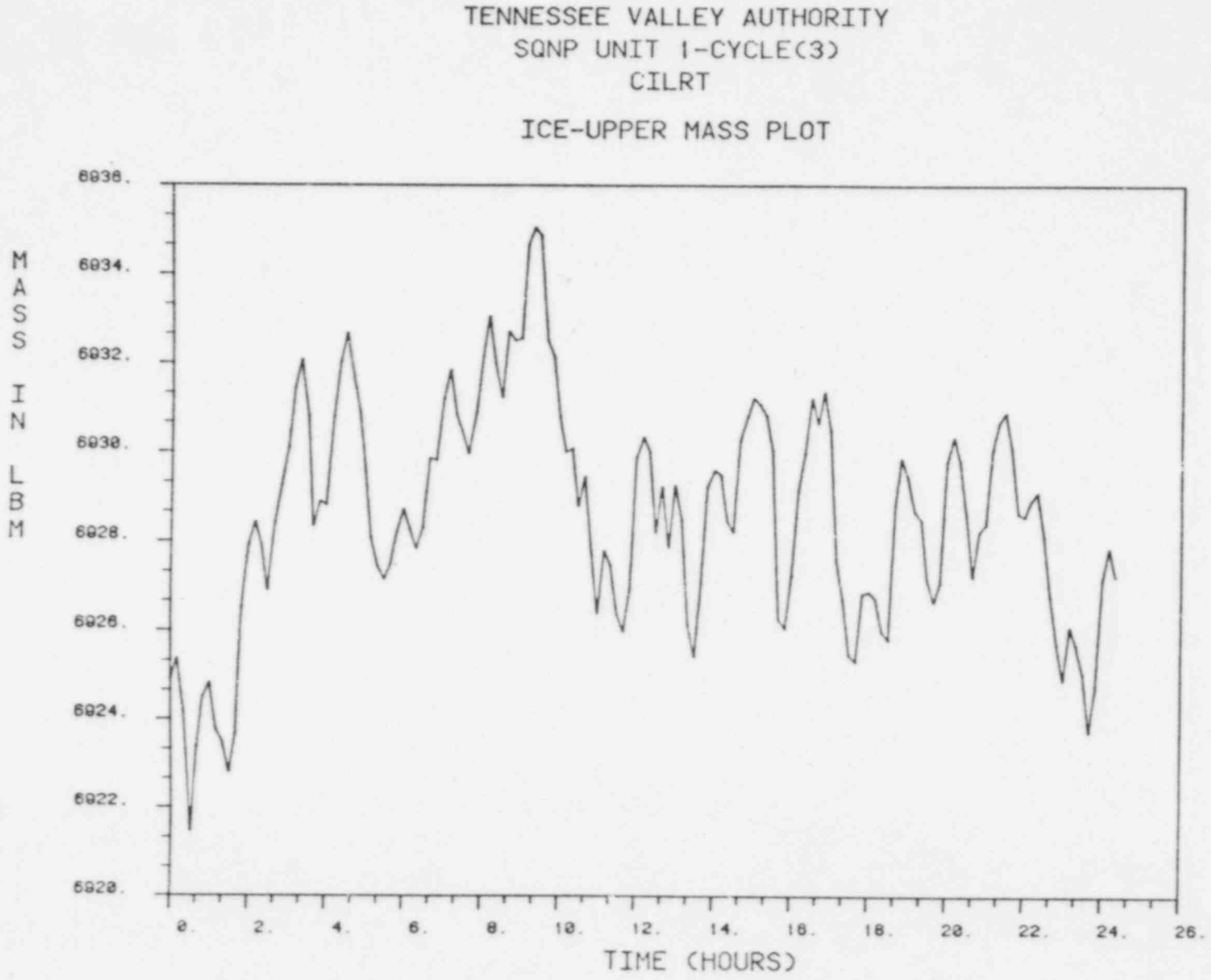

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT
ICE-UPPER MASS PLOT
MASS IN LBM
6038.
6034.
6032.
6030.
6028.
6026.
6024.
6022.
6020.
0.
2.
4.
6.
8.
10.
12.
14.
16.
18.
20.
22.
24.
26.
TIME (HOURS)

FIGURE 29

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

ICE-LOWER TEMPERATURE PLOT

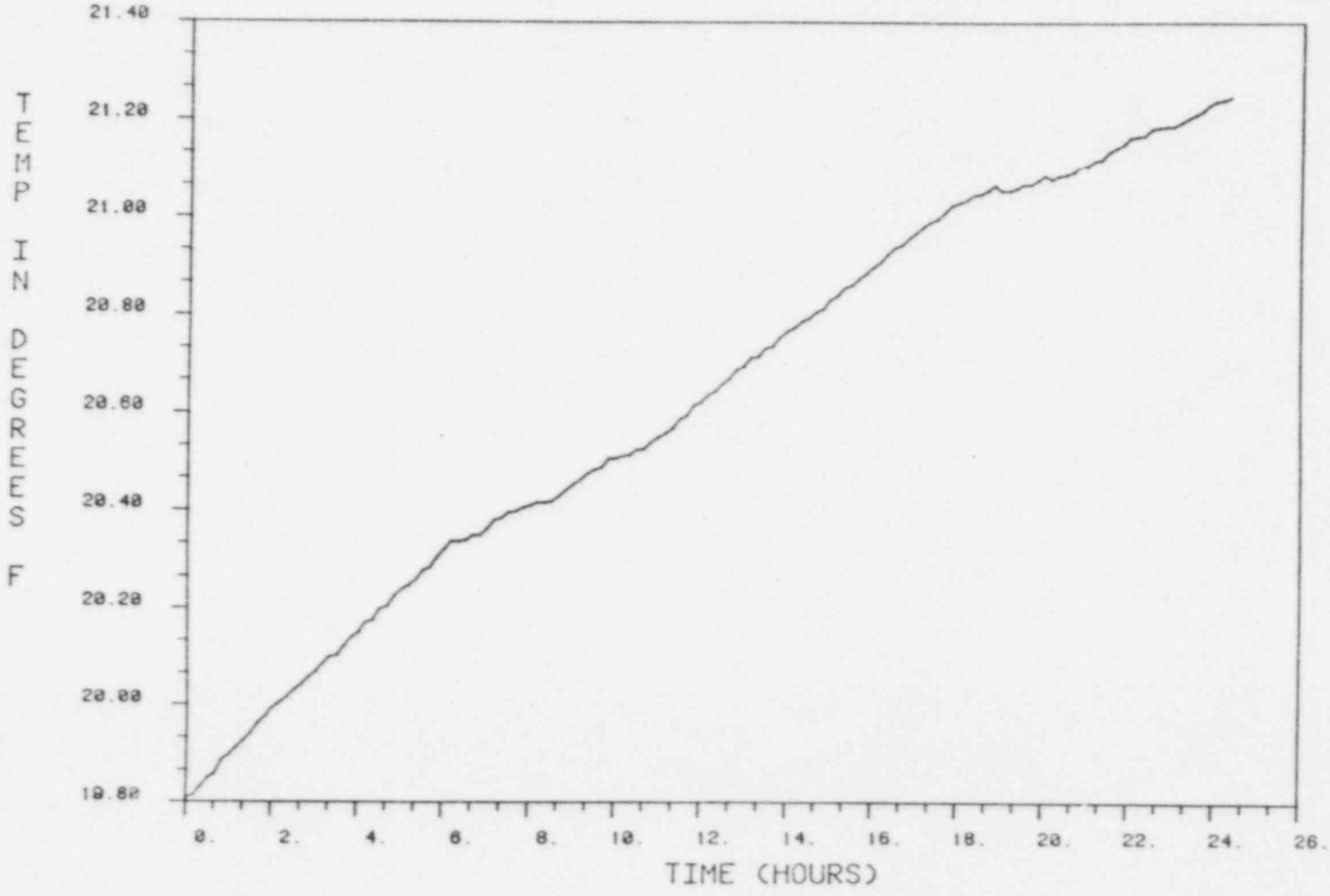


FIGURE 30

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

ICE-LOWER VAPOR PRESSURE PLOT

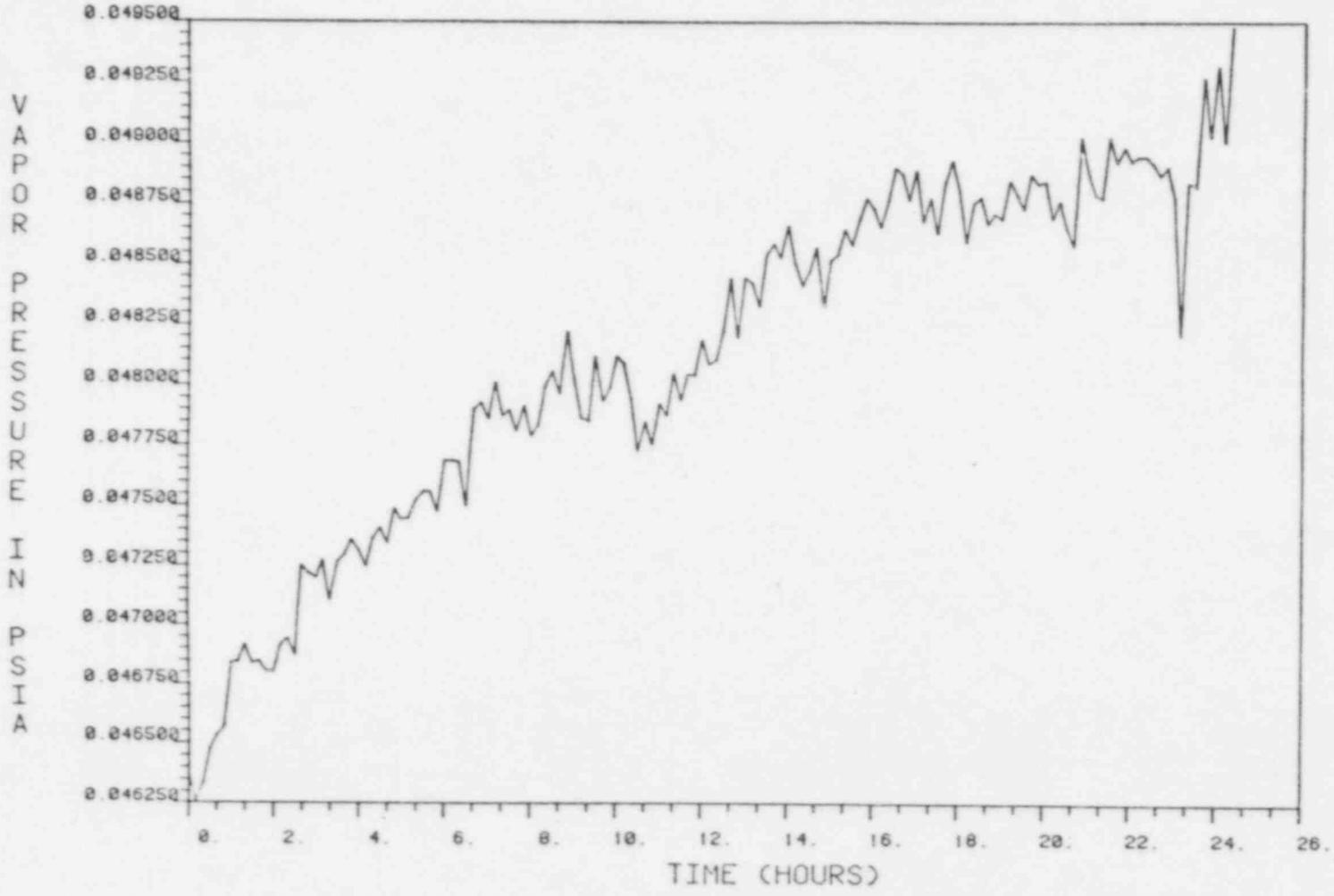


FIGURE 31

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

ICE-LOWER PRESSURE PLOT

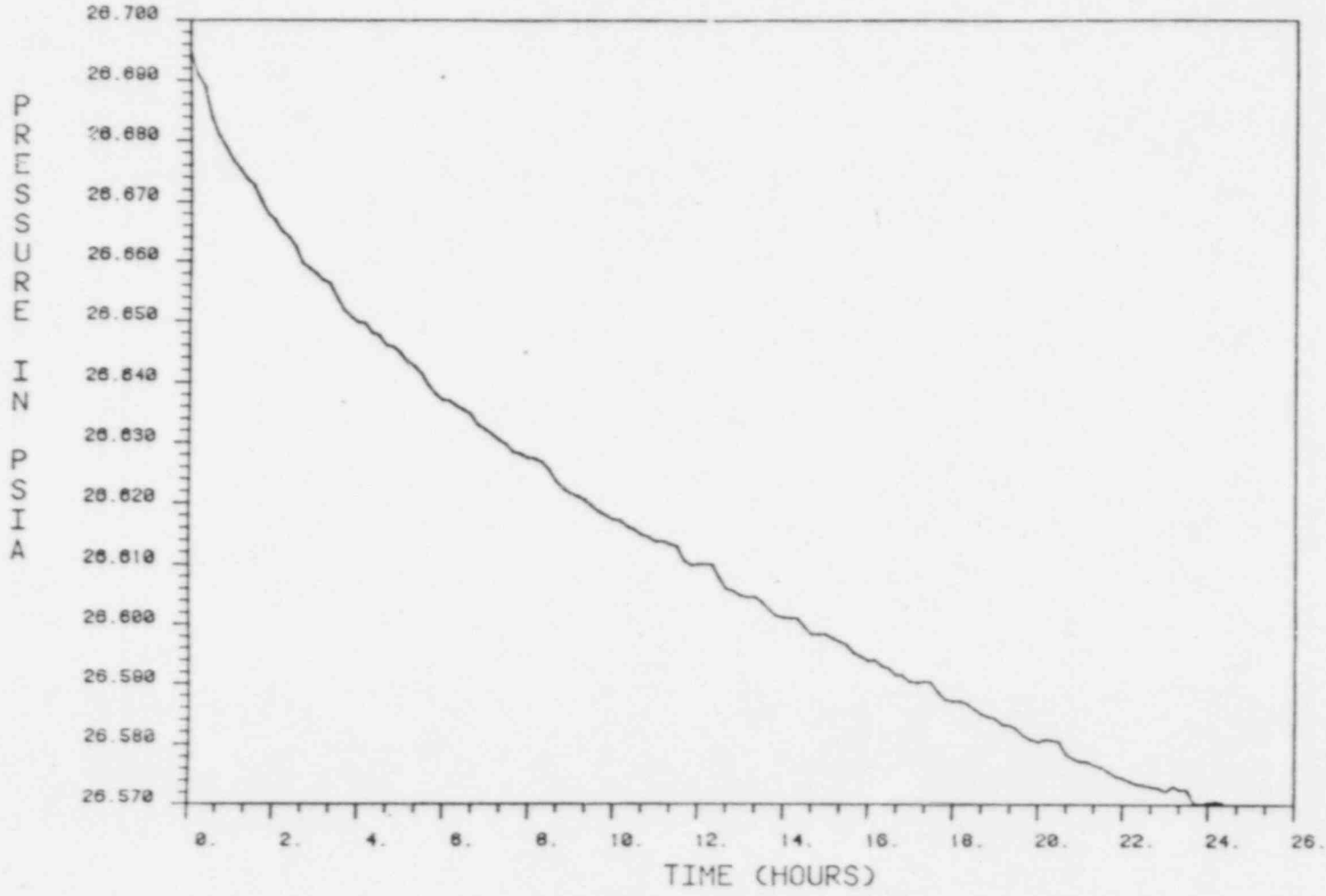


FIGURE 32

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
CILRT

ICE-LOWER MASS PLOT

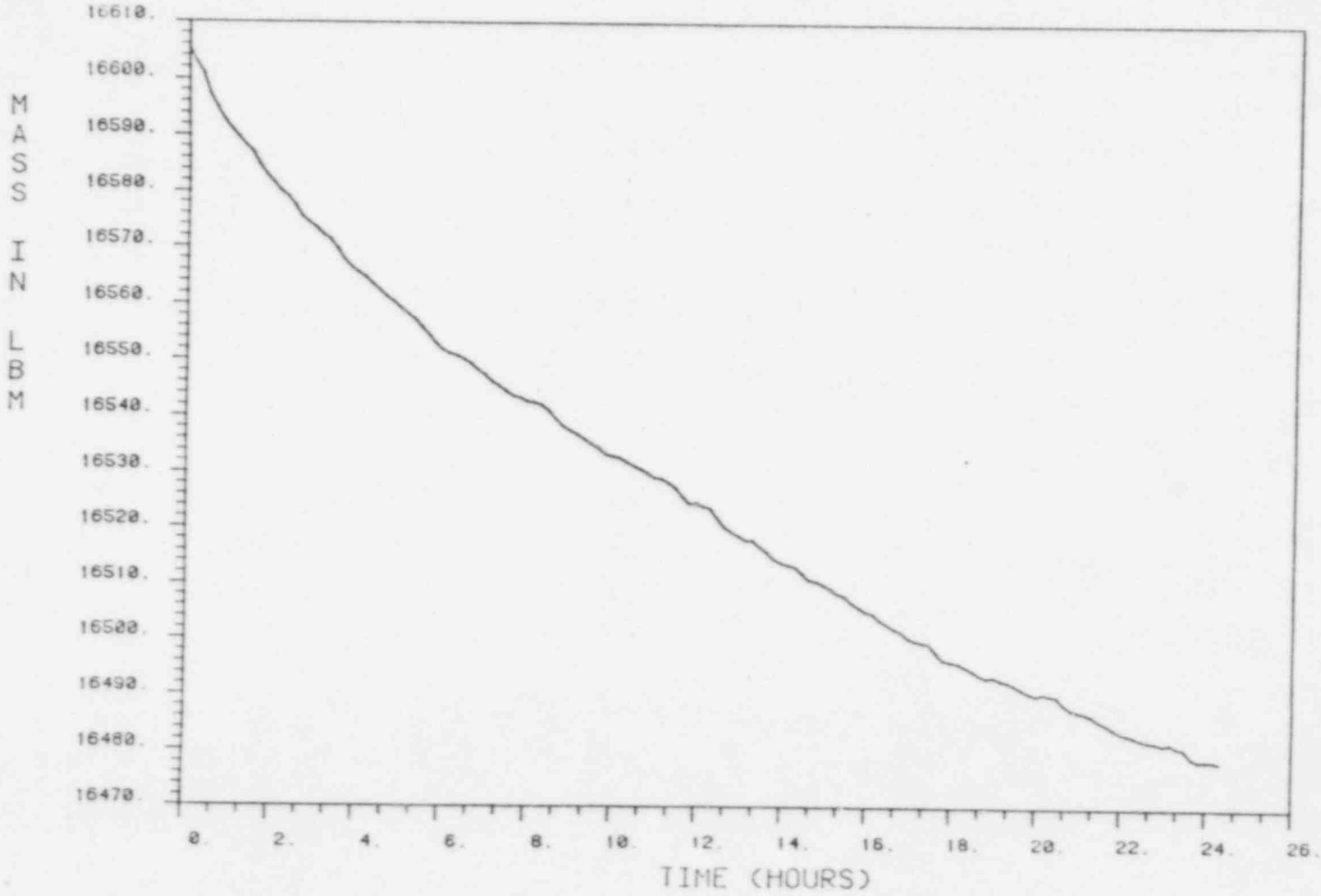


FIGURE 33

TENNESSEE VALLEY AUTHORITY
SQNP-UNIT 1-CYCLE(3)
VERIFICATION TEST

CALCULATED TOTAL TIME LEAK RATE PLOT

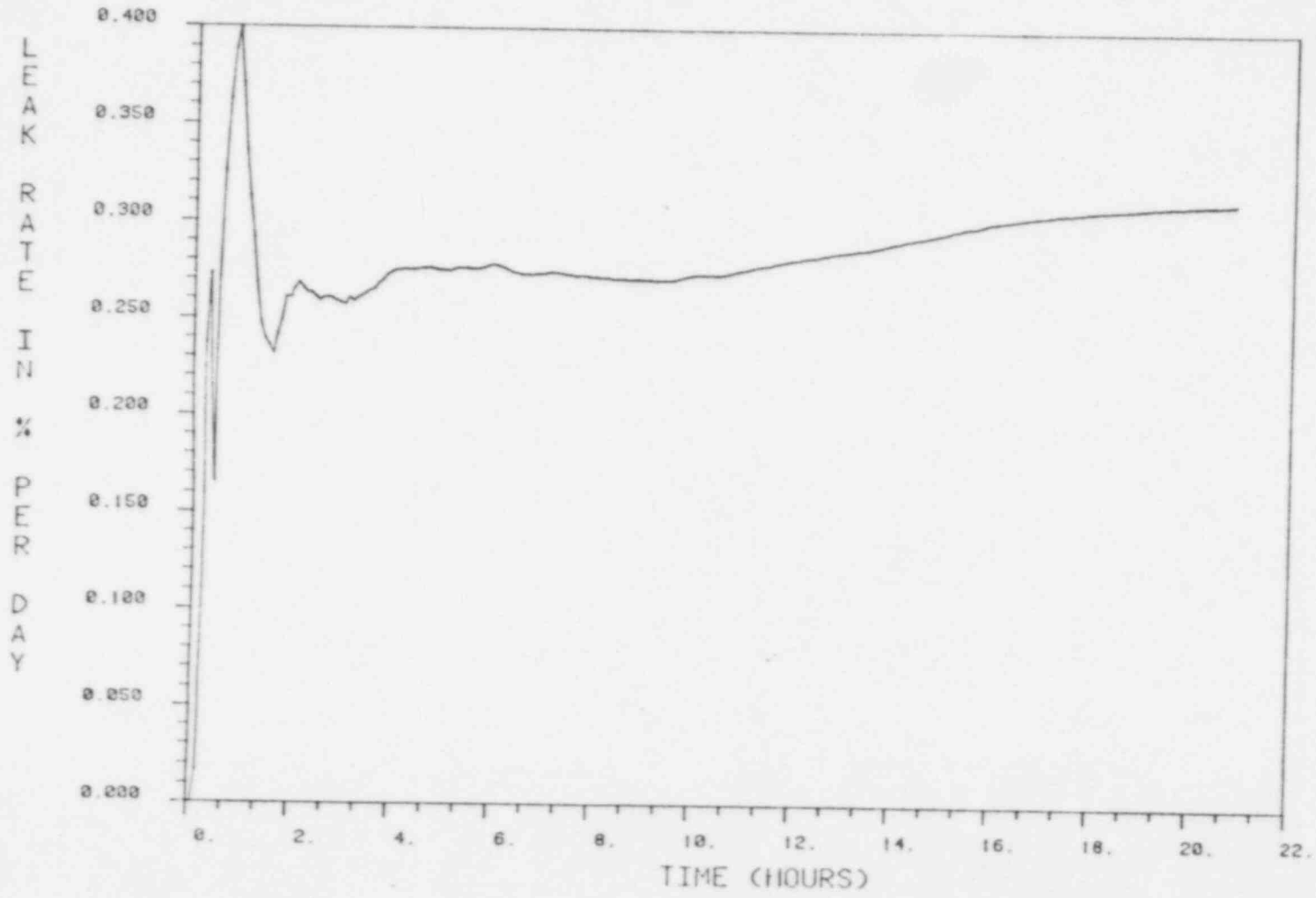


FIGURE 34

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

TOTAL TIME LEAK RATE PLOT

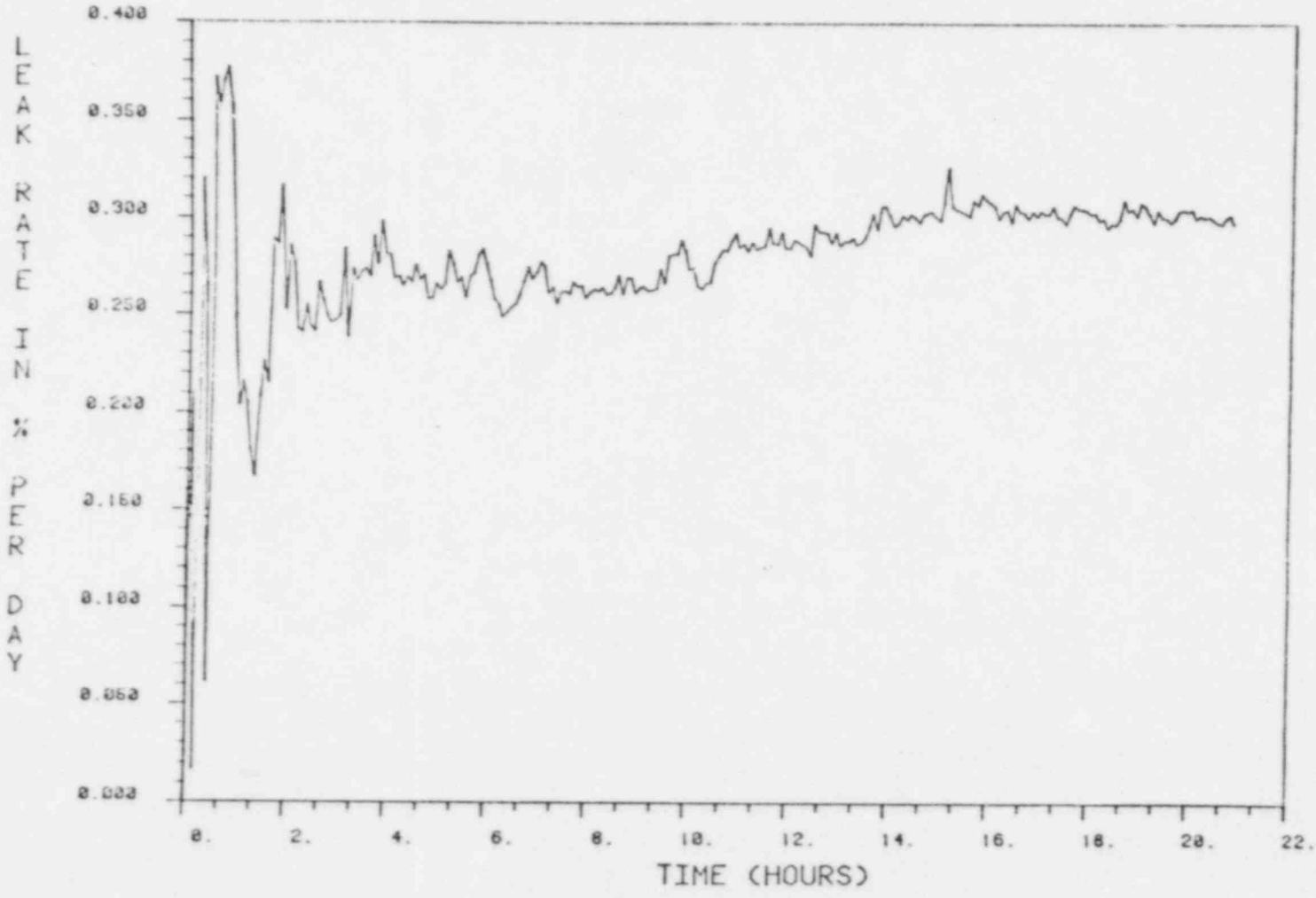


FIGURE 35

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

MASS LEAK RATE PLOT

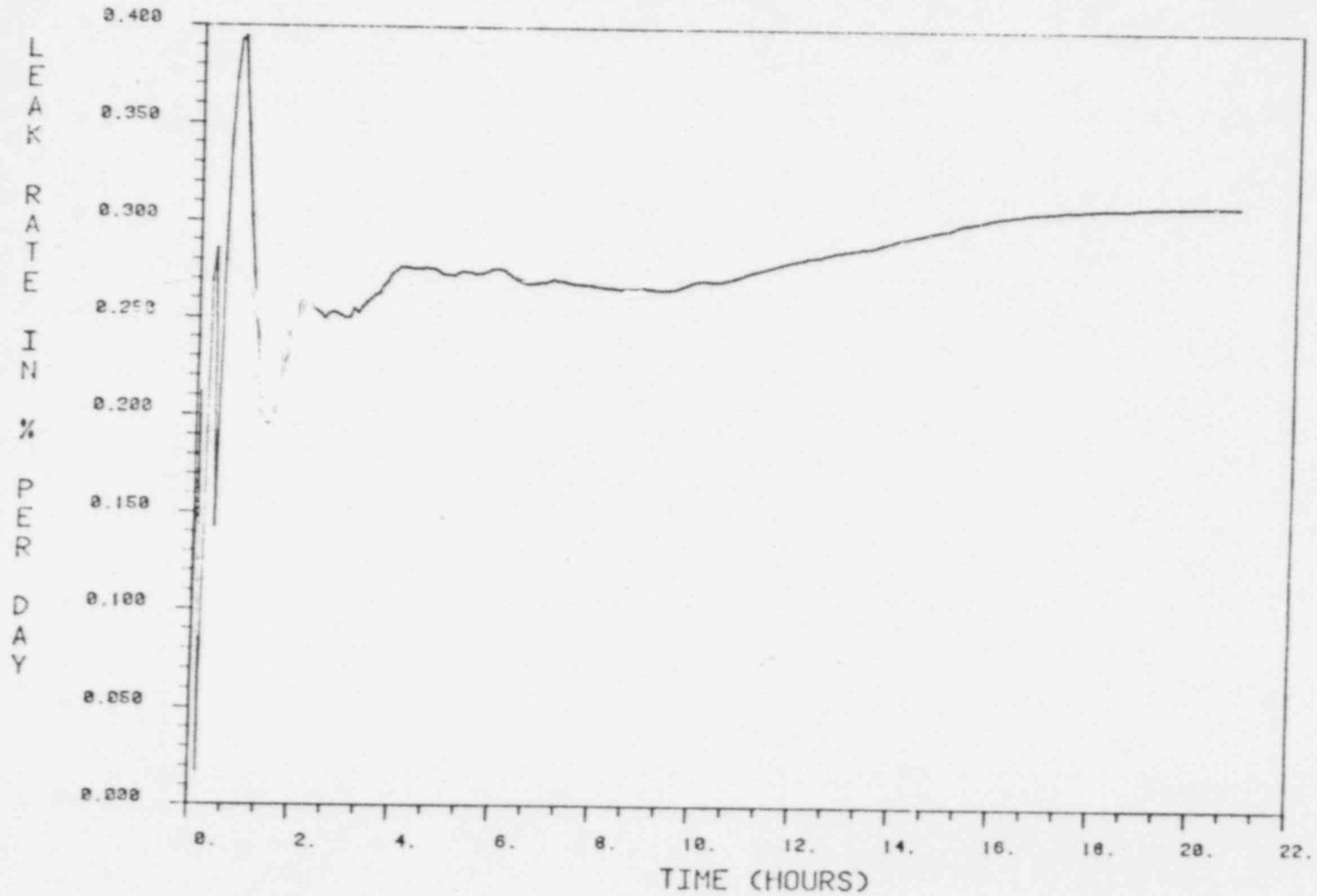


FIGURE 36

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

AVERAGE MASS PLOT

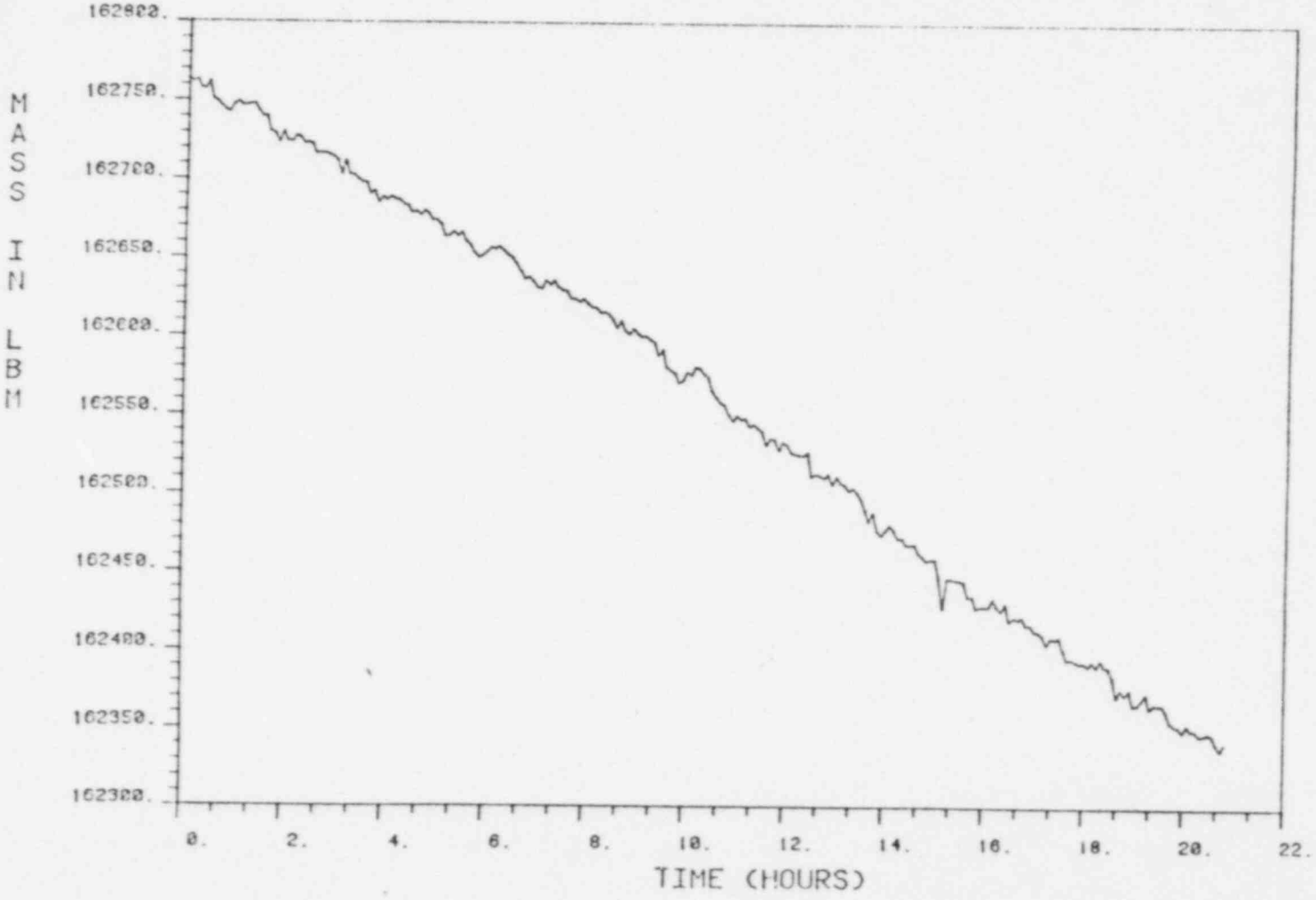


FIGURE 37

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST.

AVERAGE TEMPERATURE PLOT

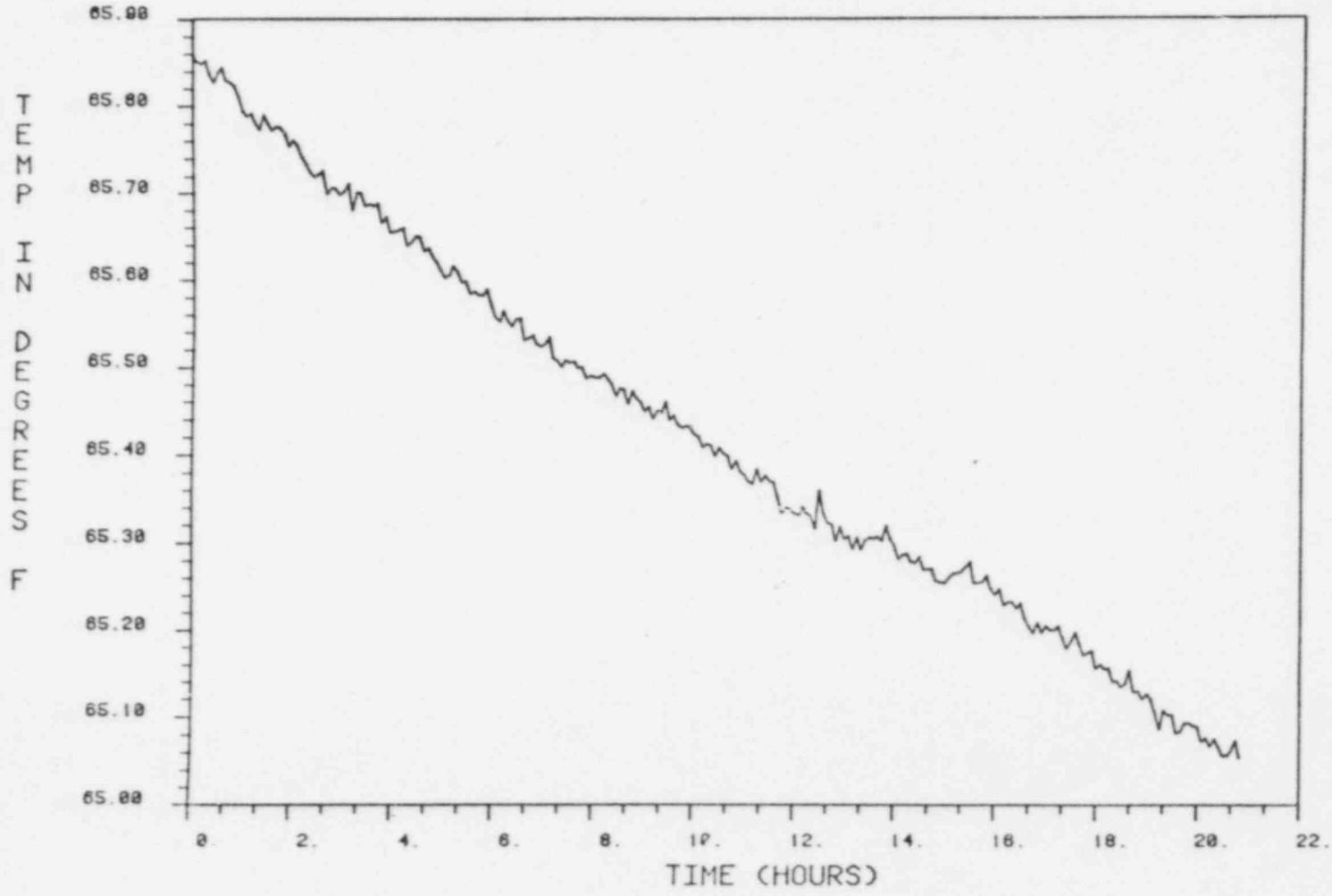


FIGURE 38

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

AVERAGE PRESSURE PLOT

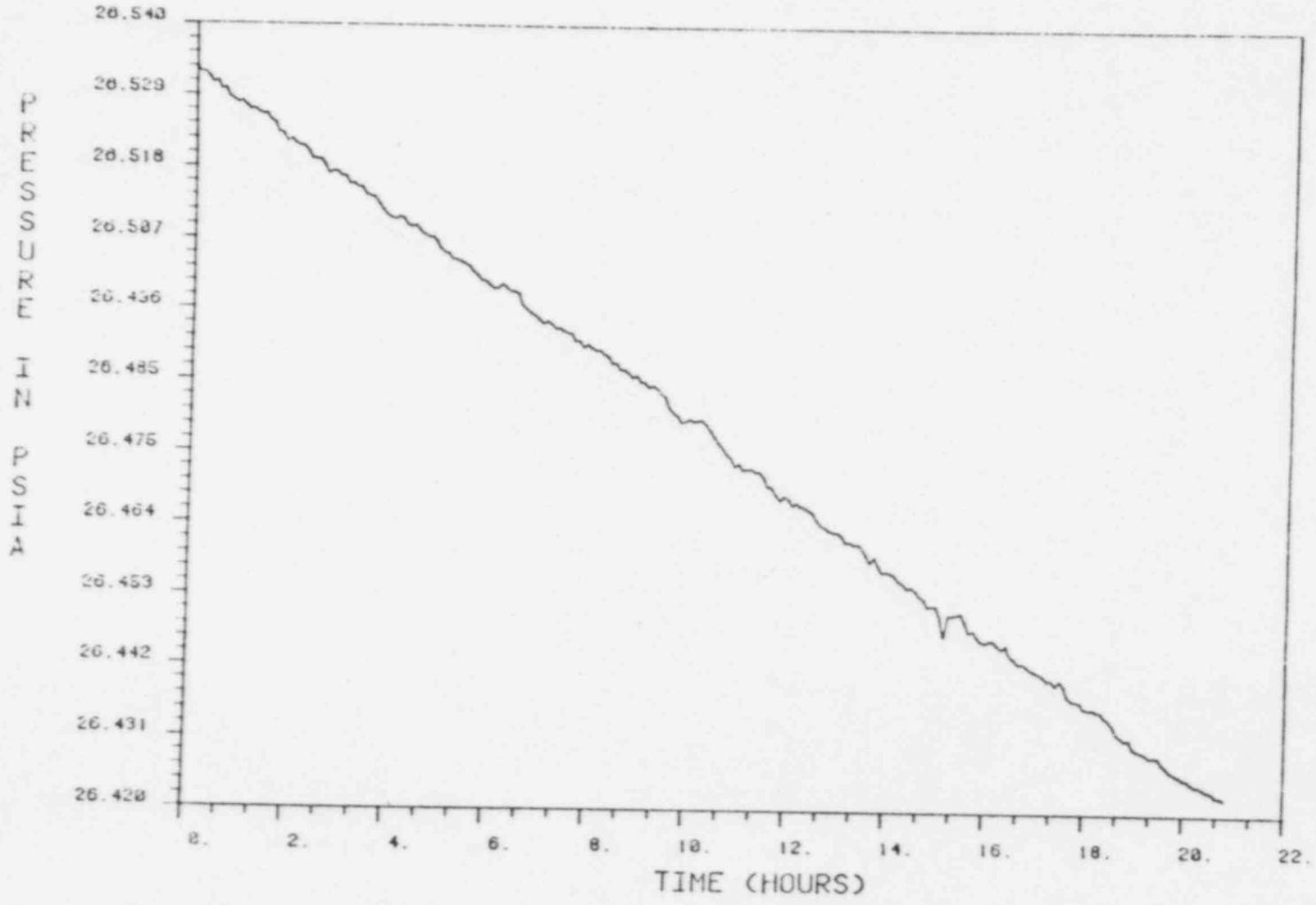


FIGURE 39

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

UPPER TEMPERATURE PLOT

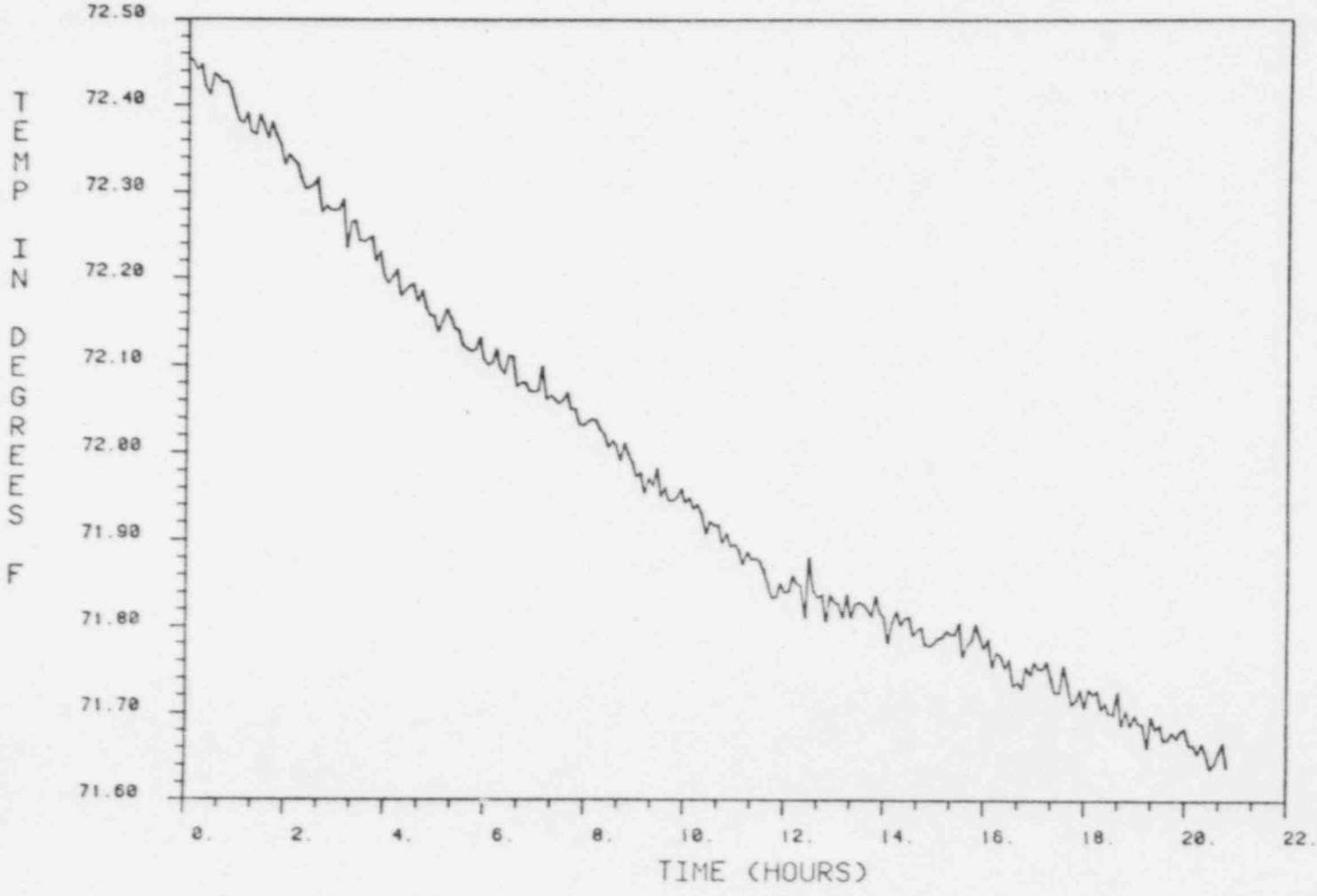


FIGURE 40

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

UPPER VAPOR PRESSURE PLOT

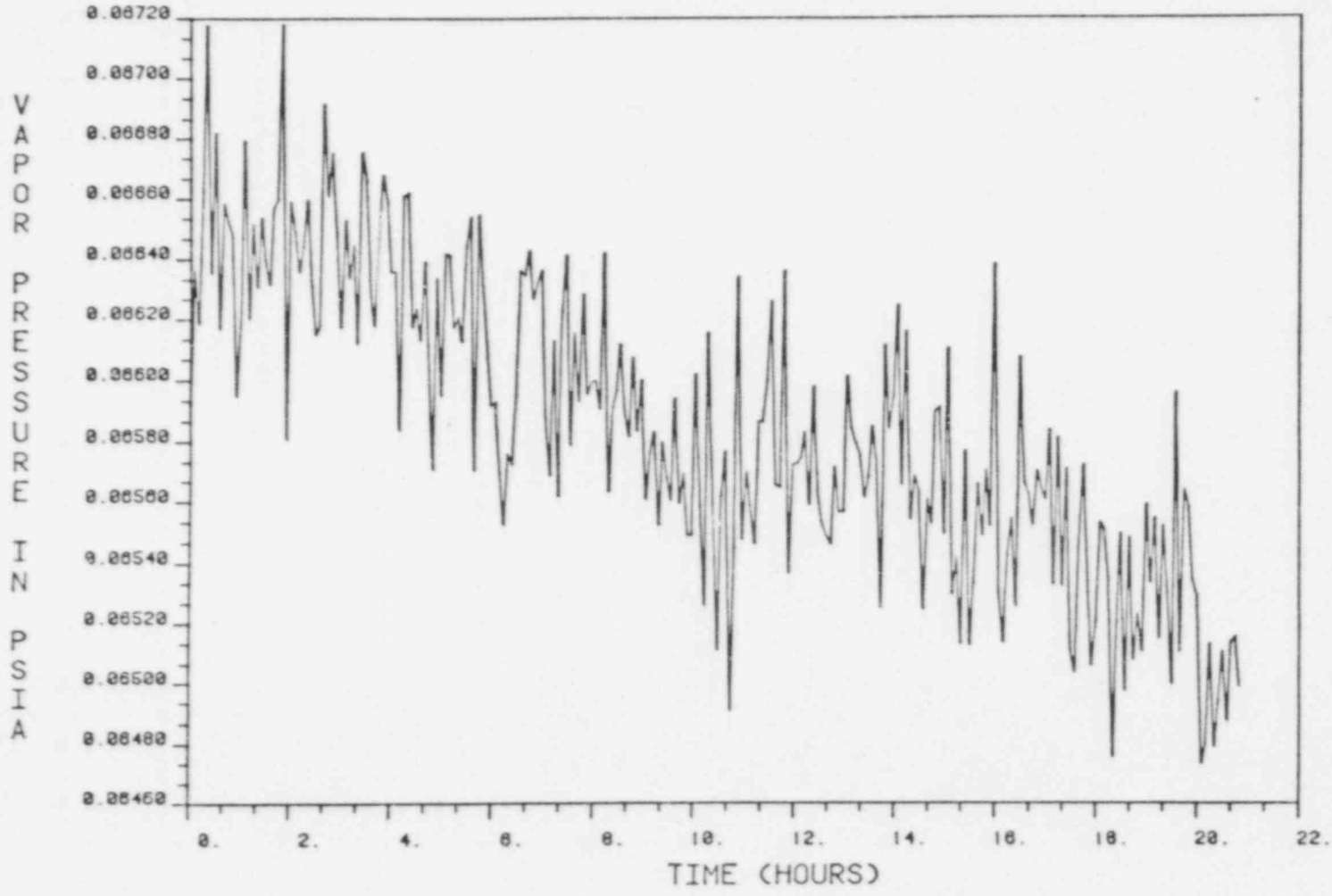


FIGURE 41

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

UPPER PRESSURE PLOT

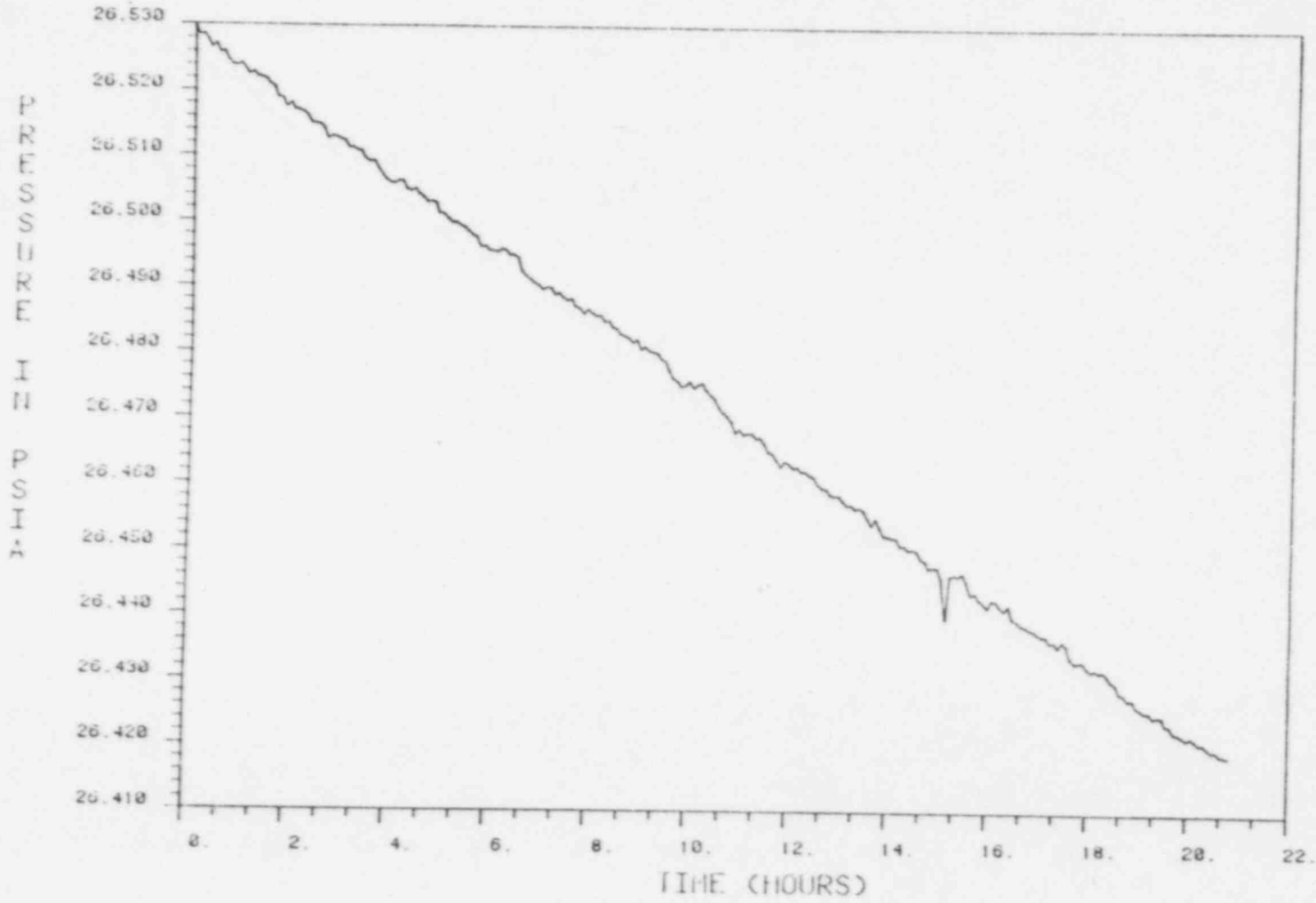


FIGURE 42

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

UPPER MASS PLOT

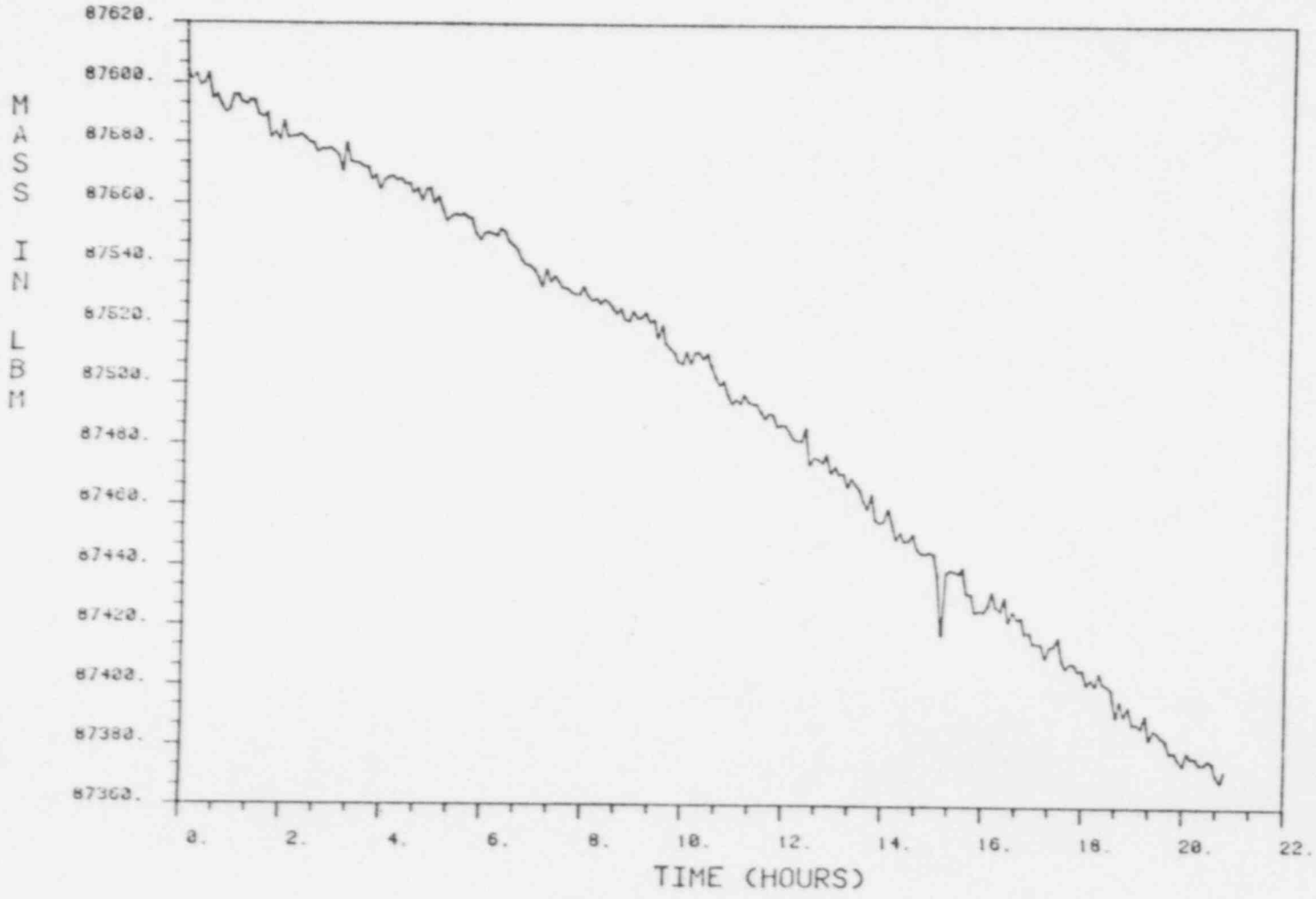


FIGURE 43

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

LOWER TEMPERATURE PLOT

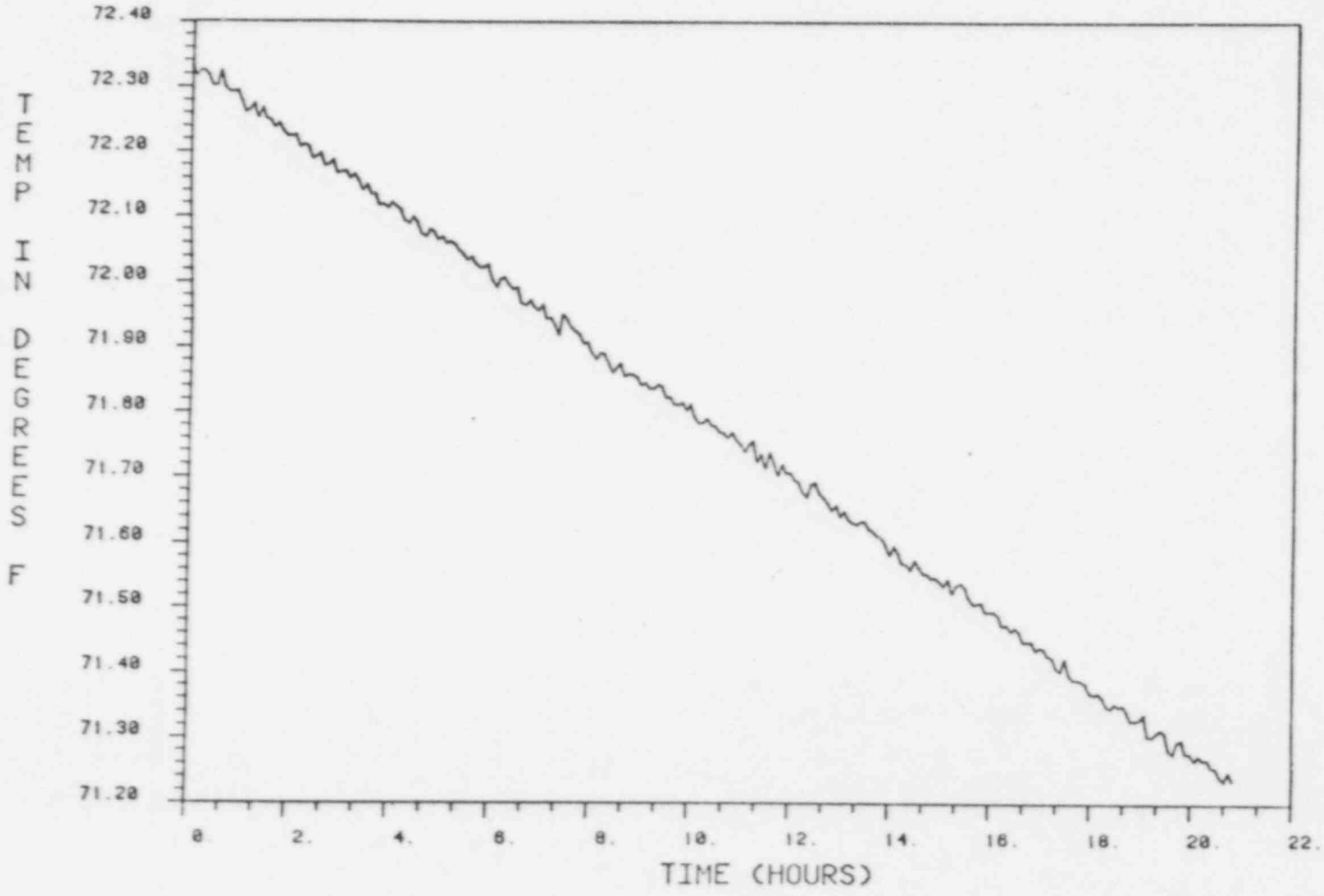


FIGURE 44

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

LOWER VAPOR PRESSURE PLOT

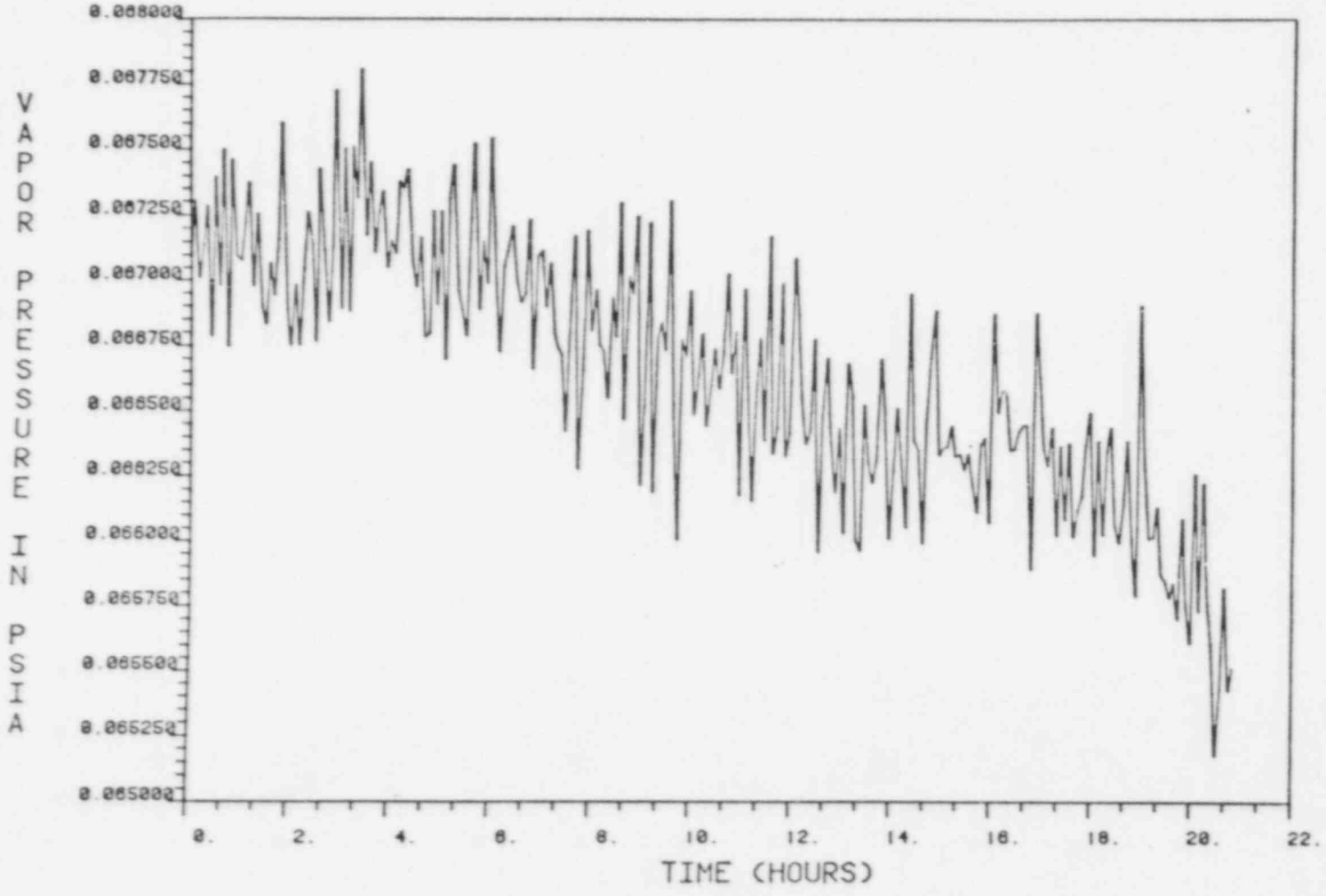


FIGURE 45

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

LOWER PRESSURE PLOT

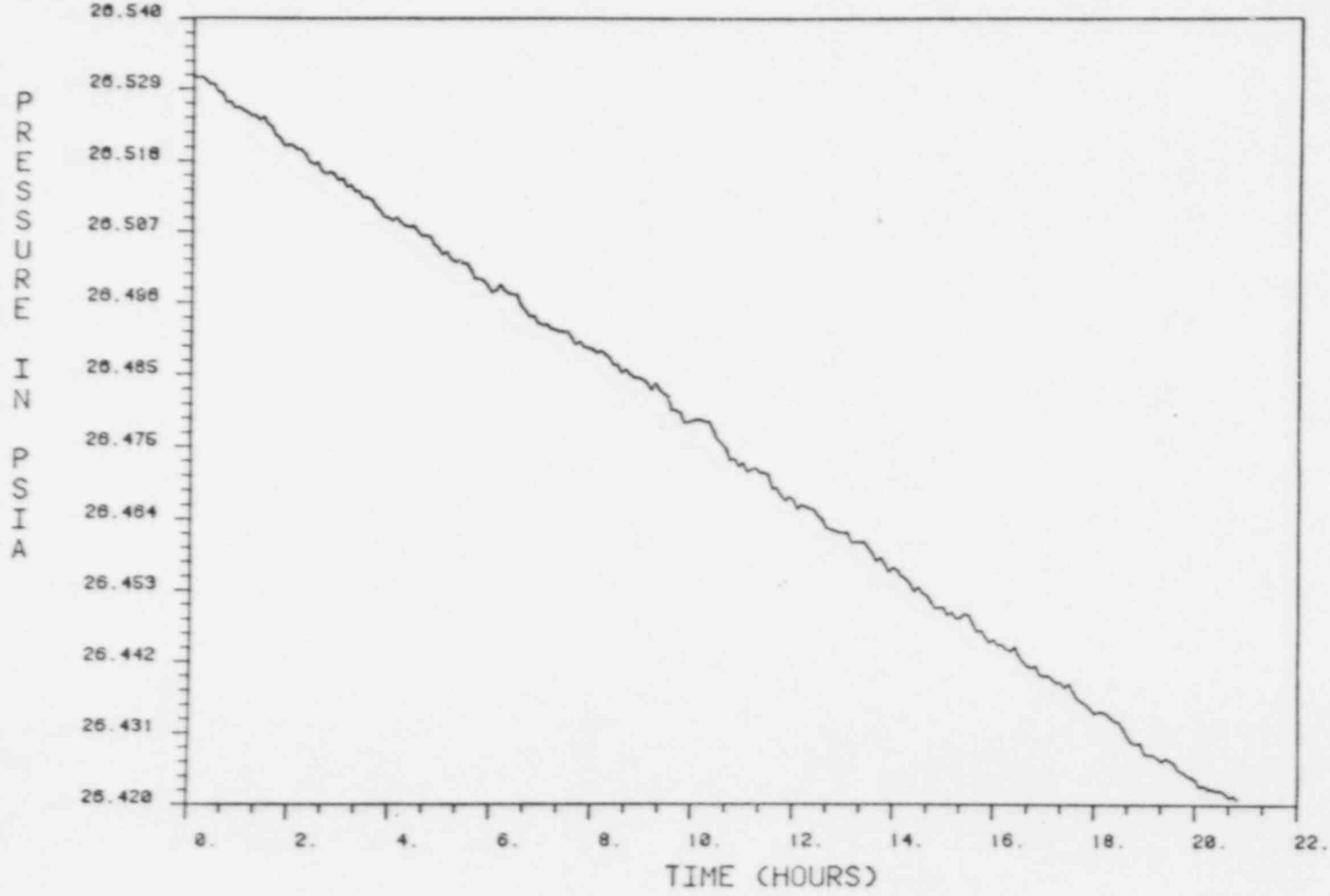


FIGURE 46

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

LOWER MASS PLOT

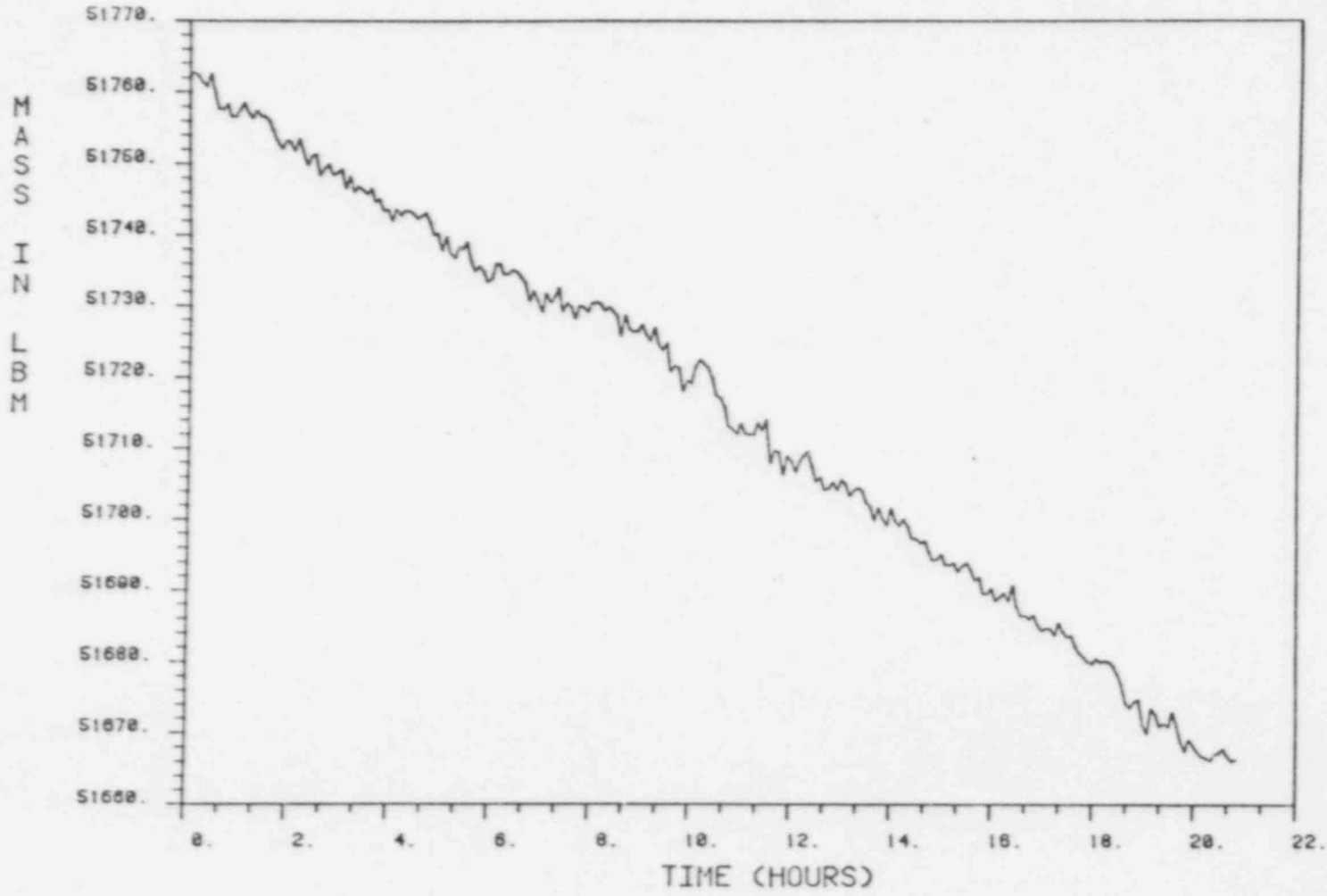


FIGURE 47

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

ICE-UPPER TEMPERATURE PLOT

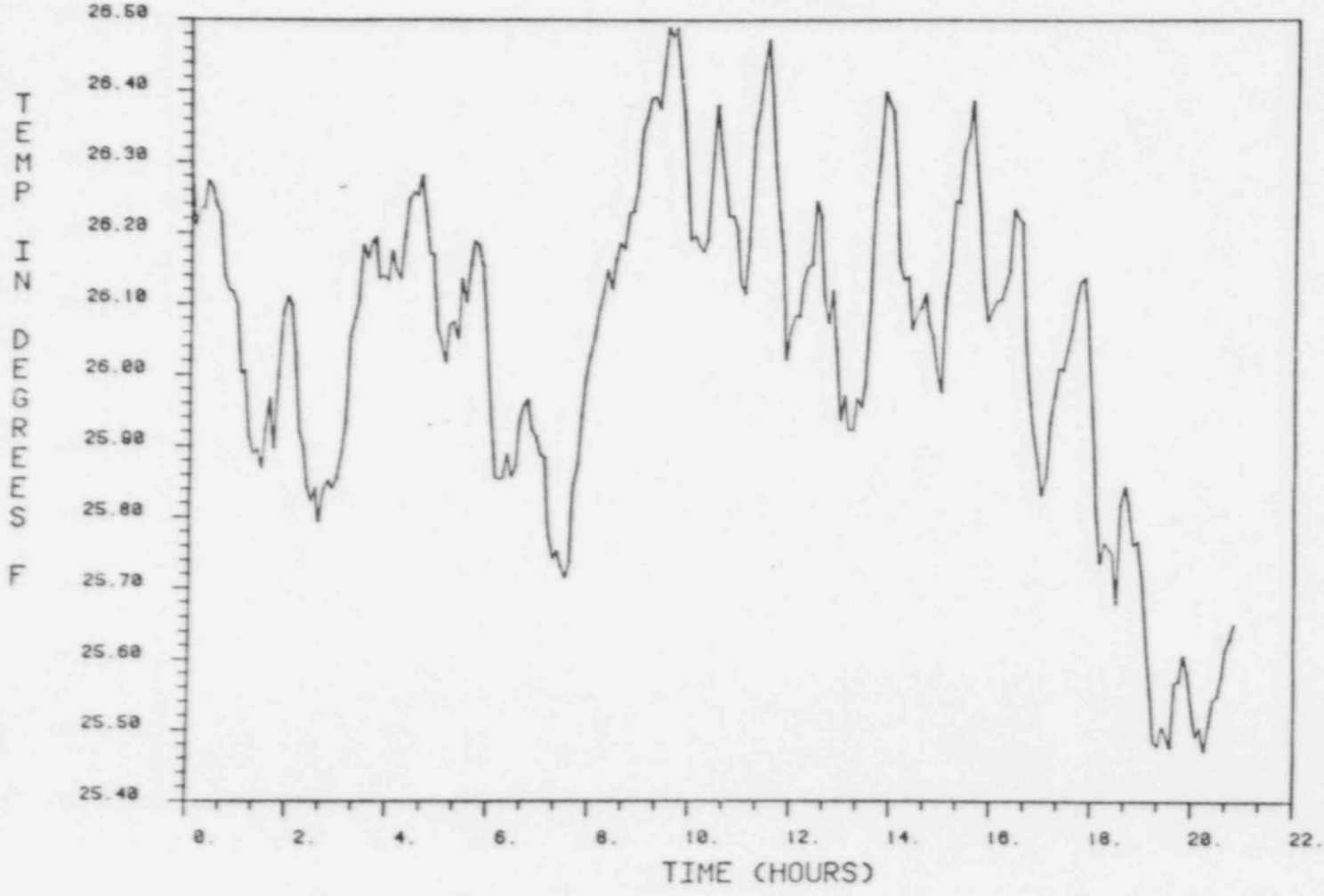


FIGURE 48

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

ICE-UPPER VAPOR PRESSURE PLOT

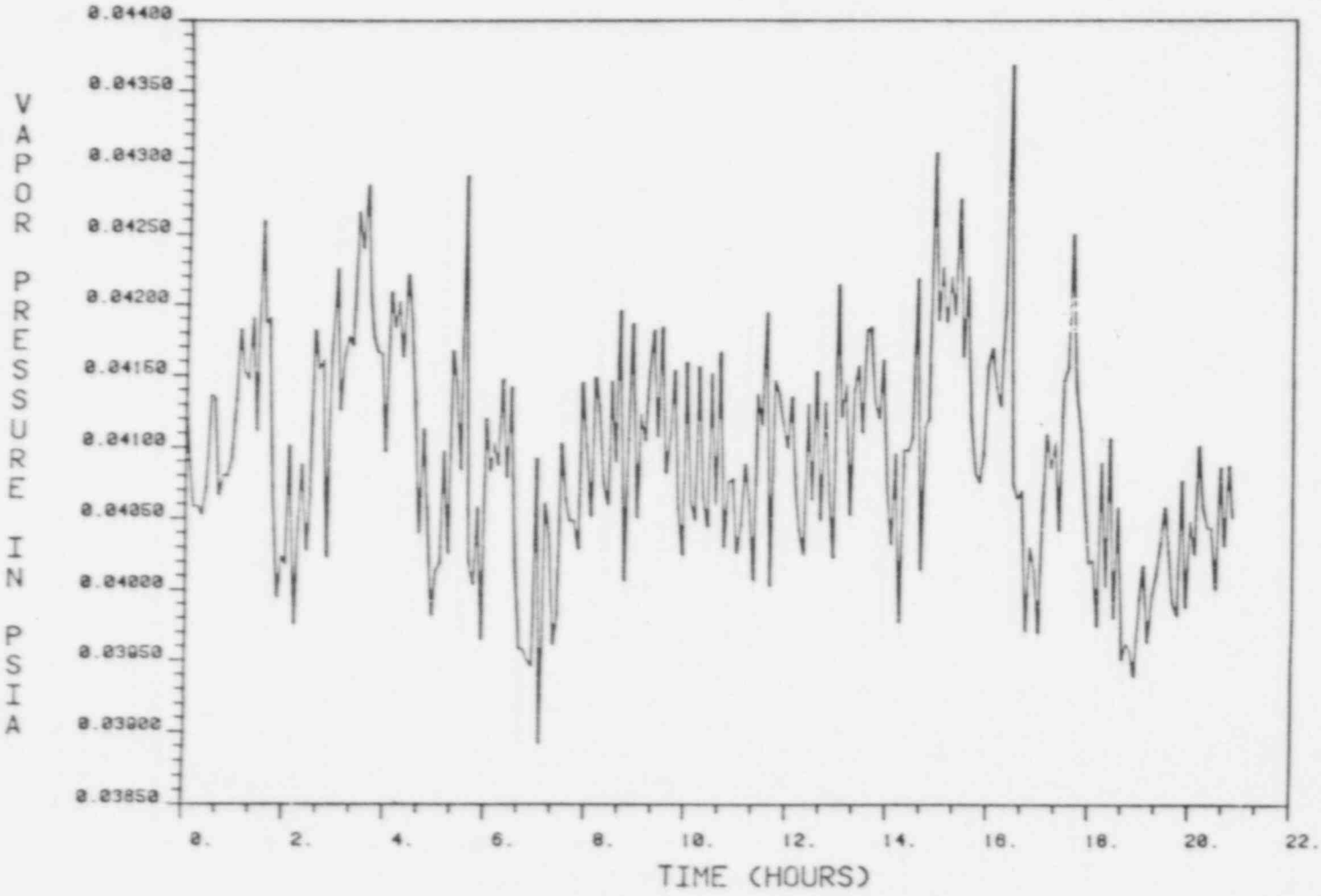


FIGURE 49

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

ICE-UPPER PRESSURE PLOT

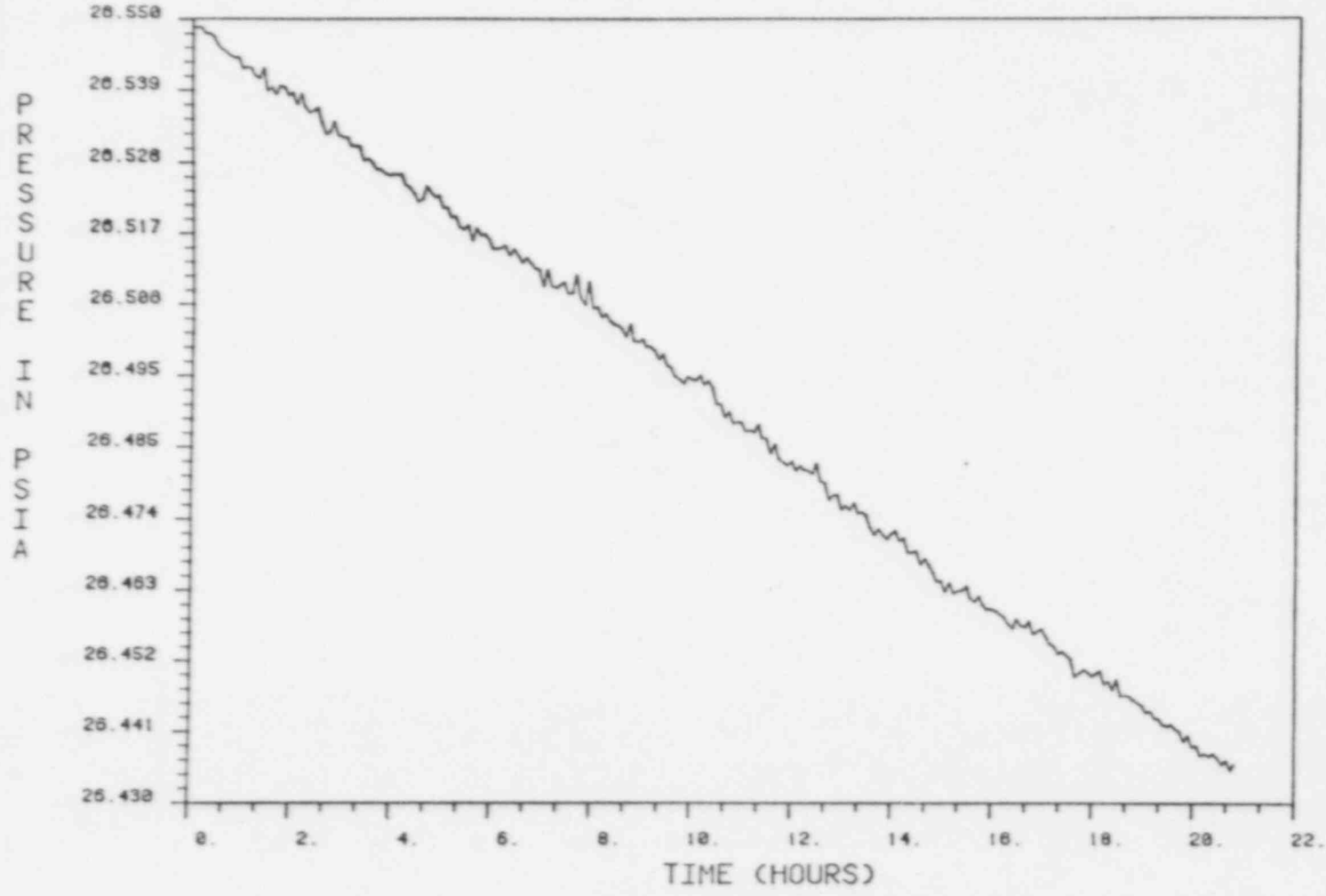


FIGURE 50

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

ICE-UPPER MASS PLOT

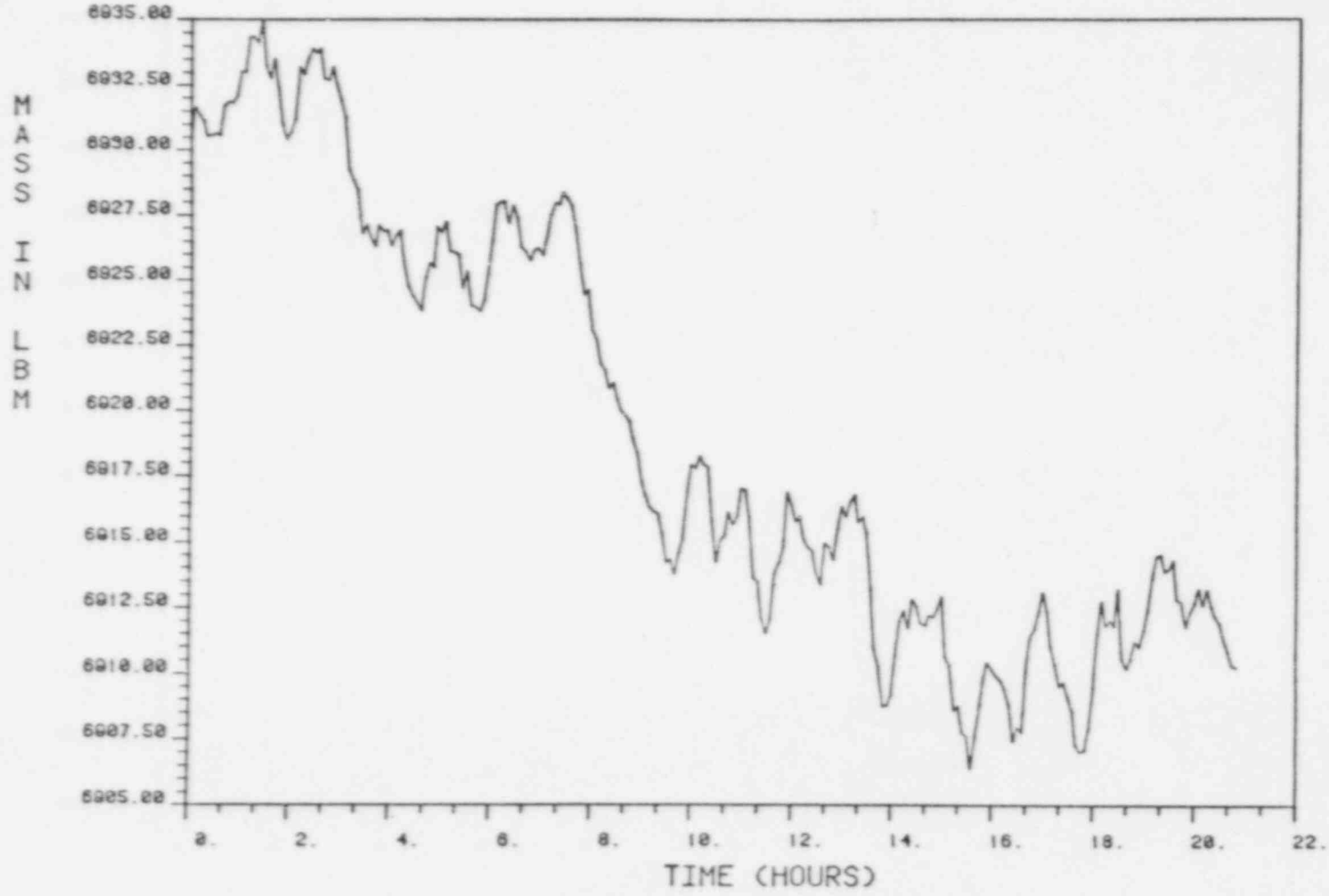


FIGURE 51

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

ICE-LOWER TEMPERATURE PLOT

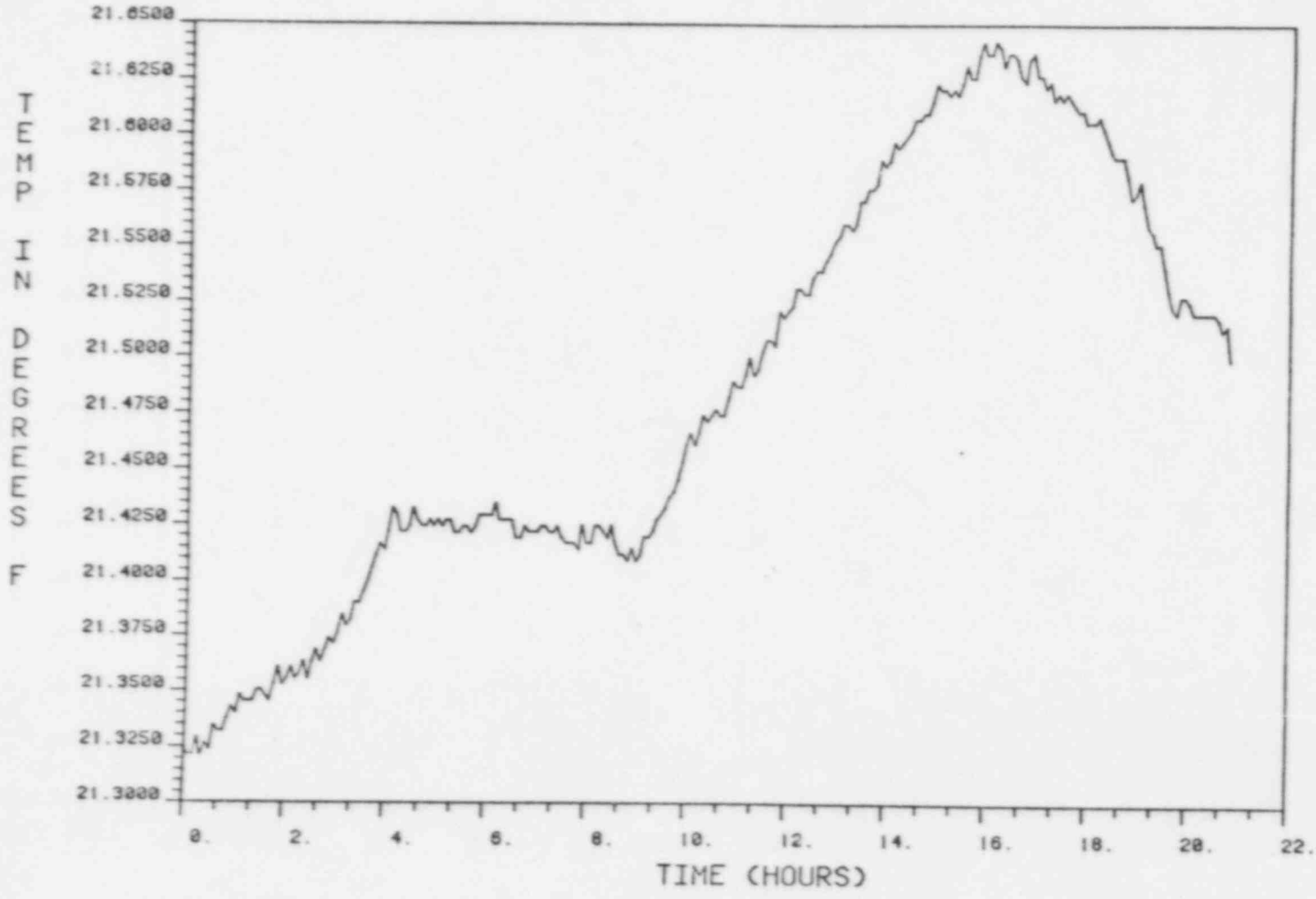


FIGURE 52

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

ICE-LOWER VAPOR PRESSURE PLOT

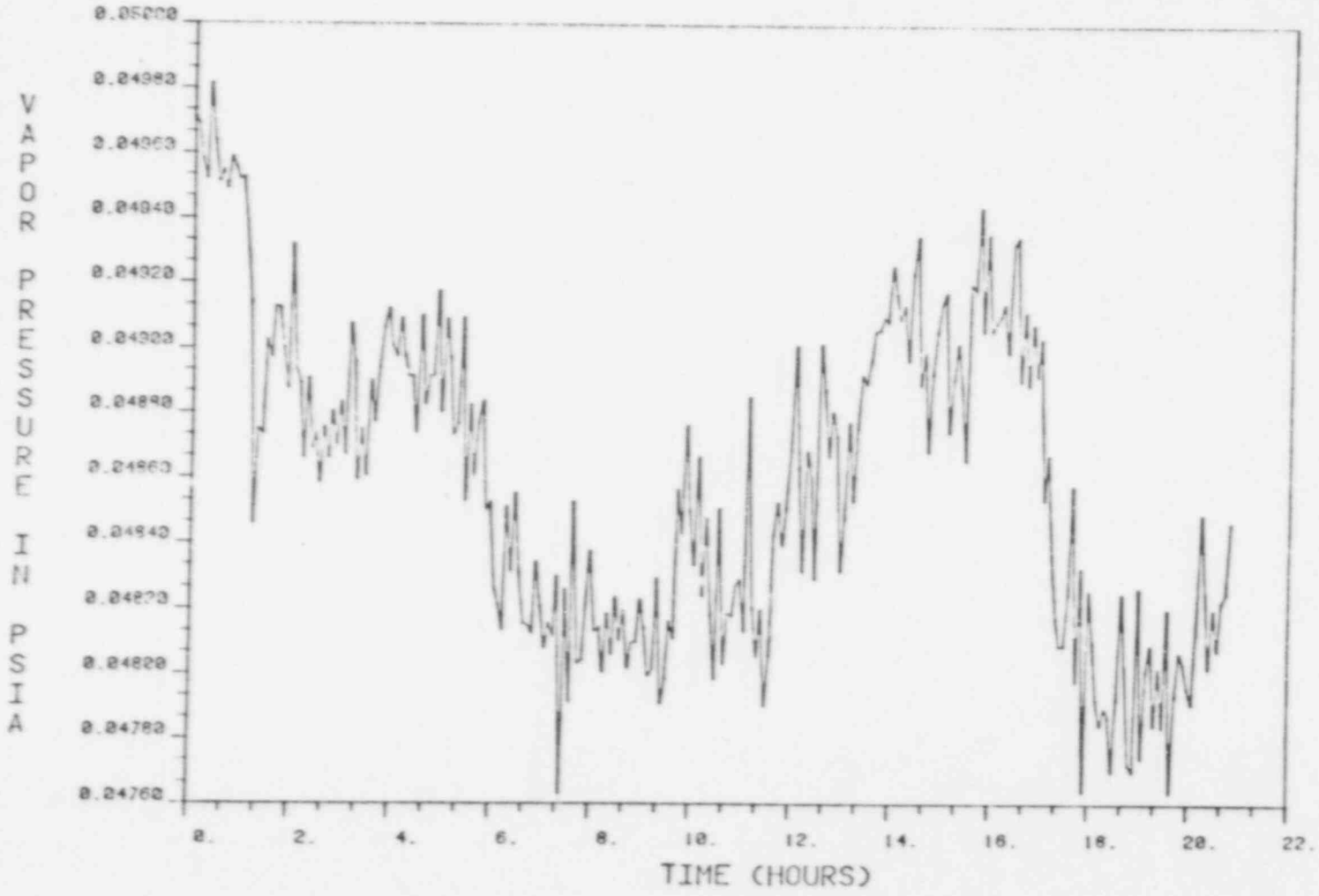


FIGURE 53

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

ICE-LOWER PRESSURE PLOT

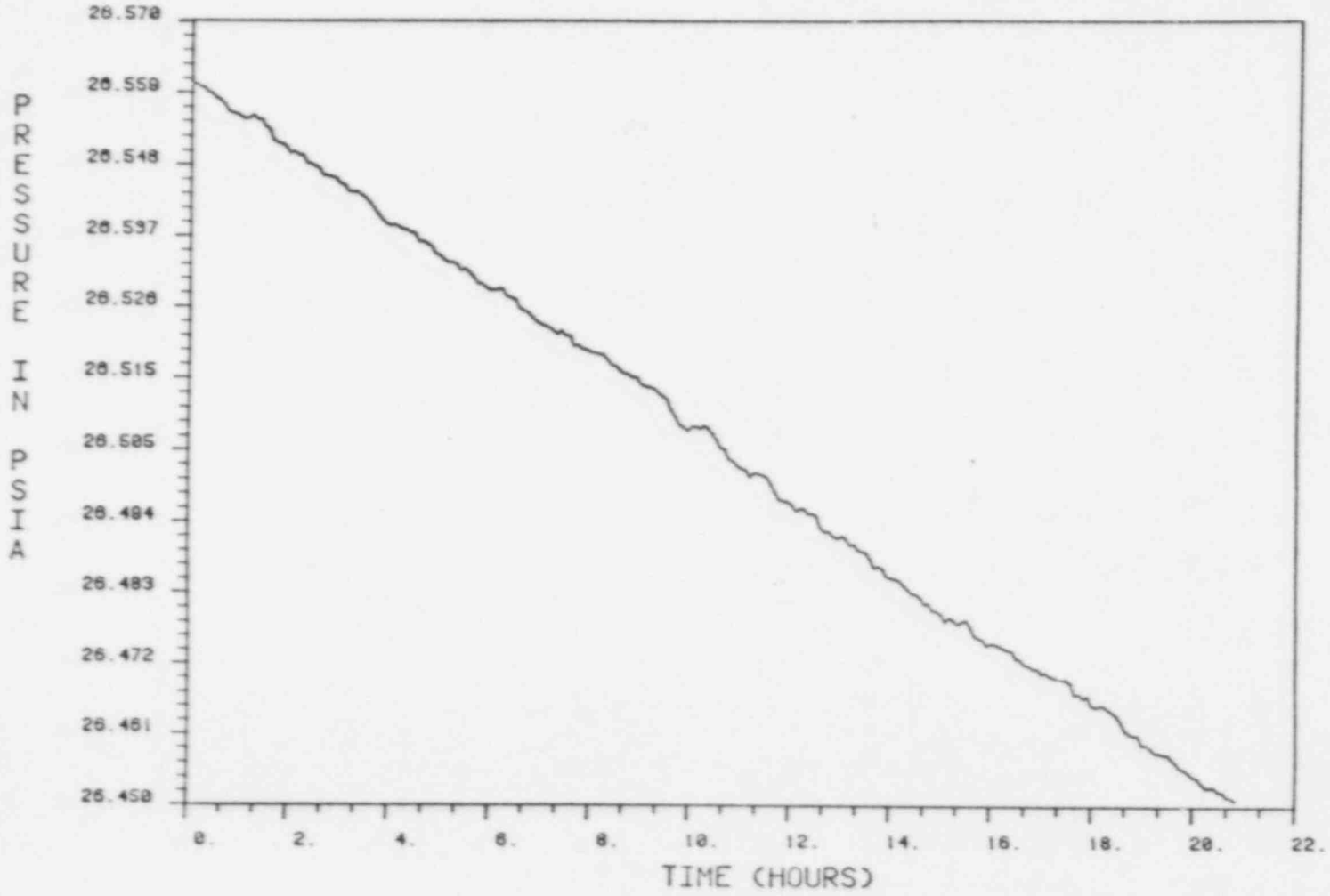


FIGURE 54

TENNESSEE VALLEY AUTHORITY
SQNP UNIT 1-CYCLE(3)
VERIFICATION TEST

ICE-LOWER MASS PLOT

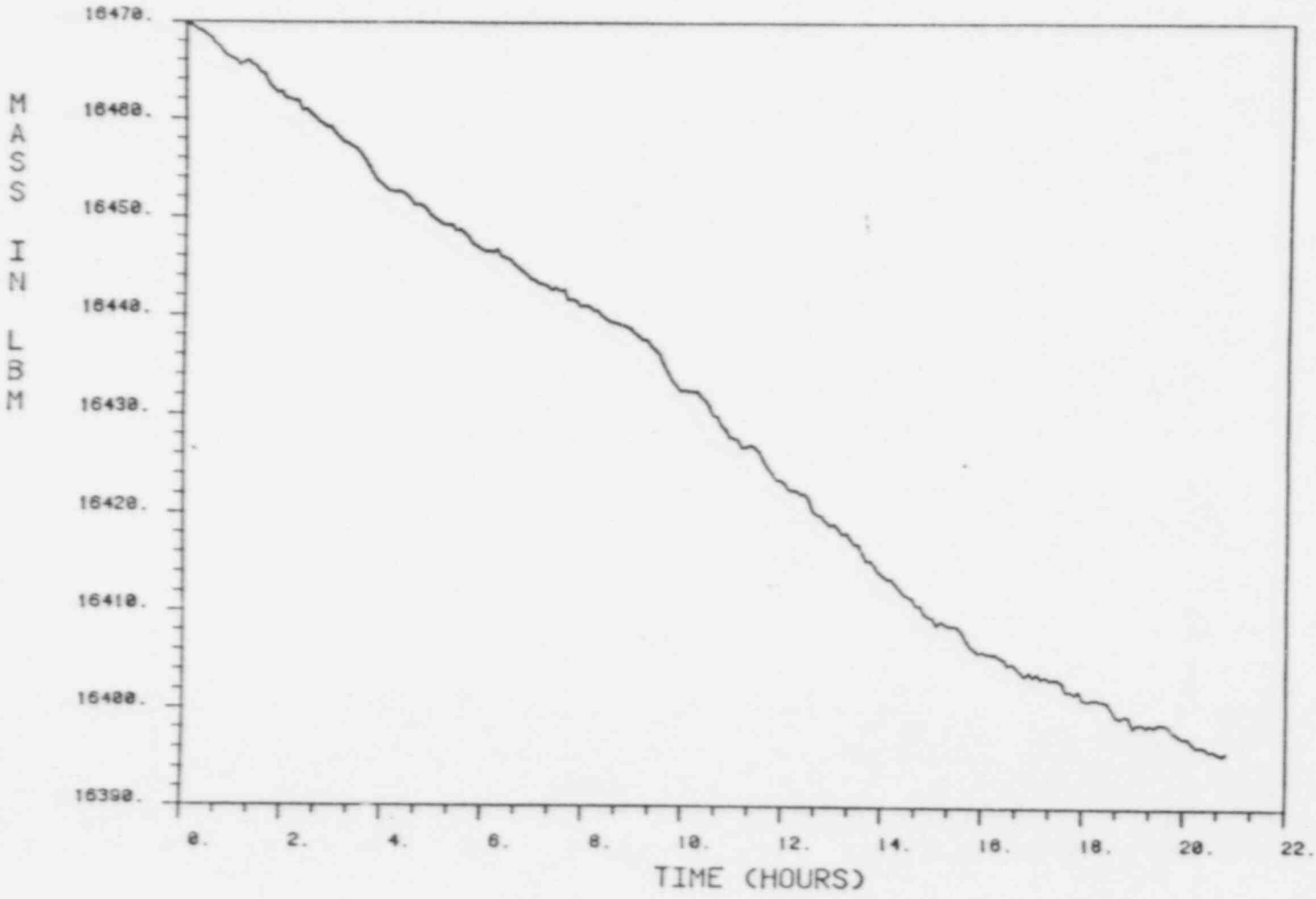


FIGURE 55

TENNESSEE VALLEY AUTHORITY
SQNP-UNIT 1-CYCLE(3)

CILRT - Prior to
Deletion Of Mensor Gauge #1
CALCULATED TOTAL TIME LEAK RATE PLOT

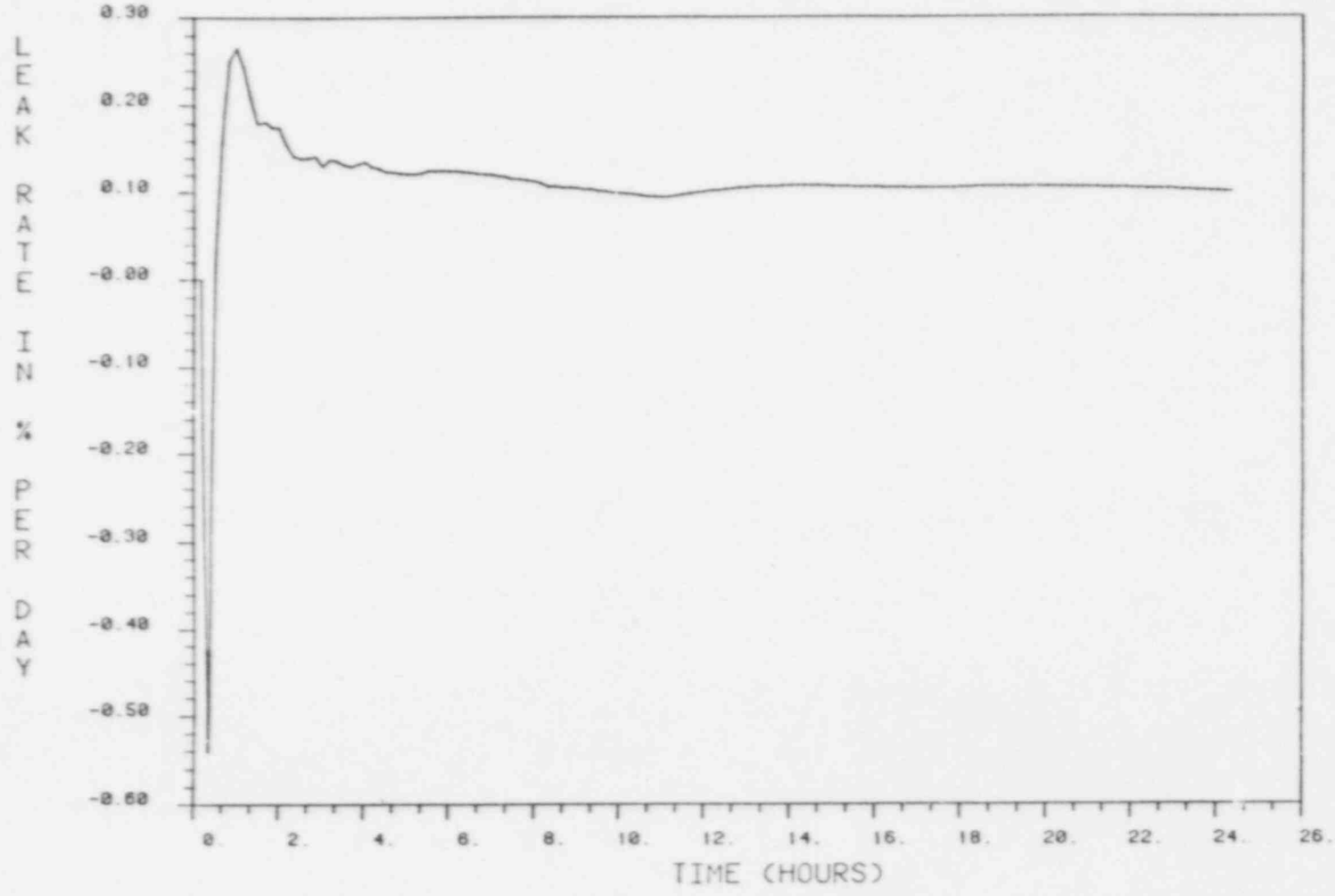


FIGURE 56

APPENDICES

APPENDIX A

INSTRUMENTATION ERROR ANALYSIS

INSTRUMENT ERROR ANALYSIS: (AS DEFINED IN APPENDIX G,ANS 56.8 DRAFT)

ASSUMED CONDITIONS AT THE TIME OF TEST:

P=26.696 PSIA
T=529.67 DEG R
T(DEW PT.)=60.00 DEG F--DEW PT.
TIME=24.000 HOURS

USING THE ABSOLUTE METHOD:

1. TOTAL ABSOLUTE PRESSURE METHOD.
   NUMBER OF PRESS. SENSORS: 7.
   RANGE: 0- 30. PSIA
   ERROR IN PRESSURE= 0.0000579 PSIA(USING REPEATABILITY)
   ERROR IN PRESSURE= 0.0015138 PSIA(USING ACCURACY)

2. WATER VAPOR PRESSURE
   NUMBER OF SENSORS: 12.
   ERROR IN VAPOR PRESSURE= 0.0002656 PSIA(USING REPEATABILITY)
   ERROR IN PRESSURE= 0.0026558 PSIA(USING ACCURACY)

3. TEMPERATURE
   NUMBER OF SENSORS: 49.
   ERROR IN TEMPERATURE= 0.0002020 DEG R(USING REPEATABILITY)
   ERROR IN TEMPERATURE= 0.0142864 DEG R(USING ACCURACY)

4. ISG(USING REPEATABILITY)
   ISG=2400/TM*(SQRT(2*((EPR/P)**2)+2*((EPVR/P)**2)+2*((ETR/T)**2)))
   ISG= 0.00144 PERCENT/DAY= 0.00576 LA

5. ISG (USING ACCURACY)
   ISG=2400/TM*(SQRT(2*((EPA/P)**2)+2*((EPVA/P)**2)+2*((ETA/T)**2)))
   ISG= 0.01664 PERCENT/DAY= 0.06655 LA

APPENDIX B

CALCULATION OF AGREEMENT (USING TTLR)

Where: $$\frac{L_{RM} - L_R - L_{AM}}{L_A} = \pm .25$$

Where: L_{RM} = containment leak rate measured during verification

L_R = imposed leak rate for verification

L_{AM} = containment leak rate measured during CILRT

L_A = full pressure design basis leakage

L_{RM} = 133191.44 SCCM

L_R = 105756.35 SCCM

L_{AM} = 30951.21 SCCM

L_A = 108188.19 SCCM

$$\frac{L_{RM} - L_R - L_{AM}}{L_A} = \frac{133191.44 - 105756.35 - 30951.21}{108188.19} = -0.0325$$

Agreement: $-0.0325\ L_A < \pm 0.25\ L_A$ Therefore, compliance with Appendix J using the TTLR, has also been met.

APPENDIX B

CALCULATION OF AGREEMENT (USING MLR)

Where: $$\frac{L_{RM} - L_R - L_{AM}}{L_A} = \pm .25$$

Where: L_{RM} = containment leak rate measured during verification

L_R = imposed leak rate for verification

L_{AM} = containment leak rate measured during CILRT

L_A = full pressure design basis leakage

L_{RM} = 132637.55 SCCM

L_R = 105756.35 SCCM

L_{AM} = 22017.89 SCCM

L_A = 108188.19 SCCM

$$\frac{L_{RM} - L_R - L_{AM}}{L_A} = \frac{132637.55 - 105756.35 - 22017.89}{108188.19} = 0.0449$$

Agreement: $0.0449\ L_A < \pm 0.25\ L_A$ Therefore, compliance with Appendix J using the MLR, has easily been met.

APPENDIX C

SPECIAL TEST INSTRUMENTATION

I. Pressure Measurement: (7 Total)

Two Mensor Quartz Manometers Per Compartment
(with exception of upper compartment)

II. Temperature Measure (49 Total)

Upper Compartment (14 Total) V = 651,000 cubic feet

RTD -1
RTD -2
RTD -3
RTD -4
RTD -5
RTD -6
RTD -7
RTD -8
RTD - 9
RTD -10
RTD -11
RTD -12
RTD -13
RTD -14

Lower Compartment (25 Total) V = 383,720 cubic feet

RTD -25
RTD -26
RTD -27
RTD -28
RTD -29
RTD -30
RTD -31
RTD -32
RTD -33
RTD -34
RTD -35
RTD -36
RTD -37
RTD -38
RTD -39
RTD -40
RTD -41
RTD -42
RTD -43
RTD -44
RTD -45
RTD -46
RTD -47
RTD -48
RTD -49

Ice Condenser (9 Total)

Upper Volume
V = 47,000 cubic feet

RTD -15
RTD -16
RTD -17
RTD -18
RTD -20

Lower Volume
V = 110,500 cubic feet

RTD -21
RTD -22
RTD -23
RTD -24

APPENDIX C

SPECIAL TEST INSTRUMENTATION

(Continued)

III. Vapor Pressure Measurement (12 Total):

Upper Compartment (3 Total)

DPE -1
DPE -2
DPE -3

Lower Compartment (2 Total)

DPE -4
DPE -6

Ice Condenser (5 Total)

Upper Volume	Lower Volume
DPE -10	DPE -7
DPE -11	DPE -8
DPE -12	DPE -9
DPE -13	

IV. Test Station Equipment

Temperature: 1 RTD

Barometric Pressure: 1 Pressure Gauge

APPENDIX D
LOCAL LEAK RATE TEST SUMMARY

A. Type B Tests

Two methods were used to perform the Type B tests - the air flow method and the volumetrics mass flowmeter method. Both methods use air or nitrogen as the test medium, with the testable volume pressurized to a designated test pressure. The air flow method consists of a rotameter flow facility in-line with the testable penetration through a test connection. An air supply is connected to the rotameter facility, which measures the flow of air necessary to replace the air leakage past the penetration. From this, a leakage rate is determined. The volumetrics mass flowmeter makes a direct mass flow measurement with readings given in standard cubic centimeters per minute (SCCM).

All testable penetrations were tested prior to the performance of the CILRT in accordance with Sequoyah's surveillance instructions SI-157 and SI-159.

Any penetrations or hatch covers opened after the completion of the CILRT will be tested prior to unit startup under the applicable plant-approved surveillance instructions.

A listing of all type B test data since the unit 1, cycle 1 CILRT conducted in December 1982 is included in this appendix with an individual summary for cycle 2, and cycle 3 refueling outages (see Tables D-2 and D-5).

B. Type C Tests

Three methods were used to perform the type C tests--the airflow method and volumetrics mass flowmeter method described above, and a water method displacement method.

The water displacement method consists of a calibrated water test tank equipped with a sight glass. A timed water level drop is measured to calculate the leakage past the valves(s) being tested. A separate air source is used to maintain the water pressure at the prescribed test pressure. A special "water inventory test" is conducted on containment spray, applicable only to valves FCV-72-2 and FCV-72-39 and the remainder of test utilizing the water displacement method are the ERCW discharge isolation valves.

All testable containment isolation valves were tested prior to the performance of the CILRT. A listing of all type C tests and the corresponding results of those tests performed on unit 1 since the cycle 1 CILRT is included in this appendix with individual summary sheets for cycle 2 and cycle 3 refueling outages (see Tables D-1 and D-4).

Any maintenance action or repairs on containment isolation valves subject to type C tests which would affect leakage from primary containment will be retested under the applicable plant-approved surveillance instruction before unit startup.

Penetrations in water-sealed systems subject to inventory restrictions and penetrations whose leakage might bypass the shield building emergency gas treatment system are identified in table D-1 and table D-4 of this appendix.

APPENDIX D

SUMMARY OF LOCAL LEAKAGE RATES

I. Unit 1, Cycle 2

Type B Leakage	As Left
A. Bellows	0.0000 SCFH
B. Electrical	1.4938 SCFH
C. Resilient Seals	0.0000 SCFH
D. Air Lock Doors	0.0000 SCFH
Total Type B Leakage	1.4938 SCFH
Total C Leakage	2.5343 SCFH

	As Left	Maximum Allowable
Total (Types B and C):	4.0281 SCFH	135.1 SCFH
Penetrations defined as potential bypass leakage paths:	2.0926 SCFH	56.29 SCFH
Penetrations water sealed to at least 1.1 P_a subject to inventory restrictions:		
A. ERCW discharge	0.0097 CFH	0.24 CFH
B. Containment spray	0.0000 CFH	0.08 CFH

APPENDIX D

SUMMARY OF LOCAL LEAKAGE RATES

I. Unit 1, Cycle 3

Type B Leakage	As Left
A. Bellows	0.0974 SCFH
B. Electrical	1.3993 SCFH
C. Resilient Seals	0.0000 SCFH
D. Air Lock Doors	1.6442 SCFH
Total Type B Leakage	3.1409 SCFH
*Total Type C Leakage	1.6357 SCFH

	As Left	Maximum Allowable
*Total (Types B and C):	4.7766 SCFH	135.1 SCFH
Penetrations defined as potential bypass leakage paths:	0.5428 SCFH	56.29 SCFH
Penetrations water sealed to at least 1.1 P_a subject to inventory restrictions:		
A. ERCW	0.0453 CFH	0.24 CFH
B. Containment spray	0.0718 CFH	0.08 CFH

*The total type C leakage excludes the "as left" leakage for penetrations X-58 and X-60. Containment isolation valves 67-562A (X-58) and 67-562B (X-60) "as left" leakage rates were not available prior to the CILRT and submittal of this report. The valves are awaiting repair or replacement, and the leakage for both valves will be brought under acceptable limits prior to unit 1 start-up. A complete summary of the unit 1, cycle 3 local leakage rates will be included in the next unit 1 CILRT report.

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Purge	30-56/57	0.0000	0.0000	0.0000	0.0000	10/28/83
			0.0000	0.0000	0.0000	0.0000	10/31/83
			0.0000	0.0000	0.0000	0.0000	11/03/83
			0.0000	0.0000	0.0000	0.0000	11/04/83
			0.0000	0.0000	0.0000	0.0000	11/07/83
			0.0000	0.0000	0.0000	0.0000	11/08/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	11/14/83
			0.0000	0.0000	0.0000	0.0000	11/16/83
			0.0000	0.0000	0.0000	0.0000	11/18/83
			0.0000	0.0000	0.0000	0.0000	11/21/83
			0.0000	0.0000	0.0000	0.0000	11/23/83
			0.0000	0.0000	0.0000	0.0000	11/25/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	12/25/83
			0.0000	0.0000	0.0000	0.0000	12/26/83
			0.0000	0.0000	0.0000	0.0000	12/28/83
			0.0000	0.0000	0.0000	0.0000	12/30/83
			0.0000	0.0000	0.0000	0.0000	01/02/84
			0.0000	0.0000	0.0000	0.0000	01/04/84
			0.0000	0.0000	0.0000	0.0000	01/06/84
			0.0000	0.0000	0.0000	0.0000	01/09/84
			0.0000	0.0000	0.0000	0.0000	01/11/84
			0.0000	0.0000	0.0000	0.0000	01/13/84
			0.0000	0.0000	0.0000	0.0000	01/16/84

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Purge	30-56/57	0.0000	0.0000	0.0000	0.0000	01/18/84
			0.0000	0.0000	0.0000	0.0000	01/20/84
			0.0000	0.0000	0.0000	0.0000	01/23/84
			0.0000	0.0000	0.0000	0.0000	01/25/84
			0.0000	0.0000	0.0000	0.0000	01/26/84
			0.0000	0.0000	0.0000	0.0000	01/27/84
			0.0000	0.0000	0.0000	0.0000	01/30/84
			0.0000	0.0000	0.0000	0.0000	02/01/84
			0.0000	0.0000	0.0000	0.0000	02/03/84
			0.0000	0.0000	0.0000	0.0000	02/05/83
			0.0000	0.0000	0.0000	0.0000	02/08/84
			0.0000	0.0000	0.0000	0.0000	02/10/84
			0.0000	0.0000	0.0000	0.0000	02/11/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	02/20/84
			0.0000	0.0000	0.0000	0.0000	03/19/84
X-5	Purge	30-58/59	0.0000	0.0000	0.0000	0.0000	10/28/83
			0.0000	0.0000	0.0000	0.0000	11/08/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	11/26/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	12/25/83
			0.0000	0.0000	0.0000	0.0000	01/26/84

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-5	Purge	30-58/59	0.0000	0.0000	0.0000	0.0000	01/27/84
			0.0000	0.0000	0.0000	0.0000	01/30/84
			0.0000	0.0000	0.0000	0.0000	02/05/84
			0.0000	0.0000	0.0000	0.0000	02/07/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	03/19/84
			0.0000	0.0000	0.0000	0.0000	04/07/84
X-6	Purge	30-50/51	0.0000	0.0000	0.0000	0.0000	10/28/83
			0.0000	0.0000	0.0000	0.0000	11/08/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	11/26/83
			0.0000	0.0000	0.0000	0.0000	12/28/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	01/26/84
			0.0000	0.0000	0.0000	0.0000	01/27/84
			0.0000	0.0000	0.0000	0.0000	01/30/84
			0.0000	0.0000	0.0000	0.0000	02/07/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	03/15/84
			0.0000	0.0000	0.0000	0.0000	04/07/84

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-7	Purge	30-52/53	0.0000	0.0000	0.0000	0.0000	07/27/83
			0.0000	0.0000	0.0000	0.0000	07/29/83
			0.0000	0.0000	0.0000	0.0000	08/01/83
			0.0000	0.0000	0.0000	0.0000	08/03/83
			0.0000	0.0000	0.0000	0.0000	08/19/83
			0.0000	0.0000	0.0000	0.0000	09/02/83
			0.0000	0.0000	0.0000	0.0000	10/26/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	12/25/83
			0.0000	0.0000	0.0000	0.0000	01/26/84
			0.0000	0.0000	0.0000	0.0000	01/30/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	03/16/84
			0.0000	0.0000	0.0000	0.0000	04/07/84
X-9A	Purge	30-7/8	0.0000	0.0000	0.0000	0.0000	10/28/83
			0.0000	0.0000	0.0000	0.0000	11/08/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	11/26/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	12/25/83
			0.0000	0.0000	0.0000	0.0000	01/26/84
			0.0000	0.0000	0.0000	0.0000	01/27/84
			0.0000	0.0000	0.0000	0.0000	01/30/84

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-9A	Purge	30-7/8	0.0000	0.0000	0.0000	0.0000	02/07/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	03/15/84
			0.0000	0.0000	0.0000	0.0000	04/07/84
			0.0000	0.0000	0.0000	0.0000	04/09/84
X-9B	Purge	30-9/10	0.0000	0.0000	0.0000	0.0000	07/27/83
			0.0000	0.0000	0.0000	0.0000	07/29/83
			0.0000	0.0000	0.0000	0.0000	08/01/83
			0.0000	0.0000	0.0000	0.0000	08/03/83
			0.0000	0.0000	0.0000	0.0000	08/19/83
			0.0000	0.0000	0.0000	0.0000	09/02/83
			0.0000	0.0000	0.0000	0.0000	10/26/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	12/25/83
			0.0000	0.0000	0.0000	0.0000	01/26/84
			0.0000	0.0000	0.0000	0.0000	01/30/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	03/16/84
			0.0000	0.0000	0.0000	0.0000	04/07/84

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Purge	30-14/15	0.0000	0.0000	0.0000	0.0000	10/28/83
			0.0000	0.0000	0.0000	0.0000	10/31/83
			0.0000	0.0000	0.0000	0.0000	11/31/83
			0.0000	0.0000	0.0000	0.0000	11/07/83
			0.0000	0.0000	0.0000	0.0000	11/08/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	11/14/83
			0.0000	0.0000	0.0000	0.0000	11/16/83
			0.0000	0.0000	0.0000	0.0000	11/18/83
			0.0000	0.0000	0.0000	0.0000	11/21/83
			0.0000	0.0000	0.0000	0.0000	11/23/83
			0.0000	0.0000	0.0000	0.0000	11/25/83
			0.0000	0.0000	0.0000	0.0000	11/23/83
			0.0000	0.0000	0.0000	0.0000	11/25/83
			0.0000	0.0000	0.0000	0.0000	12/26/83
			0.0000	0.0000	0.0000	0.0000	12/28/83
			0.0000	0.0000	0.0000	0.0000	12/30/83
			0.0000	0.0000	0.0000	0.0000	01/02/84
			0.0000	0.0000	0.0000	0.0000	01/04/84
			0.0000	0.0000	0.0000	0.0000	01/06/84
			0.0000	0.0000	0.0000	0.0000	01/09/84
			0.0000	0.0000	0.0000	0.0000	01/11/84
			0.0000	0.0000	0.0000	0.0000	01/13/84
			0.0000	0.0000	0.0000	0.0000	01/16/84
			0.0000	0.0000	0.0000	0.0000	01/18/84

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Purge	30-14/15	0.0000	0.0000	0.0000	0.0000	01/20/84
			0.0000	0.0000	0.0000	0.0000	01/23/84
			0.0000	0.0000	0.0000	0.0000	01/25/84
			0.0000	0.0000	0.0000	0.0000	01/26/84
			0.0000	0.0000	0.0000	0.0000	01/27/84
			0.0000	0.0000	0.0000	0.0000	01/30/84
			0.0000	0.0000	0.0000	0.0000	02/01/84
			0.0000	0.0000	0.0000	0.0000	02/03/84
			0.0000	0.0000	0.0000	0.0000	02/03/84
			0.0000	0.0000	0.0000	0.0000	02/05/84
			0.0000	0.0000	0.0000	0.0000	02/08/84
			0.0000	0.0000	0.0000	0.0000	02/10/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	02/17/84
			0.0000	0.0000	0.0000	0.0000	02/20/84
			0.0000	0.0000	0.0000	0.0000	03/19/84
			0.0000	0.0000	0.0000	0.0000	04/07/84
X-10B	Purge	30-16/17	0.0000	0.0000	0.0000	0.0000	11/08/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	01/26/84
			0.0000	0.0000	0.0000	0.0000	01/30/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	03/16/84

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-11	Purge	30-19/20	0.0000	0.0000	0.0000	0.0000	10/28/83
			0.0000	0.0000	0.0000	0.0000	11/08/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	11/26/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	12/25/83
			0.0000	0.0000	0.0000	0.0000	01/26/84
			0.0000	0.0000	0.0000	0.0000	01/27/84
			0.0000	0.0000	0.0000	0.0000	01/30/84
			0.0000	0.0000	0.0000	0.0000	02/06/84
			0.0000	0.0000	0.0000	0.0000	02/07/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	03/19/84
			0.0000	0.0000	0.0000	0.0000	04/07/84
**X-15	CVCS	62-72/73/74	0.0000		0.0000		03/01/84
		62-77/662	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-23	PASF	43-309	0.0000		0.0000		02/25/84
		43-310	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-25A	Sampling	43-2	0.0000		0.0000		02/28/85
		43-3	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-25D	Sampling	43-11	0.0000		0.0000		02/28/84
		43-12	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-26	Control Air	32-102/295	0.0000		0.0000		02/24/84 AF
		32-297	150.4368	0.0000	0.0000	0.0000	03/01/84 AL
X-27C	ILRT	52-IN	0.0000		0.0000		02/24/84
		52-OUT	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-29	Component Cooling	70-89/698	0.0000		0.0000		02/27/84 AF
		70-92	0.0000	0.0000	0.0000	0.0000	03/30/84 AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-30	SIS	63-71	0.0000		0.0000		03/12/84
		63-84-83	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-34	Control Air	32-110/375	0.0000		0.0000		02/29/84 AF
		32-377	97.740	0.0000	0.0000	0.0000	03/19/84 AL
**X-35	Component Cooling	70-84/143/703	0.0000	0.0000	0.0000	0.0000	02/27/84 AF/AL
**X-39A	SIS	63-64	0.0000		0.0000		02/24/84 AF
		77-868	22.5897	0.0000	0.0000	0.0000	03/31/84 AL
**X-39B	Reactor Coolant	68-305	0.0000		0.0000		02/24/84
		77-849	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-41	Waste Disposal	77-127	0.0000		0.0000		03/02/84
		77-128	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-42	Primary Water	81-142	0.0000		0.0000		02/23/84
		81-502	0.0000	0.0000	0.0000	0.0000	AF/AL
X-44	CVCS	62-61/639	0.0000		0.0000		03/02/84
		62-63	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-45	Waste Disposal	77-18	0.0000		0.0000		03/07/84
		77-19/20	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-46	Waste Disposal	77-9	285.1011		0.0000		03/08/84 AF
		77-10/84-511	0.0000	0.0000	0.0000	0.0000	03/28/84 AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-47A	Ice Condenser	61-191	0.0000		0.0000		02/23/84
		61-192/788	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-47B	ICE Condenser	61-193	0.0000		0.0000		02/23/84
		61-194/935	0.0000	0.0000	0.0000	0.0000	AF/AL
X-48A	Containment Spray	72-39	0.0000	0.0000	0.0000	0.0000	02/24/84 AF/AL
X-48B	Containment Spray	72-2	0.0000	0.0000	0.0000	0.0000	02/14/84 AF/AL
**X-50A	Component Cooling	70-87/687	0.0000		0.0000		02/27/84 AF
		70-90	0.0000	0.0000	0.0000	0.0000	03/30/84 AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-50B	Component Cooling	70-134	0.0000		0.0000		02/27/84
		70-679	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-51	Fire Protection	26-240	0.0000		0.0000		03/12/84
		26-1260	0.0000	0.0000	0.0000	0.0000	AF/AL
X-52	Component Cooling	70-140	0.0000		0.0000		02/27/84 AF
		70-692	345.5522	0.0000	0.0000	0.0000	03/12/84 AL
X-56	ERCW	67-107	0.0000		0.0000		03/01/84
		67-5620	0.0000	0.0000	0.0000	0.0000	AF/AL
X-57	ERCW	67-111/575D	0.0002	0.0002	0.0002		03/01/84
		67-112	0.0013		0.0013	0.0013	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-58	ERCW	67-83	0.0000		0.0000		02/26/84
		67-562A	0.0000	0.0000	0.0000	0.0000	AF/AL
X-59	ERCW	67-87/575A	0.0346		0.0011	0.0011	02/27/84
		67-88	0.0000	0.0000	0.0000	0.0000	AF/AL
X-60	ERCW	67-99	0.0000		0.0000		02/29/84
		67-562B	0.0000	0.0000	0.0000	0.0000	AF/AL
X-61	ERCW	67-103/575B	0.0002		0.0002		03/01/84
		67-104	0.0000	0.0000	0.0000	0.0002	AF/AL
X-62	ERCW	67-91	0.0000		0.0000		AF/AL
		67-562C	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-63	ERCW	67-95/575C	0.0019		0.0019		02/26/84
		67-96	0.0008	0.0008	0.0008	0.0019	AF/AL
**X-64	Chilled Water	31C-222	0.0000		0.0000		02/26/84
		31C-223/752	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-65	Chilled Water	31C-224	0.0000		0.0000		02/26/84
		31C-225/734	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-66	Chilled Water	31C-229	0.0000		0.0000		03/01/84
		31C-230/715	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-67	Chilled Water	31C-231	0.0000		0.0000		03/01/84
		31C-232/697	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-68	ERCW	67-141	0.0000		0.0000		03/02/84
		67-580D	0.1186	0.0000	0.1186	0.1186	AF/AL
X-69	ERCW	67-130	0.1036		0.1036	0.1036	02/24/84
		67-580A	0.0000	0.0000	0.0000		AF/AL
X-70	ERCW	67-139	0.0000	0.0000	0.0000		03/02/84 AF
		67-297/585B	8.211		0.0003	0.0003	04/02/84 AL
X-71	ERCW	67-134	0.0011	0.0011	0.0011		02/24/84 AF
		67-296/585C	0.0145		0.0002	0.0011	02/28/84 AL
X-72	ERCW	67-142	0.0015		0.0015	0.0015	03/02/84
		67-298/585D	0.0012	0.0012	0.0012		AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-73	ERCW	67-131	0.0023		0.0023	0.0023	02/24/84
		67-295/585A	0.0002	0.0002	0.0002		AF/AL
X-74	ERCW	67-138	0.0000		0.0000		03/02/84
		67-580B	0.0000	0.0000	0.0000	0.0000	AF/AL
X-75	ERCW	67-133	0.0000		0.0000		02/24/84 AF
		67-580C	85.2140	0.0000	0.2195	0.2195	02/29/84 AL
**X-76	Service Air	33-704	0.0000		0.0000		02/22/84
		33-740	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-77	Demin. Water	59-522/529	0.0000		0.0000		02/22/84
		59-633	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-78	Fire Protection	26-243	0.0000		0.0000		03/05/84
		26-1296	0.1421	0.0000	0.1421	0.1421	AF/AL
X-80	Purge	30-37/40	0.0000	0.0000	0.0000	0.0000	09/02/83
			0.0000	0.0000	0.0000	0.0000	10/26/83
			0.0000	0.0000	0.0000	0.0000	11/22/83
			0.0000	0.0000	0.0000	0.0000	11/07/83
			0.0000	0.0000	0.0000	0.0000	11/08/83
			0.0000	0.0000	0.0000	0.0000	11/09/83
			0.0000	0.0000	0.0000	0.0000	11/11/83
			0.0000	0.0000	0.0000	0.0000	11/18/83
			0.0000	0.0000	0.0000	0.0000	11/23/83
			0.0000	0.0000	0.0000	0.0000	12/23/83
			0.0000	0.0000	0.0000	0.0000	12/25/83
			0.0000	0.0000	0.0000	0.0000	01/26/84
			0.0000	0.0000	0.0000	0.0000	02/16/84
			0.0000	0.0000	0.0000	0.0000	03/16/84
**X-81	Waste Disposal	77-16	0.0000		0.0000		03/04/84
		77-17	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-82	Fuel Pump Cooling	78-560	0.0504		0.0504		02/23/84
		78-561	0.0023	0.0023	0.0023	0.0504	AF/AL
**X-83	Fuel Pump Cooling	78-557	0.0000		0.0000		02/23/84
		78-558	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-84A	Reactor Coolant	68-307	0.0000	0.0000	0.0000	0.0000	03/01/84 AF
		68-308	0.0000	0.0000	0.0000	0.0000	03/02/84 AL
**X-85A	Sampling	43-75	0.0000		0.0000		02/28/84
		43-77	0.0000	0.0000	0.0000	0.0000	AF/AL
X-87B	ILRT	52-502	0.0000		0.0000		02/24/84
		52-503	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-87D	ILRT	52-500	0.0000		0.0000		02/24/84
		52-501	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-90	Control Air	32-80/285	0.0000		0.0000		02/25/84 AF
		32-287	81.2312	0.0000	0.0000	0.0000	03/12/84 AL
**X-91	PASF	43-250	0.0000		0.0000		02/25/84
		43-251	0.0000	0.0000	0.0000	0.0000	AF/AL
X-92	Sampling	43-208	0.0000	0.0000	0.0000	0.0000	03/02/84 AF/AL
**X-93	Sampling	43-34	0.0000		0.0000		02/28/84
		43-35	0.0000	0.0000	0.0000	0.0000	02/28/84

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-94A/B	Radiation Monitoring	90-113	0.0000		0.0000		02/25/84
		90-114/115	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-94C	Radiation Monitoring	90-116	0.0000		0.0000		02/25/84
		90-117	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-95A/B	Radiation Monitoring	90-107	0.0000		0.0000		02/27/84
		90-108/109	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-95C	Radiation Monitoring	90-110	0.0000		0.0000		02/27/84
		90-111	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-96C	Sampling	43-22	0.0000		0.0000		02/28/84
		43-23	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-97	Purge	30-134	0.0000		0.0000		02/24/84
		30-135	0.0000	0.0000	0.0000	0.0000	AF/AL
X-98	ILRT	52-IN	0.0000		0.0000		02/24/84
		52-OUT	0.0000	0.0000	0.0000	0.0000	AF/AL
X-99	Sampling	43-202	0.0000	0.0000	0.0000	0.0000	03/02/84 AF/AL
X-100	Sampling	43-201	0.0000	0.0000	0.0000	0.0000	03/02/84 AF/AL
**X-101	PASF	43-318	0.0000		0.0000		02/25/84
		43-319	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-103	PASF	43-461	0.0000		0.0000		02/26/84
		43-317/341	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-106	PASF	43-460	0.0000		0.0000		02/26/84
		43-325/307	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-110	UHI	87-7/8/9	0.0000	0.0000	0.0000	0.0000	03/06/84 AF/AL
X-111	Purge	30-46/571	1.1660	1.1660	1.1660	1.1660	02/29/84 AF/AL
X-112	Purge	30-47/572	0.7341	0.7341	0.7341	0.7341	02/28/84 AF/AL
X-113	Purge	30-48/573	0.0000	0.0000	0.0000	0.0000	02/28/84 AF/AL
**X-114	Ice Condenser	61-110	0.0000		0.0000		02/23/84
		61-122/745	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-1
Type C Test Summary
Cycle 2 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-115	Ice Condenser	61-96	0.0000		0.0000		02/23/84
		61-97/692	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-116	PASF	43-288	0.0000		0.0000		02/25/85
		43-287	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

I. Bellows

Leakage Path X-12A

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/13/84
0.0000 (OUT)	03/13/84

Leakage Path X-13A

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/13/84
0.0000 (OUT)	03/13/84

Leakage Path X-12B

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/09/84
0.0000 (OUT)	03/09/84

Leakage Path X-13B

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/13/84
0.0000 (OUT)	03/13/84

Leakage Path X-12C

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/09/84
0.0000 (OUT)	03/09/84

Leakage Path X-13C

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/13/84
0.0000 (OUT)	03/13/84

Leakage Path X-12D

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/14/84
0.0000 (OUT)	03/09/84

Leakage Path X-13D

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/13/84
0.0000 (OUT)	03/13/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

I. Bellows (continued)

Leakage Path X-14A

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-14B

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-14C

Leakage, SCFH AF/AL	Test Date
0.0000	03/09/84

Leakage Path X-14D

Leakage, SCFH AF/AL	Test Date
0.0000	03/09/84

Leakage Path X-15

Leakage, SCFH AF/AL	Test Date
0.0000	03/07/84

Leakage Path X-17

Leakage, SCFH AF/AL	Test Date
0.0000	03/08/84

Leakage Path X-20A

Leakage, SCFH AF/AL	Test Date
0.0000	03/07/84

Leakage Path X-20B

Leakage, SCFH AF/AL	Test Date
0.0000	03/07/84

Leakage Path X-21

Leakage, SCFH AF/AL	Test Date
0.0000	03/07/84

Leakage Path X-22

Leakage, SCFH AF/AL	Test Date
0.0000	03/07/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

I. Bellows (continued)

Leakage Path X-24

Leakage, SCFH AF/AL	Test Date
0.0000	03/27/84

Leakage Path X-46

Leakage, SCFH AF/AL	Test Date
0.0000	03/08/84

Leakage Path X-30

Leakage, SCFH AF/AL	Test Date
0.0000	03/09/84

Leakage Path X-47A

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/14/84
0.0000 (OUT)	03/14/84

Leakage Path X-32

Leakage, SCFH AF/AL	Test Date
0.0000	03/09/84

Leakage Path X-47B

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	03/14/84
0.0000 (OUT)	03/14/84

Leakage Path X-33

Leakage, SCFH AF/AL	Test Date
0.0000	03/08/84

Leakage Path X-81

Leakage, SCFH AF/AL	Test Date
0.0000	03/09/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

I. Bellows (continued)

Leakage Path X-45

Leakage, SCFH AF/AL	Test Date
0.0000	03/08/84

Leakage Path X-107

Leakage, SCFH AF/AL	Test Date
0.0000	03/09/84

Leakage Path X-108

Leakage, SCFH AF/AL	Test Date
0.0000	03/13/84

Leakage Path K-14

Leakage, SCFH AF/AL	Test Date
0.0000	03/14/84

Leakage Path X-109

Leakage, SCFH AF/AL	Test Date
0.0000	03/13/84

Leakage Path K-15

Leakage, SCFH AF/AL	Test Date
0.0000	03/14/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

II. Electrical

Leakage Path X-120E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-124E

Leakage, SCFH AF/AL	Test Date
0.0000	03/06/84

Leakage Path X-121E

Leakage, SCFH AF/AL	Test Date
0.0000	03/07/84

Leakage Path X-126E

Leakage, SCFH AF/AL	Test Date
0.9641	03/05/84

Leakage Path X-122E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Pat X-127E

Leakage, SCFH AF/AL	Test Date
0.0000	03/03/84

Leakage Path X-123E

Leakage, SCFH AF/AL	Test Date
0.0000	03/06/84

Leakage Path X-128E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-129E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-134E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

II. Electrical (continued)

Leakage Path X-131E

Leakage, SCFH AF/AL	Test Date
0.0000	03/03/84

Leakage Path X-132E

Leakage, SCFH AF/AL	Test Date
0.0000	03/06/84

Leakage Path X-133E

Leakage, SCFH AF/AL	Test Date
0.0000	03/06/84

Leakage Path X-138E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-139E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-135E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-136E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-137E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-143E

Leakage, SCFH AF/AL	Test Date
0.0000	03/06/84

Leakage Path X-144E

Leakage, SCFH AF/AL	Test Date
0.0000	03/06/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

II. Electrical (continued)

Leakage Path X-140E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-145E

Leakage, SCFH AF/AL	Test Date
0.0000	03/03/84

Leakage Path X-141E

Leakage, SCFH AF/AL	Test Date
0.0000	03/06/84

Leakage Path X-146E

Leakage, SCFH AF/AL	Test Date
0.5297	03/03/84

Leakage Path X-142E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-147E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

II. Electrical (continued)

Leakage Path X-148E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-152E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

II. Electrical (continued)

Leakage Path X-149E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-153E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-150E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-154E

Leakage, SCFH AF/AL	Test Date
0.0000	03/03/84

Leakage Path X-151E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-156E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-157E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-163E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-158E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-164E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

II. Electrical (continued)

Leakage Path X-159E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-160E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-161E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-165E

Leakage, SCFH AF/AL	Test Date
0.0000	03/04/84

Leakage Path X-166E

Leakage, SCFH AF/AL	Test Date
0.0000	03/03/84

Leakage Path X-167E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-169E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-170E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

Leakage Path X-168E

Leakage, SCFH AF/AL	Test Date
0.0000	03/05/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

III. Resilient Seals

Leakage Path X-1

Leakage, SCFH AF/AL	Test Date
0.0000	02/20/84

Leakage Path X-54

Leakage, SCFH AF/AL	Test Date
0.0000	02/21/84

Leakage Path X-3

Leakage, SCFH AF/AL	Test Date
0.0000	02/21/84
0.0000	04/03/84

Leakage Path X-79A

Leakage, SCFH AF/AL	Test Date
0.0000	02/21/84
0.0000	04/04/84

Leakage Path X-40D

Leakage, SCFH AF/AL	Test Date
0.0000	02/20/84

Leakage Path X-79B

Leakage, SCFH AF/AL	Test Date
0.0000	02/21/84
0.0000	04/04/84

Leakage Path X-111

Leakage, SCFH AF/AL	Test Date
0.0000	02/28/84

Leakage Path X-113

Leakage, SCFH AF/AL	Test Date
0.0000	02/28/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

III. Resilient Seals (continued)

Leakage Path X-112

Leakage, SCFH AF/AL	Test Date
0.0000	02/28/84

Leakage Path X-118

Leakage, SCFH AF/AL	Test Date
0.0000	02/21/84

Leakage Path X-88

Leakage, SCFH AF/AL	Test Date
0.0000	02/21/84

TABLE D-2
Type B Test Summary
Cycle 2 - Unit 1

IV. Air Lock Door Test

Leakage Path X-2A		Leakage Path X-2B	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
4.9029	06/02/83	2.4445	06/01/83
3.3827	12/06/83	1.6661	12/06/83
*0.0000	02/20/84 AF	*0.0000	03/02/84 AF
*1.6724	04/03/84 AL	*4.0621	04/03/84 AL

*Denotes a single condition: either AF for the "as found" or AL for the "as left" condition only. Otherwise, the leakages shown are both the AF and the AL conditions.

TABLE D-3
Type B and C Tests
Cycle 2 - Unit 1

Path Leakage Tabulation

Summary

	As Found	As Left
A. Type B Leakage		
I Bellows	0.0000 SCFH	0.0000 SCFH
II Electrical	1.4938 SCFH	1.4938 SCFH
III Resilient Seals	0.0000 SCFH	0.0000 SCFH
IV Air Lock Doors	0.0000 SCFH	5.7345 SCFH
B. Type C Leakage	1.9024 SCFH	2.5343 SCFH

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Ventilation	30-56/57	0.0000	0.0000	0.0000	0.0000	04/07/84
			0.0000	0.0000	0.0000	0.0000	04/09/84
			0.0000	0.0000	0.0000	0.0000	04/11/84
			0.0000	0.0000	0.0000	0.0000	04/13/84
			0.0000	0.0000	0.0000	0.0000	04/16/84
			0.0000	0.0000	0.0000	0.0000	04/18/84
			0.0395	0.0395	0.0395	0.0395	05/03/84
			0.0394	0.0394	0.0394	0.0394	05/04/84
			0.0396	0.0396	0.0396	0.0396	05/08/84
			0.0395	0.0395	0.0395	0.0395	05/09/84
			0.0393	0.0393	0.0393	0.0393	05/11/84
			0.0392	0.0392	0.0392	0.0392	05/14/84
			0.0392	0.0392	0.0392	0.0392	05/16/84
			0.0391	0.0391	0.0391	0.0391	05/18/84
			0.0392	0.0392	0.0392	0.0392	05/21/84
			0.0392	0.0392	0.0392	0.0392	05/26/84
			0.0392	0.0392	0.0392	0.0392	05/29/84
			0.0392	0.0392	0.0392	0.0392	06/01/84
			0.0391	0.0391	0.0391	0.0391	06/04/84
			0.0392	0.0392	0.0392	0.0392	06/06/84
			0.0391	0.0391	0.0391	0.0391	06/08/84
			0.0389	0.0389	0.0389	0.0389	06/13/84
			0.0390	0.0390	0.0390	0.0390	06/15/84
			0.0390	0.0390	0.0390	0.0390	06/18/84
			0.0391	0.0391	0.0391	0.0391	06/20/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Ventilation	30-56/57	0.0390	0.0390	0.0390	0.0390	06/22/84
			0.0389	0.0389	0.0389	0.0389	06/25/84
			0.0388	0.0388	0.0388	0.0388	06/27/84
			0.0391	0.0391	0.0391	0.0391	06/29/84
			0.0391	0.0391	0.0391	0.0391	07/02/84
			0.0389	0.0389	0.0389	0.0389	07/06/84
			0.0388	0.0388	0.0388	0.0388	07/09/84
			0.0389	0.0389	0.0389	0.0389	07/11/84
			0.0389	0.0389	0.0389	0.0389	07/13/84
			0.0390	0.0390	0.0390	0.0390	07/16/84
			0.0389	0.0389	0.0389	0.0389	07/18/84
			0.0389	0.0389	0.0389	0.0389	07/20/84
			0.0388	0.0388	0.0388	0.0388	07/23/84
			0.0389	0.0389	0.0389	0.0389	07/25/84
			0.0389	0.0389	0.0389	0.0389	07/25/84
			0.0388	0.0388	0.0388	0.0388	07/27/84
			0.0389	0.0389	0.0389	0.0389	08/01/84
			0.0390	0.0390	0.0390	0.0390	08/03/84
			0.03739	0.3739	0.3739	0.3739	08/06/84
			0.2482	0.2482	0.2482	0.2482	08/08/84
			0.0389	0.0389	0.0389	0.0389	08/10/84
			0.0389	0.0389	0.0389	0.0389	08/13/84
			0.0389	0.0389	0.0389	0.0389	08/15/84
			0.3941	0.3941	0.3941	0.3941	08/17/84
			0.0390	0.0390	0.0390	0.0390	08/20/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Ventilation	30-56/57	0.3739	0.3739	0.3739	0.3739	08/06/84
			0.2482	0.2482	0.2482	0.2482	08/08/84
			0.0389	0.0389	0.0389	0.0389	08/10/84
			0.0389	0.0389	0.0389	0.0389	08/13/84
			9,9389	0.0389	0.0389	0.0389	08/15/84
			0.3941	0.3941	0.3941	0.3941	08/17/84
			0.0390	0.0390	0.0390	0.0390	08/20/84
			0.2004	0.2004	0.2004	0.2004	08/22/84
			0.0389	0.0389	0.0389	0.0389	08/24/84
			0.0389	0.0389	0.0389	0.0389	08/27/84
			0.0389	0.0389	0.0389	0.0389	08/29/84
			0.4521	0.4521	0.4521	0.4521	08/31/84
			0.0388	0.0388	0.0388	0.0388	09/02/84
			0.0833	0.0833	0.0833	0.0833	09/05/84
			0.0390	0.0390	0.0390	0.0390	09/07/84
			0.0390	0.0390	0.0390	0.0390	09/10/84
			0.0391	0.0391	0.0391	0.0391	09/12/84
			0.1651	0.1651	0.1651	0.1651	09/14/84
			0.3000	0.3000	0.3000	0.3000	09/17/84
			0.3000	0.3000	0.3000	0.3000	09/19/84
			0.2489	0.2489	0.2489	0.2489	09/21/84
			0.0900	0.0900	0.0900	0.0900	09/25/84
			0.0394	0.0394	0.0394	0.0394	09/26/84
			0.0392	0.0392	0.0392	0.0392	09/28/84
			0.0391	0.0391	0.0391	0.0391	10/01/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Ventilation	30-56/57	0.0328	0.0328	0.0328	0.0328	10/02/84
			0.0000	0.0000	0.0000	0.0000	10/03/84
			0.0393	0.0393	0.0393	0.0393	10/05/84
			0.1574	0.1574	0.1574	0.1574	10/08/84
			0.0000	0.0000	0.0000	0.0000	10/10/84
			0.3012	0.3012	0.3012	0.3012	10/12/84
			0.0000	0.0000	0.0000	0.0000	10/15/84
			0.0000	0.0000	0.0000	0.0000	10/17/84
			0.0000	0.0000	0.0000	0.0000	10/17/84
			0.2017	0.2017	0.2017	0.2017	10/21/84
			0.1577	0.1577	0.1577	0.1577	10/24/84
			0.0999	0.0999	0.0999	0.0999	10/26/84
			0.0000	0.0000	0.0000	0.0000	10/28/84
			0.0393	0.0393	0.0393	0.0393	10/31/84
			0.0391	0.0391	0.0391	0.0391	11/02/84
			0.0392	0.0392	0.0392	0.0392	11/04/84
			0.0000	0.0000	0.0000	0.0000	11/07/84
			0.0611	0.0611	0.0611	0.0611	11/09/84
			0.0000	0.0000	0.0000	0.0000	11/11/84
			0.0000	0.0000	0.0000	0.0000	11/14/84
			0.0393	0.0393	0.0393	0.0393	11/16/84
			0.0000	0.0000	0.0000	0.0000	11/18/84
			0.0000	0.0000	0.0000	0.0000	11/19/84
			0.0000	0.0000	0.0000	0.0000	11/21/84
			0.0000	0.0000	0.0000	0.0000	11/23/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Ventilation	30-56/57	0.0000	0.0000	0.0000	0.0000	11/25/84
			0.0880	0.0880	0.0880	0.0880	11/28/84
			0.0883	0.0883	0.0883	0.0883	12/17/84
			0.0000	0.0000	0.0000	0.0000	12/19/84
			0.0000	0.0000	0.0000	0.0000	12/21/84
			0.0000	0.0000	0.0000	0.0000	12/24/84
			0.1231	0.1231	0.1231	0.1231	12/26/84
			0.2788	0.2788	0.2788	0.2788	12/28/84
			0.1630	0.1630	0.1630	0.1630	12/31/84
			0.0403	0.0403	0.0403	0.0403	01/02/85
			0.0000	0.0000	0.0000	0.0000	01/04/85
			0.0000	0.0000	0.0000	0.0000	01/07/85
			0.2550	0.2550	0.2550	0.2550	01/09/85
			0.0000	0.0000	0.0000	0.0000	01/11/85
			0.0000	0.0000	0.0000	0.0000	01/14/85
			0.0000	0.0000	0.0000	0.0000	01/16/85
			0.0604	0.0604	0.0604	0.0604	01/18/85
			0.0000	0.0000	0.0000	0.0000	01/21/85
			0.0000	0.0000	0.0000	0.0000	01/23/85
			0.0000	0.0000	0.0000	0.0000	01/25/85
			0.0000	0.0000	0.0000	0.0000	01/25/85
			0.0000	0.0000	0.0000	0.0000	01/30/85
			0.0605	0.0605	0.0605	0.0605	02/01/85
			0.0000	0.0000	0.0000	0.0000	02/04/85
			0.0000	0.0000	0.0000	0.0000	02/06/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Ventilation	30-56/57	0.1642	0.1642	0.1642	0.1642	02/08/85
			0.0000	0.0000	0.0000	0.0000	02/11/85
			0.0405	0.0405	0.0405	0.0405	02/13/85
			0.0000	0.0000	0.0000	0.0000	02/15/85
			0.0000	0.0000	0.0000	0.0000	02/18/85
			0.0000	0.0000	0.0000	0.0000	02/20/85
			0.0000	0.0000	0.0000	0.0000	02/22/85
			0.0403	0.0403	0.0403	0.0403	02/25/85
			0.0000	0.0000	0.0000	0.0000	02/27/85
			0.0000	0.0000	0.0000	0.0000	03/01/85
			0.0000	0.0000	0.0000	0.0000	03/04/85
			0.0000	0.0000	0.0000	0.0000	03/06/85
			0.0000	0.0000	0.0000	0.0000	03/08/85
			0.0000	0.0000	0.0000	0.0000	03/11/85
			0.0000	0.0000	0.0000	0.0000	03/13/85
			0.0403	0.0403	0.0403	0.0403	03/15/85
			0.0000	0.0000	0.0000	0.0000	03/18/85
			0.0000	0.0000	0.0000	0.0000	03/20/85
			0.0000	0.0000	0.0000	0.0000	03/22/85
			0.0000	0.0000	0.0000	0.0000	03/25/85
			0.0000	0.0000	0.0000	0.0000	03/27/85
			0.0402	0.0402	0.0402	0.0402	03/29/85
			0.0000	0.0000	0.0000	0.0000	04/01/85
			0.0403	0.0403	0.0403	0.0403	04/03/85
			0.0000	0.0000	0.0000	0.0000	04/05/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Ventilation	30-56/57	0.0000	0.0000	0.0000	0.0000	04/08/85
			0.0000	0.0000	0.0000	0.0000	04/11/85
			0.0000	0.0000	0.0000	0.0000	04/12/85
			0.0000	0.0000	0.0000	0.0000	04/15/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.0000	0.0000	0.0000	0.0000	05/17/85
			0.0000	0.0000	0.0000	0.0000	05/20/85
			0.0000	0.0000	0.0000	0.0000	05/27/85
			0.0000	0.0000	0.0000	0.0000	05/27/85
			0.0000	0.0000	0.0000	0.0000	05/29/85
			0.0000	0.0000	0.0000	0.0000	05/31/85
			0.0000	0.0000	0.0000	0.0000	06/06/85
			0.0000	0.0000	0.0000	0.0000	06/07/85
			0.0000	0.0000	0.0000	0.0000	06/10/85
			0.0000	0.0000	0.0000	0.0000	06/12/85
			0.0000	0.0000	0.0000	0.0000	06/14/85
			0.0000	0.0000	0.0000	0.0000	06/18/85
			0.0000	0.0000	0.0000	0.0000	06/21/85
			0.0000	0.0000	0.0000	0.0000	06/24/85
			0.0000	0.0000	0.0000	0.0000	06/26/85
			0.0000	0.0000	0.0000	0.0000	06/28/85
			0.0000	0.0000	0.0000	0.0000	07/01/85
			0.0000	0.0000	0.0000	0.0000	07/03/85
			0.0000	0.0000	0.0000	0.0000	07/05/85
			0.0399	0.0399	0.0399	0.0399	07/08/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-4	Ventilation	30-56/57	0.0000	0.0000	0.0000	0.0000	07/09/85
			0.0000	0.0000	0.0000	0.0000	07/12/85
			0.0000	0.0000	0.0000	0.0000	07/15/85
			0.0000	0.0000	0.0000	0.0000	07/17/85
			0.0000	0.0000	0.0000	0.0000	07/19/85
			0.0000	0.0000	0.0000	0.0000	07/22/85
			0.0000	0.0000	0.0000	0.0000	07/24/85
			0.0000	0.0000	0.0000	0.0000	08/01/85
			0.0000	0.0000	0.0000	0.0000	08/02/85
			0.0000	0.0000	0.0000	0.0000	08/05/85
			0.0000	0.0000	0.0000	0.0000	08/07/85
			0.0000	0.0000	0.0000	0.0000	08/09/85
			0.0000	0.0000	0.0000	0.0000	08/12/85
			0.0000	0.0000	0.0000	0.0000	08/14/85
			0.0000	0.0000	0.0000	0.0000	08/16/85
			0.0000	0.0000	0.0000	0.0000	08/21/85
			0.0000	0.0000	0.0000	0.0000	08/23/85
			0.0000	0.0000	0.0000	0.0000	09/24/85
			0.0000	0.0000	0.0000	0.0000	10/28/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-5	Ventilation	30-58/59	0.0000	0.0000	0.0000	0.0000	04/09/84
			0.0000	0.0000	0.0000	0.0000	04/11/84
			0.0396	0.0396	0.0396	0.0396	05/03/84
			0.0394	0.0394	0.0394	0.0394	05/04/84
			0.0394	0.0394	0.0394	0.0394	05/04/84
			0.0394	0.0394	0.0394	0.0394	05/08/84
			0.0394	0.0394	0.0394	0.0394	05/09/84
			0.0389	0.0389	0.0389	0.0389	07/26/84
			0.0392	0.0392	0.0392	0.0392	09/25/84
			0.0392	0.0392	0.0392	0.0392	09/26/84
			0.1180	0.1180	0.1180	0.1180	10/26/84
			0.3035	0.3035	0.3035	0.3035	12/28/84
			0.0000	0.0000	0.0000	0.0000	01/23/85
			0.0000	0.0000	0.0000	0.0000	04/03/85
			0.0000	0.0000	0.0000	0.0000	06/24/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.0000	0.0000	0.0000	0.0000	05/17/85
			0.0000	0.0000	0.0000	0.0000	05/29/85
			0.0000	0.0000	0.0000	0.0000	06/06/85
			0.0000	0.0000	0.0000	0.0000	06/18/85
			0.0000	0.0000	0.0000	0.0000	06/21/85
			0.0000	0.0000	0.0000	0.0000	07/29/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-6	Ventilation	30-50/51	0.0000	0.0000	0.0000	0.0000	04/11/84
			0.0395	0.0395	0.0395	0.0395	05/03/84
			0.0394	0.0394	0.0394	0.0394	05/04/84
			0.4823	0.4823	0.4823	0.4823	05/08/84
			0.0393	0.0393	0.0393	0.0393	05/09/84
			0.0389	0.0389	0.0389	0.0389	07/26/84
			0.0389	0.0389	0.0389	0.0389	07/29/84
			0.0390	0.0390	0.0390	0.0390	08/03/84
			0.0388	0.0388	0.0388	0.0388	09/02/84
			0.0392	0.0392	0.0392	0.0392	09/25/84
			0.1574	0.1574	0.1574	0.1574	09/26/84
			0.0393	0.0393	0.0393	0.0393	10/26/84
			0.0000	0.0000	0.0000	0.0000	12/31/84
			0.0000	0.0000	0.0000	0.0000	01/23/85
			0.0000	0.0000	0.0000	0.0000	01/25/85
			0.1639	0.1639	0.1639	0.1639	02/28/85
			0.0402	0.0402	0.0402	0.0402	04/15/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.1319	0.1319	0.1319	0.1319	05/17/85
			0.0000	0.0000	0.0000	0.0000	05/20/85
			0.0000	0.0000	0.0000	0.0000	06/06/85
			0.0000	0.0000	0.0000	0.0000	06/07/85
			0.0000	0.0000	0.0000	0.0000	06/18/85
			0.0000	0.0000	0.0000	0.0000	06/29/85
			0.0000	0.0000	0.0000	0.0000	08/23/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-7	Ventilation	30-52/53	0.0395	0.0395	0.0395	0.0395	05/08/84
			0.0393	0.0393	0.0393	0.0393	05/09/84
			0.0389	0.0389	0.0389	0.0389	07/26/84
			0.0392	0.0392	0.0392	0.0392	09/25/84
			0.0392	0.0392	0.0392	0.0392	09/26/84
			0.1177	0.1177	0.1177	0.1177	10/26/84
			0.0000	0.0000	0.0000	0.0000	01/23/85
			0.0000	0.0000	0.0000	0.0000	01/29/85
			0.4074	0.4074	0.4074	0.4074	02/18/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.1677	0.1677	0.1677	0.1677	05/17/85
			0.0000	0.0000	0.0000	0.0000	06/06/85
			0.0000	0.0000	0.0000	0.0000	06/10/85
			0.0000	0.0000	0.0000	0.0000	07/29/85
X-9A	Ventilation	30-7/8	0.0000	0.0000	0.0000	0.0000	04/11/84
			0.0394	0.0394	0.0394	0.0394	05/03/84
			0.0394	0.0394	0.0394	0.0394	05/04/84
			0.0394	0.0394	0.0394	0.0394	05/08/84
			0.0394	0.0394	0.0394	0.0394	05/09/84
			0.0389	0.0389	0.0389	0.0389	07/26/84
			0.0389	0.0389	0.0389	0.0389	07/29/84
			0.2433	0.2433	0.2433	0.2433	08/03/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-9A	Ventilation	30-7/8	0.0389	0.0389	0.0389	0.0389	09/02/84
			0.4040	0.4040	0.4040	0.4040	09/25/84
			0.0393	0.0393	0.0393	0.0393	09/26/84
			0.2025	0.2025	0.2025	0.2025	10/26/84
			0.3129	0.3129	0.3129	0.3129	12/31/84
			0.0000	0.0000	0.0000	0.0000	01/23/85
			0.0000	0.0000	0.0000	0.0000	01/25/85
			0.1233	0.1233	0.1233	0.1233	02/18/85
			0.0000	0.0000	0.0000	0.0000	02/28/85
			0.0000	0.0000	0.0000	0.0000	04/15/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.0000	0.0000	0.0000	0.0000	05/17/85
			0.0000	0.0000	0.0000	0.0000	05/20/85
			0.0000	0.0000	0.0000	0.0000	06/06/85
			0.0000	0.0000	0.0000	0.0000	06/07/85
			0.0000	0.0000	0.0000	0.0000	06/18/85
			0.0000	0.0000	0.0000	0.0000	07/29/85
			0.0000	0.0000	0.0000	0.0000	08/23/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-9B	Ventilation	30-9/10	0.0000	0.0000	0.0000	0.0000	04/11/84
			0.0396	0.0396	0.0396	0.0396	05/03/84
			0.0394	0.0394	0.0394	0.0394	05/04/84
			0.0393	0.0393	0.0393	0.0393	05/05/84
			0.0395	0.0395	0.0395	0.0395	05/08/84
			0.0393	0.0393	0.0395	0.0395	05/09/84
			0.0389	0.0389	0.0389	0.0389	07/26/84
			0.0392	0.0392	0.0392	0.0392	09/25/84
			0.1788	0.1788	0.1788	0.1788	09/16/84
			0.0000	0.0000	0.0000	0.0000	10/26/84
			0.0405	0.0405	0.0405	0.0405	01/23/85
			0.0404	0.0404	0.0404	0.0404	01/29/85
			0.0000	0.0000	0.0000	0.0000	02/18/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.0000	0.0000	0.0000	0.0000	05/17/85
			0.0000	0.0000	0.0000	0.0000	05/20/85
			0.4338	0.4338	0.4338	0.4338	06/06/85
			0.2294	0.2294	0.2294	0.2294	06/10/85
			0.0000	0.0000	0.0000	0.0000	06/18/85
			0.0000	0.0000	0.0000	0.0000	07/29/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Ventilation	30-14/15	0.0000	0.0000	0.0000	0.0000	04/09/84
			0.0000	0.0000	0.0000	0.0000	04/12/84
			0.0000	0.0000	0.0000	0.0000	04/13/84
			0.0000	0.0000	0.0000	0.0000	04/16/84
			0.0000	0.0000	0.0000	0.0000	04/18/84
			0.0394	0.0394	0.0394	0.0394	05/03/84
			0.0396	0.0396	0.0396	0.0396	05/04/84
			0.0395	0.0395	0.0395	0.0395	05/18/84
			0.0393	0.0393	0.0393	0.0393	05/09/84
			0.0391	0.0391	0.0391	0.0391	05/11/84
			0.0392	0.0392	0.0392	0.0392	05/14/84
			0.0392	0.0392	0.0392	0.0392	05/16/84
			0.0391	0.0391	0.0391	0.0391	05/18/84
			0.0389	0.0389	0.0389	0.0389	05/21/84
			0.0392	0.0392	0.0392	0.0392	05/26/84
			0.0392	0.0392	0.0392	0.0392	05/29/84
			0.0390	0.0390	0.0390	0.0390	06/01/84
			0.3411	0.3411	0.3411	0.3411	06/04/84
			0.0392	0.0392	0.0392	0.0392	06/06/84
			0.0391	0.0391	0.0391	0.0391	06/08/84
			0.0390	0.0390	0.0390	0.0390	06/13/84
			0.0390	0.0390	0.0390	0.0390	06/15/84
			0.0390	0.0390	0.0390	0.0390	06/18/84
			0.0389	0.0389	0.0389	0.0389	06/20/84
			0.0390	0.0390	0.0390	0.0390	06/22/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Ventilation	30-14/15	0.0389	0.0389	0.0389	0.0389	06/25/84
			0.0389	0.0389	0.0389	0.0389	06/27/84
			0.0390	0.0390	0.0390	0.0390	06/29/84
			0.0391	0.0391	0.0391	0.0391	07/02/84
			0.0389	0.0389	0.0389	0.0389	07/06/84
			0.0390	0.0390	0.0390	0.0390	07/09/84
			0.0389	0.0389	0.0389	0.0389	07/11/84
			0.0389	0.0389	0.0389	0.0389	07/13/84
			0.2482	0.2482	0.2482	0.2482	07/16/84
			0.0389	0.0389	0.0389	0.0389	07/18/84
			0.0389	0.0389	0.0389	0.0389	07/20/84
			0.0388	0.0388	0.0388	0.0388	07/23/84
			0.0389	0.0389	0.0389	0.0389	07/25/84
			0.0389	0.0389	0.0389	0.0389	07/26/84
			0.0388	0.0388	0.0388	0.0388	07/27/84
			0.0389	0.0389	0.0389	0.0389	07/30/84
			0.0389	0.0389	0.0389	0.0389	08/01/84
			0.0390	0.0390	0.0390	0.0390	08/03/84
			0.3494	0.3494	0.3494	0.3494	08/06/84
			0.2242	0.2242	0.2242	0.2242	08/08/84
			0.0389	0.0389	0.0389	0.0389	08/10/84
			0.0389	0.0389	0.0389	0.0389	08/13/84
			0.0389	0.0389	0.0389	0.0389	08/15/84
			0.2374	0.2374	0.2374	0.2374	08/17/84
			0.0390	0.0390	0.0390	0.0390	08/20/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Ventilation	30-14/15	0.1563	0.1563	0.1563	0.1563	08/22/84
			0.0389	0.0389	0.0389	0.0389	08/24/84
			0.0389	0.0389	0.0389	0.0389	08/27/84
			0.0389	0.0389	0.0389	0.0389	08/29/84
			0.0388	0.0388	0.0388	0.0388	08/31/84
			0.0389	0.0389	0.0389	0.0389	09/02/84
			0.0390	0.0390	0.0390	0.0390	09/05/84
			0.0389	0.0389	0.0389	0.0389	09/07/84
			0.0689	0.0689	0.0689	0.0689	09/10/84
			0.0391	0.0391	0.0391	0.0391	09/12/84
			0.0388	0.0388	0.0388	0.0388	09/14/84
			0.0392	0.0392	0.0392	0.0392	09/17/84
			0.0392	0.0392	0.0392	0.0392	09/19/84
			0.0389	0.0389	0.0389	0.0389	09/21/84
			0.0392	0.0392	0.0392	0.0392	09/25/84
			0.1577	0.1577	0.1577	0.1577	09/26/84
			0.0392	0.0392	0.0392	0.0392	09/28/84
			0.3238	0.3238	0.3238	0.3238	10/01/84
			0.0000	0.0000	0.0000	0.0000	10/03/84
			0.0393	0.0393	0.0393	0.0393	10/05/84
			0.0392	0.0392	0.0392	0.0392	10/08/84
			0.0392	0.0392	0.0392	0.0392	10/10/84
			0.0392	0.0392	0.0392	0.0392	10/12/84
			0.0000	0.0000	0.0000	0.0000	10/15/84
			0.2023	0.2023	0.2023	0.2023	10/17/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Ventilation	30-14/15	0.0837	0.0837	0.0837	0.0837	10/19/84
			0.0000	0.0000	0.0000	0.0000	10/21/84
			0.0000	0.0000	0.0000	0.0000	10/24/84
			0.0392	0.0392	0.0392	0.0392	10/26/84
			0.0000	0.0000	0.0000	0.0000	10/28/84
			0.1577	0.1577	0.1577	0.1577	10/31/84
			0.0392	0.0392	0.0392	0.0392	11/02/84
			0.0392	0.0392	0.0392	0.0392	11/04/84
			0.0571	0.0571	0.0571	0.0571	11/07/84
			0.0000	0.0000	0.0000	0.0000	11/09/84
			0.1795	0.1795	0.1795	0.1795	11/11/84
			0.0000	0.0000	0.0000	0.0000	11/14/84
			0.1254	0.1254	0.1254	0.1254	11/16/84
			0.0000	0.0000	0.0000	0.0000	11/18/84
			0.0000	0.0000	0.0000	0.0000	11/19/84
			0.0000	0.0000	0.0000	0.0000	11/21/84
			0.0000	0.0000	0.0000	0.0000	11/23/84
			0.0404	0.0404	0.0404	0.0404	11/25/84
			0.0000	0.0000	0.0000	0.0000	11/28/84
			0.2077	0.2077	0.2077	0.2077	12/17/84
			0.0000	0.0000	0.0000	0.0000	12/19/84
			0.0000	0.0000	0.0000	0.0000	12/21/84
			0.0000	0.0000	0.0000	0.0000	12/24/84
			0.0403	0.0403	0.0403	0.0403	12/26/84
			0.0403	0.0403	0.0403	0.0403	12/28/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Ventilation	30-14/15	0.0402	0.0402	0.0402	0.0402	12/31/84
			0.1230	0.1230	0.1230	0.1230	01/02/85
			0.0000	0.0000	0.0000	0.0000	01/04/85
			0.0883	0.0883	0.0883	0.0883	01/07/85
			0.0000	0.0000	0.0000	0.0000	01/09/85
			0.2311	0.2311	0.2311	0.2311	01/11/85
			0.0000	0.0000	0.0000	0.0000	01/14/85
			0.0000	0.0000	0.0000	0.0000	01/16/85
			0.0000	0.0000	0.0000	0.0000	01/18/85
			0.0000	0.0000	0.0000	0.0000	01/21/85
			0.0000	0.0000	0.0000	0.0000	01/23/85
			0.0435	0.0435	0.0435	0.0435	01/25/85
			0.0000	0.0000	0.0000	0.0000	01/28/85
			0.0000	0.0000	0.0000	0.0000	01/30/85
			0.0339	0.0339	0.0339	0.0339	02/01/85
			0.0406	0.0406	0.0406	0.0406	02/04/85
			0.0000	0.0000	0.0000	0.0000	02/06/85
			0.0000	0.0000	0.0000	0.0000	02/08/85
			0.0000	0.0000	0.0000	0.0000	02/11/85
			0.0000	0.0000	0.0000	0.0000	02/13/85
			0.0000	0.0000	0.0000	0.0000	02/15/85
			0.0000	0.0000	0.0000	0.0000	02/18/85
			0.0000	0.0000	0.0000	0.0000	02/20/85
			0.0000	0.0000	0.0000	0.0000	02/22/85
			0.0000	0.0000	0.0000	0.0000	02/25/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Ventilation	30-14/15	0.0882	0.0882	0.0882	0.0882	02/27/85
			0.0000	0.0000	0.0000	0.0000	03/01/85
			0.0000	0.0000	0.0000	0.0000	03/04/85
			0.0000	0.0000	0.0000	0.0000	03/06/85
			0.0000	0.0000	0.0000	0.0000	03/08/85
			0.0000	0.0000	0.0000	0.0000	03/11/85
			0.0000	0.0000	0.0000	0.0000	03/13/85
			0.0000	0.0000	0.0000	0.0000	03/15/85
			0.0000	0.0000	0.0000	0.0000	03/18/85
			0.0000	0.0000	0.0000	0.0000	03/20/85
			0.0000	0.0000	0.0000	0.0000	03/22/85
			0.0000	0.0000	0.0000	0.0000	03/25/85
			0.0000	0.0000	0.0000	0.0000	03/27/85
			0.0000	0.0000	0.0000	0.0000	03/29/85
			0.0000	0.0000	0.0000	0.0000	04/01/85
			0.1848	0.1848	0.1848	0.1848	04/03/85
			0.0000	0.0000	0.0000	0.0000	04/05/85
			0.0000	0.0000	0.0000	0.0000	04/08/85
			0.0000	0.0000	0.0000	0.0000	04/11/85
			0.0000	0.0000	0.0000	0.0000	4/12/85
			0.0000	0.0000	0.0000	0.0000	04/15/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.0883	0.0883	0.0883	0.0883	05/17/85
			0.0000	0.0000	0.0000	0.0000	05/20/85
			0.0000	0.0000	0.0000	0.0000	05/24/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Ventilation	30-14/15	0.0000	0.0000	0.0000	0.0000	05/27/85
			0.0000	0.0000	0.0000	0.0000	05/27/85
			0.0000	0.0000	0.0000	0.0000	05/29/85
			0.0000	0.0000	0.0000	0.0000	05/31/85
			0.0000	0.0000	0.0000	0.0000	06/06/85
			0.0000	0.0000	0.0000	0.0000	06/07/85
			0.0000	0.0000	0.0000	0.0000	06/10/85
			0.0000	0.0000	0.0000	0.0000	06/12/85
			0.0000	0.0000	0.0000	0.0000	06/14/85
			0.0000	0.0000	0.0000	0.0000	06/18/85
			0.0000	0.0000	0.0000	0.00000	06/21/85
			0.0400	0.0400	0.0400	0.0400	06/24/85
			0.0000	0.0000	0.0000	0.0000	06/26/85
			0.1836	0.1836	0.1836	0.1836	06/28/85
			0.0000	0.0000	0.0000	0.0000	07/01/85
			0.0000	0.0000	0.0000	0.0000	07/03/85
			0.0000	0.0000	0.0000	0.0000	07/05/85
			0.3249	0.3249	0.3249	0.3249	07/08/85
			0.0595	0.0595	0.0595	0.0595	07/09/85
			0.0000	0.0000	0.0000	0.0000	07/12/85
			0.0000	0.0000	0.0000	0.0000	07/15/85
			0.0000	0.0000	0.0000	0.0000	07/17/85
			0.0000	0.0000	0.0000	0.0000	07/19/85
			0.0000	0.0000	0.0000	0.0000	07/22/85
			0.0000	0.0000	0.0000	0.0000	07/24/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10A	Ventilation	30-14/15	0.0000	0.0000	0.0000	0.0000	07/29/85
			0.0000	0.0000	0.0000	0.0000	08/01/85
			0.0000	0.0000	0.0000	0.0000	08/02/85
			0.0000	0.0000	0.0000	0.0000	08/05/85
			0.0000	0.0000	0.0000	0.0000	08/07/85
			0.0000	0.0000	0.0000	0.0000	08/09/85
			0.0000	0.0000	0.0000	0.0000	08/12/85
			0.0000	0.0000	0.0000	0.0000	08/14/85
			0.0000	0.0000	0.0000	0.0000	08/16/85
			0.0000	0.0000	0.0000	0.0000	08/21/85
			0.0000	0.0000	0.0000	0.0000	08/23/85
X-10B	Ventilation	30-16/17	0.0000	0.0000	0.0000	0.0000	04/07/84
			0.0000	0.0000	0.0000	0.0000	04/09/84
			0.0000	0.0000	0.0000	0.0000	04/11/84
			0.0396	0.0396	0.0396	0.0396	05/03/84
			0.0394	0.0394	0.0394	0.0394	05/04/84
			0.0395	0.0395	0.0395	0.0395	05/08/84
			0.0395	0.0395	0.0395	0.0395	05/09/84
			0.0389	0.0389	0.0389	0.0389	07/26/84
			0.0392	0.0392	0.0392	0.0392	08/25/84
			0.1794	0.1794	0.1794	0.1794	09/25/84
			0.0392	0.0392	0.0392	0.0392	09/26/84

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-10B	Ventilation	30-16/17	0.0000	0.0000	0.0000	0.0000	10/26/84
			0.0000	0.0000	0.0000	0.0000	01/23/85
			0.0950	0.0950	0.0950	0.0950	01/29/85
			0.0406	0.0406	0.0406	0.0406	02/18/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.0000	0.0000	0.0000	0.0000	05/17/85
			0.0000	0.0000	0.0000	0.0000	05/20/85
			0.0000	0.0000	0.0000	0.0000	06/06/85
			0.0000	0.0000	0.0000	0.0000	06/18/85
			0.0000	0.0000	0.0000	0.0000	07/29/85
X-11	Ventilation	30-19/20	0.0000	0.0000	0.0000	0.0000	04/09/84
			0.0000	0.0000	0.0000	0.0000	04/11/84
			0.0396	0.0396	0.0396	0.0396	05/03/84
			0.0394	0.0394	0.0394	0.0394	05/04/84
			0.0394	0.0394	0.0394	0.0394	05/08/84
			0.0394	0.0394	0.0394	0.0394	05/09/84
			0.0389	0.0389	0.0389	0.0389	07/26/84
			0.0392	0.0392	0.0392	0.0392	09/25/84
			0.0392	0.0392	0.0392	0.0392	09/26/84
			0.0572	0.0572	0.0572	0.0572	10/26/84
			0.3285	0.3285	0.3285	0.3285	12/28/84
			0.0000	0.0000	0.0000	0.0000	01/23/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-11	Ventilation	30-19/20	0.0000	0.0000	0.0000	0.0000	04/03/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.0000	0.0000	0.0000	0.0000	05/17/85
			0.0000	0.0000	0.0000	0.0000	05/20/85
			0.0000	0.0000	0.0000	0.0000	05/29/85
			0.0000	0.0000	0.0000	0.0000	06/06/85
			0.0000	0.0000	0.0000	0.0000	06/18/85
			0.0000	0.0000	0.0000	0.0000	06/21/85
			0.0000	0.0000	0.0000	0.0000	07/29/85
**X-15	CVCS	62-72/73/74	313.2964	0.0000			08/12/85 AF
		62-77/662	0.0000				06/05/85 AF
					1.4148	1.4148	08/17/85 AL
					0.0000		06/05/85 AL
			0.0000		0.0000		09/04/85 AF
			1.9227	1.9227	0.0000	0.0000	09/18/85 AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-23	PASF	43-309	0.0000	0.0000	0.0000	0.0000	05/16/85
		43-309	0.0000	0.0000	0.0000	0.0000	06/27/85
		43-309	0.0000	0.0000	0.0000		07/26/85
		43-310	0.0000		0.0000	0.0000	AF/AL
			0.0000	0.0000	0.0000		09/13/85
			0.0000		0.0000	0.0000	AF/AL
**X-25A	Sample	43-2	0.0000		0.0000		09/14/85
		43-3	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-25D	Sample	43-11	0.0000		0.0000		09/14/85
		43-12	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-26	Control Air	32-297	324.9648	0.0000	0.0000	0.0000	04/13/85 AF
		32-102/295	0.0000		0.0000		04/27/85 AL
			0.0000		0.0000		08/30/85
			0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-27C	SLRT	52-IN	0.0000	0.0000	0.0000		09/12/85
		52-OUT	0.0000.		0.0000	0.0000	AF/AL
**X-29	Component Cooling	70-92	0.0000	0.0000	0.0000		04/17/85 AF
		70-89/698	0.0000		0.0000	0.0000	04/19/85 AL
			0.0000		0.0000		09/03/85
			0.0000	0.0000	0.0000	0.0000	AF/AL
**X-30	SIS	63-84/23	88.2195	0.0000	9.5880	9.5880	07/18/85 AF
		63-71	0.0000		0.0000		07/20/85 AL
			13.3582	13.3582	0.0836	0.0836	09/11/85 AF
			20.5330		0.0000		11/26/85 AL
**X-34	Control Air	32-110/375	0.0000		0.0000		11/17/85
		32-377	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-35	Component Cooling	70-85/143/703	0.0000	0.0000	0.0000	0.0000	04/17/85 AF/AL
			0.0000	0.0000	0.0000	0.0000	04/23/85 AF/AL
			0.0000	0.0000	0.0000	0.0000	09/04/85 AF 11/13/85 AL
**X-39A	SIS	63-64	0.0000		0.0000		08/28/85
		77-868	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-39B	Main Cooling	68-305	0.0000		0.0000		08/28/85
		77-849	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-41	Waste Disposal	77-127	0.0000		0.0000		09/11/85
		77-128	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-42	Primary Water	81-12	0.0000		0.0000		08/29/85
		81-502	0.0000	0.0000	0.0000	0.0000	AF/AL
X-44	CVCS	62-61/639	0.0000		0.0000		09/11/85
		62-63	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-45	Waste Disposal	77-18	0.0000		0.0000		09/05/85
		77-19/20	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-46	Waste Disposal	77-9	0.1006	0.1006	0.1006		09/09/85
		77-10	0.0000		0.0000	0.1006	AF/AL
**X-47A	Ice Condenser	61-191	0.1846	0.1846	0.1846	0.1846	09/10/85
		61-192/53	0.0000		0.0000		AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-47B	Ice Condenser	61-193	0.0000		0.0000		09/10/85
		61-194/680	0.0000	0.0000	0.0000	0.0000	AF/AL
X-48A	Containment Spray	72-39	0.0359	0.0359	0.0359	0.0359	03/14/85 AF/AL
			0.0359	0.0359	0.0359	0.0359	09/10/85 AF/AL
X-48B	Containment Spray	72-2	0.0359	0.0359	0.0359	0.0359	09/10/85 AF/AL
**X-50A	Component Cooling	70-87/687	1.1400	1.1400	0.0000		09/03/85 AF
		70-90	0.0000			0.0000	11/24/85 AL
*X-50B	Component Cooling	70-134	0.0000		0.0000		09/03/85
		70-679	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-51	Fire Protection	26-240	0.0000		0.0000		10/31/85
		26-1260	0.0000	0.0000	0.0000	0.0000	AF/AL
X-52	Component Cooling	70-140	0.0000		0.0000		04/17/85
		70-140	0.0000		0.0000		04/22/85
		70-140	0.0000		0.0000		09/03/85 AF
		70-692	303.5121	303.5121	0.0000	0.0000	10/03/85 AL
X-56	ERCW	67-107	0.0000		0.0000		04/22/85
		67-107	0.0000		0.0000		04/26/85
		67-107	0.0000		0.0000		09/07/85 AF
		67-562D	149.9619	146.9619	0.0000	0.0000	10/12/85 AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-57	ERCW	67-112	0.0000		0.0000		04/22/85
		67-112	0.0000	0.0000	0.0000		04/23/85 AF
		67-111/575D	0.0000		0.0000	0.0000	04/25/85 AL
		67-111/575D	0.228		0.228		05/03/85
		67-111/575D	0.0000		0.0000		05/09/85
		67-111/575D	0.0000		0.0000		09/07/85
		67-112	0.0000	0.0000	0.0000	0.0000	AF/AL
X-58	ERCW	67-83	0.0000		0.0000		05/06/85
			0.0000		0.0000		05/13/85
		67-83	0.0000		0.0000		09/08/85 AF
		67-562A[1]	265.3311	265.3311			

[1]67-562A "as left" leakage was not available prior to CILRT and submittal of this report. Valve will be repaired or replaced and the leakage brought under acceptable limits prior to unit 1 start-up. The "as left" leakage as well as a summary of local leakage rates for the unit 1, cycle 3 refueling outage will be included in the next unit 1 CILRT report.

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-62	ERCW	67-91	0.0000		0.0000		04/17/85
		67-91	0.0000		0.0000		04/18/85
		67-91	0.0000		0.0000		09/11/85 AF/AL
		67-562C	0.0000	0.0000	0.0000	0.0000	09/08/85 AF/AL
X-63	ERCW	67-96	0.0000		0.0000		04/16/85
		67-96	0.0000		0.0000		04/16/85
		67-95/575C	0.0000		0.0000		09/08/85
		67-96	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-64	Chilled Water	31C-222	0.0000		0.0000		09/06/85
		31C-223/752	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-65	Chilled Water	31C-224	0.0000		0.0000		09/06/85
		31C-225/734	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-66	Chilled Water	31C-229	0.0000		0.0000		09/25/85
		31C-230/715	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-67	Chilled Water	31C-231	0.0000		0.0000		09/25/85
		31C-232/697	0.0000	0.0000	0.0000	0.0000	AF/AL
X-68	ERCW	67-141	0.0000		0.0000		09/23/85 AF
		67-580D	234.2595	234.2595	0.0000	0.0000	10/02/85 AL
X-69	ERCW	67-130	0.0000		0.0000		11/14/85 AF
		67-580A	30.0918	30.0918	0.0000	0.0000	11/20/85 AL
X-70	ERCW	67-139	0.0000		0.0000		09/24/85
		67-297/585B	0.0005	0.0005	0.0005	0.0005	AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-71	ERCW	67-134	0.0000		0.0000		11/14/85 AF
		67-296/585C	0.0410	0.0410	0.0002	0.0002	11/24/85 AL
X-72	ERCW	67-142	0.0000		0.0000		09/24/85
		67-298/585D	0.0016	0.0016	0.0016	0.0016	AF/AL
X-73	ERCW	67-131	0.0000		0.0000		11/14/85
		67-295/585A	0.0007	0.0007	0.0007	0.0007	AF/AL
X-74	ERCW	67-138	0.0000		0.0000		09/23/85 AF
		67-580B	518.8516	518.8516	0.0000	0.0000	10/02/85 AL

TABLE L-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-75	ERCW	67-580C	1.2338		1.2338		02/23/85
		67-580C	4.0622		4.0622		02/24/85
		67-580C	0.8662		0.8662		02/25/85
		67-580C	0.8862		0.8862		02/26/85
		67-133	0.0000		0.0000		11/14/85 AF
		67-580C	141.8457	141.8457	0.0000	0.0000	11/20/85 AL
**X-76	Service Air	33-704	0.0000		0.0000		08/27/85
		33-740	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-77	Demin. Water	59-522/529	0.0000		0.0000		08/27/85
		59-633	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-78	Fire Protection	26-243	0.0000		0.0000		08/27/85
		26-1296	0.1740	0.1740	0.1740	0.1740	AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-80	Ventilation	30-37/40	0.0000	0.0000	0.0000	0.0000	04/07/84
			0.0000	0.0000	0.0000	0.0000	04/09/84
			0.0000	0.0000	0.0000	0.0000	04/11/84
			0.0395	0.0395	0.0395	0.0395	05/03/84
			0.0394	0.0394	0.0394	0.0394	05/04/84
			0.0395	0.0395	0.0395	0.0395	05/08/84
			0.0395	0.0395	0.0395	0.0395	05/09/84
			0.0389	0.0389	0.0389	0.0389	07/26/84
			0.0392	0.0392	0.0392	0.0392	08/25/84
			0.0392	0.0392	0.0392	0.0392	09/25/84
			0.0837	0.0837	0.0837	0.0837	09/26/84
			0.0000	0.0000	0.0000	0.0000	10/26/84
			0.0000	0.0000	0.0000	0.0000	11/19/84
			0.0000	0.0000	0.0000	0.0000	11/23/84
			0.2071	0.2071	0.2071	0.2071	11/28/84
			0.1231	0.1231	0.1231	0.1231	11/30/84
			0.2796	0.2796	0.2796	0.2796	12/03/84
			0.2075	0.2075	0.2075	0.2075	12/05/84
			0.0000	0.0000	0.0000	0.0000	12/07/84
			0.0000	0.0000	0.0000	0.0000	12/10/84
			0.0000	0.0000	0.0000	0.0000	12/12/84
			0.0000	0.0000	0.0000	0.0000	12/14/84
			0.3795	0.3795	0.3795	0.3795	12/17/84
			0.0000	0.0000	0.0000	0.0000	12/20/84
			0.0000	0.0000	0.0000	0.0000	01/23/85

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-80	Ventilation	30-37/40	0.1946	0.1946	0.1946	0.1946	01/29/85
			0.0000	0.0000	0.0000	0.0000	05/16/85
			0.0000	0.0000	0.0000	0.0000	05/17/85
			0.0000	0.0000	0.0000	0.0000	05/20/85
			0.0000	0.0000	0.0000	0.0000	06/06/85
			0.0000	0.0000	0.0000	0.0000	06/18/85
			208.7513	208.7513	208.7513	208.7513	07/29/85
			189.2571	189.2571	189.2571	189.2571	07/29/85
			0.0485	0.0485	0.0485	0.0485	07/31/85
			0.0000	0.0000	0.0000	0.0000	07/31/85
			0.0000	0.0000	0.0000	0.0000	08/01/85
			0.0000	0.0000	0.0000	0.0000	08/02/85
**X-81	Waste Water	77-16	0.0000		0.0000		09/05/85
		77-17	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-82	Fuel Pool Cooling	78-560	0.0000		0.0000		09/15/85
		78-561	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-83	Fuel Pool Cooling	78-557	0.0000		0.0000		09/15/85
		78-558	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-84A	Main Coolant	68-307	0.0000		0.0000		09/16/85
		68-308	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-85A	Sampling System	43-75	0.0000		0.0000		09/1485
		43-77	0.0000	0.0000	0.0000	0.0000	AF/AL
X-87B	ILRT	52-502	0.0000		0.0000		09/12/85
		52-503	0.0000	0.0000	0.0000	0.0000	AF/AL
X-87D	ILRT	52-500	0.0000		0.0000		09/12/85
		52-501	0.0000	0.0000	0.0000	0.0000	AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-90	Control Air	32-287	1.3561		1.3561		04/18/85
		32-287	0.0000		0.0000		04/29/85
		32-80/285	0.0000		0.0000		08/30/85 AF
		32-287	100.6281	100.6281	0.0000	0.0000	11/08/85 AL
X-92	Sampling System	43-207	0.0000		0.0000		09/16/85
		43-208	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-93	Sampling System	43-34	0.0000		0.0000		09/14/85
		43-35	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-94 A/B	Radiation Monitoring	90-107	0.0000		0.0000		10/03/85 AF/AL
		90-108/109	0.0000	0.0000	0.0000	0.0000	10/01/85 AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
**X-94C	Radiation Monitoring	90-110	0.0000		0.0000		10/01/85
		90-111	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-95 A/B	Radiation Monitoring	90-113	0.0000		0.0000		10/01/85
		90-114/115	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-95C	Radiation Monitoring	90-116	0.0000		0.0000		10/03/85
		90-117	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-96C	Sampling System	43-22	0.0000		0.0000		04/25/85
		43-22	26.0185		26.0185		07/03/85
		43-22	0.0000		0.0000		08/03/85
		43-22	0.0000		0.0000		11/18/85 AF
		43-23	2.4600	2.4600	0.0000	0.0000	11/26/85 AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-97	Ventilation	30-134	0.0000		0.0000		09/06/85 AF
		30-135	0.0000	0.0000	0.0000	0.0000	11/26/85 AL
X-98	ILRT	52-IN	0.0000		0.0000		09/12/85
		52-OUT	0.0000	0.0000	0.0000	0.0000	AF/AL
X-99	Sampling System	43-202	0.0000	0.0000	0.0000	0.0000	09/16/85 AF/AL
X-100	Sampling System	43-201	0.0000	0.0000	0.0000	0.0000	09/16/85 AF/AL
**X-110	Upper Head Injection	87-7/8/9	0.0000	0.0000	0.0000	0.0000	10/08/85 AF/AL
X-111	Ventilation	30-46/571	0.0000	0.0000	0.0000	0.0000	09/17/85 AF/AL

TABLE D-4
Type C Test Summary
Cycle 3 - Unit 1

Path Leakage Tabulation

Leakage Path	System Name	Isolation Valve Number	As Found Valve Leak Rate SCFH	As Found Path Leak Rate SCFH	As Left Valve Leak Rate SCFH	As Left Path Leak Rate SCFH	Test Date
X-112	Ventilation	30-47/572	1.0929	1.0929	1.0929	1.0929	09/17/85 AF/AL
X-113	Ventilation	30-48/573	0.0000	0.0000	0.0000	0.0000	09/17/85 AF/AL
**X-114	Ice Condenser	61-110	0.0000		0.0000		12/25/84
		61-122/745	0.0000	0.0000	0.0000	0.0000	AF/AL
			0.0000		0.0000		09/10/85
			0.0000	0.0000	0.0000	0.0000	AF/AL
**X-115	Ice Condenser	61-96	0.0000		0.0000		09/10/85
		61-97/692	0.0000	0.0000	0.0000	0.0000	AF/AL
**X-116	PASF	43-287	0.0000		0.0000		09/13/85
		43-288	0.0000	0.0000	0.0000	0.0000	AF/AL

**Indicates isolation valves subject to by-pass leakage requirements.

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

I. Bellows

Leakage Path X-12A

Leakage, SCFH AF/AL	Test Date
0.0085 (IN)	09/24/85
0.0000 (OUT)	09/19/85

Leakage Path X-13A

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	09/24/85
0.0000 (OUT)	09/24/85

Leakage Path X-12B

Leakage, SCFH AF/AL	Test Date
0.0042 (IN)	09/17/85
0.0042 (OUT)	09/17/85

Leakage Path X-13B

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	09/17/85
0.0000 (OUT)	09/17/85

Leakage Path X-12C

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	09/17/85
0.0000 (OUT)	09/17/85

Leakage Path X-13C

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	09/17/85
0.0000 (OUT)	09/17/85

Leakage Path X-12D

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	09/19/85
0.0000 (OUT)	09/19/85

Leakage Path X-13D

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	09/24/85
0.0000 (OUT)	09/24/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

I. Bellows (continued)

Leakage Path X-14A

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

Leakage Path X-17

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

Leakage Path X-14B

Leakage, SCFH AF/AL	Test Date
0.0000	09/19/85

Leakage Path X-20A

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

Leakage Path X-14C

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

Leakage Path X-20B

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

Leakage Path X-14D

Leakage, SCFH AF/AL	Test Date
0.0000	09/19/85

Leakage Path X-21

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

Leakage Path X-15

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

Leakage Path X-22

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

I. Bellows (continued)

Leakage Path X-24

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

Leakage Path X-46

Leakage, SCFH AF/AL	Test Date
0.0085	09/18/85

Leakage Path X-30

Leakage, SCFH AF/AL	Test Date
0.0233	09/18/85

Leakage Path X-47A

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	09/25/85
0.0000 (OUT)	09/25/85

Leakage Path X-32

Leakage, SCFH AF/AL	Test Date
0.0064	09/18/85

Leakage Path X-47B

Leakage, SCFH AF/AL	Test Date
0.0000 (IN)	09/24/85
0.0000 (OUT)	09/24/85

Leakage Path X-33

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

Leakage Path X-81

Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

I. Bellows (continued)

Leakage Path X-45		Leakage Path X-107	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
0.0106	09/18/85	0.0000	09/18/85

Leakage Path X-108		Leakage Path K-14	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
0.0000	09/18/85	0.0000	09/25/85

Leakage Path X-109		Leakage Path K-15	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
0.0317	09/18/85	0.0000	09/25/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

II. Electrical

Leakage Path X-120E		Leakage Path X-124E	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
0.0064	09/07/85	0.0000	09/30/85

Leakage Path X-121E		Leakage Path X-126E	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
0.0064	09/05/85	0.6971	09/05/85

Leakage Path X-122E		Leakage Path X-127E	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
0.0000	09/04/85	0.0000	09/03/85

Leakage Path X-123E		Leakage Path X-128E	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
0.0127	09/04/85	0.0000	09/04/85

Leakage Path X-129E		Leakage Path X-134E	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
0.0021	09/06/85	0.0191	09/04/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

II. Electrical (continued)

Leakage Path X-131E

Leakage, SCFH AF/AL	Test Date
0.0000	09/06/85

Leakage Path X-135E

Leakage, SCFH AF/AL	Test Date
0.0254	09/04/85

Leakage Path X-132E

Leakage, SCFH AF/AL	Test Date
0.0254	09/04/85

Leakage Path X-136E

Leakage, SCFH AF/AL	Test Date
0.0000	09/04/85

Leakage Path X-133E

Leakage, SCFH AF/AL	Test Date
0.0064	09/04/85

Leakage Path X-137E

Leakage, SCFH AF/AL	Test Date
0.0030	09/04/85

Leakage Path X-138E

Leakage, SCFH AF/AL	Test Date
0.0000	09/04/85

Leakage Path X-143E

Leakage, SCFH AF/AL	Test Date
0.0000	09/04/85

Leakage Path X-139E

Leakage, SCFH AF/AL	Test Date
0.0000	09/05/85

Leakage Path X-144E

Leakage, SCFH AF/AL	Test Date
0.0106	09/04/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

II. Electrical (continued)

Leakage Path X-140E

Leakage, SCFH AF/AL	Test Date
0.0000	09/04/85

Leakage Path X-145E

Leakage, SCFH AF/AL	Test Date
0.0000	09/06/85

Leakage Path X-141E

Leakage, SCFH AF/AL	Test Date
0.0148	09/04/85

Leakage Path X-146E

Leakage, SCFH AF/AL	Test Date
0.3305	09/06/85

Leakage Path X-142E

Leakage, SCFH AF/AL	Test Date
0.0000	09/15/85

Leakage Path X-147E

Leakage, SCFH AF/AL	Test Date
0.0424	09/05/85

II. Electrical (continued)

Leakage Path X-148E

Leakage, SCFH AF/AL	Test Date
0.0000	09/05/85

Leakage Path X-152E

Leakage, SCFH AF/AL	Test Date
0.0042	09/05/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

II. Electrical (continued)

Leakage Path X-149E

Leakage, SCFH AF/AL	Test Date
0.0000	09/05/35

Leakage Path X-153E

Leakage, SCFH AF/AL	Test Date
0.0000	09/03/85

Leakage Path X-150E

Leakage, SCFH AF/AL	Test Date
0.0000	09/05/85

Leakage Path X-154E

Leakage, SCFH AF/AL	Test Date
0.0000	09/03/85

Leakage Path X-151E

Leakage, SCFH AF/AL	Test Date
0.0000	09/05/85

Leakage Path X-156E

Leakage, SCFH AF/AL	Test Date
0.0000	09/03/85

Leakage Path X-157E

Leakage, SCFH AF/AL	Test Date
0.0000	09/03/85

Leakage Path X-163E

Leakage, SCFH AF/AL	Test Date
0.1335	09/04/85

Leakage Path X-158E

Leakage, SCFH AF/AL	Test Date
0.0000	09/03/85

Leakage Path X-164E

Leakage, SCFH AF/AL	Test Date
0.0000	09/04/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

II. Electrical (continued)

Leakage Path X-159E

Leakage, SCFH AF/AL	Test Date
0.0042	09/04/85

Leakage Path X-165E

Leakage, SCFH AF/AL	Test Date
0.0000	09/04/85

Leakage Path X-160E

Leakage, SCFH AF/AL	Test Date
0.0085	09/04/85

Leakage Path X-166E

Leakage, SCFH AF/AL	Test Date
0.0000	09/03/85

Leakage Path X-161E

Leakage, SCFH AF/AL	Test Date
0.0042	09/04/85

Leakage Path X-167E

Leakage, SCFH AF/AL	Test Date
0.0000	09/06/85

Leakage Path X-169E

Leakage, SCFH AF/AL	Test Date
0.0106	09/06/85

Leakage Path X-170E

Leakage, SCFH AF/AL	Test Date
0.0106	09/06/85

Leakage Path X-168E

Leakage, SCFH AF/AL	Test Date
0.0127	09/06/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

III. Resilient Seals

Leakage Path X-1

Leakage, SCFH AF/AL	Test Date
0.0389	04/22/84
0.0355	05/01/84
0.0000	04/15/85
0.0000	5/16/85
0.0000	08/27/85

Leakage Path X-54

Leakage, SCFH AF/AL	Test Date
0.0000	04/28/84
0.0000	04/29/84
0.0000	04/15/85
0.0000	05/01/85
0.0000	08/27/85

Leakage Path X-3

Leakage, SCFH AF/AL	Test Date
0.0000	04/15/85
0.0000	05/13/85
0.0000	08/30/85

Leakage Path X-79A

Leakage, SCFH AF/AL	Test Date
0.0000	04/15/85
0.0000	05/09/85
0.0191	09/05/85 AF
0.0000	10/01/85 AL

Leakage Path X-40D

Leakage, SCFH AF/AL	Test Date
0.0000	09/07/85

Leakage Path X-79B

Leakage, SCFH AF/AL	Test Date
0.0000	04/15/85
0.0000	05/09/85
0.0106	09/05/85 AF
0.0000	10/03/85 AL

Leakage Path X-111

Leakage, SCFH AF/AL	Test Date
0.0000	09/07/85

Leakage Path X-113

Leakage, SCFH AF/AL	Test Date
0.0000	09/07/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

III. Resilient Seals (continued)

Leakage Path X-112

Leakage, SCFH AF/AL	Test Date
0.0000	09/07/85

Leakage Path X-118

Leakage, SCFH AF/AL	Test Date
0.0000	09/15/85

Leakage Path X-88

Leakage, SCFH AF/AL	Test Date
0.0034	09/15/85 AF
0.0000	09/30/85 AL

Leakage Path X-117

Leakage, SCFH AF/AL	Test Date
0.0000	05/06/85
0.0000	09/15/85

TABLE D-5
Type B Test Summary
Cycle 3 - Unit 1

IV. Air Lock Door Test

Leakage Path X-2A		Leakage Path X-2B	
Leakage, SCFH AF/AL	Test Date	Leakage, SCFH AF/AL	Test Date
0.6964	09/29/84	0.0420	09/29/84
1.4630	03/13/85	1.9761	03/15/85
*0.6603	09/13/85 AF	*0.4851	09/24/85 AF
*1.1442	11/28/85 AL	*0.5000	11/26/85 AL

*Denotes a single condition: either AF for the "as found" or AL for the "as left" condition only. Otherwise, the leakages shown are both the AF and the AL conditions.

TABLE D-6
Type B and C Tests
Cycle 3 - Unit 1

Path Leakage Tabulation

Summary

		As Found	As Left
A.	Type B Leakage		
I	Bellows	0.0974 SCFH	0.0974 SCFH
II	Electrical	1.3993 SCFH	1.3993 SCFH
III	Resilient Seals	0.0331 SCFH	0.0000 SCFH
IV	Air Lock Doors	1.1454 SCFH	1.6442 SCFH
*B.	Type C Leakage	1778.5310 SCFH	1.6357 SCFH

*The "as left" path leakage total for type C tests excludes the "as left" leakage for penetrations X-58 and X-60. Containment isolation valves 67-562A (X-58) and 67-562B (X-60) "as left" leakage rates were not available prior to the CILRT and the submittal of this report. The valves are awaiting repair or replacement, and the leakage for both valves will be brought under acceptable limits prior to unit 1 startup. A complete summary of the unit 1, cycle 3 local leakage rates will be included with the next unit 1 CILRT report.

APPENDIX E

Closeout of NRC Inspection Follow-up

Item Nos. 50-327/85-440-01 and 50-327/85-44-02

H. L. Abercrombie, Site Director, NUC PR, Sequoyah Nuclear Plant

John Hutton, Director of Nuclear Services, LP 6N 57A-C

FEB 05 1986

CLOSEOUT OF NRC INSPECTION FOLLOW-UP ITEM NOS. 50-327/85-44-01 AND 50-327/85-44-02

This report discusses the closeout of inspection follow-up item Nos. 50-327/85-44-01 and 02 which resulted from the NRC inspection of Sequoyah Nuclear Plant unit 1 containment integrated leakage rate test (CILRT) conducted December 3-5, 1985.

Discussion of Item No. 50-327/85-44-01

Attached are copies of the two sets of Mensor quartz manometer pressure gauge calibration reports as received from TVA's Central Laboratories. Attachment 1 is the set of Mensor pressure gauge calibration reports dated and signed on October 21, 1985, which were incorrect and subsequently voided by the Central Laboratories. Attachment 2 is the set of corrected calibration reports signed December 11, 1985, and used by TVA engineers to adjust the final CILRT test results with no effect on the success of the CILRT. Attachment 3 is a copy of the nonconformance memorandum from Hillary A. Taff to J. H. Miller dated December 20, 1985 regarding the calibration reports mentioned above. Attachment 4 contains the final test results which reflect the above-mentioned corrections.

Before the performance of the December 3-5, 1985 unit 1 CILRT, Containment Test Section (CTS) engineers discovered that the pre-test calibration reports, provided by the Central Laboratories and dated October 21, 1985, for the nine Mensor quartz manometer pressure gauges used for pressure measurement during the CILRT, were incorrect and the calibration data unusable. To prevent a delay of at least several days in the performance of the test, calibration data that had previously been confirmed, but was obtained before the calibration interval time limits, was entered into the data acquisition system software, and an instrument comparison check was conducted. The comparison check resulted in excellent agreement between all the Mensor pressure gauges. These results, and a knowledge of the history of behavior of the gauges, were sufficient to decide with confidence that the CILRT could be conducted using the previous calibration data. The CILRT test data could be corrected, if necessary, to reflect any out-of-tolerance conditions that might exist after the Mensor pressure gauges were re-calibrated without adversely affecting the test results.

CLOSEOUT OF NRC INSPECTION FOLLOW-UP ITEM NOS. 50-327/85-44-01 AND 50-327/85-44-02

The Central Laboratories later confirmed that a problem had occurred with each of the nine Mensor pressure gauge calibration reports because of a computer program mistake which incorrectly "matched" the calibration reports with the wrong calibration data. Subsequently, the laboratory issued the attached non-conformance report and sent CTS the correctly "matched" calibration reports and calibration data for each of the Mensor quartz manometer pressure gauges used during the CILRT. CTS engineers then adjusted all calculations performed during the December 3-5, 1985 CILRT and subsequent verification test to reflect the corrected October 21, 1985 calibration data and found that the corrections made did not affect the success of the CILRT. All final test results included in this report reflect the above-mentioned corrections.

Discussion of Item No. 50-327/85-44-02

CTS has reviewed the copy of the test procedure used to conduct the CILRT. The review has ascertained that there were no additional typographical errors or changes to the procedure that would affect the validity of the test results.

In the future, CTS will review in detail the working copy of the CILRT procedure prior to use to verify that there are no errors or changes that may affect the conduct or results of the CILRT.

John Hutton

JHM:GJP:JKD:JLR
Attachments
cc (Attachments):
RIMS, MR 4N 72A-C

This was prepared principally by J. K. Denny.

B6014G.DS

ATTACHMENT 1

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

85 10310 1700

US-TVA 518233
10 / 21 / 85

DIGITAL PRESSURE GAGE
PG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)
In-Tolerance EE 12/3/85

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

E.R. Draper ---------- 10-21-85 ---------- [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL / AFFIXED
	11/1/84	12/21/85	9 WEEKS	E00

REMARKS/DATA: Special calibration as per users request. As left test only.

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.01
2				1.5018	19.8
3				3.0001	39.702
4				4.4991	59.583
5				6.0104	79.435
6				7.508	99.4
7				9.0059	119.224
8				10.5034	139.055
9				12.0016	158.878
10				13.5003	178.656
11				14.999	198.465
12				16.4859	218.095
13				17.9831	237.855
14				19.4823	257.695
15				20.9812	277.545
16				22.476	297.35
17				23.9732	317.165
18				25.473	337.062
19				26.9724	356.956
20				28.4696	376.816
21				29.9688	396.713

Void

Superseded by report signed by Earl Draper on 12-11-85.

E.D. 12-12-85

CALIBRATION TEMPERATURE
PRESENT = 51.4 DEG. C

CASE NO. = 914
THERMOMETER NO. = S/N A09038
LAST TEST DATE = 11 / 1 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

85 10315 1701

US-TVA 516234
10 / 21 / 85

DIGITAL PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 336455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)
In-Tolerance EAD 12/3/85

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---------- 10-21-85 ---------- [signature]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: Special calibration as per verbal request
As left test only.
10-21-85 JCT

601

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.01
2				1.5012	19.837
3				3.0001	39.691
4				4.4985	59.54
5				6.0086	79.745
6				7.5068	99.667
7				9.0061	119.61
8				10.5035	139.568
9				12.0019	159.526
10				13.5015	179.515
11				14.9985	199.502
12				16.485	219.373
13				17.9818	239.396
14				19.4817	259.516
15				20.9811	279.651
16				22.4753	299.725
17				23.9721	319.655
18				25.4718	340.095
19				26.9709	360.332
20				28.4682	380.557
21				29.9676	400.806

Void

Superseded by report signed by Earl Draper ON 12-11-85.

EAD
12-12-85

CALIBRATION TEMPERATURE
PRESENT = 50.5 DEG. C

CASE NO. = 1254
THERMOMETER NO. = 516721
LAST TEST DATE = 11 / 1 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

85 1031 1808

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04356
10 / 21 / 85

DIGITAL PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---------- 10-21-85 ---------- [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: Special calibration as per [illegible] request. 707
[illegible]

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.006
2				1.5019	19.77
3				3.0005	39.53
4				4.4987	59.275
5				6.0095	79.174
6				7.5079	98.895
7				9.0061	118.645
8				10.5045	138.355
9				12.0027	158.104
10				13.5011	177.87
11				14.9994	197.611
12				16.4865	217.193
13				17.9835	236.91
14				19.4831	256.731
15				20.9823	276.58
16				22.4766	296.31
17				23.9735	316.127
18				25.4731	335.92
19				26.9723	355.708
20				28.4696	375.486
21				29.9688	395.395

Void

Superseded by report signed by Earl Draper on 12-11-85.

ED
12-12-85

CALIBRATION TEMPERATURE
PRESENT = 49.999 DEG. C

CASE NO. = 1253
THERMOMETER NO. = S/N 00200
LAST TEST DATE = 11 / 1 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

85 1031 1809

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04357
10 / 21 / 85

DIGITAL PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---- 10-21-85 ---- [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: Special calibration as per ASME request 708
As left test only "Void"

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.016
2				1.501	19.793
3				2.9998	39.585
4				4.4982	59.361
5				6.0086	79.276
6				7.5075	99.045
7				9.006	118.774
8				10.5035	138.484
9				12.0023	158.117
10				13.501	177.822
11				14.9986	197.443
12				16.4867	216.96
13				17.9827	236.572
14				19.4814	256.206
15				20.9818	275.836
16				22.4767	295.426
17				23.974	315.046
18				25.4738	334.697
19				26.9719	354.33
20				28.4692	373.931
21				29.969	393.573

Void

Superseded by report signed by Earl Draper on 12-11-85.

ED
12-12-85

04 RECORD

CALIBRATION TEMPERATURE
PRESENT = 50.1 DEG. C

CASE NO. = 1200
THERMOMETER NO. = A09058
LAST TEST DATE = 11 / 1 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

85 1031 1810

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04358
10 / 21 / 85

DIGITAL PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---------- 12-21-85 ---------- [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

709

REMARKS/DATA: Special calibration as per users request.
As left out of tol.

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.006
2				1.5012	19.838
3				2.9995	39.674
4				4.4983	59.533
5				6.0095	79.55
6				7.5073	99.394
7				9.0052	119.229
8				10.5035	139.072
9				12.0016	158.892
10				13.5004	178.73
11				14.9983	198.561
12				16.486	218.244
13				17.983	238.058
14				19.4825	257.925
15				20.9821	277.808
16				22.4761	297.636
17				23.973	317.517
18				25.4728	337.433
19				26.9719	357.38
20				28.4692	377.32
21				29.9684	397.23

Void

Superseded by report signed by Earl Draper on 12-11-85.

ED
12-12-85

CALIBRATION TEMPERATURE
PRESENT = 50.1 DEG. C

CASE NO. = 923
THERMOMETER NO. = 463289
LAST TEST DATE = 11 / 1 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

35 1031 1811

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04359
10 / 21 / 85

DIGITAL PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper 10-21-85 [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	710

REMARKS/DATA: Special calibration as per users request. As left cal only. [illegible]

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1		Void		.0005	.01
2				1.5018	19.8
3				3.0001	39.702
4				4.4991	59.583
5				6.0104	79.435
6				7.508	99.4
7		Superseded by report		9.0059	119.224
8		signed by Earl Draper		10.5034	139.055
9		ON 12-11-85.		12.0016	158.878
10				13.5003	178.658
11				14.999	198.465
12				16.4859	218.095
13		ED		17.9831	237.855
14		12-12-85		19.4823	257.695
15				20.9812	277.545
16				22.476	297.35
17				23.9732	317.165
18				25.473	337.062
19				26.9724	356.956
20				28.4696	376.816
21				29.9688	396.713

OK RECORD

CALIBRATION TEMPERATURE
PRESENT = 51.4 DEG. C

CASE NO. = 914
THERMOMETER NO. = S/N A09038
LAST TEST DATE = 11 / 1 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

(1)

REPORT OF CALIBRATION 85 1031 1812 E04360
CENTRAL LABORATORIES 10 / 21 / 85

DIGITAL PRESSURE GAGE
TG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper 10-21-85 [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST 11/1/84	NEXT 12/21/85	INTERVAL 9 WEEKS	CERTIFICATION LABEL AFFIXED

711

REMARKS/DATA: Special calibration as per users request as left list only 501 10.15.85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.008
2				1.5008	20.265
3				2.9993	40.575
4				4.4974	60.91
5				6.0086	81.36
6				7.5071	101.695
7				9.0054	122.017
8				10.504	142.308
9				12.0021	162.594
10				13.5004	182.862
11				14.9985	203.12
12				16.4646	223.21
13				17.982	243.438
14				19.4819	263.687
15				20.9807	283.903
16				22.4751	304.035
17				23.9722	324.191
18				25.4717	344.365
19				26.9712	364.542
20				28.4684	384.66
21				29.9674	404.187

Void

Superseded by report signed by Earl Draper on 12-11-85.

ED
12-12-85

CALIBRATION TEMPERATURE
PRESENT = 51.5 DEG. C

CASE NO. = 922
THERMOMETER NO. = 516742
LAST TEST DATE = 10 / 28 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

85 1031 1613

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04361
10 / 21 / 85

DIGITAL PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---- 10-21-85 ---- [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	712

REMARKS/DATA: Special calibration as per [illegible] request. As left out of tol.

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0006	.012
2				1.5006	19.853
3				2.9995	39.67
4				4.4978	59.498
5				6.0085	79.533
6				7.5077	99.4
7				9.0059	119.25
8				10.5046	139.115
9				12.003	158.95
10				13.5013	178.795
11				14.9984	198.638
12				16.4844	218.337
13				17.9816	238.212
14				19.4813	258.12
15				20.9805	278.068
16				22.4752	297.983
17				23.9719	317.932
18				25.4715	337.946
19				26.9707	357.937
20				28.4681	377.962
21				29.9675	398.038

Void

Superseded by report signed by Earl Draper on 12-11-85.

ED
12-12-85

ON RECORD

CALIBRATION TEMPERATURE
PRESENT = 50.1 DEG. C

CASE NO. = 1764
THERMOMETER NO. = S/N 463282
LAST TEST DATE = 11 / 1 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

85 1031 1814

E04362
10 / 21 / 85

DIGITAL PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper 10-21-85 [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	1/1/85	12/21/85	9 WEEKS	

REMARKS/DATA: Special calibration as per users request. As left and only

713

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0006	.024
2				1.5015	19.833
3				3.0001	39.697
4				4.4988	59.457
5				6.0087	79.301
6				7.5077	99.021
7				9.0059	118.694
8				10.5047	138.335
9				12.0029	157.942
10				13.5008	177.535
11				14.9998	197.116
12				16.486	216.596
13				17.983	236.179
14				19.4829	255.837
15				20.9823	275.495
16				22.477	295.13
17				23.9743	314.87
18				25.4733	334.703
19				26.9729	354.526
20				28.4698	374.368
21				29.9691	394.34

Void

Superseded by report signed by Earl Draper on 12-11-85.

ED 12-12-85

QA RECORD

CALIBRATION TEMPERATURE PRESENT = 49.9 DEG. C

CASE NO. = 921
THERMOMETER NO. = A09061
LAST TEST DATE = 11 / 1 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

REPORT OF CALIBRATION
CENTRAL LABORATORIES

85 1031 1815

E04364
10 / 21 / 85

DIGITAL PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY : .015 % OF RANGE

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---------- 10-21-85 ---------- [signature]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: Special calibration as per users request. 714
As left due to [illegible]

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.013
2				1.5012	20.05
3				3.0008	40.043
4				4.499	60.076
5				6.0101	80.255
6				7.5082	100.257
7				9.0063	120.265
8				10.505	140.33
9				12.0028	160.322
10				13.5018	180.317
11				14.999	200.3
12				16.4863	220.19
13				17.9831	240.165
14				19.483	260.228
15				20.9822	280.304
16				22.4763	300.34
17				23.9731	320.396
18				25.4722	340.496
19				26.9723	360.635
20				28.4707	380.752
21				29.9693	400.854

Void

Superseded by report signed by Earl Draper on 12-11-85.

ED
12-12-85

GA RECORD

CALIBRATION TEMPERATURE
PRESENT = 50.4 DEG. C

CASE NO. = 1765
THERMOMETER NO. = S\N09058
LAST TEST DATE = 11 / 1 / 84

** NOTE : INSTRUMENT ACCURACY IS 0.015 % TO PREVIOUS READINGS.

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

(1)

ATTACHMENT 2

REPORT OF CALIBRATION
CENTRAL LABORATORIES

US-TVA 518233(CELL 2917)
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---- 12-11-85 ---- [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report Voids previous report signed by Earl Draper on 10-21-85

ED 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0006	.012
2				1.5006	19.853
3				2.9993	39.67
4				4.4978	59.498
5				6.0085	79.533
6				7.5077	99.4
7				9.0059	119.25
8				10.5046	139.115
9				12.003	158.95
10				13.5013	178.795
11				14.9984	198.638
12				16.4844	218.337
13				17.9816	238.212
14				19.4813	258.12
15				20.9805	278.066
16				22.4752	297.983
17				23.9719	317.952
18				25.4715	337.946
19				26.9707	357.937
20				28.4681	377.962
21				29.9675	398.038

CALIBRATION TEMPERATURE
PRESENT = 30.1 DEG. C

CASE NO. = 1764
THERMOMETER NO. = S/N 463282
LAST TEST DATE = 11 / 1 / 84

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

US-TVA 518234(CELL 2918)
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---- 12-11-85 ---- [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report voids previous report signed by Earl Draper on 12-21-85.

ED 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.013
2				1.5012	20.05
3				3.0008	40.043
4				4.499	60.076
5				6.0101	80.255
6				7.5082	100.257
7				9.0063	120.265
8				10.505	140.33
9				12.0028	160.322
10				13.5018	180.317
11				14.999	200.3
12				16.4863	220.19
13				17.9831	240.165
14				19.483	260.228
15				20.9822	280.304
16				22.4763	300.31
17				23.9731	320.396
18				25.4722	340.496
19				26.9723	360.635
20				28.4707	380.752
21				29.9693	400.854

CALIBRATION TEMPERATURE
PRESENT = 50.4 DEG. C

CASE NO. = 1765
THERMOMETER NO. = A09080
LAST TEST DATE = 11 / 1 / 84

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04356(CELL 2017)
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper 12-11-85 _____
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report voids previous report signed by Earl Draper on 10-21-85.

EQ 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.008
2				1.5012	19.836
3				2.9995	39.674
4				4.4983	59.533
5				6.0095	79.55
6				7.5073	99.394
7				9.0052	119.229
8				10.5035	139.072
9				12.0016	158.892
10				13.5004	178.73
11				14.9983	198.561
12				16.486	218.244
13				17.983	238.058
14				19.4825	257.925
15				20.9821	277.808
16				22.4761	297.636
17				23.973	317.517
18				25.4728	337.433
19				26.9719	357.38
20				28.4692	377.32
21				29.9684	397.23

CALIBRATION TEMPERATURE
PRESENT = 50.1 DEG. C

CASE NO. = 923
THERMOMETER NO. = 463289
LAST TEST DATE = 11 / 1 / 84

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY _____

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04307(CELL 1502)
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO/PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper 12-11-85 [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report voids previous report signed by Earl Draper on 10-21-85.

ED 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0006	.024
2				1.5015	19.853
3				3.0001	37.697
4				4.4988	59.457
5				6.0087	79.301
6				7.5077	99.021
7				9.0059	118.694
8				10.5047	138.335
9				12.0029	157.942
10				13.5008	177.535
11				14.9998	197.116
12				16.486	216.596
13				17.983	236.179
14				19.4829	255.837
15				20.9823	275.495
16				22.477	295.13
17				23.9743	314.87
18				25.4733	334.703
19				26.9729	354.526
20				28.4696	374.368
21				29.9691	394.34

CALIBRATION TEMPERATURE
PRESENT = 49.9 DEG. C

CASE NO. = 921
THERMOMETER NO. = A09061
LAST TEST DATE = 11 / 1 / 84

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04358(CELL 2019)
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---- 12-11-85 ---- [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report Voids previous report signed by Earl Draper on 10-21-85.

ED 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.01
2				1.5012	19.837
3				3.0001	39.691
4				4.4965	59.54
5				6.0086	79.745
6				7.5068	99.667
7				9.0061	119.61
8				10.5035	139.586
9				12.0019	159.526
10				13.5015	179.515
11				14.9985	199.502
12				16.485	219.373
13				17.9818	239.396
14				19.4817	259.516
15				20.9811	279.651
16				22.4753	299.725
17				23.9721	319.855
18				25.4718	340.095
19				26.9709	360.332
20				28.4682	380.557
21				29.9676	400.806

CALIBRATION TEMPERATURE
PRESENT = 50.5 DEG. C

CASE NO. = 1234
THERMOMETER NO. = 516721
LAST TEST DATE = 11 / 1 / 84

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04559(S\N 2016)
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper 12-11-85 [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report voids previous report signed by Earl Draper 10-21-85.

ED 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.01
2				1.5018	19.8
3				3.0001	39.702
4				4.4991	59.583
5				6.0104	79.435
6				7.508	99.4
7				9.0039	119.224
8				10.5034	139.055
9				12.0016	158.878
10				13.5003	178.698
11				14.999	198.465
12				16.4859	218.095
13				17.9831	237.855
14				19.4823	257.695
15				20.9812	277.545
16				22.476	297.35
17				23.9732	317.165
18				25.473	337.062
19				26.9724	356.936
20				28.4696	376.816
21				29.9686	396.713

CALIBRATION TEMPERATURE
PRESENT = 51.4 DEG. C

CASE NO. = 914
THERMOMETER NO. = S/N A09036
LAST TEST DATE = 11 / 1 / 84

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY JBR

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04360(CELL 2919)
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper — SIGNED
12-11-85 — DATE
[illegible] — CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report voids previous report signed by Earl Draper on 10-21-85.

ED 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.006
2				1.5019	19.77
3				3.0005	39.53
4				4.4987	59.275
5				6.0095	79.174
6				7.5079	98.895
7				9.0061	118.645
8				10.5045	138.355
9				12.0027	158.104
10				13.5011	177.87
11				14.9994	197.611
12				16.4865	217.193
13				17.9835	236.91
14				19.4831	256.731
15				20.9823	276.58
16				22.4766	296.31
17				23.9735	316.127
18				25.4731	335.92
19				26.9723	353.708
20				28.4696	373.486
21				29.9688	395.395

CALIBRATION TEMPERATURE
PRESENT = 49.999 DEG. C

CASE NO. = 1253
THERMOMETER NO. = S/N 00200
LAST TEST DATE = 11 / 1 / 84

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

(1)

REPORT OF CALIBRATION
CENTRAL LABORATORIES

EQV361 (CELL 1490)
~~EQ4304~~
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper — 12-11-85 — [illegible]
SIGNED — DATE — CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report Voids previous report signed by Earl Draper on 10-21-85.

ED 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0003	.006
2				1.5008	20.265
3				2.9993	40.575
4				4.4974	60.91
5				6.0086	81.36
6				7.5071	101.695
7				9.0034	122.017
8				10.504	142.308
9				12.0021	162.594
10				13.5004	182.862
11				14.9983	203.12
12				16.4848	223.21
13				17.982	243.438
14				19.4819	263.687
15				20.9807	283.903
16				22.4751	304.035
17				23.9722	324.191
18				25.4717	344.365
19				26.9712	364.542
20				28.4684	384.66
21				29.9674	404.817

CALIBRATION TEMPERATURE
PRESENT = 51.5 DEG. C

CASE NO. = 922
THERMOMETER NO. = 516742
LAST TEST DATE = 10 / 28 / 84

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

REPORT OF CALIBRATION
CENTRAL LABORATORIES

ED4362(CELL 2018)
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTB)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper 12-11-85 [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report Voids previous report signed by Earl Draper on 10-21-85.

ED 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT	KV
1				.0004	.01	0
2				1.5019	19.887	4.98
3				2.9997	39.76	9.98
4				4.4986	59.656	14.96
5				6.0091	79.571	20
6				7.5082	99.62	25.07
7				9.0064	119.477	30.06
8				10.5038	139.31	35.05
9				12.003	159.173	40.05
10				13.5017	178.948	44.99
11				14.9989	198.79	49.98
12				16.4872	218.47	54.92
13				17.9838	238.27	59.89
14				19.4836	258.13	64.87
15				20.9826	278.01	69.87
16				22.4769	297.805	74.82
17				23.9729	317.648	79.82
18				25.473	337.58	84.77
19				26.9726	357.48	89.79
20				28.4695	377.345	94.75
21				29.9694	397.38	99.74

CALIBRATION TEMPERATURE
PRESENT = 51.2 DEG. C

CASE NO. = 1250
THERMOMETER NO. = SN 3914
LAST TEST DATE = 1 / 1 / 85

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [illegible]

(1)

C

REPORT OF CALIBRATION
CENTRAL LABORATORIES

E04364(CELL 1491)
10 / 21 / 85

ABSOLUTE PRESSURE GAGE
MFG/MODEL:MENSOR/
STANDARD USED:US-TVA 338455
INSTRUMENT ACCURACY :LAB STD UNCERTAINTY = .01% READING

CONTAINMENT TEST SECTION (CTS)
NUCLEAR POWER
TEST PROCEDURE: 501.1-12

'AS FOUND' TEST NOT REQUIRED

'AS LEFT' TEST (SEE REMARK)

THE INSTRUMENT WAS TESTED AND CALIBRATED ACCORDING TO PRESCRIBED TEST PROCEDURES AND THE CONDITION OF THE INSTRUMENT IS INDICATED.

Earl Draper ---- 12-11-85 ---- [illegible]
SIGNED DATE CHECKED BY

CAL. DATE	LAST	NEXT	INTERVAL	CERTIFICATION LABEL AFFIXED
	11/1/84	12/21/85	9 WEEKS	

REMARKS/DATA: This report voids previous report signed by Earl Draper on 10-21-85.

ED 12-12-85

RANGE = 30 PSIA

TEST	ERROR %	PREVIOUS PRES.	PREVIOUS COUNT	PRESENT PRES.	PRESENT COUNT
1				.0005	.016
2				1.501	19.793
3				2.9998	39.585
4				4.4982	59.361
5				6.0086	79.276
6				7.5075	99.045
7				9.006	118.774
8				10.5035	138.484
9				12.0023	158.117
10				13.501	177.822
11				14.9986	197.443
12				16.4867	216.96
13				17.9827	236.572
14				19.4814	256.206
15				20.9818	275.836
16				22.4767	295.426
17				23.974	315.046
18				25.4738	334.697
19				26.9719	354.33
20				28.4692	373.931
21				29.969	393.573

CALIBRATION TEMPERATURE
PRESENT = 50.1 DEG. C

CASE NO. = 1200
THERMOMETER NO. = A09056
LAST TEST DATE = 11 / 1 / 84

DISPOSITION OF INSTRUMENT : TO USER

APPROVED BY [signature]

ATTACHMENT 3

TVA 64 (05-9-85)

UNITED STATES GOVERNMENT

Memorandum

E13 851220 001

TENNESSEE VALLEY AUTHORITY

TO : J. H. Miller, Chief, Mechanical Branch, LP 55 150D-C

FROM : Hillary A. Taff, Chief, Central Laboratories Services Branch, LA PSC 1-C

DATE : December 20, 1985

SUBJECT: MENSOR QUARTZ MANOMETERS

We have recently calibrated 10 Mensor digital quartz manometers that have interchangeable quartz pressure sensors so that the instrument can be used for various pressure ranges, i.e., 0-to-30, 0-to-50, or 0-to-100 psi. The report of calibration depicts the case serial number, the manometer TVA identification number, the serial number and range of the sensor that is installed, and the thermometer number that accompanies that instrument.

The above identification data, along with calibration data, is then entered in a computer and the reports are automatically prepared. A program error caused each set of calibration data to be printed with the wrong manometer identification number. Thus all reported results are invalid. Refer to attachment that identifies the condition.

Per conversation with Ken Clark, invalid results were not used. Since that time, corrected reports have been issued.

We have taken measures to prevent this type of error from recurring. We apologize for the inconvenience.

GAE:EC
Attachment
cc (Attachment):
RIMS, MR 4N 72A-C
G. A. Erickson, LA PSC 1-C

Hillary Taff

MECHANICAL BRANCH

DEC 23 '85

	Note	Action	Reply
JHM	✓		
CRF			
DAH			
GJP			
JWR			
File			

XC: ARMS

MENSOR QUARTZ MANOMETERS

CORRECTED DATA

Correct ID for Cell and Case No.			Incorrect ID for Cell and Case No.
TVA Identification	Cell No.	Case No.	TVA Identification
518233	2917	1764	E04361
E04361	1490	922	E04360
E04360	2919	1253	E04356
E04356	2017	923	E04358
E04358	2019	1254	518234
518234	2918	1765	E04364
E04364	1491	1200	E04357
E04357	1502	921	E04362
E04362	2018	1250	No data printed
E04359	2016	914	Two sets of data printed--E04359 and 518233.

ATTACHMENT 4

Corrected CILRT Test Results

		Total Time Method	Mass Method
Reportable Leak Rate (% per day)		0.10010	0.07526
95% upper control limit		0.12322	0.07829
No. of mass samples considered	147		
Test duration	24.333 hours		

Corrected Verification Results

Total time agreement by Appendix J method	-12.10%
Mass method agreement by Appendix J method	-4.56%

JKD:JLR
01/07/85
B6014G.DS

APPENDIX F

References

1. 10 CFR 50, Appendix J, "Reactor Containment Leakage Testing for Water-Cooled Power Reactors"

2. ANSI N45.4-1972, American National Standard, "Leakage Rate Testing of Containment Structures of Nuclear Service"

3. ANS 56.8, American Nuclear Society, "Containment System Leakage Testing Requirements"

4. Sequoyah Nuclear Plant FSAR Chapters 6.2 and 6.3

5. Sequoyah Nuclear Plant Technical Specifications 4.6.1.2

6. Bechtel Topical Report, "Testing Criteria for Integrated Leakage Rate Testing of Primary Containment Structures for Nuclear Power Plants" - BN-TOP-1, Revision 1

APPENDIX G

DEFINITION OF SYMBOLS AND ABBREVIATIONS

CILRT	Containment integrated leak rate test
E	Repeatability error
e	Absolute error
ζ	Measurement system error
°F	Temperature, degrees Fahrenheit
ISG	Instrument Selection Guide
L_A	Full-pressure design basis leakage
L_{AM}	Containment leak rate during full-pressure CILRT
L_R	Imposed leak rate for verification
L_{RM}	Containment leak rate during verification
LLRT	Local leak rate test
P	Pressure
P_a	Design accident pressure
psia	Absolute pressure
psig	Gauge pressure
°R	Temperature, degrees Rankine
T	Temperature
T_{dp}	Dewpoint temperature
t	Time
UCL	Upper confidence limit
V	Containment volume, cubic feet
MLR	Mass Leak Rate
TTLR	Total Time Leak Rate

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

March 4, 1986

Director of Nuclear Reactor Regulation
Attention: Mr. B. Youngblood, Project Director
PWR Project Directorate No. 4
Division of Pressurized Water Reactors (PWR)
Licensing A
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Youngblood:

In the Matter of the	)	Docket Nos. 50-327
Tennessee Valley Authority	)	50-328

In accordance with the requirements of 10 CFR 50, Appendix J, enclosed is a summary technical report entitled, "Reactor Building Containment Integrated Leak Rate Test," of testing performed December 3-5, 1985 for unit 1 at our Sequoyah Nuclear Plant.

If you have any questions concerning this matter, please get in touch with Jerry Wills at FTS 858-2683.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. Gridley
Manager of Licensing

Sworn to and subscribed before me
this 4th day of March 1986

Paulette H. White
Notary Public
My Commission Expires 8-24-88

Enclosure
cc: See page 2

A017
1/1

cc (Enclosure):
U.S. Nuclear Regulatory Commission
Region II
Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. Carl Stahle
Sequoyah Project Manager
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, Maryland 20814