

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

UNIT 1

REACTOR CONTAINMENT BUILDING

INTEGRATED LEAK RATE TEST

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MAY 1990

MAY 1990

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1.0 Introduction and Summary

The periodic Containment Integrated Leak Rate Test (ILRT) of the Duke Power Company, Oconee Nuclear Station Unit 1 Containment Building was satisfactorily completed on May 26, 1990. The testing was conducted in accordance with Technical Specification 4.4, BN-TOP-1 (Bechtel Testing criteria for ILRT), and 10CFR50 Appendix J.

The absolute method of testing was used with containment temperatures measured at 24 locations and containment dewpoint temperatures measured at six locations. Leakage was measured at the design basis accident pressure of approx. 59 psig. A measured induced leakage was used to verify the results.

Analysis of the final test data shows the results to be well within the specified limits for this containment, which has a maximum allowable leakage rate of 0.25 wt.%/day. The leakage rate for Oconee Unit 1 Containment was calculated, using the Total Time method, to be 0.112801 wt.%/day with the Upper Confidence Limit being 0.158117 wt.%/day.

2.0 TEST BACKGROUND INFORMATION

2.1 Description of Containment

The containment vessel completely encloses the reactor and reactor coolant system to limit the leakage of radioactive materials to the environment in the unlikely event of a loss of coolant accident.

The concrete/steel containment is a free standing structure and is constructed of reinforced concrete and structural liner plate steel with no separation between the two. It consists of a post-tensioned reinforced concrete cylinder and dome connected and supported by a massive reinforced concrete foundation slab. The entire interior surface of the structure is lined with a 1/4 in. thick welded ASTM A36 steel plate to assure a high degree of leak tightness. Numerous mechanical and electrical systems penetrate the containment structure wall through welded steel penetrations.

Principal dimensions are as follows:

Inside Diameter	116 ft
Inside Height	208.5 ft
Vertical Wall Thickness	3.75 ft
Dome Thickness	3.25 ft
Foundation Slab Thickness	8.5 ft
Liner Plate Thickness	0.25 in
Internal Free Volume	1,863,000 cu ft.

Personnel and equipment access to the structure is provided by a double door personnel hatch with double seals on the outer door and by a 19 ft diameter double gasketed single door equipment hatch. A double door emergency hatch is also provided.

The Containment Building, access openings, and penetrations are designed to accommodate a pressure of 59 psig at 286°F and limit leakage to less than 0.25 % by volume in 24 hours at peak accident conditions.

2.2 Description of ILRT Instrumentation

Instrumentation was installed to permit leakage rate testing by the "absolute" method. Using this method, the actual mass of dry air within containment is

calculated. The leakage rate becomes the rate of change of this mass. The mass of air (Q) is calculated according to the Ideal Gas Law as follows:

$$Q = \frac{(P-P_v)V}{RT}$$

The primary measurement variables are absolute pressure, relative humidity, and temperature within containment. During the Verification test the imposed flow rate is also recorded.

Twenty-four RTD's, 6 Dewpoint Hygrometers, and 2 Pressure Sensors are installed in predetermined locations in containment to allow determination of weighted average temperatures, vapor pressures, and containment air pressures.

2.2.1 Pressure Instrumentation

Two precision pressure gauges were installed outside the containment vessel, with pressure tubing connecting the gauges to containment atmosphere. The gauges used were Paroscientific Model 760-100A, 100 psia gauges, with the following specifications:

Range:	0 to 100 psia
Repeatability:	0.005% Full Scale
Accuracy:	0.01% Full Scale
Sensitivity:	1ppm FS
Hysteresis:	0.005% Full Scale.

2.2.2 Temperature Instrumentation

Twenty-four precision Resistance Temperature Detectors were located throughout containment to allow measurement of the weighted air temperature. The locations of the RTDs are shown in Appendix C. The RTDs used were Rosemount Model No. 78S, with the following specifications:

Range:	0 to 200°F
Accuracy:	± 0.45°F over entire range
Sensitivity:	± 0.09°F
Element:	Platinum
Resistance:	100 ohms at 32°F.

2.2.3 Humidity Instrumentation

Six Dewpoint Temperature Analyzers were located in containment. The locations of the dewpoint cells are shown in Appendix D. The instruments used were EG&G Dewtrack Model 200, with the following

specifications:

Range: -40 to 140°F
Accuracy: $\pm 1^\circ\text{F}$
Sensitivity: $\pm 0.36^\circ\text{F}$ worst case
Output: 4-20 mA.

2.2.4 Data Acquisition System

The data acquisition system consists of a Fluke 2289A computer front end and a Fluke 2281A extender chassis, which interfaces with the IBM System 2 Model 80 computer. The required cards and pertinent data are listed below.

Absolute Pressure - RS232 digital output to computer - instrument does not interface with Fluke data acquisition system.

Dewpoint - DC Current Measurement

Cards Required: 161 High Performance A/D
162 Thermocouple/DC Volts
171 Current Input Connector
Range: ± 64 mA
Resolution: 0.6 mA (sensitivity)
Accuracy: $\pm 0.02\%$ Reading, ± 5 μA for 1 yr. cal.
Repeatability: $\pm 0.015\%$ Reading, ± 2 mA.

Temperature - RTD Resistance Measurement

Cards Required: 161 High Performance A/D
163 RTD/Resistance Scanner
177 RTD/Resistance Input Connector
Range: 256 ohms
Resolution: 2.4 mohms (sensitivity)
Accuracy: $\pm 0.0175\%$ Reading, ± 5.7 mohms for 1 yr (15 -35°C operating temperature)
Repeatability: $\pm 0.005\%$ Input, ± 4 mohms.

2.2.5 Flow Instrumentation

Two rotameters, in parallel, were used to impose the leak during the verification test. The rotameters used were Brooks Model #111010K3B1A with the following specifications:

Range: 0 - 20 SCFM
Accuracy: 1% of Reading.

2.2.6 Instrumentation Selection Guide

The Instrumentation Selection Guide (ISG) is an acceptable method to verify the ability of the instrumentation system to measure the containment integrated leakage rate. The ISG formula is described in ANSI/ANS-56.8-1987.

The maximum allowable value for the ISG is $0.25 L_a$, or 0.0625 %/day for Oconee. The ISG calculated for this test (6-hour duration) was 0.038135 %/day.

2.3 Description of Computer Program

The ILRT Program actually consists of two separate programs. The main program is called LEAK.EXE. This is a totally generic program, in that it can be used at any facility with no changes required. It's "Personality" is derived from a configuration file, which must be developed for each test. The ILRT program includes the tools needed to create and edit the configuration file. The second program is called DATACQ.EXE. This program provides the interface with the data acquisition system. Although, it must be custom written for each data acquisition system, it does not contain any test specific information. It establishes a link with the data acquisition system to provide commands and send data to LEAK.EXE.

Test parameters to be measured are pressure, dewpoint temperatures, and dry bulb temperature inside containment. Instrument readings taken by the data acquisition system are recorded on the hard drive in the computer. All data, raw and calibrated, can be displayed on the computer monitor. Use of the "Absolute" method as described in ANSI N45.4-1972 is the basis for the leakage calculations performed by the ILRT Program. The program provides the ability to perform Mass Point or Total Time Analysis concurrently. A description of the calculations can be found in Appendix B.

2.4 Description of Pressurization Equipment

Containment pressurization was accomplished using two electric motor driven and three diesel driven air compressors operating in parallel. The compressed air, after passing through aftercoolers and air dryers, was routed through a common discharge header into containment. This equipment provided an average pressurization rate of 3.75 psi/hr. See Figure 4.6 for a schematic diagram of the pressurization system.

3.0 TEST RESULTS

3.1 Description of Test Sequence

The Unit 1 Containment ILRT was performed in accordance with the Periodic Test Procedure PT/1/A/0150/03A on May 25-27, 1990.

Pressurization for the ILRT began at approximately 1055 hours on May 25, 1990 and was completed at approximately 0345 on May 26, 1990 with containment pressure at approximately 61.5 psig.

An inspection for leaks was performed when containment pressure was at approximately 10 psig. Small leaks were found on penetrations 19, 20 (Purge penetrations), and 54. These leaks were minor so no corrective action was needed.

The stabilization phase of the test started at 0345 and ended at approximately 1100 on May 26, 1990.

The Total Time test was started at approximately 1100 and completed at approximately 1700 on May 26, 1990. During the test, dewpoint sensors 3, 5, and 6 became erratic. Their volume fractions were evenly distributed among the remaining three dewpoint instruments. Containment conditions were stable at the time of these failures. The cause of failure of these instruments was postulated by the vendor to be residual moisture on the mirrors due to high humidity inside containment during the test.

The verification test was started at 1815 and completed at 2115 on May 26, 1990.

Depressurization was started at approx. 2123 and completed at approx. 0800 on May 27, 1990.

No equipment damage was found during the post-ILRT containment inspection.

3.2 Analysis and Interpretation

3.2.1 Temperature Stabilization

Lower Containment ventilation fans were run during the pressurization phase of the test to aid in mixing of containment air in the Steam Generator, Pressurizer, and Reactor Coolant Pump Cavities. The Upper Containment air was allowed to stratify, which seemed to help speed the stabilization process. Due to the slow rate of pressurization

(≈ 3.5 psi/hr) and the way that the containment air was mixed during pressurization, the containment air mass stabilized fairly rapidly. Although the BN-TOP-1 Temperature Stabilization criteria was satisfied after four hours, Stabilization was continued for a total duration of six hours and fifteen minutes to assure that a good point was selected to start the Total Time test.

3.2.2 Total Time Test

Due to the highly stable conditions inside containment following the temperature stabilization period, coupled with the leak tightness of the containment penetrations (no major leaks were found by the leakage survey teams), the Total Time acceptance criteria was satisfied after six hours. See Appendix A for a summary of each of the Total Time acceptance criteria versus the actual test data. Generally the results are shown below:

	<u>wt %/day</u>
Calc. Leakage Rate.....	0.112801
95% UCL Leakage Rate.....	0.158117
Leakage Rate	
(95 UCL + Penalties).....	0.158117
Acceptance Criterion (75% L_a)...	0.1875.

It is worth noting that the 95% Upper Confidence Limit Mass Point leakage and Total Time leakage rates were within acceptable limits approximately one hour and three hours, respectively, after the start of the test.

3.2.3 Verification Test

A superimposed leak, measured with a rotameter, equivalent to 0.2434 wt %/day was added to the existing containment leakage. After the required one hour stabilization period and three hours of data accumulation, the verification test was terminated with the following results:

	<u>wt %/day</u>
Min. acceptable	
calculated leakage rate.....	0.2937
Max. acceptable	
calculated leakage rate.....	0.4187
Calc. leakage rate during	
Verification test.....	0.3565.

4.0 FIGURES

- 4.1 Pressurization Plots
- 4.2 Temperature Stabilization Plots
- 4.3 Total Time Test Plots
- 4.4 Verification Test Plots
- 4.5 Miscellaneous Plots
- 4.6 Pressurization System Schematic

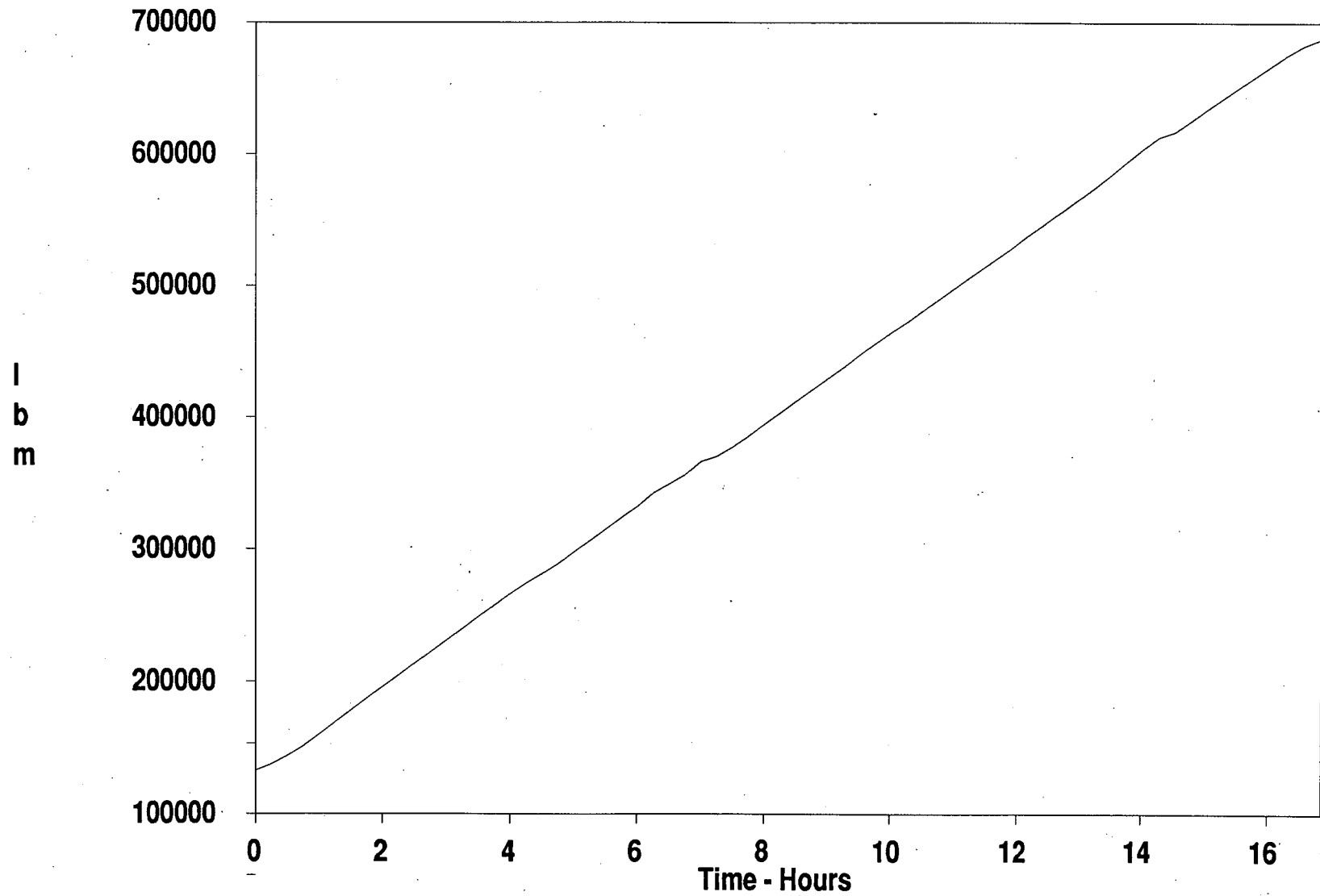
5.0 APPENDICES

- A. BN-TOP-1 Total Time Test Termination Criteria
- B. Leak Rate Calculation Description
- C. RTD Locations
- D. Dewpoint Hygrometer Locations
- E. Leakage Penalty Analysis
- F. Local Leakage rate Testing Conducted since Last ILRT
- G. Test Data

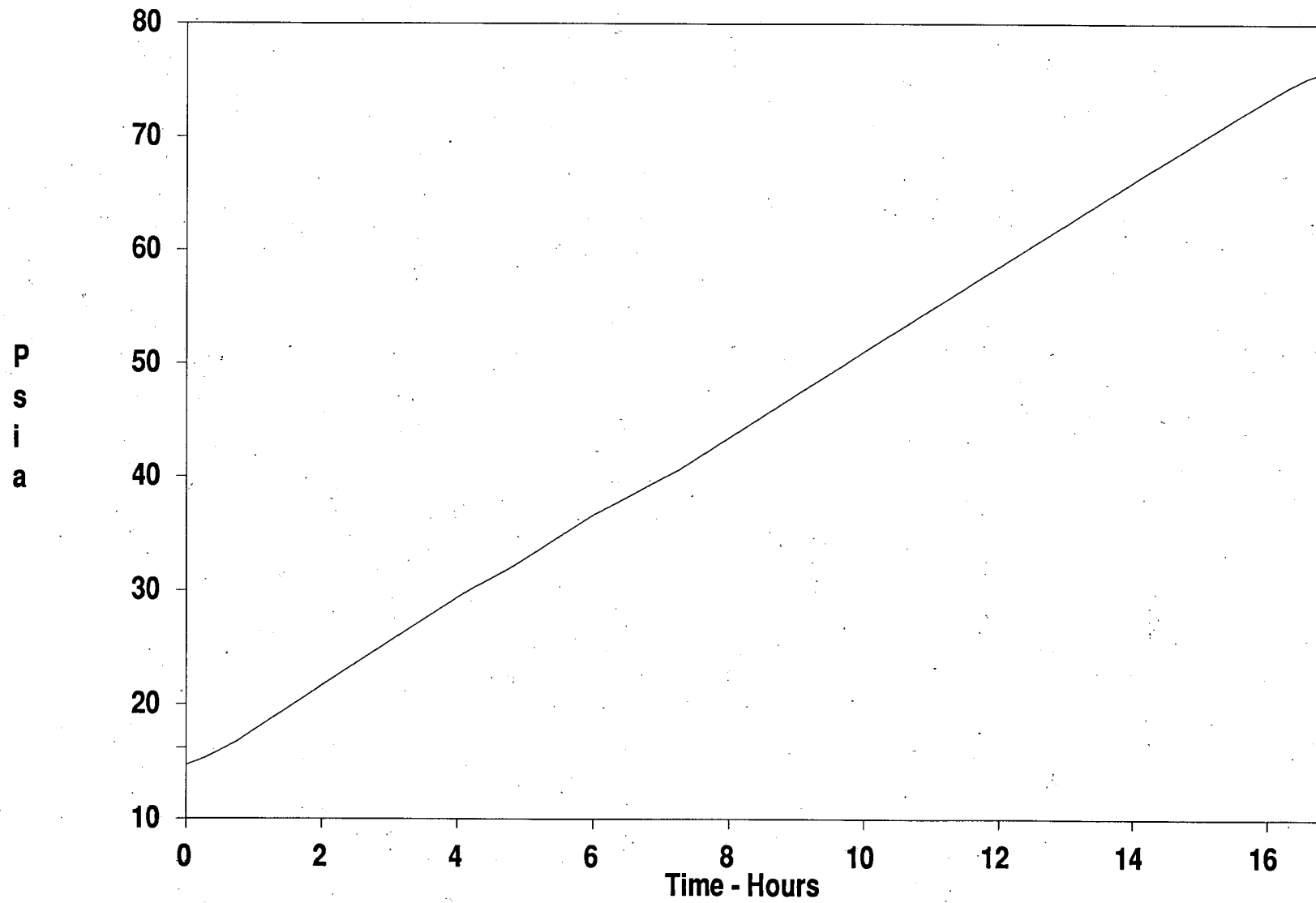
4.1 Pressurization Plots

	<u>Plot Description</u>	<u>Page No.</u>
4.1.1	Containment Mass.....	1-2
4.1.2	Average Pressure.....	1-3

**Containment Mass
Oconee Nuclear Station
Unit 1 - 5/90**



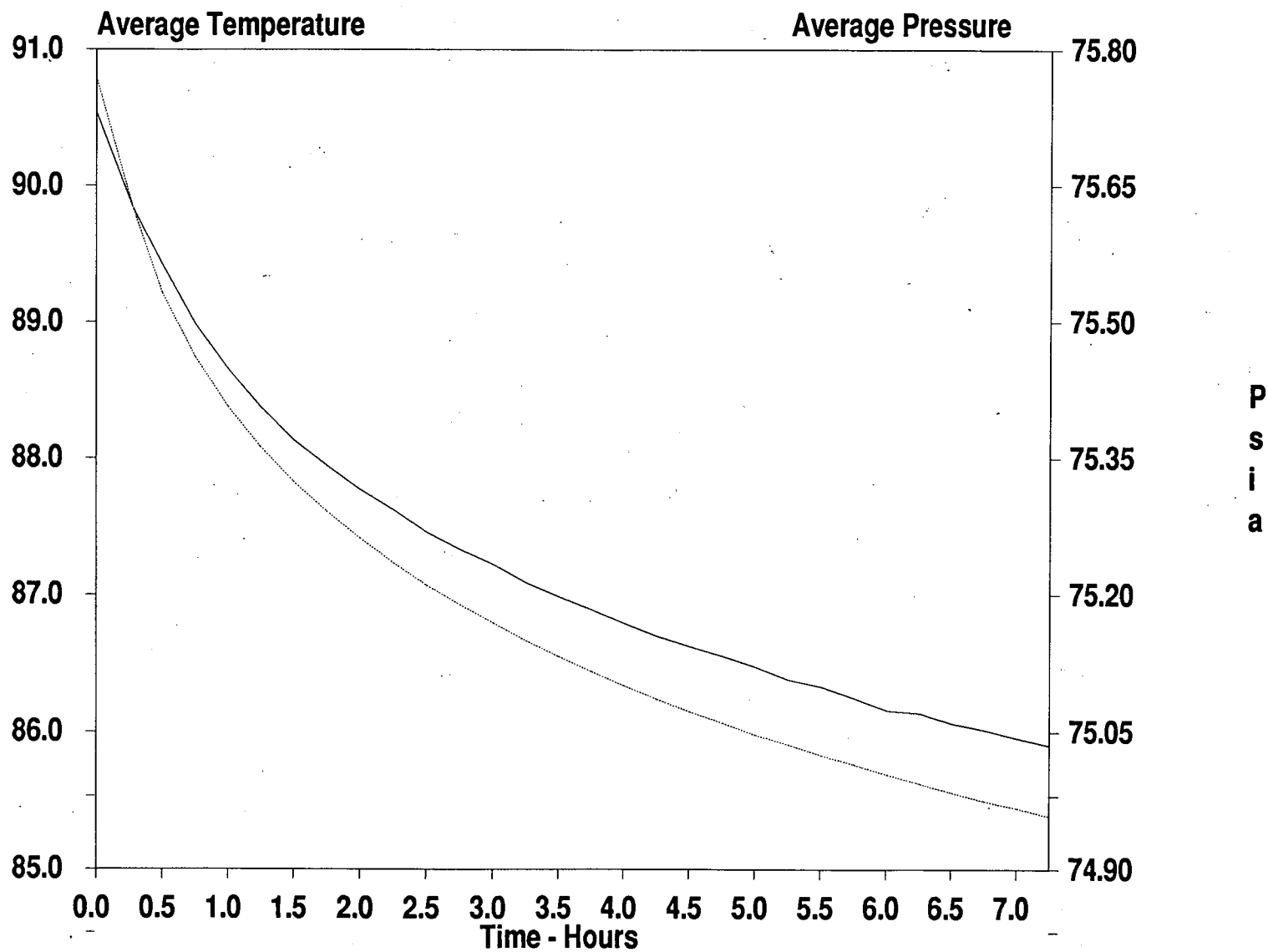
Average Pressure
Oconee Nuclear Station
Unit 1 - 5/90



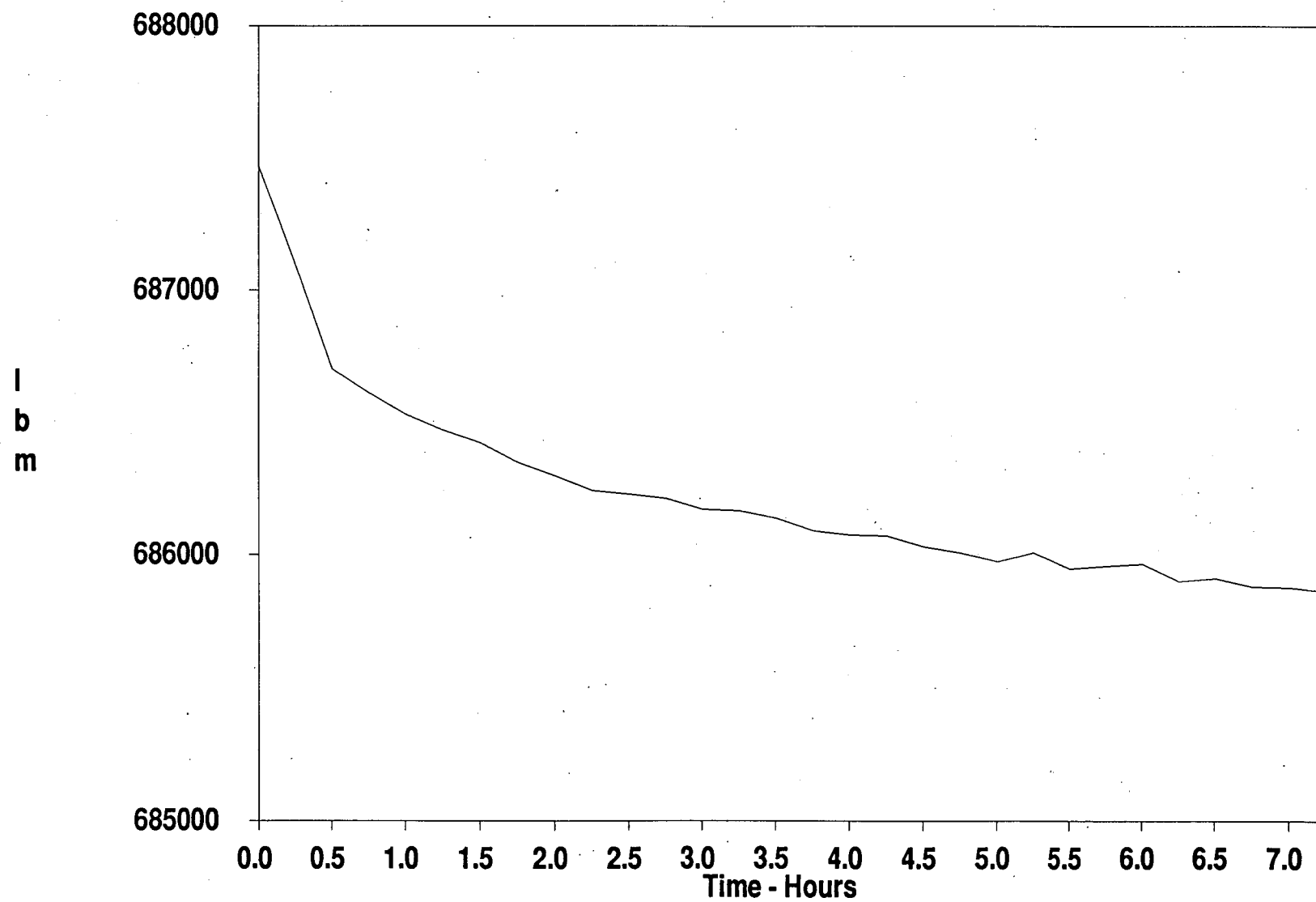
4.2 Temperature Stabilization Plots

	<u>Plot Description</u>	<u>Page No.</u>
4.2.1	Temperature vs. Pressure Plot.....	2-2
4.2.2	Containment Mass Plot.....	2-3

Average Temperature & Average Pressure
Oconee Nuclear Station
Unit 1 - 5/90



Containment Mass
Oconee Nuclear Station
Unit 1 - 5/90

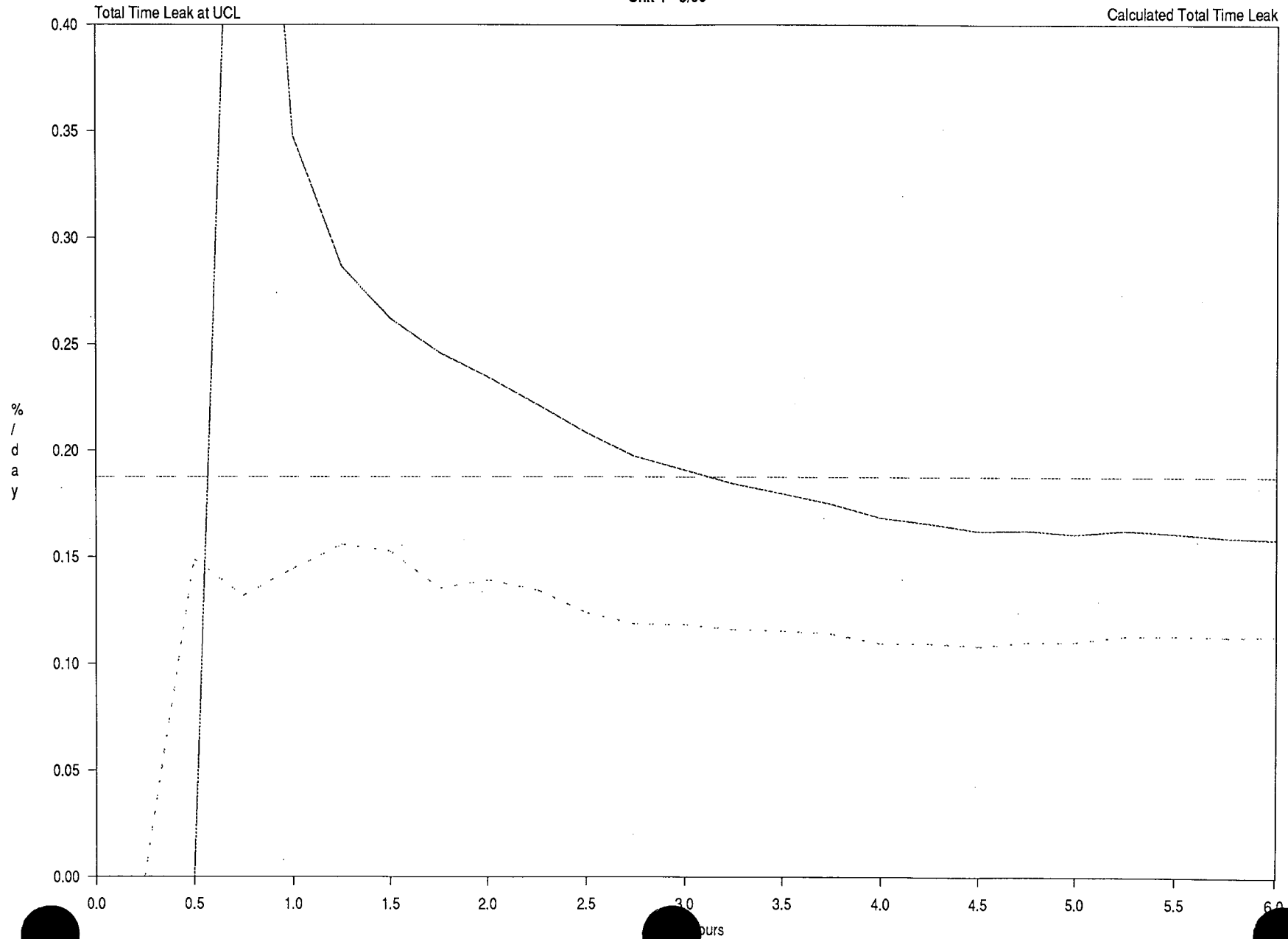


4.3 Total Time Test Plots

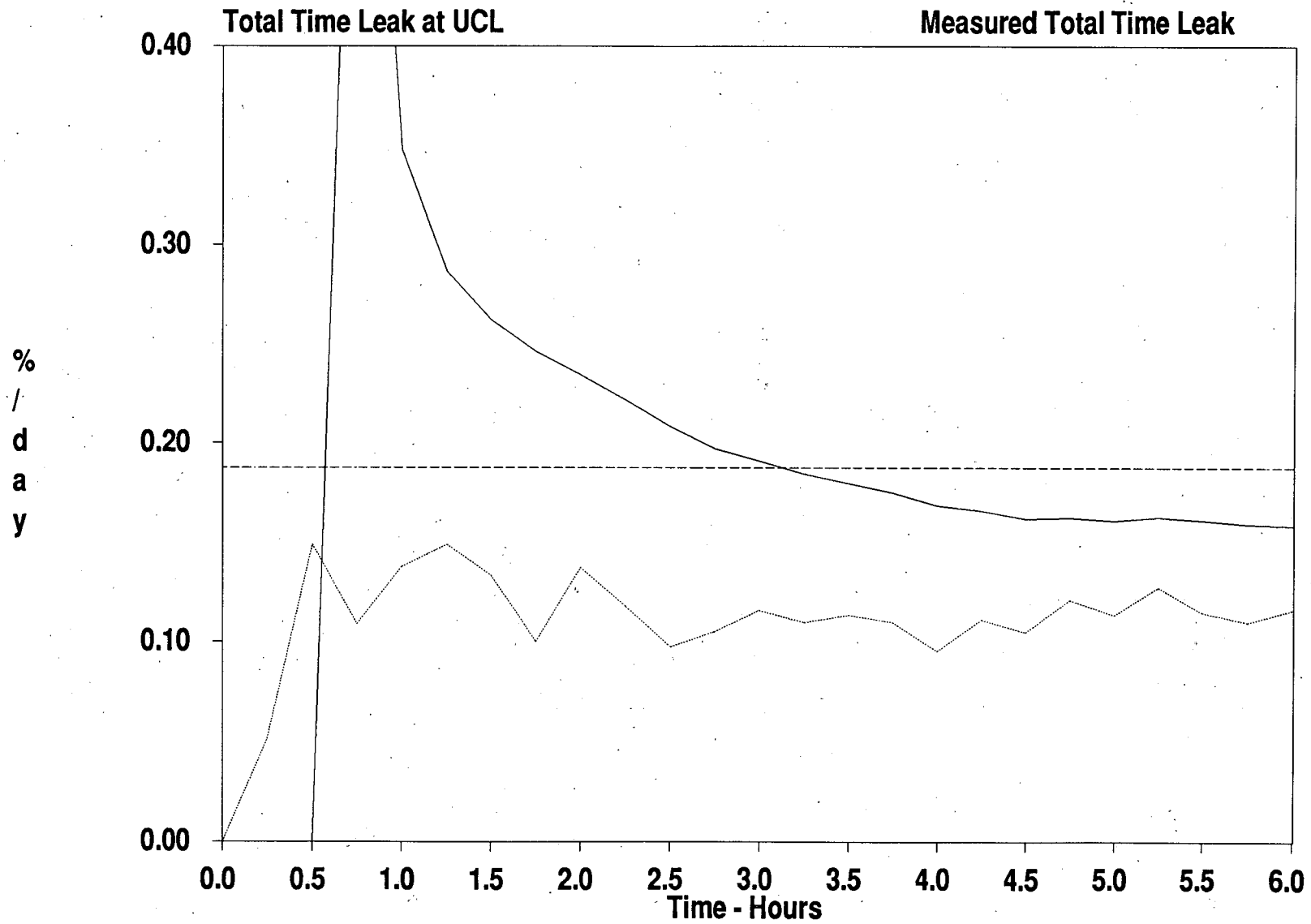
	<u>Plot Description</u>	<u>Page No.</u>
4.3.1	UCL vs. Calculated Leak.....	3-2
4.3.2	UCL vs. Measured Leak.....	3-3
4.3.3	Dewpoint vs. Temperature.....	3-4
4.3.4	Containment Mass.....	3-5
4.3.5	Pressure.....	3-6

Total Time Leak at UCL & Calculated Total Time Leak

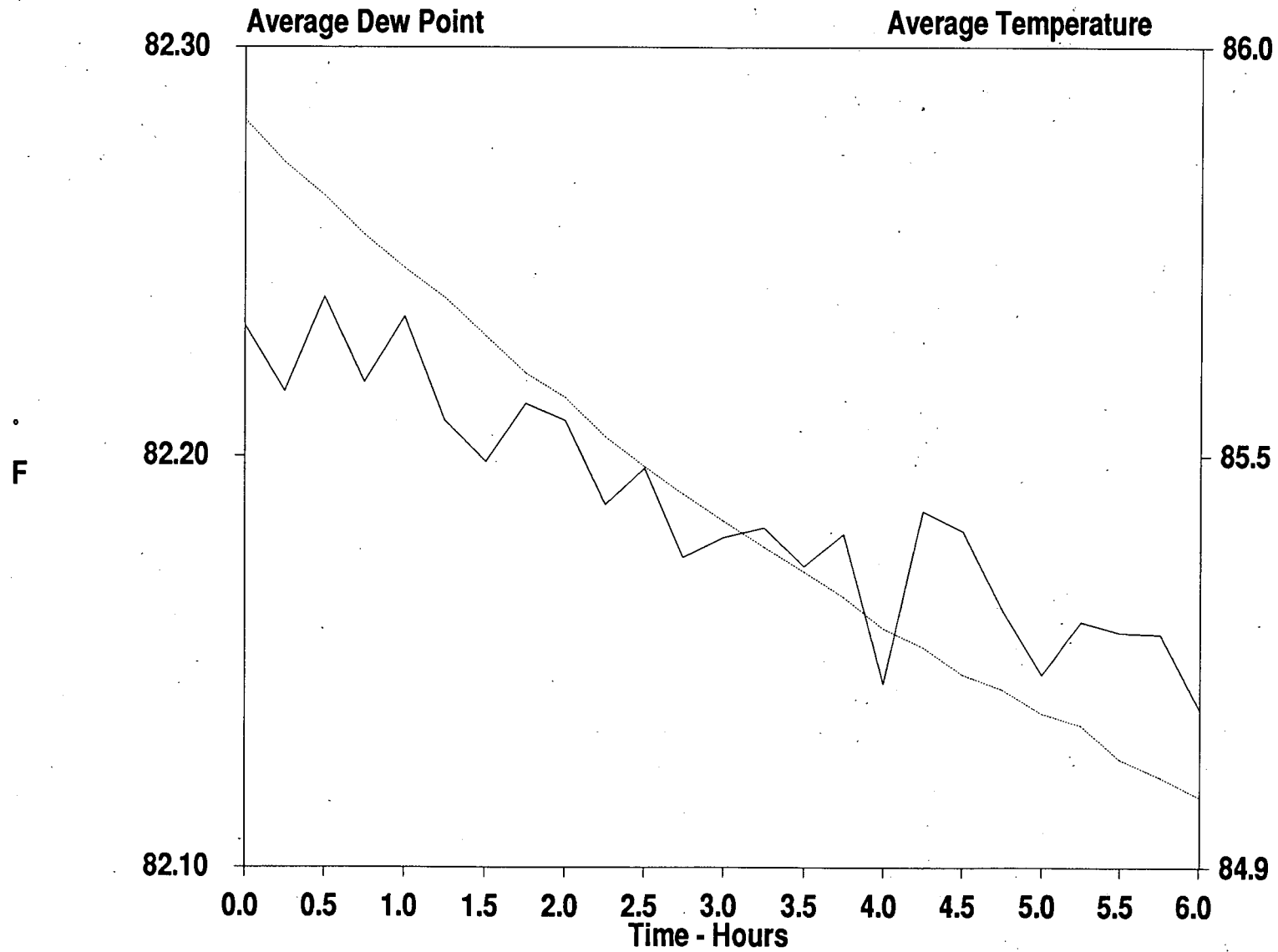
Oconee Nuclear Station
Unit 1 - 5/90



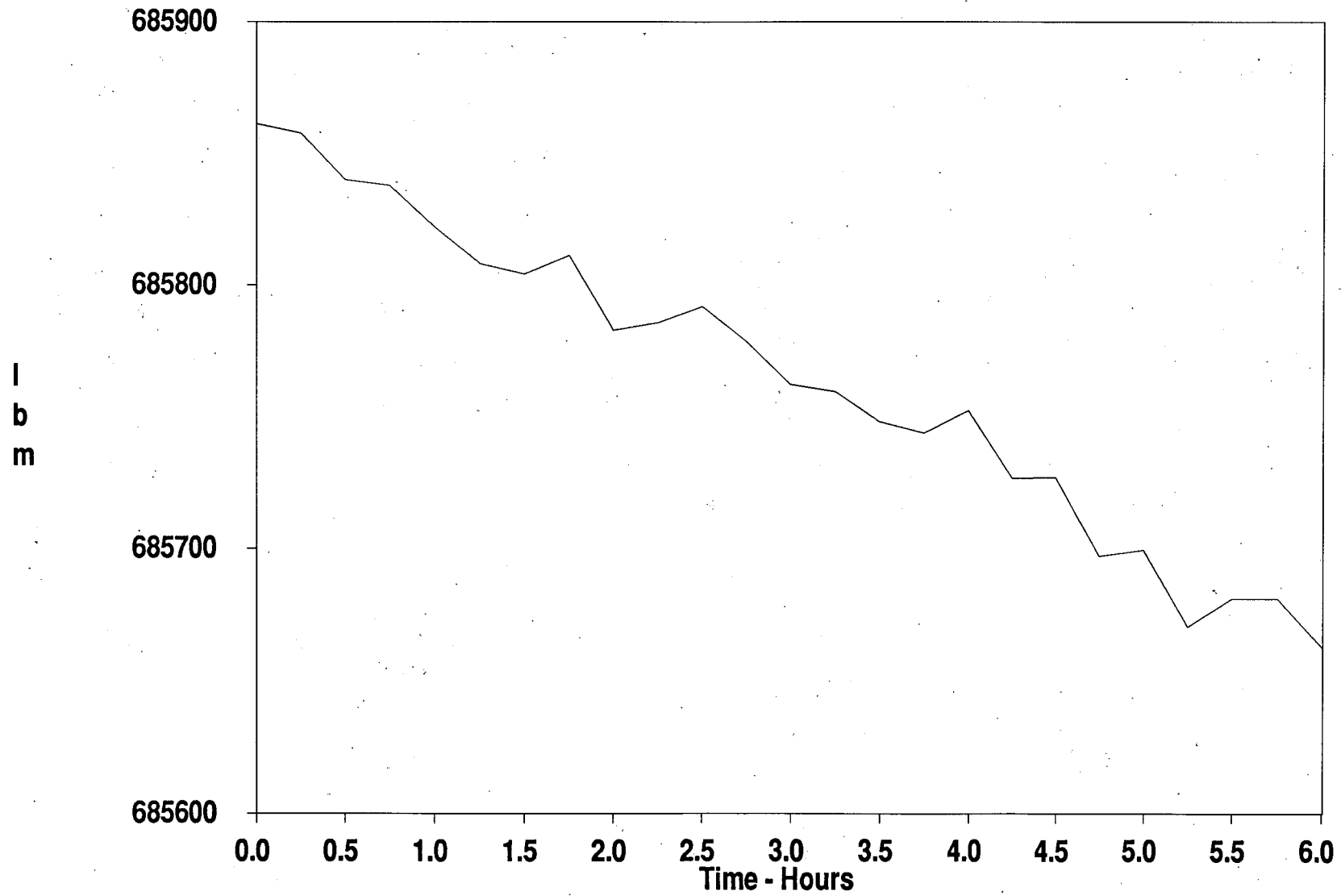
Total Time Leak at UCL & Measured Total Time Leak
Oconee Nuclear Station
Unit 1 - 5/90



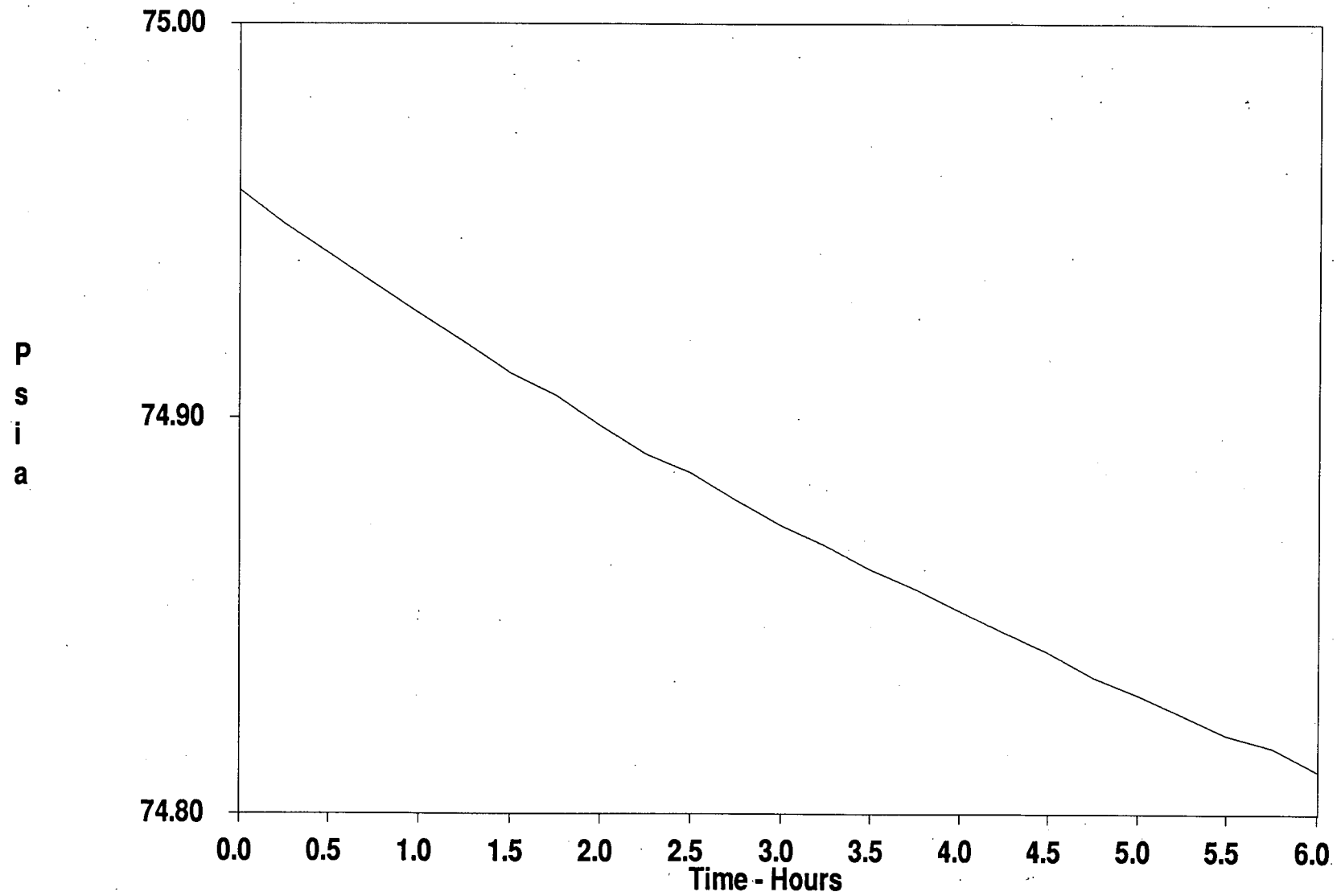
**Average Dew Point & Average Temperature
Oconee Nuclear Station
Unit 1 - 5/90**



**Containment Mass
Oconee Nuclear Station
Unit 1 - 5/90**



Average Pressure
Oconee Nuclear Station
Unit 1 - 5/90

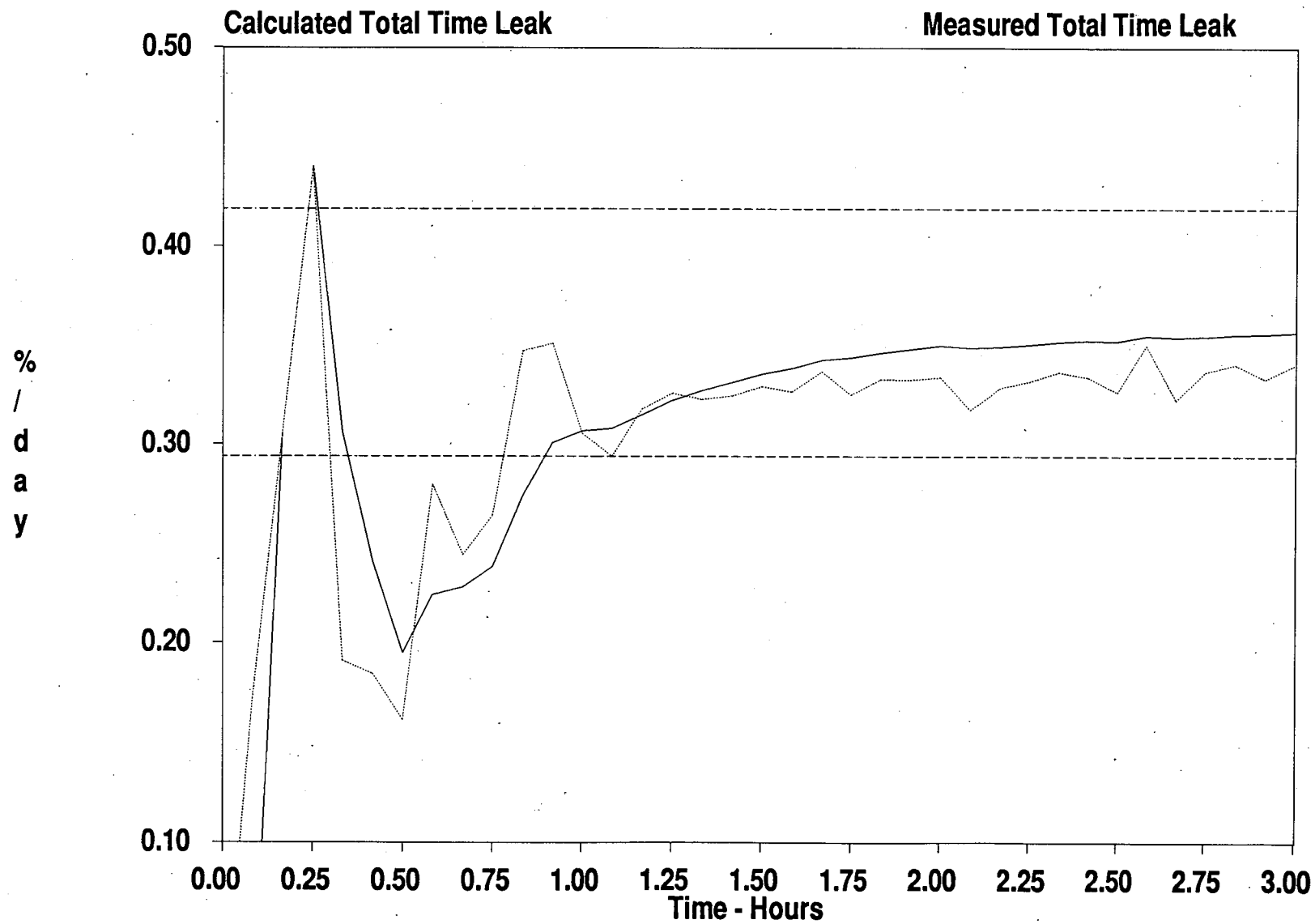


4.4 Verification Test Plots

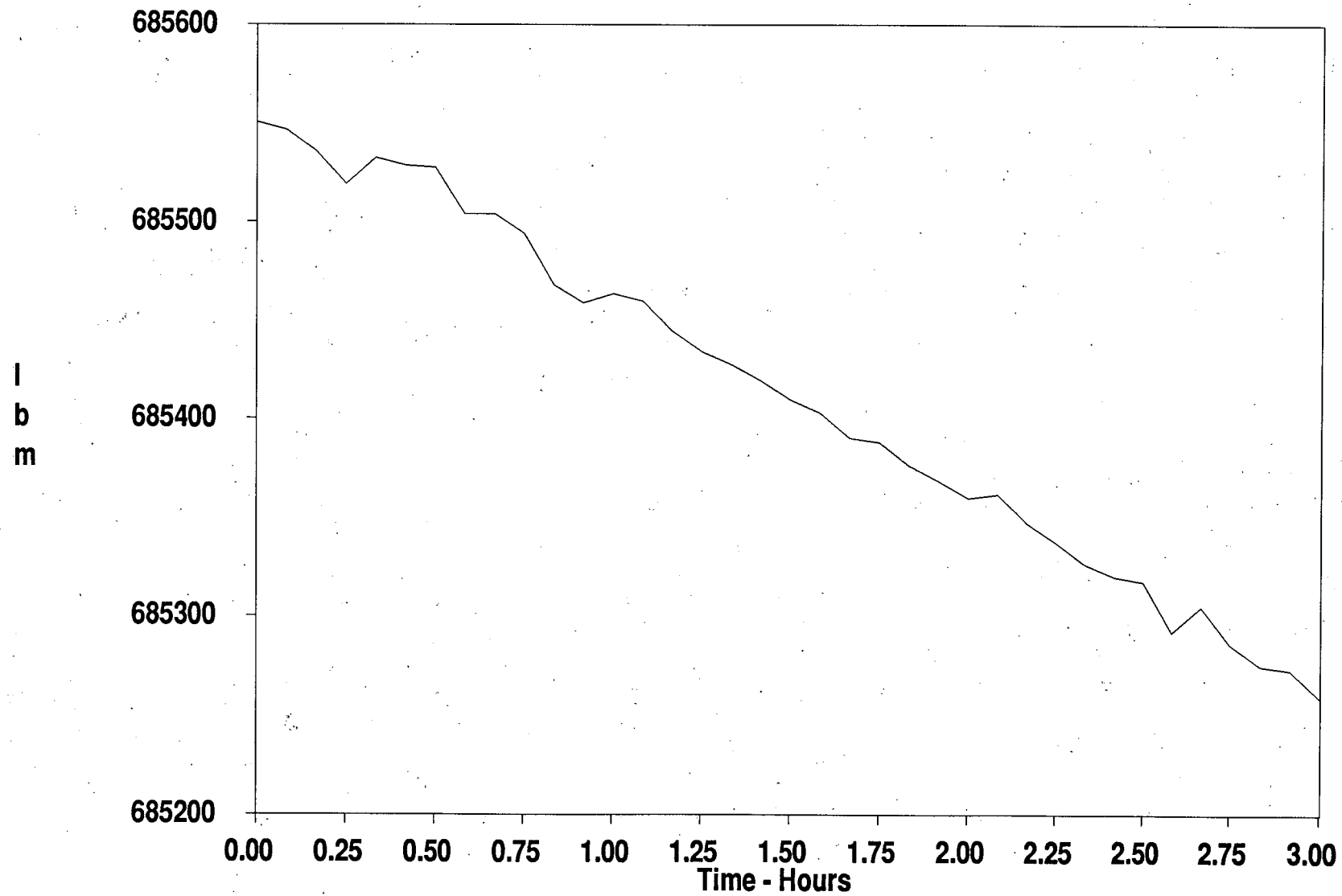
	<u>Plot Description</u>	<u>Page No.</u>
4.4.1	Calculated Leak vs. Measured Leak....	4-2
4.4.2	Containment Mass.....	4-3
4.4.3	Dewpoint vs. Temperature.....	4-4
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Calculated Total Time Leak & Measured Total Time Leak
Oconee Nuclear Station

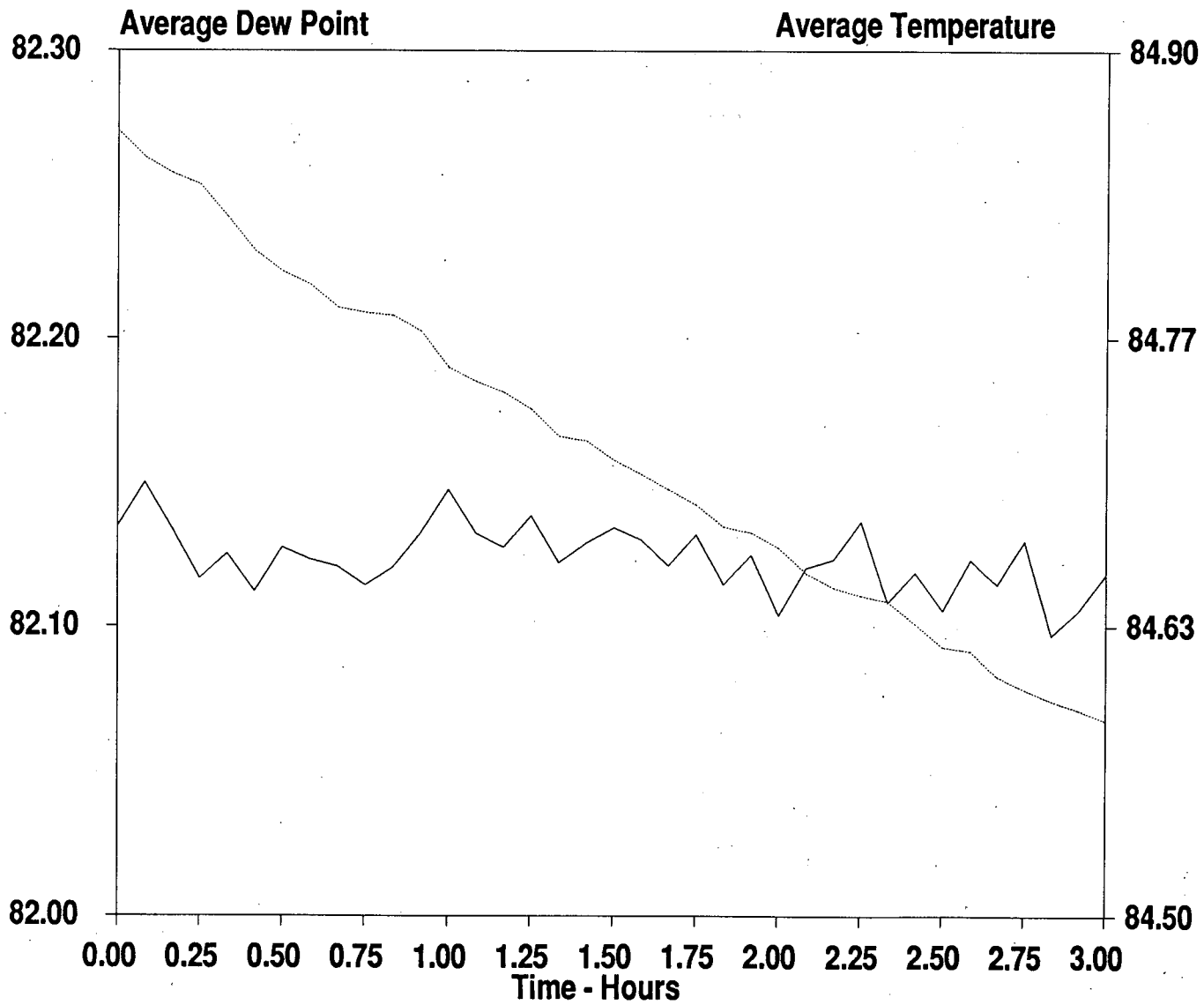
Unit 1 - 5/90



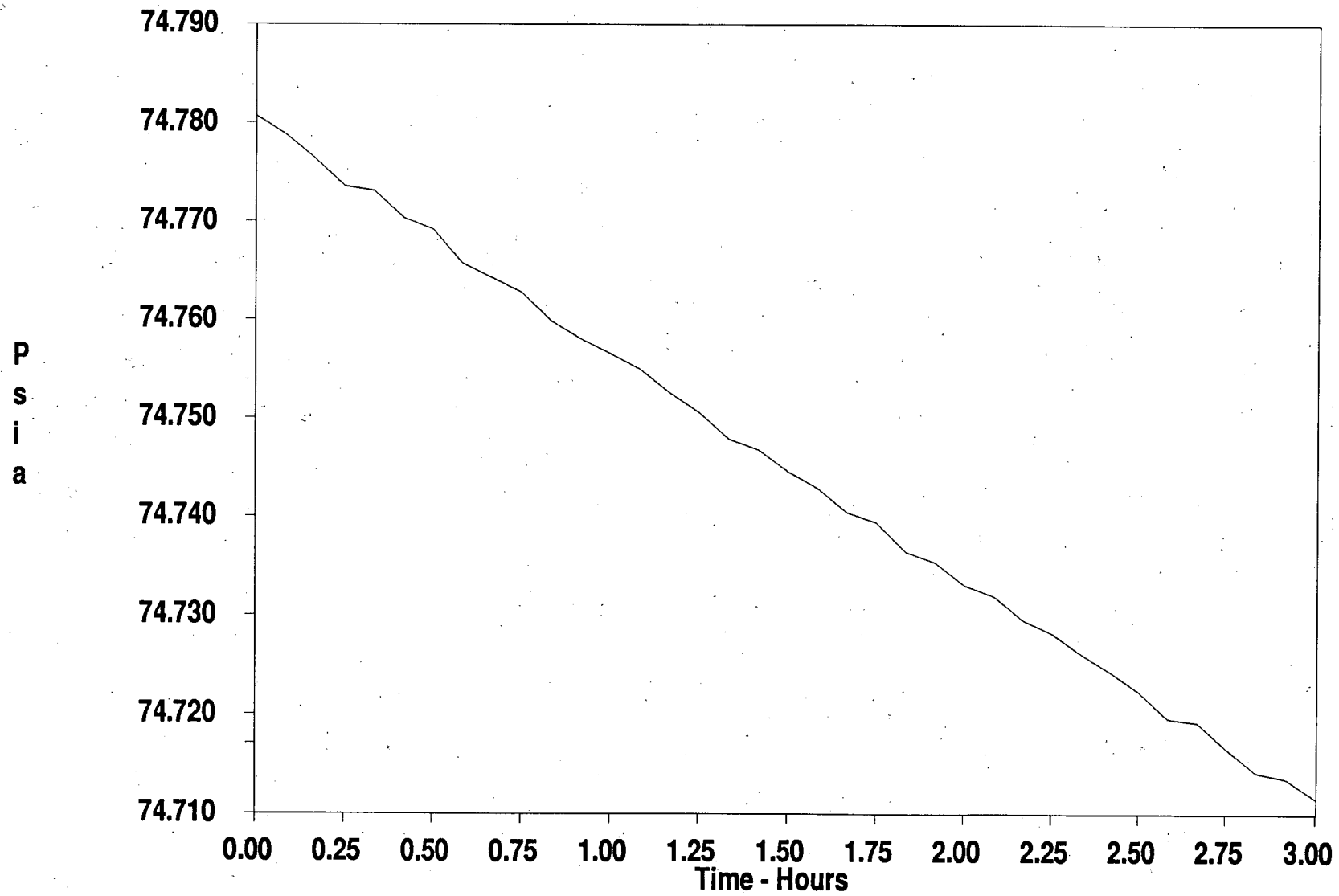
**Containment Mass
Oconee Nuclear Station
Unit 1 - 5/90**



**Average Dew Point & Average Temperature
Oconee Nuclear Station
Unit 1 - 5/90**



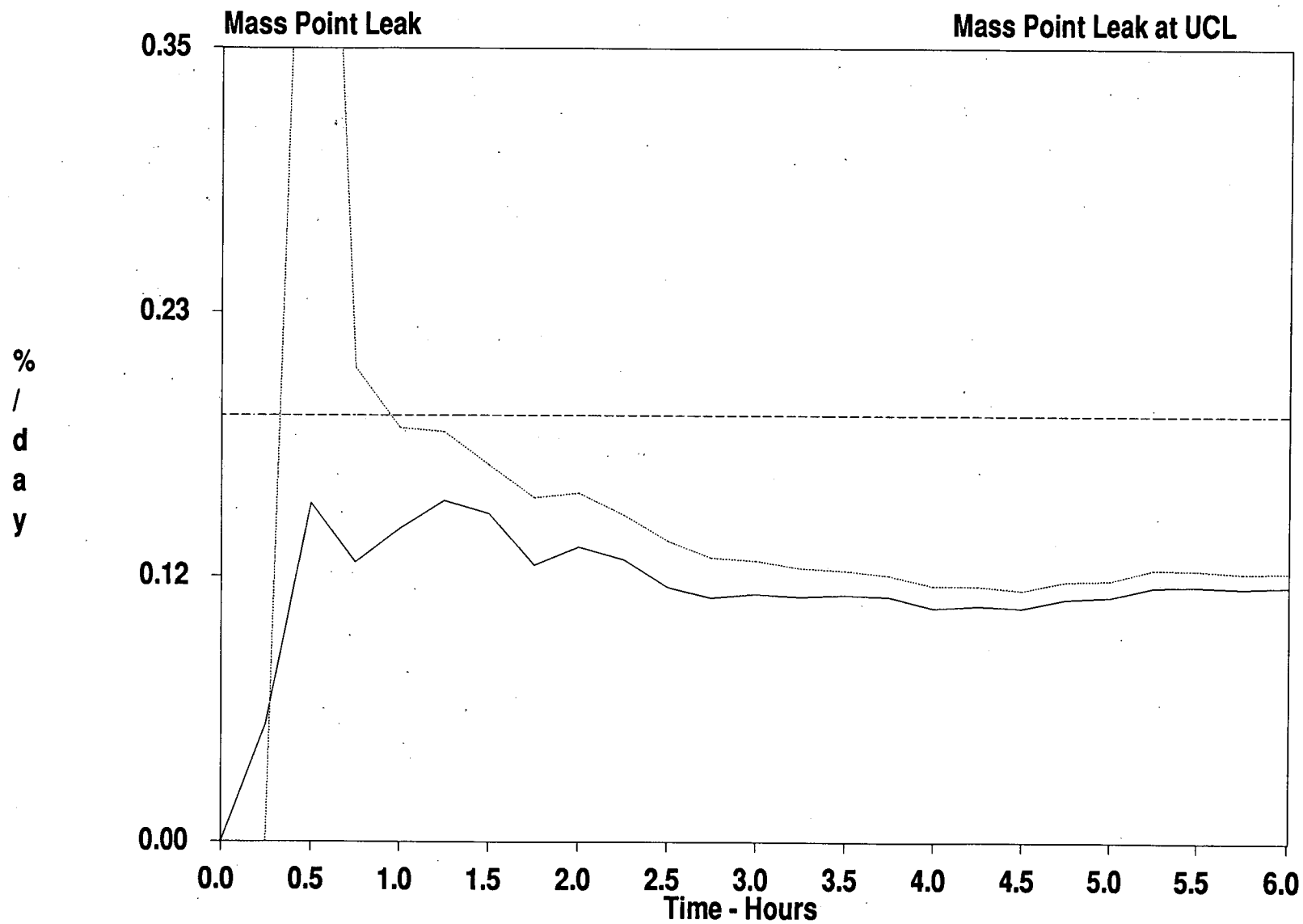
Average Pressure
Oconee Nuclear Station
Unit 1 - 5/90



4.5 Miscellaneous Plots

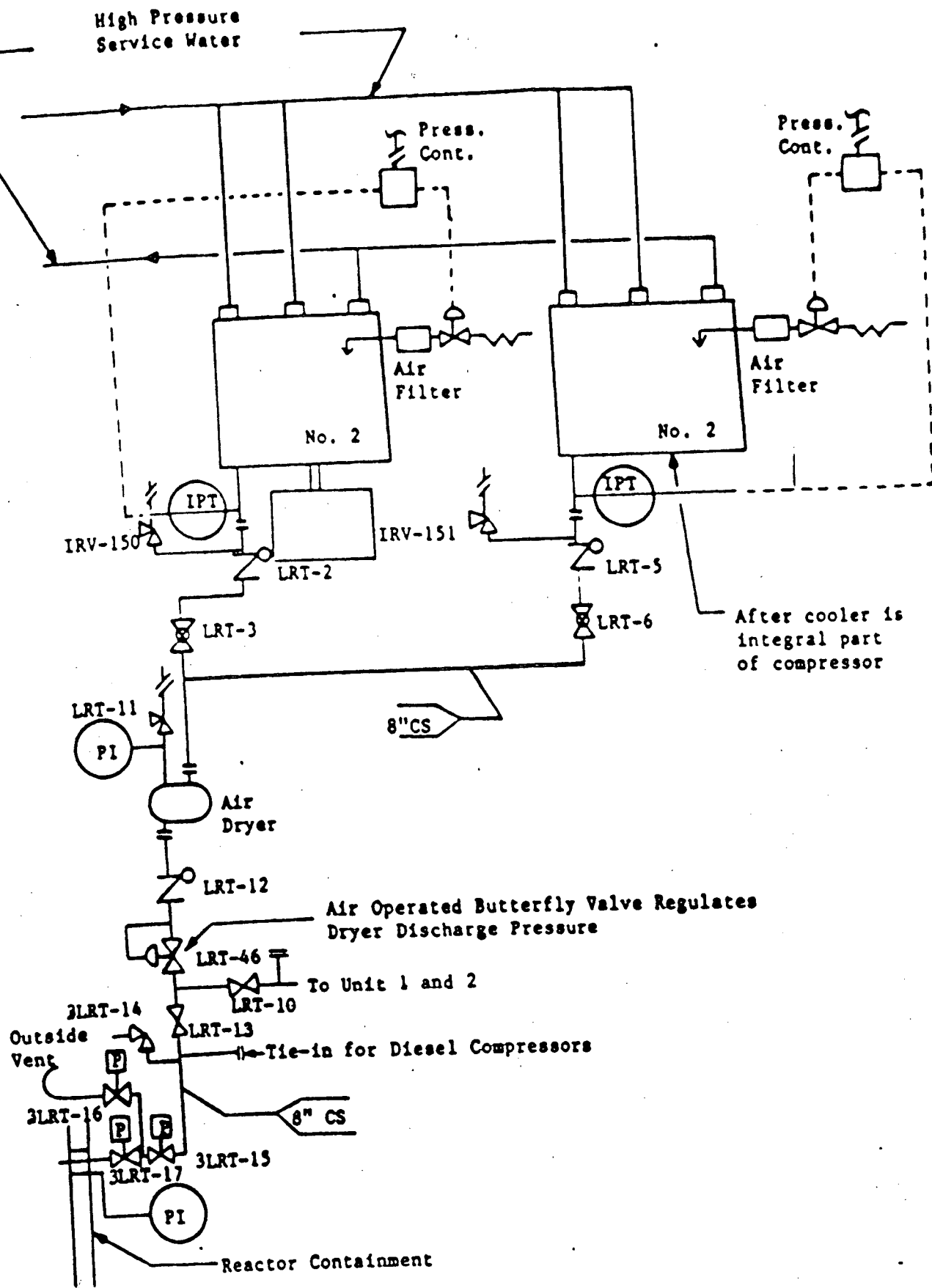
	<u>Plot Description</u>	<u>Page No.</u>
4.5.1	Mass Point Leak vs..... Mass Point Leak at UCL	5-2

Mass Point Leak & Mass Point Leak at UCL
Oconee Nuclear Station
Unit 1 - 5/90



4.6 Pressurization System Schematic

REACTOR BUILDING PRESSURIZATION SYSTEM



APPENDIX A

BN-TOP-1 Total Time Test Termination Criteria

BN-TOP-1 Termination Criteria

Oconee Nuclear Station
Unit 1 - 5/90

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BN-TOP-1 Termination Criteria Evaluation for Reading # 122

1. The Trend Report based on Total Time calculations shall indicate that the magnitude of the calculated leak rate is tending to stabilize at a value less than the maximum allowable leak rate ($<.75L_a$).

Required Value: 0.187500 %/day Actual Value: 0.112801 %/day

(Note: The magnitude of the calculated leak rate may be increasing slightly as it tends to stabilize. In this case the average rate of increase of the calculated leak rate shall be determined from the accumulated data over the last five hours or last twenty data points, whichever provides the most points. Using this average rate, the calculated leak rate can then be linearly extrapolated to the 24th hour data point. If this extrapolated value of the calculated leak rate exceeds 75% of the maximum allowable leak rate (L_a) then the leak rate test is continued.)

Required Value: 0.187500 %/day Actual Value: 0.000000 %/day

2. The end of test upper 95% confidence limit for the calculated leak rate based on Total Time calculations shall be less than the maximum allowable leak rate ($<.75L_a$).

Required Value: 0.187500 %/day Actual Value: 0.158117 %/day

3. The mean of the measured leak rates based on Total Time calculations over the last five hours of test or last twenty data points, whichever provides the most data, shall be less than the maximum allowable leak rate ($<.75L_a$).

Required Value: 0.187500 %/day Actual Value: 0.116152 %/day

4. Data shall be recorded at approximately equal intervals and in no case at intervals greater than one hour.

Required Interval: ≤ 1 hr Maximum Actual Interval: 0.25 hr

5. At least twenty (20) data points shall be provided for proper statistical analysis.

Required # Data Points: ≥ 20 Actual Data Points: 25

6. In no case shall the minimum test duration be less than six (6) hours.

Required Minimum Duration: 6 hr Actual Duration: 6.0 hr

APPENDIX B

Leak Rate Calculation Description

SYMBOLS AND DEFINITIONS

- A - Slope of least squares line
- B - Intercept of least squares line
- L_a - Maximum allowable leakage rate at calculated peak accident pressure as specified in the station's technical specifications, (wt. %/day)
- L_{am} - Estimate of leakage rate, derived from Mass Point least squares slope and intercept, expressed as a positive number, (wt. %/day)
- L_i - Measured leakage rate based on the difference between the initial mass at time t_1 and the mass at the i th interval, (wt. %/day)
- L_{tt} - Estimate of leakage rate, derived from the Total Time least squares slope and intercept, (wt. %/day)
- n - Number of (N_i, t_i) pairs of measurements
- $\tilde{n}$ - Number of (L_i, tt_i) pairs of measurements
- N_i - Normalized mass of containment air at the i th interval
- P - Total compartment absolute pressure in containment, (psia)
- P_v - Partial pressure of water vapor, (psia)
- R - Gas constant for air, 53.35 ft lbf/lbm °R
- S_A - Estimate of standard deviation of slope term A derived from least squares line
- T - Mean compartment absolute temperature of containment air, (°R)
- t_i - elapsed time since first reading, (min)
- tt_i - elapsed time since second reading, (min)
- $t_{.95}$ - 95th percentile of Students t distribution
- UCL - Upper Confidence Limit; a calculated value constructed from test data with the intention of placing an upper bound on the time leakage rate, (wt. %/day)
- V - Internal free volume of containment (assumed to remain constant for test duration), (ft³)
- W_i - Measured mass of containment air at i th interval
- i - subscript i indicates i th data point; i.e., (W_i, t_i) , $i = 1, 2, \dots, n$

1.0 RAW DATA CALCULATIONS

The raw data set consists of clock time, absolute pressure readings in psia, air temperature sensor readings in ohms and dew point hygrometer readings in milliamps. Catawba and McGuire use three precision absolute pressure sensors, 52 RTD's for temperature measurement and 6 to 8 hygrometers for dew point temperature measurement. Oconee uses two precision absolute pressure sensors, 24 RTD's for temperature measurement and 6 to 8 hygrometers for dew point temperature measurement. All raw data values are converted into engineering units by equation 1.1.

$$Y = C0 + C1(X) + C2(X)^2 + C3(X)^3 + C4(X)^4 \quad (1.1)$$

where: Y = converted value (°F, psia)
X = raw data value (ohms, psia, amps)
C0, C1, C2, C3, C4 = conversion constants

Note: For Pressure, C1=1; C0, C2, C3 & C4 = 0.0.
For Dew Point, C0, C1, C2, C3 and C4 are obtained manufacturer's. instrument specification sheet.
For Temperature, C0, C1 and C2 are obtained from Standard's Lab calibration sheets; C3 & C4 = 0.

The mean absolute temperature for each compartment at the ith interval is determined by equation 1.2.

$$T_i = \frac{1}{\sum_{j=1}^m \frac{Vf_j}{T_{ij}}} \quad (1.2)$$

where: T_i = containment atmosphere volume weighted absolute drybulb temperature at the ith interval, (°R)
 T_{ij} = absolute temperature of the jth sensor at the ith interval, (°R; where °R = °F + 459.67)
 Vf_j = volume fraction assigned to temp. sensor j
m = number of temperature sensors in compartment

Reference: ANSI/ANS-56.8-1987

The average dew point temperature for each compartment at the i th interval is determined by equation 1.3.

$$Tdp_i = \sum_{j=1}^k Tdp_{ij} Vf_j \quad (1.3)$$

where: Tdp_i = average compartment dew point temperature at i th interval, ($^{\circ}F$)
 Tdp_{ij} = dew point temperature recorded by sensor j at i th interval, ($^{\circ}F$)
 Vf_j = volume fraction corresponding to dew point sensor j
 k = number of dew point sensors in compartment

Reference: ANSI-56.8-1987

The total absolute pressure for each compartment at the i th interval is determined by equation 1.4.

$$P_i = \sum_{j=1}^k P_{ij} Vf_j \quad (1.4)$$

where: P_i = total compartment absolute pressure at the i th interval, (psia)
 P_{ij} = total absolute pressure recorded by sensor j at the i th interval, (psia)
 Vf_j = volume fraction corresponding to pressure sensor j
 k = number of pressure sensors in compartment

The weighted average dew point temperature for each compartment is substituted into either equation 1.5 or equation 1.6 to calculate the compartment partial pressure of water vapor.

For $T > 32^{\circ}F$: (1.5)

$$\frac{P_v}{P_c} = \exp \left[\frac{1}{\theta} \frac{\sum_{n=1}^5 k_n (1 - \theta)^n}{1 + k_6 (1 - \theta) + k_7 (1 - \theta)^2} - \frac{(1 - \theta)}{k_8 (1 - \theta)^2 + k_9} \right]$$

where:

P_v = vapor press. (Pa)	$k_3 = -168.1706546$
(1 Pa = $1.45037738 \times 10^{-4}$ psi)	
$P_c = 22120.0$ kPa	$k_4 = 64.23285504$
$\Theta = T/T_c$	$k_5 = -118.9646225$
T = dew point temp. ($^{\circ}\text{K}$)	$k_6 = 4.167117320$
[$^{\circ}\text{K} = (5/9)(^{\circ}\text{F} - 32) + 273.15$]	
$T_c = 647.3$ $^{\circ}\text{K}$	$k_7 = 20.97506760$
$k_1 = -7.691234564$	$k_8 = 1 \times 10^9$
$k_2 = -26.08023696$	$k_9 = 6$

Reference: ASME Steam Tables, Fifth Edition, Appendix 1,
Section 5, Reduced Saturation Pressure, 1983.

For $T \leq 32$ $^{\circ}\text{F}$:

At temperatures less than 32 $^{\circ}\text{F}$, dew point hygrometers measure the frost point temperature rather than the dew point. The saturation pressure over ice is determined by substituting the frost point temperature into equation 1.6.

(1.6)

$$\ln(P_v) = C_1/T + C_2 + C_3T + C_4T^2 + C_5T^3 + C_6T^4 + C_7\ln(T)$$

where:

P_v = vapor press. (Pa)	$C_4 = 0.62215701 \times 10^{-6}$
(1 Pa = $1.45037738 \times 10^{-4}$ psi)	
T = dew point temp. ($^{\circ}\text{K}$)	$C_5 = 0.20747825 \times 10^{-8}$
[$^{\circ}\text{K} = (5/9)(^{\circ}\text{F} - 32) + 273.15$]	
$C_1 = -5674.5359$	$C_6 = -0.9484024 \times 10^{-12}$
$C_2 = 6.3925247$	$C_7 = 4.1635019$
$C_3 = -0.9677843 \times 10^{-2}$	

Reference: ASHRAE Handbook 1981 Fundamentals, Chapter 5,
page 2.

The mass of air in each compartment at the i th interval is determined by the ideal gas law, equation 1.7.

$$W_{ik} = \frac{144 V X_k}{R} \left[\frac{(P_i - P_{v_i})}{T_i} \right] \quad (1.7)$$

where: W_{ik} = measured mass of compartment air at the i th interval, (lbm)
 T_i = compartment atmosphere volume weighted absolute drybulb temperature at the i th interval, ($^{\circ}$ R; where $^{\circ}$ R = $^{\circ}$ F + 459.67)
 P_i = total absolute pressure in compartment at the i th interval, (psia)
 P_{v_i} = partial pressure of water vapor for compartment at time i , (psia)
 X_k = compartment building volume fraction
 V = total containment vessel volume, (ft^3)
 R = gas constant for air, (53.35 ft lbf/lbm $^{\circ}$ R)
144 = conversion constant from in^2 to ft^2

The mass is calculated for each of three compartments (lower containment, upper containment and the ice condenser) at Catawba and McGuire Nuclear Stations. The mass of each of the three compartments is summed together, resulting in the total mass for the containment vessel. For Oconee Nuclear Station, having only one compartment, the containment mass is equal to the compartment mass.

A single total containment mass and a single time is assigned to each reading set number. A normalized containment mass is computed by dividing each reading's mass by the mass corresponding to the containment air mass at the start of the test reading at time t_1 . Normalizing the containment masses for each reading improves the precision of the leakage rate calculations by reducing the truncation errors associated with the large numbers generated by the least squares fit regression calculations.

The normalization equation is given by 1.8.

$$N_i = \frac{W_i}{W_1} \quad (1.8)$$

where: N_i = total normalized containment air mass at the i th interval
 W_i = total containment air mass at the i th interval
 W_1 = total containment mass at start of the test

2.0 Mass Point Leakage Rate Calculation

This analysis method consists of determining the mass of air in containment, absolutely, utilizing the ideal gas law, at each time point during the test and using a straight-line least squares analysis to estimate the leakage rate. The estimate of the leakage rate is a function of both the slope and the intercept of the regression line computed by equations 2.1 and 2.2 respectively.

$$A = \frac{n(\sum t_i N_i) - (\sum N_i)(\sum t_i)}{n(\sum t_i^2) - (\sum t_i)^2} \quad (2.1)$$

$$B = \frac{(\sum N_i)(\sum t_i^2) - (\sum t_i N_i)(\sum t_i)}{n(\sum t_i^2) - (\sum t_i)^2} \quad (2.2)$$

where: A = slope of least squares line
 B = intercept of least squares line
 t_i = elapsed time since first reading, (min)
 N_i = normalized mass of reading at t_i ($N_i = W_i/W_1$)
 n = number of points (N_i, t_i pairs)

Note: Each t_i is the elapsed time between the clock time at which the first test reading is taken and the clock time at which the i th reading is taken. Thus, $t_1 = 0$ in all test situations, t_2 is the elapsed time before the next reading, and so on.

The measured leakage rate is expressed as the ratio of the rate of change of mass to the mass in containment at time $t_1 = 0$. Since values of t_i are expressed in units of minutes, the mass point leakage rate is expressed as a positive number by computing equation 2.3.

$$L_{am} = -144,000 (A/B) \quad (2.3)$$

where: L_{am} = estimate of leakage rate, derived from least squares slope and intercept, (wt. %/day)
 A = the slope of the least squares line
 B = the intercept of the least squares line
 $-144,000 = (60 \text{ min/hr})(24 \text{ hrs/day})(100 \%)$

The standard deviation of the slope, S_A , is given by 2.4.

$$S_A = \left[\left(\frac{1}{n-2} \right) \left[\frac{n(\sum N_i^2) - (\sum N_i)^2}{n(\sum t_i^2) - (\sum t_i)^2} - A^2 \right] \right]^{1/2} \quad (2.4)$$

where: S_A = standard deviation of the slope A
 A = slope of the least squares line
 N_i = normalized mass of reading at t_i , ($N_i = W_i/W_1$)
 t_i = elapsed time since first reading, (min)
 n = number of points (N_i, t_i pairs)

The following approximation is given for the 95th percentile of the Student's t distribution, $t_{.95}$:

For $d_F \geq 3$

$$t_{.95} = \frac{1.6449(n-2)^2 + 3.5283(n-2) + 0.85602}{(n-2)^2 + 1.2209(n-2) - 1.5162} \quad (2.5)$$

where: $t_{.95}$ = the 95th percentile of the Student's t distribution
 $n-2$ = degrees of freedom, d_F , where n = the number of (N_i, t_i pairs)

Reference: ANSI/ANS-56.8-1987, Appendix B, footnote 17, p 24.

The ratio S_B/B is small when compared with the ratio S_A/B ; therefore, an approximate upper confidence limit of the 95 percent confidence level on the true leakage rate is provided by equation 2.6.

$$UCL = L_{am} + 144,000 (t_{.95}) (S_A/B) \quad (2.6)$$

where: UCL = approximate 95 percent upper confidence level on the true leakage.
 L_{am} = estimate of leakage rate, derived from least squares slope and intercept, (wt. %/day)
 $t_{.95}$ = the 95th percentile of Student's t distribution
 S_A = standard deviation of the slope A
 B = the intercept of the least squares line

3.0 Total Time Leakage Rate Calculation

The Total Time method calculates a series of leakage rates based on the starting mass point and the most recent mass point (i.e. it calculates a leakage rate between data points 1 & 2; then between 1 & 3; and so on). Each successive leakage calculation is based upon a longer period of time. The overall leakage rate, in weight percent per day, at any given time is determined by applying linear regression analyses to the leakage rates at each time point.

The leak rate corresponding to each data point is determined from equation 3.1.

$$L_i = \frac{144,000}{t_i} (1 - N_i) \quad (3.1)$$

where: L_i = measured leakage rate based on the difference between the initial mass at time t_1 and the mass at time t_i (Note: the normalized mass at at time $t_1=1$), (wt. %/day)
 N_i = normalized mass at time t_i ($N_i = W_i/W_1$)
 t_i = elapsed time since first reading, (min)
 i = 2 to n; where n = number of (N_i, t_i pairs)

Plotting the measured leakage rate (L_i) on the y axis and the total time (tt_i) on the x axis, the following regression equations are used to find the slope and intercept:

$$A = \frac{\tilde{n}(\sum tt_i L_i) - (\sum L_i)(\sum tt_i)}{\tilde{n}(\sum tt_i^2) - (\sum tt_i)^2} \quad (3.2)$$

$$B = \frac{(\sum L_i)(\sum tt_i^2) - (\sum tt_i L_i)(\sum tt_i)}{\tilde{n}(\sum tt_i^2) - (\sum tt_i)^2} \quad (3.3)$$

where: A = slope of least squares line
 B = intercept of least squares line
 tt_i = elapsed time since second reading, (min)
 L_i = measured leakage rate based on the difference between the initial mass at time t_1 and the mass at time t_i , (wt. %/day)
 $\tilde{n}$ = number of leakage pairs (L_i , tt_i pairs)
 i = 2 to $\tilde{n}+1$
 n = $\tilde{n}+1$

Note: Each tt_i is the elapsed time between the clock time at which the second test reading is taken and the clock time at which the i th reading is taken. Thus, $tt_2 = 0$ in all test situations, tt_3 is the elapsed time before the next reading, and so on.

The Total Time leakage rate at some specific time, t_i , is calculated from the regression line equation for the Least Squares "best fit" straight line given by equation 3.4.

$$L_{tt} = A (tt_i) + B \quad (3.4)$$

where: L_{tt} = total time leakage rate at time t_i , (wt. %/day)
 A = slope of the least squares line
 B = the intercept of the least squares line
 tt_i = elapsed time since second reading, (min)

Note: The intercept of the least squares line, B, corresponds to the clock time for reading number two; therefore, the Total Time Leakage rate can only be calculated for reading numbers 3 to n.

The standard deviation of the slope, S_A , is calculated from either equation 3.5 or 3.6.

For $t_n < 24$ hours: (3.5)

$$S_A = \left[\frac{\sum L_i^2 - B \sum L_i - A \sum L_i t t_i}{\tilde{n} - 2} \left[1 + 1/\tilde{n} + \frac{(t t_n - \sum t t_i / \tilde{n})^2}{\sum t t_i^2 - (\sum t t_i)^2 / \tilde{n}} \right] \right]^{1/2}$$

For $t_n > 24$ hours: (3.6)

$$S_A = \left[\frac{\sum L_i^2 - B \sum L_i - A \sum L_i t t_i}{\tilde{n} - 2} \left[1/\tilde{n} + \frac{(t t_n - \sum t t_i / \tilde{n})^2}{\sum t t_i^2 - (\sum t t_i)^2 / \tilde{n}} \right] \right]^{1/2}$$

where: S_A = standard deviation of the slope A at time t_n
 L_i = measured leakage rate based on the difference between the initial mass at time t_1 and the mass at time t_i , (wt. %/day)
A = slope of the least squares line
B = intercept of the least squares line
 $t t_i$ = elapsed time since second reading, (min)
 $\tilde{n}_i$ = number of leakage pairs ($L_i, t t_i$ pairs)
i = 2 to $\tilde{n}+1$
n = $\tilde{n}+1$

The Total Time method utilizes a 97.5% Student's t distribution for a test duration less than 24 hours and a 95% Student's t distribution for a test duration greater than or equal to 24 hours. The approximation given by equation 3.7 is used for the 97.5% Student's t distribution. Equation 2.5 is used for the 95% Student's t distribution.

For $t_n < 24$ hours:

$$t_{.975} = 1.95996 + \frac{2.37226}{(\tilde{n}-2)} + \frac{2.82250}{(\tilde{n}-2)^2} \quad (3.7)$$

where: $t_{.975}$ = the 97.5 percentile of the Student's t distribution
 $\tilde{n}-2$ = degrees of freedom, where n = the number of leakage pairs ($L_i, t t_i$ pairs)

The approximate upper confidence limit on the Total Time leakage rate is given by equation 3.8.

$$UCL = L_{tt} + t_{\alpha} S_A \quad (3.8)$$

where: UCL = approximate 95 or 97.5 percent upper confidence level on the Total Time leakage rate, (wt. %/day)
 L_{tt} = Total Time leakage rate, (wt. %/day)
 t_{α} = the 95 or 97.5 percentile of the Student's t distribution at time t_n
 S_A = standard deviation of the slope A at time t_n

4.0 Mass Point Termination Criteria

The following three statistical tests have been proposed to the NRC staff as a method for determining the acceptability of mass point leakage results for test durations less than 24 hours.

The first of these tests is the Maximum Window Leakage Criterion.

This routine calculates the leakage rate, using the mass point methodology, for all time intervals (windows) equal to 1/2 or 1/3 of the test duration and records the value of the maximum leakage. The default value for the program is the 1/2 window leakage calculation, which has been submitted to the NRC staff for review. The 1/3 window leakage calculation option is also available if desired.

The window time interval is calculated by multiplying the elapsed time between the first reading and the last reading (reading n) by the window multiplier (1/2 or 1/3). Using the first reading as a starting point for the leakage calculation, the program uses the data acquisition frequency and subsequent iterations to find the data set having an elapsed time most closely matching

the window time interval. This data set is called the 'end reading' and represents the latest edge of the window calculation. The leading edge of the window calculation is referred to as the 'begin reading'. Using the Mass Point Method for determining leakage rate described by Section 2.0 of this Appendix, the measured leakage rate (L_m) is calculated through all data points from 'begin reading' to 'end reading'.

The 'begin reading' is then advanced by one reading. The 'end reading' is advanced, such that the time span between the 'begin' and 'end' readings most nearly approximates the time interval of the window; the leakage rate is then recalculated. The window leakage calculations are repeated until the 'end reading' is equal to the last reading of the test duration (reading n). The maximum measured leakage rate (L_m) generated by the sequential window leakage calculations is the $1/2$ or $1/3$ maximum window leakage value for this test duration. The test data satisfies this criterion at the point when the $1/2$ or $1/3$ maximum window leakage value is less than $0.75 L_a$.

The second statistical test is the Limit on Data Scatter as described by Condition 2 of the NRC draft Regulatory Guide MS 021-5. This test ensures a tight fit of the test data about the linear least squares fit regression line used by the mass point method to calculate the leakage rate. The test is acceptable when inequality 4.1 is met.

$$r^2 > \frac{L_{am}^2 [\sum t_i^2 - (\sum t_i)^2/n]}{L_{am}^2 [\sum t_i^2 - (\sum t_i)^2/n] + L_a^2 t_n^2 X^2(n-2, 0.95)/122.93} \quad (4.1)$$

where:

r^2 is the coefficient of determination and is defined as;

$$r^2 = \frac{[n(\sum t_i N_i) - (\sum t_i)(\sum N_i)]^2}{[n(\sum t_i^2) - (\sum t_i)^2][n(\sum N_i^2) - (\sum N_i)^2]} \quad (4.2)$$

$X^2(n-2, 0.95)$ is the 95th percentile of the chi-square distribution with $n - 2$ degrees of freedom which is approximated by;

$$\sim 1.08916(n-2) \left[\frac{(n + 1.33)(n + 42.603)}{(n - 1.202)(n + 28.155)} \right] \quad (4.3)$$

- L_{am} = estimate of leakage rate, derived from least squares slope and intercept, (wt. %/day)
- L_a = maximum allowable leakage rate at calculated peak accident pressure as specified in plant's technical specifications
- N_i = normalized mass of reading at t_i , ($N_i = W_i/W_1$)
- t_i = elapsed time since first reading, (min)
- t_n = elapsed time of test at time n , (min)
- n = number of points (N_i, t_i pairs)

When the ratio of the left hand side of inequality 4.1 over the right hand side of inequality 4.1 is greater than 1.0, the Limit on Data Scatter is satisfied.

The Predictor Criterion as outlined in T.M. Brown's and L.E. Estenssoro's paper, "Suggested Criteria for a Short Duration ILRT" is the third statistical test performed on the test data. Satisfying this criterion ensures that the measured leakage rate (L_{am}) and the 95 percent upper confidence limit (UCL) are

converging. In addition, the predictor equation will provide reasonable assurance that the leakage rate reported following test termination will result in the verification test meeting its acceptance criteria. The predictor equation is given by 4.4.

$$\left[2(UCL - L_{am}) + (A' + 2S_{A'})\tau \right] \frac{100}{L_a} \leq 25\% \quad (4.4)$$

where: A' = the absolute value of the least squares regression slope (L_{am} vs time) for previous four hours of measured leakage rate, (wt. %/day/min)
 $S_{A'}$ = an estimate of a standard deviation of slope of least squares regression line for the previous four hours of measured leakage rate.
 τ = the time period corresponding to the last four hours of data, (min)
 Note: τ will be equal to the time interval of the least squares regression slope calculation A' .
 L_a = maximum allowable leakage rate at calculated peak accident pressure as specified in the station's technical specifications, (wt. %/day)
 L_{am} = estimate of leakage rate, derived from Mass Point least squares slope and intercept, (wt. %/day)
 UCL = approximate 95% upper confidence limit on the measured leakage, L_{am}

This criterion is met when the predictor equation result is less than 25 percent.

5.0 BN-TOP-1 Termination

The following duration criteria, as published in the Bechtel Topical Report, BN-TOP-1 are required to be met in order to conduct a Total Time Test in less than 24 hours:

Note: The maximum allowable leak rate (L_a) requirement specified by BN-TOP-1 has been modified by Appendix J requirements to imply 0.75 L_a .

- a. The Trend Report based on Total Time calculations shall indicate that the magnitude of the calculated leak rate is tending to stabilize at a value less than $0.75 L_a$. (Note: magnitude of the calculated leak rate may be increasing slightly as it tends to stabilize. In this case the average rate of increase of the calculated leak rate shall be determined from the accumulated data over the last five hours or last twenty data points, whichever provides the most points. Using this average rate the calculated leak rate can then be linearly extrapolated to the 24th hour data point. If this extrapolated value of the calculated leak rate exceeds 75 % of the maximum allowable leak rate (L_a) then the leak rate test is continued.)

Note: The program estimates the calculated leak rate at the 24th hour data point by performing linear least squares regression analysis on the calculated leak rate over the last five hours or last 20 data sets whichever provides the most data. The program determines the slope (A) and intercept (B) of the calculated leak (L_{tt}) in accordance with equations 3.2 and 3.3.

- b. The end of the test upper confidence limit (UCL) for the calculated leak rate based on Total Time calculations shall be less than 75 % of the maximum allowable leak rate.

Note: The upper confidence limit is calculated in accordance with the Total Time Leak Rate Calculations described by Section 3.0. For a test duration less than 24 hours the Upper Confidence limit is calculated at the 97.5 % confidence interval.

- c. The mean of the measured leak rates based on Total Time calculations over the last five hours of test or last twenty points, whichever provides the most data, shall less than the 75 % of the maximum allowable leak rate.

$$\bar{L}_i = \frac{\sum L_i}{n} \quad (5.1)$$

where: $\bar{L}_i$ = mean of the measured leak rate for the last five hours or last 20 data sets, whichever provides more data, (wt. %/day)
 L_i = measured leakage rate based on the difference between the initial mass at time t_1 and the mass at time t_i (wt. %/day)
 n = number of data sets

- d. Data shall be recorded at approximately equal intervals and in no case at intervals greater than one hour.

Note: The user specifies the data acquisition frequency. Normally a 15 minute data acquisition frequency is recommended for total time analysis.

- e. At least twenty (20) data points shall be provided for proper statistical analysis.

- f. In no case shall the minimum test duration be less than six (6) hours.

Note: While BN-TOP-1 requires a six hour minimum test duration, the NRC staff strongly recommends that an eight hour minimum test duration be used.

6.0 Verification Test Acceptance Limits

The verification test menu option, selected from the calculations section of the program, will output a recommended imposed leak setpoint in SCFM for the flow device. This value is equal to the plant's maximum allowable leakage, L_a and is calculated by equation 6.1.

$$Q(L_a) = W_1 (L_a/100) \left[\frac{1 \text{ day}}{1440 \text{ min}} \right] \left[\frac{1 \text{ ft}^3}{0.07517 \text{ lbm}} \right] \quad (6.1)$$

where: $Q(La)$ = Recommended imposed leak setpoint at La , (scfm)
 W_1 = Initial total containment air mass at the start of the test, zero elapsed time, (lbm)
 La = Maximum allowable leakage rate at calculated peak accident pressure as specified in the station's technical specifications (wt. %/day)
1440 = number of minutes in a day
0.07517 = density of dry air at standard conditions, 14.6959 psia and 68 °F, (lbm/ft³)

Manually determine the corrected value for the superimposed leak rate, (Lo) to account for differences between calibration temperature and pressure and actual flow conditions. Remember that a rotameter is a nonlinear flow device and will require a square root correction; a turbine meter is a linear flow device and does not require the square root correction. Given the corrected value for the superimposed leak, Lo in SCFM, it is converted to %/day by 6.2.

$$Lo = 100 \% \frac{Lo(\text{scfm}) (1440 \text{ min/day}) (0.07517 \text{ lbm/ft}^3)}{W_1} \quad (6.2)$$

where: Lo = Corrected value for superimposed leak (wt. %/day)
 W_1 = Initial total containment air mass at the start of the test, zero elapsed time, (lbm)
1440 = number of minutes in a day
0.07517 = density of dry air at standard conditions, 14.6959 psia and 68 °F, (lbm/ft³)

The upper and lower verification test acceptance limits for both the mass point methodology and the total time methodology are given by 6.3 and 6.4 respectively.

Mass Point Acceptance Limits: (6.3)

$$\text{Upper Limit} = Lo + Lam + 0.25 La$$

$$\text{Lower Limit} = Lo + Lam - 0.25 La$$

Total Time Acceptance Limits:

(6.4)

$$\text{Upper Limit} = L_o + L_{tt} + 0.25 L_a$$

$$\text{Lower Limit} = L_o + L_{tt} - 0.25 L_a$$

where: L_o = corrected value for superimposed leak (wt. %/day)
 L_{am} = estimate of leakage rate, derived from mass point
least squares slope and intercept, (wt. %/day)
 L_{tt} = estimate of leakage rate, derived from total time
least squares slope and intercept, (wt. %/day)
 L_a = Maximum allowable leakage rate at calculated
peak accident pressure as specified in the
station's technical specifications (wt. %/day)

7.0 Temperature Stabilization Criteria

Mass Point:

In accordance with ANSI/ANS 56.8-1987, the temperature can be considered stabilized when, "after reaching test pressure, the latest rate of change of the containment atmosphere volume weighted absolute drybulb temperature, averaged over the last hour, does not deviate by more than 0.5 °F/hr from the average rate of the containment atmosphere volume weighted absolute drybulb temperature averaged over the last four hours." The mass point temperature stabilization criterion is given by 7.1.

$$\left| \frac{|T_t - T_{t-4}|}{(t_t - t_{t-4})} - \frac{|T_t - T_{t-1}|}{(t_t - t_{t-1})} \right| \leq 0.5 \text{ } ^\circ\text{F} \quad (7.1)$$

BN-TOP-1 Temperature Stabilization Criteria:

The containment atmosphere stabilization requirements of BN-TOP-1 are given by 7.2 and 7.5. Either requirement must be satisfied.

- a. The rate of change of average temperature is less than 1.0 °F/hour averaged over the last two hours.

$$\left| \frac{(T_t - T_{t-2})}{(t_t - t_{t-2})} \right| < 1.0 \text{ °F} \quad (7.2)$$

-or-

- b. The rate of change of temperature changes less than 0.5 °F/hour/hour averaged over the last two hours.

$$K_1 = \left| \frac{(T_t - T_{t-1})}{(t_t - t_{t-1})} \right| \quad (7.3)$$

$$K_2 = \left| \frac{(T_{t-1} - T_{t-2})}{(t_{t-1} - t_{t-2})} \right| \quad (7.4)$$

$$\left| \frac{(K_1 - K_2)}{(t_t - t_{t-1})} \right| < 0.5 \text{ °F} \quad (7.5)$$

where: T = containment atmosphere weighted average
drybulb temperature, (°F)
t = elapsed time, (hours)
subscripts: t the most recent data set
t-1 data set most nearly corresponding to one
hour prior the time of the most recent
data set
t-2 data set most nearly corresponding to two
hours prior to the time of the most recent
data set
t-4 data set most nearly corresponding to four
hours prior to the time of the most recent
data set

APPENDIX C

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Sensor Information

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Oconee Nuclear Station
Unit 1 - 5/90

Pressures

NUM	CHAN	SERIAL	VOL FRACT	C0	C1	C2	C3	C4
1	1001	OCPRF28347	0.500000	0.0	1.0	-	-	-
2	1002	OCPRF28346	0.500000	0.0	1.0	-	-	-
3	1003	SNPRF40759	0.000000	0.0	1.0	-	-	-

Dew Points

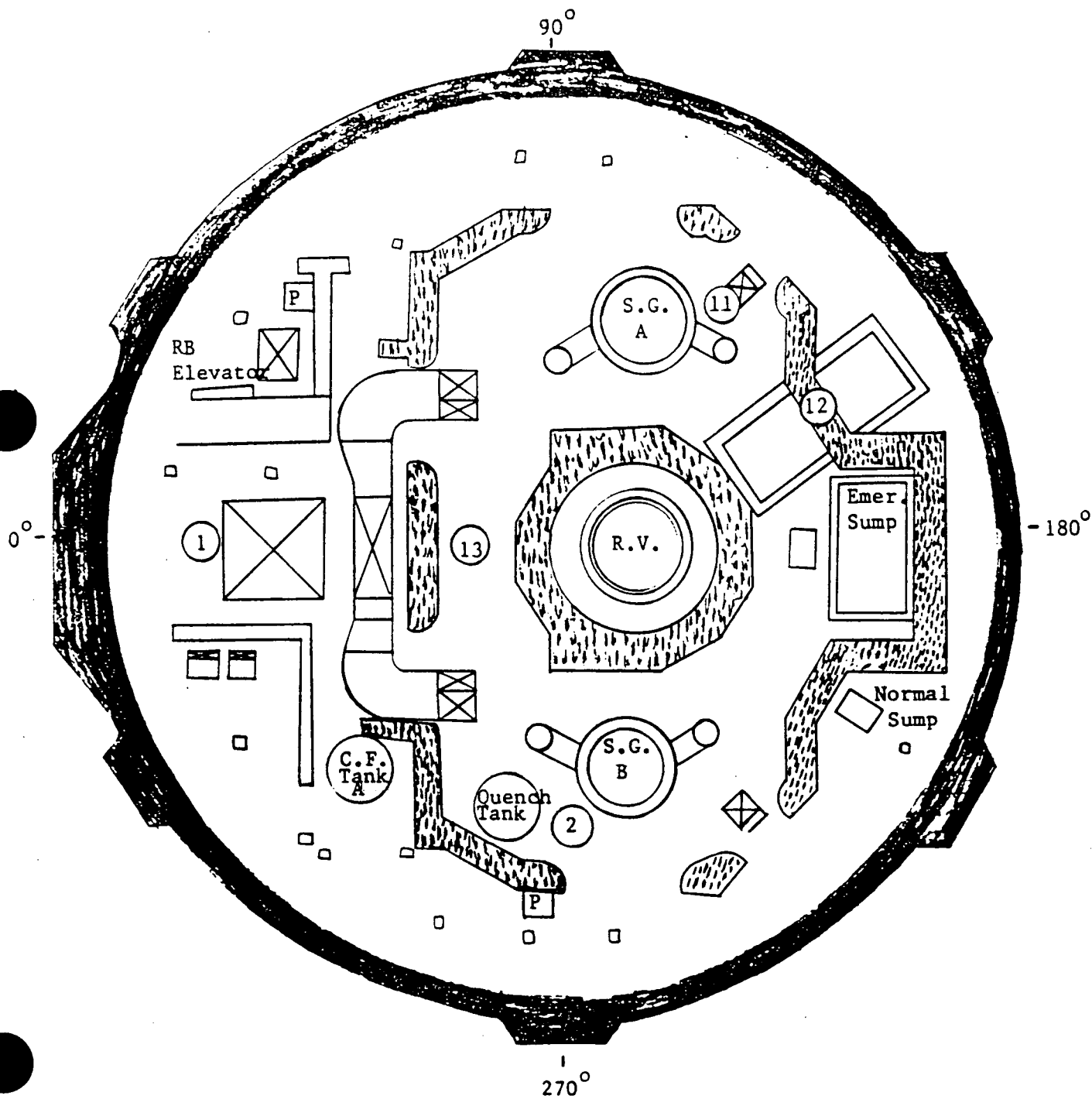
NUM	CHAN	SERIAL	VOL FRACT	C0	C1	C2	C3	C4
1	1	SNPRF40458	0.333333	-85.0	11250.0	-	-	-
2	2	SNPRF40456	0.333333	-85.0	11250.0	-	-	-
3	3	SNPRF40457	0.000000	-85.0	11250.0	-	-	-
4	4	SNPRF40455	0.333334	-85.0	11250.0	-	-	-
5	5	SNPRF40749	0.000000	-85.0	11250.0	-	-	-
6	6	SNPRF40460	0.000000	-85.0	11250.0	-	-	-

Temperatures

NUM	CHAN	SERIAL	VOL FRACT	C0	C1	C2	C3	C4
1	101	SNPRF40827	0.030000	-410.21970	4.2423450	0.00182358	-	-
2	102	SNPRF40822	0.020000	-409.88890	4.235160	0.00185388	-	-
3	103	SNPRF40824	0.020000	-409.97090	4.2359460	0.00185599	-	-
4	104	SNPRF40809	0.050000	-409.75510	4.2332040	0.00185484	-	-
5	105	SNPRF40817	0.020000	-409.65280	4.2330340	0.00185486	-	-
6	106	SNPRF40821	0.030000	-409.36750	4.2230580	0.00190412	-	-
7	107	SNPRF40833	0.010000	-409.65650	4.2317290	0.00185393	-	-
8	108	SNPRF40823	0.080000	-410.14540	4.23960	0.00183211	-	-
9	109	SNPRF40830	0.050000	-409.36220	4.2236740	0.00188617	-	-
10	110	SNPRF40808	0.050000	-409.35450	4.2241530	0.00188423	-	-
11	111	SNPRF40819	0.020000	-409.63940	4.2285770	0.00188264	-	-
12	112	SNPRF40826	0.020000	-410.45780	4.2440740	0.00180719	-	-
13	113	SNPRF40828	0.010000	-410.36170	4.2388790	0.00186038	-	-
14	114	SNPRF40805	0.020000	-409.70740	4.2316980	0.00186203	-	-
15	115	SNPRF40395	0.020000	-408.47410	4.2142350	0.00193251	-	-
16	116	SNPRF40810	0.010000	-409.52690	4.227370	0.00188043	-	-
17	117	SNPRF40829	0.050000	-409.42060	4.2269470	0.00188920	-	-
18	118	SNPRF40812	0.090000	-409.90390	4.2354420	0.00183853	-	-
19	119	SNPRF40831	0.110000	-409.68420	4.2306110	0.00186896	-	-
20	120	SNPRF40835	0.010000	-409.47330	4.2292440	0.00186138	-	-
21	121	SNPRF40836	0.010000	-410.32690	4.2407780	0.00182428	-	-
22	122	SNPRF40832	0.090000	-410.27060	4.2416340	0.00181047	-	-
23	123	SNPRF40816	0.110000	-410.21390	4.2387410	0.00184332	-	-
24	124	SNPRF40834	0.070000	-409.65510	4.2294890	0.00187223	-	-

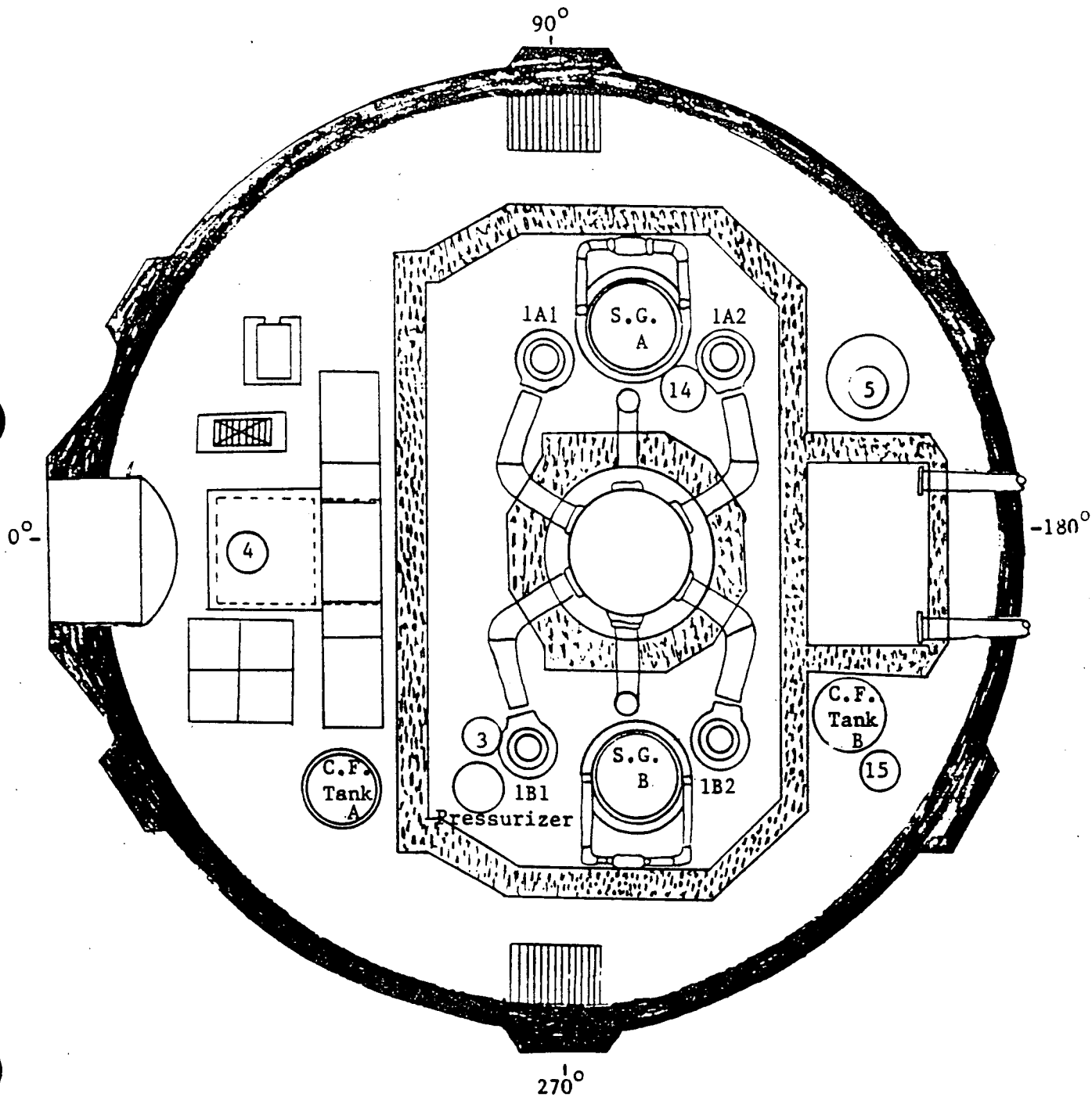
REACTOR BUILDING RTD LOCATIONS

BASEMENT - ELEVATION 787'



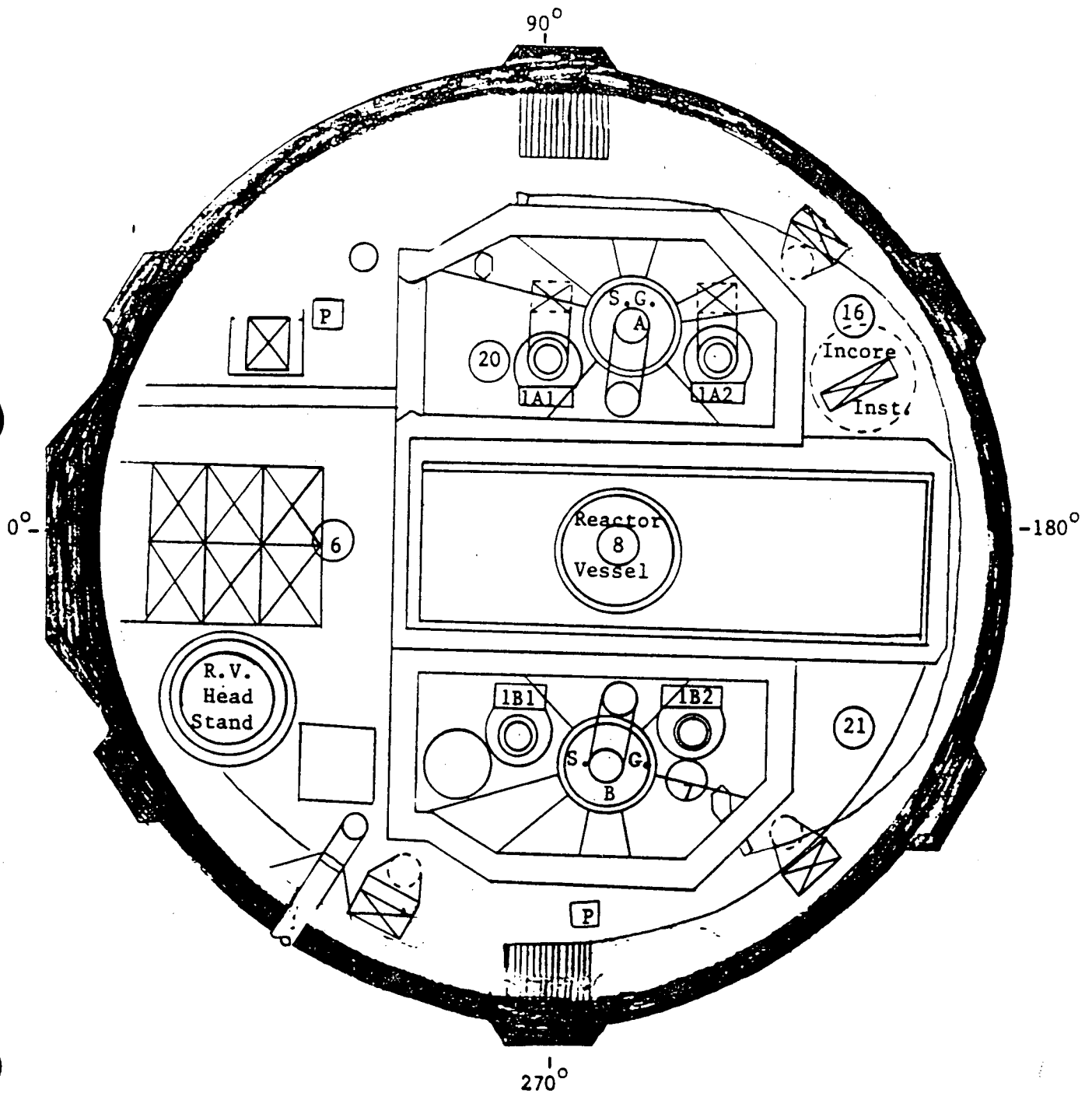
REACTOR BUILDING RTD LOCATIONS

INTERMEDIATE FLOOR - ELEVATION 830'



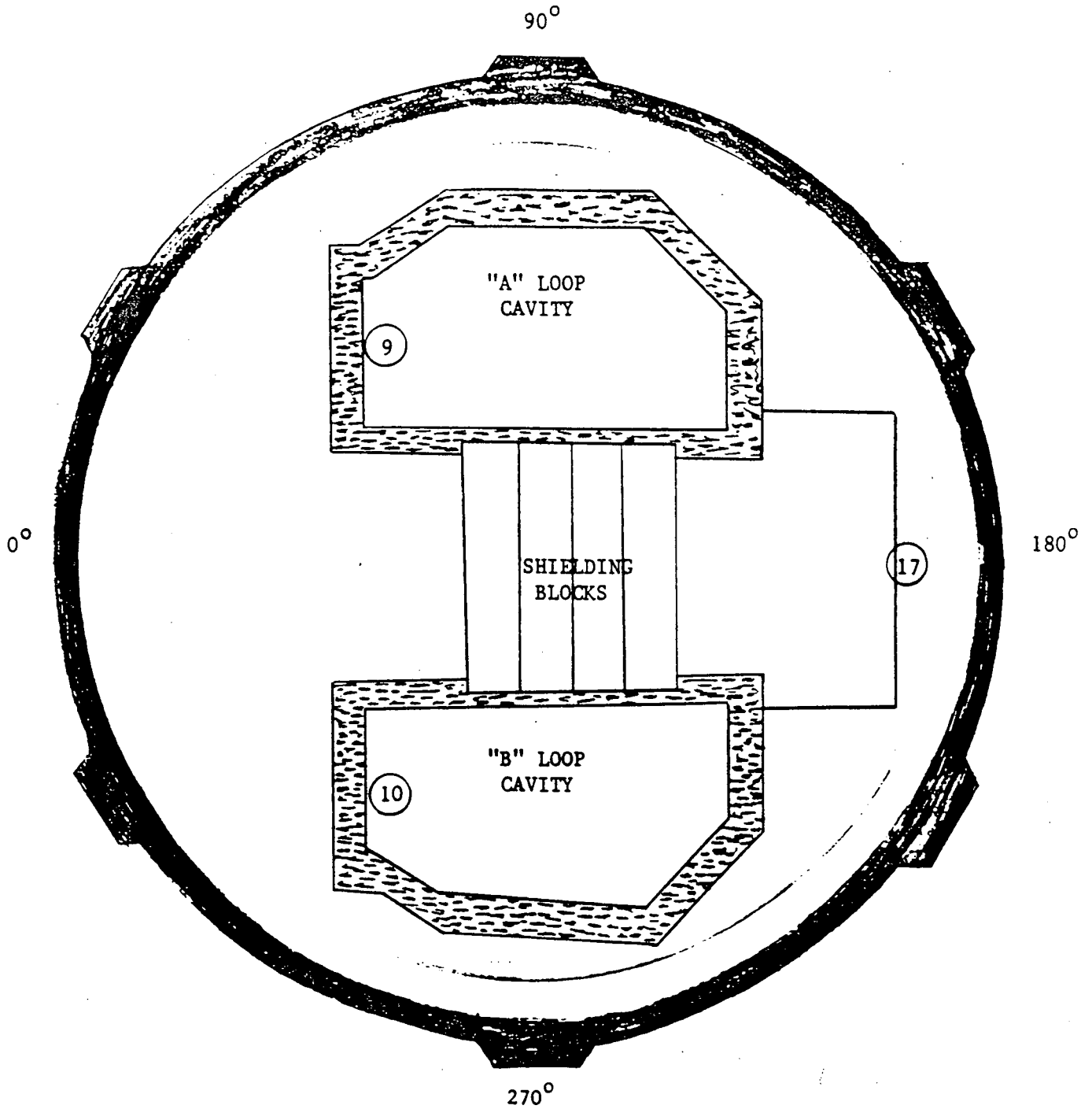
REACTOR BUILDING RTD LOCATIONS

OPERATING FLOOR - ELEVATION 850'



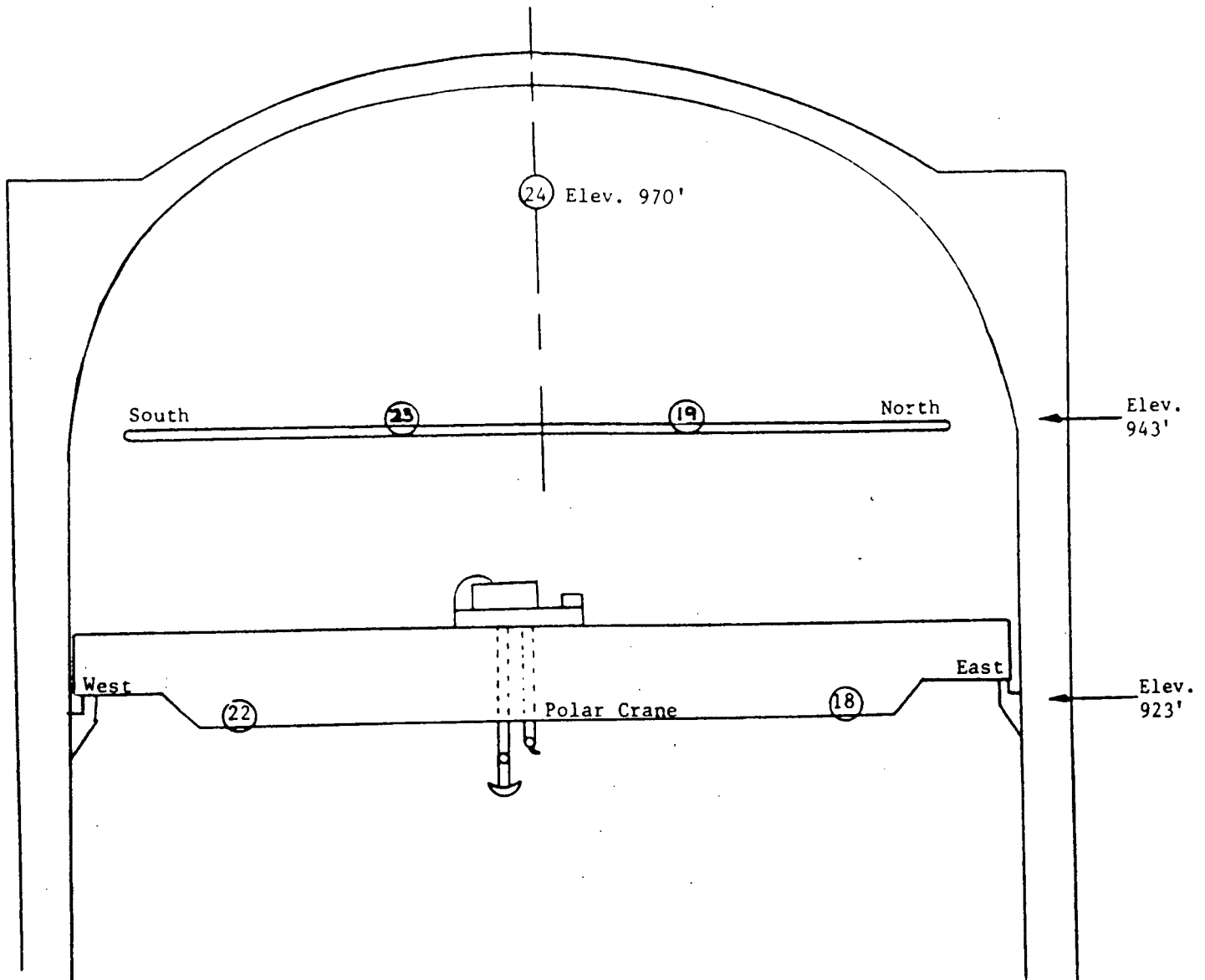
REACTOR BUILDING RTD LOCATIONS

SHIELDING FLOOR - ELEVATION 866'



REACTOR BUILDING RTD LOCATIONS

SPRAY HEADER/POLAR CRANE

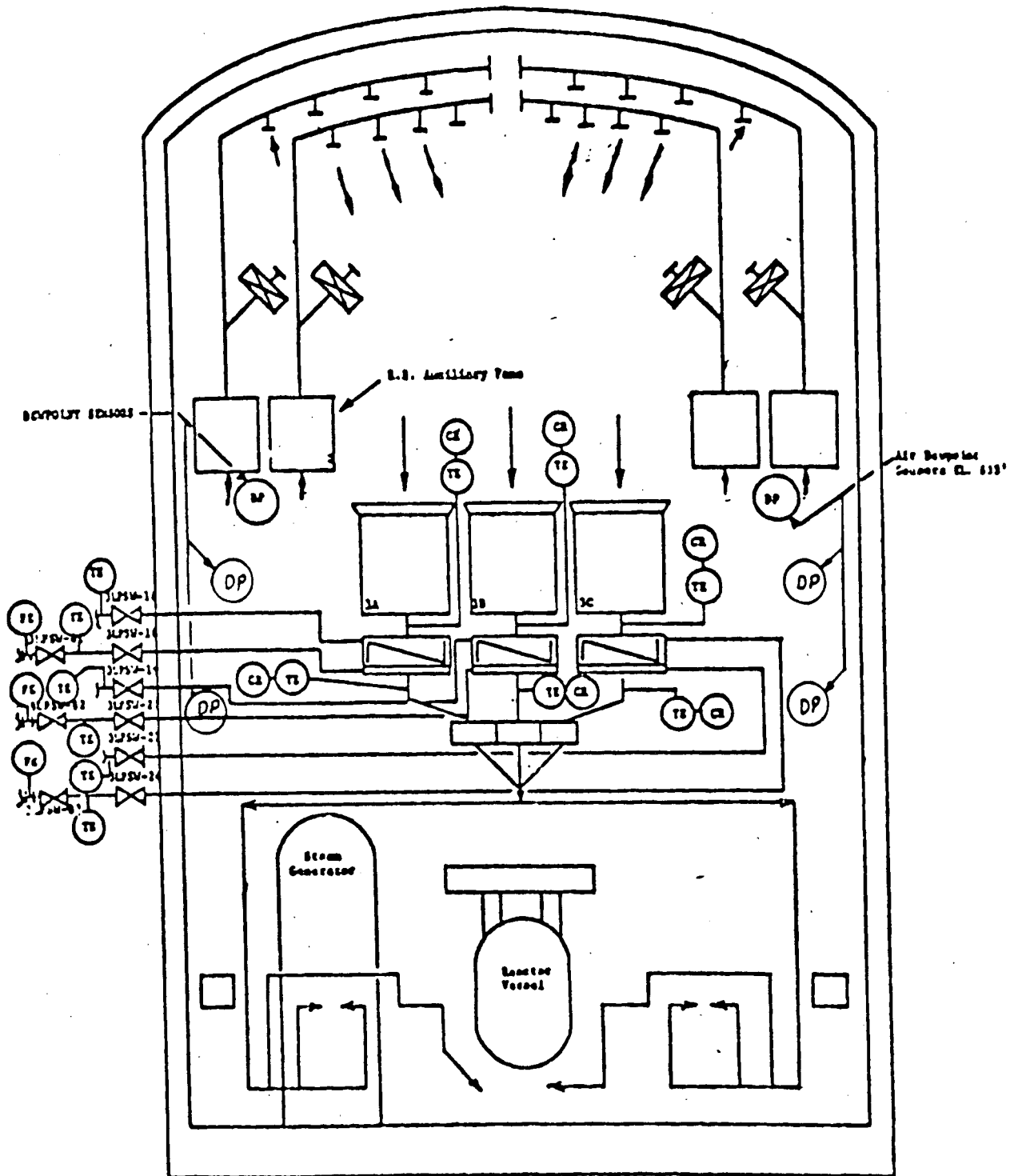


View of Spray Header Looking West
View of Polar Crane Looking North

APPENDIX D

Dewpoint Hygrometer Locations

REACTOR BUILDING AIR RECIRCULATION SYSTEM



APPENDIX E

Leakage Penalty Analysis

Leakage Penalty Analysis

The ILRT pressure instrumentation used penetration 45 to access the containment atmosphere, therefore a penalty for that penetration will also be added to the UCL determined during the Type A test.

The following is a summary of the results of the Type C tests penalties and the amended UCL for the ILRT.

PENETRATION NO.	VALVE NO.	MEASURED LEAK	PENALTY (wt%/day)
* 45	1LRT-24	2.3 sccm	5.197458E-6
	1LRT-25	0 sccm	0
		Total Penalty	0.0000

* Penalty due to Pressure instrumentation for ILRT

APPENDIX F

<u>Section Description</u>	<u>Page No.</u>
1. Analysis of Local Leakage Testing Data.....	F-2
2. Total Adjusted Leakage Summary.....	F-3
3. Testing Data from End of Cycle 10 RFO.....	F-4
4. Testing Data from End of Cycle 11 RFO.....	F-10
5. Testing Data from End of Cycle 12 RFO.....	F-16
6. Miscellaneous Testing Data.....	F-23
7. Local Leakage Test Failure Data.....	F-27

1. Analysis of Local Leakage Testing Data

The purpose of the Local Leakage Testing Program is to systematically verify the integrity of valves, electrical penetrations, and hatches that are part of the Containment boundary. These tests, specified by section 4.4.1.2 of Technical Specifications, have a combined acceptance criteria of less than or equal to 0.125% of the Reactor Building atmosphere in 24 hours. Final analysis of all penetration leakage shows that the total minimum path leakage rate was never found to be in excess of the allowable leakage for containment penetrations (See page F-3 for simplified summary of the total penetration leakage identified by local leakage testing for periods when Containment Integrity is required).

A summary of scheduled type "B" and "C" test results can be found in sections two and three of this Appendix. A summary of type "B" and "C" test failures can be found in section five of this Appendix. The testing and failures associated with maintenance between refueling outages is not listed.

DATE	MECH	PURGE	PERSONNEL	PERSONNEL	EMERGENCY	TOTAL	PERCENT OF ALLOWABLE
	LEAKAGE (lbm/hr)	LEAKAGE (lbm/hr)	HATCH (lbm/hr)	HATCH 'O' RING (lbm/hr)	HATCH (lbm/hr)	ADJUSTED LEAKAGE (lbm/hr)	
04/09/86	1.24915	0.3382	0.0138	0.0024	0	1.59215	4.52%
05/09/86	1.24945	0.40665	0.3808	0.0008	0.0549	1.7142	4.86%
06/09/86	1.24238	0.38065	0.03285	0.0008	0.0549	1.68693	4.79%
10/17/86	1.64344	0.3788	0.0433	0.0008	0.0266	2.051596	5.82%
10/19/86	1.27252	0.91807	0.3525	0.0008	0.0555	2.23294	6.34%
01/14/87	1.64344	0.37835	0.0433	0.00096	0.0555	2.08075	5.90%
03/18/87	1.64344	0.37835	0	0.0019	0.0555	2.07888	5.90%
06/17/87	1.6434	0.37835	0	0.0012	0.1064	2.13085	6.05%
09/07/87	1.432	0.30165	0	0.0024	0.1064	1.84305	5.23%
10/29/87	1.0865	0.30165	0	0.0028	0.1096	1.50045	4.26%
01/07/88	1.0633	0.34975	0	0.0028	0.1096	1.52495	4.33%
04/25/88	1.0633	0.34975	0	0.0028	0	1.4149	4.01%
08/18/88	1.0633	0.34975	0	0	0	1.41805	4.02%
01/05/89	1.0633	3.0263	0	0	0	4.0943	11.62%
02/09/89	1.0633	0.9272	0	0	0.1108	2.106	5.98%
02/16/89	1.56651	0.9272	0	0.0014	0.1108	2.60901	7.40%
08/30/89	1.4514	0.9272	0.8257	0.0012	0	2.3829	6.76%
12/08/89	1.6427	0.57955	0	0.0012	0	3.61295	10.25%
02/13/90	1.6427	0.57955	0	0.0012	0.2204	3.83365	10.88%
03/07/90	1.6427	0.57955	0.8442	0.0012	0.2204	3.83385	10.88%
05/28/90	1.591272	1.329160	1.685241	0.0012	0	2.9301315	8.31%

Note: 1. Leakage is adjusted for minimum path on Purge penetrations and Personnel Hatch.

2. Total Leakage includes values not shown on table in addition to those shown. These values are not major contributors to total leakage and are deleted for simplicity sake.

3. Testing Data From End of Cycle 10 Refueling Outage

Unit 1 EOC 10 Refueling Outage Type "C" Test Data

U N I T	P E N	VALVES	MEASURED LEAK RATE 9/87	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
1	1	1RC-7 1RC-49 1RC-50	1.9	L	20	2	20	
		1RC-5	0	L	20	2	20	
		1RC-6	1.3	L	20	2	20	40
1	2	1FDW-106 1FDW-117 1FDW-118 1FDW-119	52.8	L	20	2	54.8	
		1FDW-105	30	L	20	2	32	54.8
1	3	1CC-20 1CC-21 1CC-22 1CC-23 1CC-24	1150 0 0 38.1 1370	H M L L H	2000 200 20 20 2000	200 20 2 2 200	2000 200 20 40.1 2000	2260.1
1	4& 43	1FDW-329 1FDW-331	99	M	200	20	200	
		1FDW-103 1FDW-334	83	M	200	20	200	
		1FDW-104 1FDW-335	102	M	200	20	200	400
1	5a	1LWD-28 1LWD-1 1LWD-2 1LWD-27 1LWD-29	3.14 4.4					7.54
1	5b	1RC-164 1RC-165	340 340	H H	2000 2000	200 200	2000 2000	2000
1	6	1HP-5 1HP-36 1HP-37 1HP-38 1HP-3	63	L	20	2	65	
		1HP-3	18	L	20	2	20	

Unit 1 EOC 10 Refueling Outage Type "C" Test Data

U N I T	P E N	VALVES	MEASURED LEAK RATE 9/87	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
1	7	1HP-4	20	L	20	2	22	65
		1HP-20	0	L	20	2	20	
		1HP-21						
		1HP-69						
		1HP-70						
1	10a	1HP-68	18	L	20	2	20	20
		1HP-216	0	L	20	2	20	
		1HP-146	34.5	L	20	2	36.5	
		1HP-217						
		1HP-218						
1	10b	1HP-286						56.5
		1HP-223	0	L	20	2	20	
		1HP-147	3.4	L	20	2	20	
		1HP-225	6.5	L	20	2	20	
		1HP-393						40
1	11a	TUBE	0	L	20	2	20	20
1	11b	1SF-98	0	L	20	2	20	
		1SF-99	0	L	20	2	20	
		1SF-82	19	L	20	2	21	
		1SF-97	30.4	L	20	2	32.4	61
		1SF-72	0	L	20	2	20	
1	11c	1SF-73						
		1SF-74	0	L	20	2	20	20
		TUBE	30	L	20	2	32	32
1	12b	1SF-425	130	L	20	2	132	
		1SF-423	20.5	L	20	2	22.5	
		1SF-426	62	L	20	2	64	
		1SF-417	108	L	20	2	110	
		1SF-405	0	L	20	2	20	
		1SF-428	97	L	20	2	99	348.5
1	18	1GWD-10	0	L	20	2	20	

Unit 1 EOC 10 Refueling Outage Type "C" Test Data

U N I T	P E N T	VALVES	MEASURED LEAK RATE 9/87	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
		1GWD-11	33	M	200	20	200	
		1GWD-12						
		1GWD-13						220
1	19	1PR-29	0				0	
		1PR-5	45.9				45.9	
		1PR-6						45.9
1	20	1PR-27	0				0	
		1PR-1	3748				3748	
		1PR-2						3748
1	22	1LPSW-145	19.5	L	20	2	21.5	
		1LPSW-15	220	H	2000	200	2000	
		1LPSW-144						
		1PG-190						2021.5
1	23a	1HP-209	15.2	L	20	2	20	
		1HP-145	2	L	20	2	20	
		1HP-210						
		1HP-211						
		1HP-283						40
1	23b	1HP-202	0	L	20	2	20	
		1HP-144	3.5	L	20	2	20	
		1HP-203						
		1HP-204						
		1HP-284						40
1	24	1PR-81	0	L	20	2	20	20
		1PR-84	0	L	20	2	20	20
1	29	1CS-24	2	L	20	2	20	
		1CS-5	190	H	2000	200	2000	
		1CS-6						
		1CS-23						
		1CS-25						2020
1	38	1CS-12	160.2	L	20	2	162.2	

Unit 1 EOC 10 Refueling Outage Type "C" Test Data

U N I T	P E N T	VALVES	MEASURED LEAK RATE 9/87	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
		1CS-18	15	L	20	2	20	
		1CS-11	210	H	2000	200	2000	
		1CS-17						
		1CS-19						2020
1	41	1IA-90	54	L	20	2	56	
		1IA-91	164	L	20	2	166	166
1	42	1PR-87	1.2	L	20	2	20	20
		1PR-90	0	L	20	2	20	20
1	44	1CC-77	370	H	2000	200	2000	
		1CC-82	0	L	20	2	20	
		1CC-81	12	L	20	2	20	
		1CC-80	18.1	L	20	2	20.1	
		1CC-76	91	M	200	20	200	2060.1
1	45a	1LRT-24	0	L	20	2	20	
		1LRT-25	0	L	20	2	20	20
1	45b	1LRT-39	2.6	L	20	2	20	
		1LRT-38	4	L	20	2	20	20
1	46	1FW-66	0	L	20	2	20	
		1FW-64	18.4	L	20	2	20.4	
		1FW-65						40.4
1	47	1DW-155	98	L	20	2	100	
		1DW-156	4.5	L	20	2	20	
		1DW-284	0	L	20	2	20	100
1	48	1BA-33	3	L	20	2	20	
		1BA-5	210	H	2000	200	2000	2000
1	49	1N-246	67	M	200	20	200	
		1N-106	110	H	2000	200	2000	
		1N-107						2000

Unit 1 EOC 10 Refueling Outage Type "C" Test Data

U N I T	P E N	VALVES	MEASURED LEAK RATE 9/87	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
1	51	1LRT-17	64.2	L	20	2	66.2	66.2
1	54	1CC-97	0	L	20	2	20	
		1CC-98	0	L	20	2	20	
		1CC-99	0	L	20	2	20	
		1CC-7	202	M	200	20	222	
		1CC-8						
		1CC-54						
		1CC-55						
		1CC-56						282
1	55	1DW-59	24.3	L	20	2	26.3	
		1DW-60	31.9	L	20	2	33.9	33.9
1	58b	1FDW-108	50	L	20	2	52	
		1FDW-122						
		1FDW-123						
		1FDW-124						
		1FDW-107	18.1	L	20	2	20.1	52
1	60	1PR-24	80.1	L	20	2	82.1	
		1PR-7	52	L	20	2	54	
		1PR-8						
		1PR-23						
		1PR-59						
		1PR-68						136.1
1	61	1PR-25	0	L	20	2	20	
		1PR-9	7.6	L	20	2	20	
		1PR-10						
		1PR-60						40
Total								22677.54

4. Testing Data From End of Cycle 11 Refueling Outage

Unit 1 EOC 11 Refueling Outage Type "C" Test Data

U N I T	P E N	VALVES	MEASURED LEAK RATE 1/89	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
1	1	1RC-7 1RC-49 1RC-50	0	M	200	20	200	
		1RC-5 1RC-6	0 0	M M	200 200	20 20	200 200	400
1	2	1FDW-106 1FDW-117 1FDW-118 1FDW-119	21.6	L	20	2	23.6	
		1FDW-105	1.7	L	20	2	20	23.6
1	3	1CC-20 1CC-21 1CC-22 1CC-23 1CC-24	945 15.3 1.2 5.4 890	M L L L H	200 20 20 20 2000	20 2 2 2 200	965 20 20 20 2000	2000
1	4& 43	1FDW-329 1FDW-331	58	M	200	20	200	
		1FDW-103 1FDW-334	45	M	200	20	200	
		1FDW-104 1FDW-335	138	M	200	20	200	400
1	5a	1LWD-28 1LWD-1 1LWD-2 1LWD-27 1LWD-29	0.13 3.14					3.27
1	5b	1RC-164 1RC-165	60 8	M M	200 200	20 20	200 200	200
1	6	1HP-5 1HP-36 1HP-37 1HP-38 1HP-3	220 0	M	200	20	240	

Unit 1 EOC 11 Refueling Outage Type "C" Test Data

U N I T	P E N T	VALVES	MEASURED LEAK RATE 1/89	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
1	7	1HP-4	35	M	200	20	200	400
		1HP-20	12.3	L	20	2	20	
		1HP-21						
		1HP-69						
		1HP-70						
1	10a	1HP-68	12	M	200	20	200	200
		1HP-216	0	M	200	20	200	
		1HP-146	220	M	200	20	240	
		1HP-217						
		1HP-218						
1	10b	1HP-286						440
		1HP-223	9	L	20	2	20	
		1HP-147	0	L	20	2	20	
		1HP-225	16.1	L	20	2	20	
		1HP-393						40
1	11a	TUBE	0	L	20	2	20	20
1	11b	1SF-98	0.4	L	20	2	20	
		1SF-99	3.8	L	20	2	20	
		1SF-82	5.2	L	20	2	20	
		1SF-97	50	M	200	20	200	200
		1SF-72	7	L	20	2	20	
1	11c	1SF-73						
		1SF-74	5	L	20	2	20	20
		TUBE	0	L	20	2	20	20
1	12b	1SF-425	4.5	L	20	2	20	
		1SF-423	0	L	20	2	20	
		1SF-426	11	L	20	2	20	
		1SF-417	0	L	20	2	20	
		1SF-405	0	L	20	2	20	
		1SF-428	210	M	200	20	230	230
		1GWD-10	8.1	L	20	2	20	

Unit 1 EOC 11 Refueling Outage Type "C" Test Data

U N I T	P E N T	VALVES	MEASURED LEAK RATE 1/89	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
		1GWD-11	11.8	M	200	20	200	
		1GWD-12						
		1GWD-13						220
1	19	1PR-29	0				0	
		1PR-5	5905				5905	
		1PR-6						5905
1	20	1PR-27	0.5				0.5	
		1PR-1	5757				5757	
		1PR-2						5757.5
1	22	1LPSW-145	2	L	20	2	20	
		1LPSW-15	350	M	200	20	370	
		1LPSW-144						
		1PG-190						390
1	23a	1HP-209	0	M	200	20	200	
		1HP-145	0	M	200	20	200	
		1HP-210						
		1HP-211						
		1HP-283						400
1	23b	1HP-202	0	M	200	20	200	
		1HP-144	0	M	200	20	200	
		1HP-203						
		1HP-204						
		1HP-284						400
1	24	1PR-81	3.1	L	20	2	20	20
		1PR-84	2.2	L	20	2	20	20
1	29	1CS-24	1.3	L	20	2	20	
		1CS-5	16	M	200	20	200	
		1CS-6						
		1CS-23						
		1CS-25						220
1	38	1CS-12	413	M	200	20	433	

Unit 1 EOC 11 Refueling Outage Type "C" Test Data

U N I T	P E N T	VALVES	MEASURED LEAK RATE 1/89	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
		1CS-18	3.1	L	20	2	20	
		1CS-11	246	M	200	20	266	
		1CS-17						
		1CS-19						433
1	41	1IA-90	142	M	200	20	200	
		1IA-91	160	M	200	20	200	200
1	42	1PR-87	4	L	20	2	20	20
		1PR-90	2.5	L	20	2	20	20
1	44	1CC-77	860	M	200	20	880	
		1CC-82	10	M	200	20	200	
		1CC-81	0	M	200	20	200	
		1CC-80	66	M	200	20	200	
		1CC-76	249	M	200	20	269	1480
1	45a	1LRT-24	1	L	20	2	20	
		1LRT-25	0	L	20	2	20	20
1	45b	1LRT-39	6	L	20	2	20	
		1LRT-38	2	L	20	2	20	20
1	46	1FW-66	2.2	L	20	2	20	
		1FW-64	6.4	L	20	2	20	
		1FW-65						40
1	47	1DW-155	101	M	200	20	200	
		1DW-156	4	M	200	20	200	
		1DW-284	3	L	20	2	20	220
1	48	1BA-33	58.5	L	20	2	60.5	
		1BA-5	179.5	L	20	2	181.5	181.5
1	49	1N-246	270	M	200	20	290	
		1N-247	0	L	20	2	20	

Unit 1 EOC 11 Refueling Outage Type "C" Test Data

U N I T	P E N	VALVES	MEASURED LEAK RATE 1/89	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
		1N-106	40	M	200	20	200	
		1N-107						310
1	51	1LRT-17	34	M	200	20	200	200
1	54	1CC-97	5	M	200	20	200	
		1CC-98	6	M	200	20	200	
		1CC-99	4	L	20	2	20	
		1CC-7	3700	H	2000	200	3900	
		1CC-8						
		1CC-54						
		1CC-55						
		1CC-56						4320
1	55	1DW-59	3.5	L	20	2	20	
		1DW-60	6	L	20	2	20	20
1	58b	1FDW-108	2.3	L	20	2	20	
		1FDW-122						
		1FDW-123						
		1FDW-124						
		1FDW-107	0	L	20	2	20	20
1	60	1PR-24	40.5	L	20	2	42.5	
		1PR-7	0	M	200	20	200	
		1PR-8						
		1PR-23						
		1PR-59						
		1PR-68						242.5
1	61	1PR-25	8.8	L	20	2	20	
		1PR-9	20	M	200	20	200	
		1PR-10						
		1PR-60						220
Total								25896.37

5. Testing Data From End of Cycle 12 Refueling Outage

Unit 1 EOC 12 Refueling Outage Type "C" Test Data

U N I T	P E N	VALVES	MEASURED LEAK RATE 5/90	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
1	1	1RC-7 1RC-49 1RC-50	23.3	L	20	2	25.3	
		1RC-5 1RC-6	19.5 1.6	L L	20 20	2 2	21.5 20	41.5
1	2	1FDW-106 1FDW-117 1FDW-118 1FDW-119	8	L	20	2	20	
		1FDW-105	2.3	L	20	2	20	20
1	3	1CC-20 1CC-21 1CC-22 1CC-23 1CC-24	803 0 0 17.6 775	M L L L M	200 20 20 20 200	20 2 2 2 20	823 20 20 20 795	883
1	4& 43	1FDW-329 1FDW-331	4.8	L	20	2	20	
		1FDW-103 1FDW-334	77.2	L	20	2	79.2	
		1FDW-104 1FDW-335	552	M	200	20	572	651.2
1	5a	1LWD-28	0.06					
		1LWD-1 1LWD-2 1LWD-27 1LWD-29	1.11					1.17
1	5b	1RC-164 1RC-165	56.5 1.5	L L	20 20	2 2	58.5 20	58.5
1	6	1HP-5 1HP-36 1HP-37 1HP-38	44.6	L	20	2	46.6	
		1HP-3	37.5	L	20	2	39.5	

Unit 1 EOC 12 Refueling Outage Type "C" Test Data

UNIT	PIPE VALVES	MEASURED LEAK RATE 5/90	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	ERROR	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
1 7	1HP-4	29.2	L	20	2	31.2	70.7
	1HP-20	0	L	20	2	20	
	1HP-21						
	1HP-69						
	1HP-70						
1 10a	1HP-68	5	L	20	2	20	20
	1HP-216	0	L	20	2	20	
	1HP-146	3.1	L	20	2	20	
	1HP-217						
	1HP-218						
1 10b	1HP-286						40
	1HP-223	0	L	20	2	20	
	1HP-147	15.4	L	20	2	20	
	1HP-225	6.1	L	20	2	20	
	1HP-393						40
1 11a	TUBE	0	L	20	2	20	20
1 11b	1SF-98	2.6	L	20	2	20	
	1SF-99	2.9	L	20	2	20	
	1SF-82	16.4	L	20	2	20	
	1SF-97	0	L	20	2	20	60
1 11c	1SF-72	4.5	L	20	2	20	
	1SF-73						
	1SF-74	3.7	L	20	2	20	20
1 12a	TUBE	0	L	20	2	20	20
1 12b	1SF-425	0	L	20	2	20	
	1SF-423	80	L	20	2	82	
	1SF-426	40	L	20	2	42	
	1SF-417	4.1	L	20	2	20	
	1SF-405	0	L	20	2	20	
	1SF-428	21.6	L	20	2	23.6	184
1 18	1GWD-10	0	L	20	2	20	

Unit 1 EOC 12 Refueling Outage Type "C" Test Data

U N I T	P E N	VALVES	MEASURED LEAK RATE 5/90	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
		1GWD-11	2.5	L	20	2	20	
		1GWD-12						
		1GWD-13						40
1	19	1PR-29	0				0	
		1PR-5	4970				4970	
		1PR-6						4970
1	20	1PR-27	0.63				0.63	
		1PR-1	11748				11748	
		1PR-2						11748.63
1	22	1LPSW-145	20	L	20	2	22	
		1LPSW-15	1070	M	200	20	1090	
		1LPSW-144						
		1PG-190						1112
1	23a	1HP-209	0	L	20	2	20	
		1HP-145	0	L	20	2	20	
		1HP-210						
		1HP-211						
		1HP-283						40
1	23b	1HP-202	1.4	L	20	2	20	
		1HP-144	2.7	L	20	2	20	
		1HP-203						
		1HP-204						
		1HP-284						40
1	24	1PR-81	0	L	20	2	20	20
		1PR-84	0	L	20	2	20	20
1	29	1CS-24	0	L	20	2	20	
		1CS-5	80.2	M	200	20	200	
		1CS-6						
		1CS-23						
		1CS-25						220
1	38	1CS-12	147.8	L	20	2	149.8	

Unit 1 EOC 12 Refueling Outage Type "C" Test Data

U N I T	P E N T	VALVES	MEASURED LEAK RATE 5/90	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
		1CS-18	0 L		20	2	20	
		1CS-11	208 L		20	2	210	
		1CS-17						
		1CS-19						230
1	39	1CF-44	1570 M		200	20	1590	
		1CF-45	0 L		20	2	20	
		1HP-156	15.7 L		20	2	20	
		1CA-29						
		1CF-41						
		1N-131						1610
1	41	1IA-90	68.5 L		20	2	70.5	
		1IA-91	133.3 L		20	2	135.3	135.3
1	42	1PR-87	1.5 L		20	2	20	20
		1PR-90	0 L		20	2	20	20
1	44	1CC-77	130 L		20	2	132	
		1CC-82	0 L		20	2	20	
		1CC-81	0 L		20	2	20	
		1CC-80	0 L		20	2	20	
		1CC-76	665 M		200	20	685	685
1	45a	1LRT-24	2.3 L		20	2	20	
		1LRT-25	0 L		20	2	20	20
1	45b	1LRT-39	0 L		20	2	20	
		1LRT-38	0 L		20	2	20	20
1	46	1FW-66	1.3 L		20	2	20	
		1FW-64	0 L		20	2	20	
		1FW-65						40
1	47	1DW-155	30 L		20	2	32	
		1DW-156	0 L		20	2	20	
		1DW-284	0 L		20	2	20	40

Unit 1 EOC 12 Refueling Outage Type "C" Test Data

U N I T	P E N T	VALVES	MEASURED LEAK RATE 5/90	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
1	48	1BA-33	40	L	20	2	42	
		1BA-5	670	M	200	20	690	690
1	49	1N-246	132.8	L	20	2	134.8	
		1N-247	0	L	20	2	20	
		1N-106	19.8	L	20	2	21.8	
		1N-107						154.8
1	51	1LRT-17	15.8	L	20	2	20	
		1LRT-54	0	L	20	2	20	40
1	53	1CF-42	13.9	L	20	2	20	
		1CF-43	0	L	20	2	20	
		1HP-155	315	M	200	20	335	
		1CA-27						
		1CF-47						
		1N-129						335
1	54	1CC-97	0	L	20	2	20	
		1CC-98	6	L	20	2	20	
		1CC-99	0	L	20	2	20	
		1CC-7	1960	M	200	20	1980	
		1CC-8						
		1CC-54						
		1CC-55						
		1CC-56						2040
1	55	1DW-59	410	M	200	20	430	
		1DW-60	422	M	200	20	442	442
1	58b	1FDW-108	113	L	20	2	115	
		1FDW-122						
		1FDW-123						
		1FDW-124						
		1FDW-107	53.5	L	20	2	55.5	115
1	60	1PR-24	0.2	L	20	2	20	

Unit 1 EOC 12 Refueling Outage Type "C" Test Data

U N I T	P E N	VALVES	MEASURED LEAK RATE 5/90	SCALE USED (H/M/L)	RANGE LOWER LIMIT (sccm)	E R R	REPORTED LEAKAGE (sccm)	MAXIMUM PATH LEAK RATE (sccm)
		1PR-7	4.6	L	20	2	20	
		1PR-8						
		1PR-23						
		1PR-59						
		1PR-68						40
1	61	1PR-25	1.2	L	20	2	20	
		1PR-9	19	L	20	2	21	
		1PR-10						
		1PR-60						41
Total								27058.8

6. Miscellaneous Testing Data

Type "B" Leak Rate Testing Data

PENETRATION	TEST DATE	MEASURED LEAKAGE (lbm/hr)	MEASURED LEAKAGE (sccm)
EQUIPMENT HATCH	05/22/86	0	0.00
	08/14/86	0.00009	0.56
	09/02/87	0.0002	1.25
	10/29/87	0.0003	1.88
	01/05/89	0.003	18.82
	02/06/89	0.001	6.27
	05/24/90	0	0.00
EMERGENCY HATCH	04/16/86	0.0549	344.47
	08/14/86	0.0266	166.90
	01/14/87	0.0555	348.23
	03/26/87	0	0.00
	06/17/87	0.1064	667.60
	10/28/87	0.1096	687.68
	03/29/88	0	0.00
	09/01/88	0	0.00
	02/08/89	0.1108	695.21
	08/14/89	0	0.00
	02/13/90	0.2204	1382.89
	05/24/90	0	0.00
PERSONNEL HATCH	04/24/86	0.3808	2389.32
	05/25/86	0.03285	206.12
	08/15/86	0	0.00
	10/17/86	0.045	282.35
	03/17/87	1.7	10666.60
	03/18/87	0	0.00
	04/10/87	0	0.00
	08/18/87	0	0.00
	11/01/87	0	0.00
	04/06/88	0	0.00
	08/31/88	0	0.00
	02/10/89	0	0.00
PERSONNEL HATCH	03/03/89	0	0.00
	08/30/89	0.8257	5180.83
	10/05/89	0	0.00
	03/07/90	0.8442	5296.91
	05/25/90	1.685	10572.48
PERSONNEL HATCH "O" RING	04/29/86	0.0016	10.04
	05/02/86	0.0008	5.02
	05/05/86	0.0004	2.51
	05/10/86	0.00312	19.58
	05/27/86	0.0068	42.67

Type "B" Leak Rate Testing Data

PENETRATION	TEST DATE	MEASURED LEAKAGE (lbm/hr)	MEASURED LEAKAGE (sccm)
PERSONNEL	08/17/86	0.001	6.27
HATCH	09/09/86	0.00104	6.53
"O" RING	10/20/86	0.0012	7.53
	10/21/86	0.0008	5.02
	02/23/87	0.0012	7.53
	02/26/87	0.002	12.55
	02/27/87	0.00148	9.29
	03/02/87	0.00068	4.27
	03/04/87	0.0014	8.78
	03/06/87	0.00088	5.52
	03/27/87	0.0004	2.51
	03/31/87	0.0008	5.02
	04/09/87	0.0004	2.51
	04/12/87	0.00112	7.03
	04/21/87	0.00096	6.02
	05/21/87	0.0016	10.04
	07/28/87	0.0004	2.51
	08/28/87	0.0012	7.53
	11/05/87	0.0016	10.04
	11/06/87	0.0004	2.51
	11/11/87	0.0008	5.02
	11/20/87	0.0008	5.02
	12/09/87	0.0036	22.59
	12/12/87	0.0012	7.53
	12/22/87	0.004	25.10
	01/07/88	0.0008	5.02
	03/12/88	0.0012	7.53
	04/25/88	0.00035	2.20
	06/14/88	0.0004	2.51
	07/01/88	0.0004	2.51
	07/06/88	0.0004	2.51
	08/18/88	0.0007	4.39
	09/07/88	0.002	12.55
	09/28/88	0.0012	7.53
	11/09/88	0.0008	5.02
	12/14/88	0.004	25.10
	01/03/89	0.0004	2.51
	02/13/89	0.002	12.55
	02/16/89	0.0016	10.04
	02/23/89	0.0004	2.51
	03/05/89	0.0004	2.51

Type "B" Leak Rate Testing Data

PENETRATION	TEST DATE	MEASURED LEAKAGE (lbm/hr)	MEASURED LEAKAGE (sccm)
PERSONNEL	03/23/89	0.0008	5.02
HATCH	05/05/89	0.004	25.10
"O" RING	08/09/89	0.0024	15.06
	08/11/89	0.0027	16.94
	08/21/89	0.0037	23.22
	09/11/89	0.0003	1.88
	10/06/89	0.0011	6.90
	10/13/89	0.001	6.27
	10/20/89	0.0009	5.65
	11/08/89	0.001	6.27
	12/08/89	0.0007	4.39
	02/07/90	0.001	6.27
ELECTRICAL	09/06/87	0.014	87.84
PENETRATIONS	02/08/89	0.0111	69.65
	05/15/90	0.00016	1.00

7. Local Leakage Test Failure Data

U1EOC10 Type "C" Test Failure Data

PEN No.	VALVE No.	TEST DATE	CAUSE OF FAILURE	REPAIR
2	1FDW-105	09/07/87	Body to Bonnet Leak	New Gasket
2	1FDW-149	09/07/87	Body to Bonnet Leak	New Gasket
5a	1LWD-1	09/03/87	Seat Leak	Repaired Diaphragm
5a	1LWD-2	09/03/87	Seat Leak	Lapped Seat
10a	1HP-216	09/08/87	Seat Leak	Worked on Seat
12b	1HP-425	09/11/87	Seat Leak	Replaced Internals
19	1PR-29	10/30/87	Seat Leak	Replace Diaphragm
20	1PR-1	10/30/87	Seat Leak	Adjusted Gasket
29	1CS-24	09/14/87	Seat Leak	Replaced Valve
29	1CS-5	09/14/87	Seat Leak	Replaced Diaphragm
29	1CS-6	09/14/87	Seat Leak	Replaced Diaphragm
38	1CS-18	09/13/87	Seat Leak	Lapped Seat
38	1CS-12	09/13/87	Seat Leak	Lapped Seat
38	1CS-11	09/13/87	Seat Leak	Lapped Seat
44	1CC-76	09/13/87	Seat Leak	Reseated
44	1CC-82	09/13/87	Seat Leak	Replaced Valve
44	1CC-77	09/13/87	Seat Leak	Replaced Valve
54	1CC-7	09/12/87	Seat Leak	Replaced Valve
58b	1FDW-107	09/07/87	Seat Leak	Refurbished Valve
58b	1FDW-124	09/07/87	Seat Leak	Lapped Seat
61	1PR-10	09/05/87	Seat Leak	Replaced Diaphragm

U1EOC11 Type "C" Test Failure Data

PEN No.	VALVE No.	TEST DATE	CAUSE OF FAILURE	REPAIR
2	1FDW-118	01/06/89	Seat leak	Replaced Valve
4	1FDW-329	01/15/89	Seat Leak	Cleaned Valve
18	1GWD-10	01/06/89	Packing Leak	Replaced Packing
19	1PR-5	01/04/89	Seat Leak	Adjusted Seat
20	1PR-27	01/04/89	Seat Leak	Replaced Diaphragm
38	1CS-12	01/13/89	Seat Leak	Rebuilt Valve
41	1IA-90	01/07/89	Seat Leak	Replaced Ball
41	1IA-91	01/07/89	Seat Leak	Replaced Ball
46	1FW-64	01/08/89	Seat Leak	Replaced Diaphragm
54	1CC-7	01/09/89	Seat Leak	Replaced Seat ring
54	1CC-8	02/04/89	Seat Leak	Repaired
58b	1FDW-107	01/07/89	Packing Leak	Tightened Packing
58b	1FDW-108	01/07/89	Seat Leak	Replaced Operator
58b	1FDW-124	01/07/89	Seat Leak	Replaced Valve
58b	1FDW-123	01/07/89	Seat Leak	Replaced Disc
61	1PR-10	09/05/87	Seat Leak	Replaced Diaphragm

Unit 1 EOC12 Type "C" Failure Data

PEN No.	VALVE No.	TEST DATE	CAUSE OF FAILURE	REPAIR
1	1RC-6	05/10/90	Seat Leak	Replaced Valve
2	1FDW-104	05/18/90	Seat Leak	Adjusted Torque
2	1FDW-329	09/07/87	Seat Leak	Repaired
5b	1RC-164	05/02/90	Seat Leak	Cleaned Valve
5b	1RC-165	05/02/90	Seat Leak	Cleaned Valve
20	1PR-1	05/24/90	Seat Leak	Repair Next Oppor.
38	1CS-12	05/18/90	Seat Leak	Replaced Valve
38	1CS-11	05/03/90	Seat Leak	Replaced Valve
39	1CF-44	05/20/90	Seat Leak	Cleaned Valve
44	1CC-76	05/03/90	Seat Leak	Replaced Valve
46	1FW-64	05/01/90	Seat Leak	Replaced Diaphragm
46	1FW-65	05/20/90	Body to Bonnet Leak	Tighten B/B Joint
47	1DW-156	05/01/90	Seat Leak	Replaced Valve
48	1BA-5	05/07/90	Seat Leak	Repair Next Oppor.
53	1N-129	05/20/90	Seat Leak	Cleaned Valve
53	1CF-42	05/20/90	Seat Leak	Cleaned Valve
54	1CC-7	05/03/90	Seat Leak	Replaced Seat Ring
58b	1FDW-124	05/09/90	Seat Leak	Replaced Valve
60	1PR-59	05/12/90	Valve would not close	Adjusted Limits
61	1PR-60	05/12/90	Valve would not close	Adjusted Limits

APPENDIX G

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1. Total Time Leak Rate Analysis

Total Time Leak Rate Analysis

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Oconee Nuclear Station
Unit 1 - 5/90

RDG	TIME (MINUTES)	MEASURED LEAK (WT %/DAY)	CALCULATED LEAK (WT %/DAY)	UCL LEAK (WT %/DAY)
98	0.00	-	-	-
99	15.00	0.051425	-	-
100	30.02	0.148660	0.148660	-
101	45.03	0.108998	0.131814	0.673230
102	60.03	0.137522	0.144440	0.347895
103	75.03	0.148816	0.155808	0.286387
104	90.05	0.133166	0.152698	0.261957
105	105.07	0.100104	0.134978	0.245921
106	120.07	0.137288	0.139165	0.234381
107	135.25	0.117497	0.134266	0.221360
108	150.08	0.097337	0.123763	0.208147
109	164.63	0.105081	0.118696	0.197245
110	179.78	0.115820	0.118108	0.190957
111	194.80	0.109866	0.116018	0.184339
112	209.80	0.113437	0.115323	0.179664
113	224.82	0.109795	0.113900	0.174909
114	239.82	0.095419	0.109493	0.168427
115	254.83	0.111001	0.109305	0.165622
116	269.83	0.104669	0.107869	0.161901
117	284.85	0.121114	0.109901	0.162325
118	299.85	0.113375	0.110170	0.160749
119	314.87	0.127354	0.112889	0.162466
120	329.87	0.114749	0.113059	0.161074
121	345.10	0.109753	0.112389	0.158993
122	360.25	0.116021	0.112801	0.158117

2. Containment Calculated Values

Containment Calculated Values

Oconee Nuclear Station
Unit 1 - 5/90

RDG	TIME	MASS	TEMP	VAPOR PRESS	PRESSURE
1	10:55:05	132588.57	82.124	0.4093	14.6950
2	11:10:14	137355.27	83.386	0.4106	15.2443
3	11:25:15	143902.98	85.000	0.4069	15.9939
4	11:40:15	150753.01	85.658	0.4019	16.7506
5	11:55:16	159888.08	86.532	0.3908	17.7579
6	12:10:16	168897.68	87.118	0.3820	18.7475
7	12:25:21	177954.84	87.451	0.3759	19.7380
8	12:40:17	186815.65	87.647	0.3775	20.7110
9	12:55:18	195720.62	87.830	0.3765	21.6863
10	13:10:25	204704.04	87.947	0.3765	22.6692
11	13:25:19	213489.03	88.071	0.3782	23.6328
12	13:40:19	222294.21	88.163	0.3852	24.6031
13	13:55:20	231111.58	88.247	0.3903	25.5726
14	14:10:20	239936.16	88.343	0.3941	26.5425
15	14:25:21	248726.31	88.401	0.4022	27.5115
16	14:40:24	257521.01	88.462	0.4097	28.4806
17	14:55:22	266220.49	88.543	0.4159	29.4394
18	15:10:22	273940.93	88.478	0.4207	30.2823
19	15:25:23	281222.25	88.363	0.4254	31.0744
20	15:40:23	288640.52	88.294	0.4305	31.8840
21	15:55:24	297485.27	88.519	0.4329	32.8635
22	16:10:24	306228.20	88.702	0.4338	33.8287
23	16:25:25	314935.37	88.828	0.4371	34.7893
24	16:40:05	323434.69	88.944	0.4404	35.7273
25	16:55:14	332256.00	88.488	0.4469	36.6660
26	17:10:15	342352.61	83.756	0.4529	37.4504
27	17:25:15	348829.20	85.043	0.4597	38.2464
28	17:40:16	355908.68	85.395	0.4671	39.0457
29	17:55:21	366114.53	81.167	0.4739	39.8509
30	18:10:17	370240.19	85.881	0.4799	40.6477
31	18:25:17	377137.19	88.663	0.4872	41.6119

Containment Calculated Values

Oconee Nuclear Station
Unit 1 - 5/90

RDG	TIME	MASS	TEMP	VAPOR PRESS	PRESSURE
32	18:40:18	385668.33	89.092	0.4925	42.5804
33	18:55:18	394377.92	89.223	0.4958	43.5445
34	19:10:19	403255.11	89.046	0.5004	44.5038
35	19:25:19	411987.94	89.054	0.5027	45.4597
36	19:40:20	420631.36	89.167	0.5059	46.4155
37	19:55:20	429412.33	89.068	0.5089	47.3685
38	20:10:21	437634.25	89.687	0.5114	48.3221
39	20:25:22	447081.30	88.739	0.5144	49.2729
40	20:40:22	455636.87	88.930	0.5169	50.2258
41	20:55:23	464229.93	89.069	0.5192	51.1783
42	21:10:23	472162.81	89.954	0.5212	52.1292
43	21:25:24	480778.13	90.026	0.5227	53.0793
44	21:40:24	489365.94	90.080	0.5253	54.0259
45	21:55:25	497942.46	90.130	0.5271	54.9702
46	22:10:25	506652.74	90.039	0.5277	55.9140
47	22:25:26	515186.02	90.145	0.5293	56.8594
48	22:40:26	523782.29	90.182	0.5309	57.8047
49	22:55:27	532486.57	90.102	0.5324	58.7494
50	23:10:27	540991.32	90.207	0.5332	59.6914
51	23:25:28	549448.59	90.307	0.5343	60.6283
52	23:40:28	558024.50	90.269	0.5354	61.5632
53	23:55:29	566826.28	90.002	0.5362	62.4964
54	00:10:29	575356.55	89.993	0.5374	63.4290
55	00:25:30	584970.27	88.972	0.5387	64.3624
56	00:40:30	594453.34	88.082	0.5395	65.2926
57	00:55:31	604155.04	87.017	0.5409	66.2229
58	01:10:31	613138.43	86.599	0.5413	67.1490
59	01:25:32	617012.09	90.689	0.5424	68.0727
60	01:40:32	625324.95	90.791	0.5429	68.9957
61	01:55:33	633717.04	90.811	0.5437	69.9177
62	02:10:33	642036.63	90.847	0.5449	70.8343

Containment Calculated Values

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Oconee Nuclear Station
Unit 1 - 5/90

RDG	TIME	MASS	TEMP	VAPOR PRESS	PRESSURE
63	02:25:34	650457.15	90.782	0.5459	71.7487
64	02:40:34	658657.16	90.870	0.5467	72.6587
65	02:55:35	666818.28	90.955	0.5475	73.5643
66	03:10:35	675025.07	90.985	0.5485	74.4679
67	03:25:36	682140.69	90.945	0.5490	75.2422
68	03:40:36	687017.13	90.747	0.5481	75.7482
69	03:45:06	687469.88	90.537	0.5473	75.7682
70	04:02:10	687048.31	89.834	0.5454	75.6242
71	04:15:07	686702.38	89.424	0.5468	75.5319
72	04:30:16	686612.00	88.984	0.5460	75.4610
73	04:45:17	686530.02	88.657	0.5453	75.4067
74	05:00:06	686471.42	88.375	0.5460	75.3626
75	05:15:15	686421.86	88.132	0.5458	75.3239
76	05:30:16	686347.34	87.947	0.5464	75.2910
77	05:45:16	686295.70	87.767	0.5473	75.2616
78	06:00:17	686241.63	87.621	0.5459	75.2346
79	06:15:17	686228.04	87.456	0.5452	75.2098
80	06:30:18	686212.58	87.329	0.5434	75.1890
81	06:45:18	686171.13	87.217	0.5427	75.1686
82	07:00:19	686163.89	87.086	0.5422	75.1493
83	07:15:19	686136.32	86.985	0.5420	75.1323
84	07:30:20	686090.43	86.891	0.5431	75.1156
85	07:45:20	686075.14	86.791	0.5431	75.1003
86	08:00:21	686070.97	86.696	0.5417	75.0855
87	08:15:21	686028.45	86.623	0.5432	75.0725
88	08:30:22	686004.67	86.551	0.5429	75.0598
89	08:45:22	685973.48	86.474	0.5437	75.0467
90	09:00:23	686007.67	86.378	0.5429	75.0365
91	09:15:24	685946.02	86.326	0.5444	75.0242
92	09:30:24	685956.78	86.245	0.5445	75.0145
93	09:45:24	685964.64	86.157	0.5443	75.0031

Containment Calculated Values

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Oconee Nuclear Station
Unit 1 - 5/90

RDG	TIME	MASS	TEMP	VAPOR PRESS	PRESSURE
94	10:00:25	685899.50	86.135	0.5447	74.9934
95	10:15:25	685911.51	86.060	0.5443	74.9841
96	10:30:26	685879.40	86.013	0.5446	74.9745
97	10:45:27	685875.64	85.957	0.5448	74.9667
98	11:00:27	685861.36	85.902	0.5450	74.9578
99	11:15:27	685857.69	85.845	0.5447	74.9494
100	11:30:28	685840.11	85.800	0.5451	74.9417
101	11:45:29	685837.99	85.748	0.5448	74.9339
102	12:00:29	685822.04	85.703	0.5450	74.9264
103	12:15:29	685808.18	85.663	0.5446	74.9190
104	12:30:30	685804.25	85.611	0.5444	74.9113
105	12:45:31	685811.27	85.562	0.5447	74.9056
106	13:00:31	685782.85	85.528	0.5446	74.8979
107	13:15:42	685785.67	85.476	0.5442	74.8907
108	13:30:32	685791.78	85.436	0.5444	74.8860
109	13:45:05	685778.97	85.399	0.5440	74.8792
110	14:00:14	685762.19	85.363	0.5441	74.8726
111	14:15:15	685759.43	85.328	0.5441	74.8675
112	14:30:15	685748.01	85.294	0.5440	74.8616
113	14:45:16	685743.80	85.261	0.5441	74.8567
114	15:00:16	685752.37	85.219	0.5435	74.8512
115	15:15:17	685726.64	85.194	0.5442	74.8458
116	15:30:17	685726.84	85.157	0.5441	74.8407
117	15:45:18	685697.05	85.137	0.5438	74.8345
118	16:00:18	685699.45	85.105	0.5435	74.8301
119	16:15:19	685670.37	85.090	0.5437	74.8250
120	16:30:19	685681.08	85.044	0.5437	74.8200
121	16:45:33	685680.97	85.020	0.5437	74.8167
122	17:00:42	685662.29	84.994	0.5434	74.8107
123	17:05:16	685675.14	84.978	0.5432	74.8098
124	17:10:25	685681.22	84.959	0.5438	74.8084

Containment Calculated Values

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Oconee Nuclear Station
Unit 1 - 5/90

RDG	TIME	MASS	TEMP	VAPOR PRESS	PRESSURE
125	17:15:25	685684.42	84.946	0.5432	74.8064
126	17:20:25	685638.44	84.965	0.5434	74.8042
127	17:25:25	685647.57	84.936	0.5438	74.8016
128	17:30:26	685639.00	84.932	0.5437	74.8001
129	17:35:26	685618.11	84.933	0.5432	74.7975
130	17:40:26	685617.30	84.923	0.5432	74.7960
131	17:45:26	685623.71	84.903	0.5433	74.7941
132	17:50:26	685599.80	84.904	0.5430	74.7913
133	17:55:26	685590.97	84.893	0.5435	74.7894
134	18:00:27	685576.19	84.883	0.5434	74.7863
135	18:05:27	685561.17	84.879	0.5435	74.7842
136	18:10:27	685557.39	84.866	0.5429	74.7815
137	18:15:27	685550.51	84.863	0.5433	74.7806
138	18:20:27	685546.42	84.850	0.5436	74.7788
139	18:25:27	685535.93	84.843	0.5433	74.7764
140	18:30:28	685519.05	84.838	0.5430	74.7735
141	18:35:28	685532.33	84.823	0.5431	74.7731
142	18:40:28	685528.56	84.807	0.5429	74.7703
143	18:45:28	685527.45	84.798	0.5432	74.7692
144	18:50:28	685503.89	84.792	0.5431	74.7657
145	18:55:28	685504.01	84.781	0.5430	74.7642
146	19:00:29	685493.95	84.779	0.5429	74.7627
147	19:05:29	685467.85	84.777	0.5430	74.7598
148	19:10:29	685458.61	84.770	0.5432	74.7580
149	19:15:29	685463.25	84.753	0.5435	74.7565
150	19:20:29	685459.58	84.747	0.5432	74.7549
151	19:25:29	685444.64	84.742	0.5432	74.7526
152	19:30:30	685434.17	84.734	0.5434	74.7505
153	19:35:30	685427.57	84.721	0.5431	74.7478
154	19:40:30	685419.19	84.719	0.5432	74.7467
155	19:45:30	685409.50	84.710	0.5433	74.7446

Containment Calculated Values

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Oconee Nuclear Station
Unit 1 - 5/90

RDG	TIME	MASS	TEMP	VAPOR PRESS	PRESSURE
156	19:50:30	685402.81	84.704	0.5432	74.7429
157	19:55:30	685390.19	84.697	0.5431	74.7404
158	20:00:31	685388.08	84.690	0.5432	74.7394
159	20:05:31	685376.21	84.679	0.5429	74.7364
160	20:10:31	685368.45	84.677	0.5431	74.7354
161	20:15:31	685359.78	84.670	0.5427	74.7331
162	20:20:31	685361.66	84.658	0.5430	74.7320
163	20:25:31	685347.26	84.651	0.5431	74.7296
164	20:30:32	685337.21	84.647	0.5433	74.7282
165	20:35:32	685326.26	84.645	0.5428	74.7262
166	20:40:32	685320.08	84.635	0.5430	74.7243
167	20:45:32	685317.48	84.624	0.5428	74.7224
168	20:50:32	685292.05	84.622	0.5431	74.7197
169	20:55:33	685304.87	84.610	0.5429	74.7193
170	21:00:33	685286.02	84.604	0.5432	74.7167
171	21:05:33	685275.05	84.599	0.5426	74.7142
172	21:10:33	685272.86	84.595	0.5428	74.7136
173	21:15:33	685258.54	84.590	0.5430	74.7115

3. Calibrated Instrument Data

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 69 - May 26 03:45:06

Pressures (PSIA)

1.. 3 75.771 75.766 14.314

Dew Points (°F)

1.. 6 79.86 79.684 83.48 87.532 84.234 85.008

Temperatures (°F)

1..14 81.55 83.227 84.956 82.329 82.348 84.939 83.233 84.599 85.031 84.047 77.82 78.401 83.759 84.245
15..24 83.999 84.585 84.743 98.208 98.86 83.199 84.461 98.634 98.832 98.864

Reading # 70 - May 26 04:02:10

Pressures (PSIA)

1.. 3 75.626 75.622 14.313

Dew Points (°F)

1.. 6 79.71 79.729 83.238 87.316 84.621 85.691

Temperatures (°F)

1..14 81.262 81.996 84.444 82.696 82.39 84.47 83.131 84.367 84.841 83.801 77.75 77.807 82.513 83.831
15..24 83.841 84.278 84.367 97.198 97.463 83.046 84.135 97.433 97.466 97.881

Reading # 71 - May 26 04:15:07

Pressures (PSIA)

1.. 3 75.533 75.531 14.31

Dew Points (°F)

1.. 6 79.894 79.612 89.849 87.501 84.635 84.832

Temperatures (°F)

1..14 79.795 80.082 83.44 83.142 82.431 84.414 83.098 84.659 85.045 84.692 77.031 77.622 80.155 83.185
15..24 83.469 84.343 84.423 96.467 96.62 82.898 84.335 96.623 96.623 97.439

Reading # 72 - May 26 04:30:16

Pressures (PSIA)

1.. 3 75.464 75.458 14.313

Dew Points (°F)

1.. 6 79.809 79.605 83.303 87.448 84.452 85.717

Temperatures (°F)

1..14 78.917 79.186 83.226 83.035 82.12 84.451 82.996 84.752 85.203 84.818 76.362 76.99 79.113 82.786
15..24 83.126 84.413 84.437 95.764 95.861 82.754 84.377 95.897 95.878 96.545

Reading # 73 - May 26 04:45:17

Pressures (PSIA)

1.. 3 75.41 75.404 14.315

Dew Points (°F)

1.. 6 79.769 79.684 83.25 87.297 84.143 84.28

Temperatures (°F)

1..14 78.406 78.717 82.989 82.863 81.893 84.377 82.898 84.785 85.366 84.883 75.972 76.628 78.579 82.484
15..24 82.898 84.413 84.437 95.122 95.316 82.619 84.326 95.348 95.281 96.056

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 74 - May 26 05:00:06

Pressures (PSIA)

1.. 3 75.365 75.361 14.316

Dew Points (°F)

1.. 6 79.769 79.769 83.258 87.323 82.865 85.841

Temperatures (°F)

1..14 78.072 78.392 82.822 82.719 81.721 84.353 82.843 84.762 85.431 84.915 75.731 76.345 78.198 82.256
15..24 82.713 84.39 84.409 94.61 94.869 82.559 84.321 94.906 94.844 95.367

Reading # 75 - May 26 05:15:15

Pressures (PSIA)

1.. 3 75.326 75.322 14.317

Dew Points (°F)

1.. 6 79.625 79.849 83.462 87.364 82.045 84.865

Temperatures (°F)

1..14 77.788 78.095 82.65 82.571 81.568 84.321 82.778 84.776 85.44 84.938 75.545 76.132 77.914 82.052
15..24 82.559 84.38 84.437 94.122 94.487 82.526 84.289 94.548 94.462 94.776

Reading # 76 - May 26 05:30:16

Pressures (PSIA)

1.. 3 75.293 75.289 14.319

Dew Points (°F)

1.. 6 79.579 79.94 83.834 87.409 65.282 85.525

Temperatures (°F)

1..14 77.575 77.895 82.538 82.454 81.442 84.307 82.717 84.813 85.333 84.92 75.411 75.983 77.705 81.903
15..24 82.439 84.385 84.455 93.745 94.171 82.466 84.261 94.203 94.117 94.608

Reading # 77 - May 26 05:45:16

Pressures (PSIA)

1.. 3 75.264 75.259 14.322

Dew Points (°F)

1.. 6 79.526 80.084 83.618 87.468 45.878 85.637

Temperatures (°F)

1..14 77.375 77.682 82.413 82.343 81.326 84.256 82.666 84.743 85.357 84.901 75.309 75.835 77.515 81.769
15..24 82.313 84.348 84.483 93.424 93.868 82.429 84.289 93.906 93.828 94.287

Reading # 78 - May 26 06:00:17

Pressures (PSIA)

1.. 3 75.237 75.232 14.323

Dew Points (°F)

1.. 6 79.309 80.135 83.723 87.409 57.399 85.533

Temperatures (°F)

1..14 77.213 77.501 82.283 82.241 81.219 84.265 82.643 84.752 85.366 84.924 75.202 75.719 77.338 81.648
15..24 82.216 84.348 84.437 93.131 93.598 82.396 84.256 93.645 93.558 94.166

Calibrated Instrument Data

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Oconee Nuclear Station
Unit 1 - 5/90

Reading # 79 - May 26 06:15:17

Pressures (PSIA)

1.. 3 75.213 75.207 14.323

Dew Points (°F)

1.. 6 79.159 80.221 83.742 87.342 48.54 85.729

Temperatures (°F)

1..14 77.069 77.357 82.162 82.157 81.131 84.256 82.615 84.743 85.343 84.859 75.114 75.631 77.185 81.527
15..24 82.114 84.339 84.427 92.847 93.356 82.336 84.228 93.389 93.307 93.715

Reading # 80 - May 26 06:30:18

Pressures (PSIA)

1.. 3 75.191 75.187 14.321

Dew Points (°F)

1.. 6 78.851 80.26 83.736 87.303 39.806 85.684

Temperatures (°F)

1..14 76.962 77.185 82.074 82.069 81.048 84.214 82.569 84.743 85.324 84.892 75.035 75.557 77.068 81.42
15..24 82.039 84.315 84.427 92.619 93.128 82.313 84.238 93.157 93.083 93.519

Reading # 81 - May 26 06:45:18

Pressures (PSIA)

1.. 3 75.17 75.167 14.32

Dew Points (°F)

1.. 6 78.817 80.306 83.775 87.179 37.419 85.643

Temperatures (°F)

1..14 76.86 77.083 82.018 81.999 80.955 84.209 82.541 84.706 85.278 84.869 74.979 75.552 76.966 81.328
15..24 81.979 84.311 84.414 92.405 92.928 82.271 84.228 92.952 92.865 93.454

Reading # 82 - May 26 07:00:19

Pressures (PSIA)

1.. 3 75.151 75.147 14.321

Dew Points (°F)

1.. 6 78.804 80.306 83.807 87.107 28.408 85.474

Temperatures (°F)

1..14 76.762 76.985 81.948 81.925 80.899 84.195 82.522 84.659 85.254 84.822 74.924 75.454 76.855 81.23
15..24 81.905 84.297 84.367 92.191 92.719 82.238 84.196 92.757 92.669 93.137

Reading # 83 - May 26 07:15:19

Pressures (PSIA)

1.. 3 75.134 75.131 14.323

Dew Points (°F)

1.. 6 78.779 80.384 83.768 87.022 27.327 85.573

Temperatures (°F)

1..14 76.67 76.911 81.888 81.851 80.806 84.177 82.471 84.678 85.217 84.818 74.854 75.357 76.762 81.146
15..24 81.844 84.269 84.339 91.987 92.542 82.22 84.177 92.589 92.487 93.035

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 84 - May 26 07:30:20

Pressures (PSIA)

1..3 75.118 75.113 14.326

Dew Points (°F)

1..6 79.001 80.384 83.827 86.989 24.638 85.598

Temperatures (°F)

1..14 76.586 76.832 81.818 81.795 80.76 84.163 82.467 84.683 85.231 84.836 74.817 75.334 76.673 81.077
15..24 81.793 84.278 84.358 91.81 92.37 82.169 84.14 92.398 92.311 92.868

Reading # 85 - May 26 07:45:20

Pressures (PSIA)

1..3 75.102 75.099 14.323

Dew Points (°F)

1..6 79.041 80.378 83.801 86.955 24.979 85.802

Temperatures (°F)

1..14 76.521 76.744 81.776 81.739 80.713 84.13 82.434 84.641 85.189 84.799 74.771 75.301 76.594 81.012
15..24 81.752 84.278 84.358 91.642 92.221 82.159 84.154 92.222 92.143 92.668

Reading # 86 - May 26 08:00:21

Pressures (PSIA)

1..3 75.087 75.084 14.32

Dew Points (°F)

1..6 78.72 80.391 83.775 87.015 25.307 85.48

Temperatures (°F)

1..14 76.442 76.665 81.716 81.688 80.653 84.126 82.406 84.632 85.171 84.804 74.733 75.218 76.511 80.942
15..24 81.691 84.25 84.255 91.466 92.067 82.15 84.131 92.059 92.003 92.514

Reading # 87 - May 26 08:15:21

Pressures (PSIA)

1..3 75.075 75.07 14.319

Dew Points (°F)

1..6 78.976 80.397 83.834 87.015 25.123 85.552

Temperatures (°F)

1..14 76.391 76.623 81.679 81.651 80.616 84.13 82.392 84.618 85.175 84.715 74.696 75.171 76.441 80.891
15..24 81.654 84.222 84.283 91.322 91.937 82.118 84.122 91.905 91.873 92.463

Reading # 88 - May 26 08:30:22

Pressures (PSIA)

1..3 75.062 75.057 14.318

Dew Points (°F)

1..6 78.876 80.431 83.834 87.034 30.79 85.696

Temperatures (°F)

1..14 76.326 76.572 81.646 81.6 80.574 84.112 82.369 84.618 85.134 84.757 74.65 75.158 76.376 80.84
15..24 81.622 84.222 84.269 91.163 91.816 82.118 84.122 91.766 91.733 92.388

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 89 - May 26 08:45:22

Pressures (PSIA)

1.. 3 75.048 75.045 14.319

Dew Points (°F)

1.. 6 79.027 80.404 83.855 87.034 39.091 85.729

Temperatures (°F)

1..14 76.266 76.498 81.595 81.549 80.532 84.079 82.332 84.599 85.096 84.729 74.613 75.056 76.316 80.766
15..24 81.584 84.218 84.242 91.019 91.667 82.094 84.108 91.626 91.612 92.374

Reading # 90 - May 26 09:00:23

Pressures (PSIA)

1.. 3 75.038 75.035 14.32

Dew Points (°F)

1.. 6 78.791 80.424 83.86 87.126 55.059 85.729

Temperatures (°F)

1..14 76.205 76.452 81.558 81.512 80.495 83.903 82.327 84.585 85.101 84.748 74.576 75.116 76.269 80.733
15..24 81.547 84.213 84.26 90.894 91.542 82.085 84.075 91.492 91.491 91.877

Reading # 91 - May 26 09:15:24

Pressures (PSIA)

1.. 3 75.025 75.023 14.32

Dew Points (°F)

1.. 6 78.982 80.476 83.893 87.126 35.582 85.722

Temperatures (°F)

1..14 76.164 76.405 81.516 81.479 80.467 83.954 82.304 84.594 85.078 84.725 74.552 75.018 76.223 80.687
15..24 81.524 84.199 84.251 90.764 91.425 82.085 84.075 91.375 91.37 91.974

Reading # 92 - May 26 09:30:24

Pressures (PSIA)

1.. 3 75.017 75.012 14.319

Dew Points (°F)

1.. 6 78.982 80.502 83.874 87.126 52.678 85.755

Temperatures (°F)

1..14 76.122 76.377 81.483 81.447 80.43 83.991 82.281 84.543 85.045 84.701 74.525 75.042 76.158 80.645
15..24 81.492 84.181 84.204 90.624 91.29 82.062 84.066 91.254 91.254 91.756

Reading # 93 - May 26 09:45:24

Pressures (PSIA)

1.. 3 75.005 75.001 14.316

Dew Points (°F)

1.. 6 79.028 80.477 83.909 87.068 76.969 85.487

Temperatures (°F)

1..14 76.075 76.331 81.451 81.414 80.398 84.023 82.272 84.562 85.069 84.683 74.501 74.977 76.116 80.612
15..24 81.473 84.181 84.204 90.512 91.193 82.071 84.043 91.133 91.133 91.211

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 94 - May 26 10:00:25

Pressures (PSIA)

1.. 3 74.995 74.992 14.316

Dew Points (°F)

1.. 6 79.027 80.49 83.919 87.133 64.62 85.493

Temperatures (°F)

1..14 76.02 76.289 81.428 81.382 80.379 84.033 82.262 84.543 85.045 84.66 74.478 74.94 76.074 80.566
15..24 81.436 84.167 84.195 90.392 91.109 82.062 84.033 91.013 91.035 91.667

Reading # 95 - May 26 10:15:25

Pressures (PSIA)

1.. 3 74.985 74.983 14.314

Dew Points (°F)

1.. 6 78.969 80.476 83.953 87.126 66.7 85.559

Temperatures (°F)

1..14 75.992 76.247 81.395 81.349 80.346 84.01 82.248 84.529 84.994 84.618 74.455 74.907 76.028 80.534
15..24 81.417 84.157 84.172 90.285 90.979 82.053 84.033 90.915 90.923 91.449

Reading # 96 - May 26 10:30:26

Pressures (PSIA)

1.. 3 74.976 74.973 14.311

Dew Points (°F)

1.. 6 78.982 80.476 83.9 87.166 75.192 85.467

Temperatures (°F)

1..14 75.959 76.21 81.363 81.326 80.323 84 82.23 84.529 85.004 84.65 74.436 74.921 75.986 80.501
15..24 81.394 84.148 84.149 90.173 90.881 82.043 84.001 90.808 90.826 91.439

Reading # 97 - May 26 10:45:27

Pressures (PSIA)

1.. 3 74.969 74.965 14.308

Dew Points (°F)

1.. 6 79.021 80.471 84.011 87.166 55.676 85.769

Temperatures (°F)

1..14 75.913 76.182 81.339 81.303 80.291 83.991 82.216 84.506 84.962 84.627 74.413 74.865 75.939 80.469
15..24 81.371 84.139 84.163 90.066 90.783 82.062 83.977 90.71 90.719 91.397

Reading # 98 - May 26 11:00:27

Pressures (PSIA)

1.. 3 74.959 74.956 14.305

Dew Points (°F)

1.. 6 79.014 80.483 83.953 87.198 61.84 85.605

Temperatures (°F)

1..14 75.881 76.159 81.321 81.284 80.281 84.01 82.207 84.478 84.962 84.627 74.413 74.842 75.911 80.436
15..24 81.352 84.139 84.107 89.959 90.704 82.048 83.996 90.599 90.602 91.314

Calibrated Instrument Data

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Oconee Nuclear Station
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Reading # 99 - May 26 11:15:27

Pressures (PSIA)

1.. 3 74.951 74.948 14.304

Dew Points (°F)

1.. 6 78.977 80.465 83.973 87.205 34.357 85.783

Temperatures (°F)

1..14 75.843 76.117 81.288 81.256 80.254 84.005 82.188 84.469 84.934 84.59 74.376 74.796 75.87 80.408
15..24 81.334 84.13 84.125 89.866 90.579 82.02 83.977 90.524 90.509 91.221

Reading # 100 - May 26 11:30:28

Pressures (PSIA)

1.. 3 74.944 74.939 14.302

Dew Points (°F)

1.. 6 78.95 80.535 84.011 87.232 64.857 85.71

Temperatures (°F)

1..14 75.816 76.094 81.265 81.238 80.226 84 82.174 84.422 84.939 84.604 74.358 74.842 75.842 80.394
15..24 81.329 84.125 84.097 89.782 90.532 82.016 83.973 90.427 90.407 91.151

Reading # 101 - May 26 11:45:29

Pressures (PSIA)

1.. 3 74.936 74.932 14.299

Dew Points (°F)

1.. 6 78.95 80.477 84.485 87.226 56.155 85.816

Temperatures (°F)

1..14 75.783 76.062 81.242 81.205 80.212 83.991 82.174 84.455 84.915 84.576 74.339 74.8 75.814 80.371
15..24 81.306 84.116 84.097 89.685 90.43 82.02 83.959 90.329 90.29 91.081

Reading # 102 - May 26 12:00:29

Pressures (PSIA)

1.. 3 74.928 74.925 14.301

Dew Points (°F)

1.. 6 79.008 80.483 83.966 87.211 42.593 85.828

Temperatures (°F)

1..14 75.755 76.034 81.228 81.187 80.184 83.982 82.155 84.413 84.901 84.558 74.32 74.773 75.786 80.343
15..24 81.292 84.106 84.111 89.601 90.36 81.997 83.964 90.255 90.216 91.016

Reading # 103 - May 26 12:15:29

Pressures (PSIA)

1.. 3 74.92 74.918 14.298

Dew Points (°F)

1.. 6 78.95 80.471 83.934 87.205 42.692 85.875

Temperatures (°F)

1..14 75.741 76.006 81.209 81.173 80.17 83.954 82.151 84.441 84.897 84.595 74.307 74.768 75.758 80.329
15..24 81.273 84.102 84.13 89.513 90.258 81.988 83.945 90.166 90.142 90.937

Calibrated Instrument Data

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Oconee Nuclear Station
Unit 1 - 5/90

Reading # 104 - May 26 12:30:30

Pressures (PSIA)

1.. 3 74.913 74.91 14.295

Dew Points (°F)

1.. 6 78.944 80.458 83.875 87.193 33.216 87.023

Temperatures (°F)

1..14 75.709 75.983 81.186 81.154 80.161 83.977 82.151 84.408 84.897 84.576 74.293 74.735 75.726 80.306
15..24 81.264 84.116 84.088 89.434 90.109 81.988 83.945 90.078 90.076 90.881

Reading # 105 - May 26 12:45:31

Pressures (PSIA)

1.. 3 74.907 74.904 14.291

Dew Points (°F)

1.. 6 79.008 80.45 83.919 87.179 36.856 85.984

Temperatures (°F)

1..14 75.686 75.95 81.167 81.14 80.138 83.954 82.142 84.39 84.86 84.506 74.274 74.712 75.693 80.283
15..24 81.241 84.069 84.088 89.336 90.039 81.988 83.945 89.994 90.007 90.807

Reading # 106 - May 26 13:00:31

Pressures (PSIA)

1.. 3 74.899 74.897 14.286

Dew Points (°F)

1.. 6 78.95 80.471 90.386 87.205 71.506 85.474

Temperatures (°F)

1..14 75.653 75.927 81.158 81.122 80.128 83.926 82.132 84.422 84.86 84.53 74.26 74.67 75.661 80.274
15..24 81.241 84.06 84.088 89.262 89.974 81.965 83.959 89.929 89.932 90.751

Reading # 107 - May 26 13:15:42

Pressures (PSIA)

1.. 3 74.892 74.89 14.283

Dew Points (°F)

1.. 6 78.928 80.45 90.313 87.185 48.698 85.913

Temperatures (°F)

1..14 75.63 75.909 81.135 81.108 80.105 83.926 82.118 84.399 84.832 84.506 74.242 74.703 75.637 80.264
15..24 81.218 84.06 84.065 89.197 89.876 81.955 83.903 89.832 89.811 90.686

Reading # 108 - May 26 13:30:32

Pressures (PSIA)

1.. 3 74.887 74.885 14.279

Dew Points (°F)

1.. 6 78.928 80.457 90.254 87.205 74.653 85.578

Temperatures (°F)

1..14 75.621 75.885 81.135 81.098 80.096 83.912 82.118 84.39 84.832 84.455 74.228 74.68 75.619 80.255
15..24 81.208 84.051 84.042 89.108 89.802 81.946 83.912 89.762 89.746 90.635

Calibrated Instrument Data

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Oconee Nuclear Station
Unit 1 - 5/90

Reading # 109 - May 26 13:45:05

Pressures (PSIA)

1.. 3 74.881 74.877 14.276

Dew Points (°F)

1.. 6 78.923 80.45 83.571 87.152 83.94 85.559

Temperatures (°F)

1..14 75.602 75.853 81.112 81.085 80.087 83.903 82.109 84.367 84.809 84.488 74.218 74.582 75.595 80.232
15..24 81.199 84.037 84.042 89.034 89.746 81.946 83.903 89.711 89.672 90.579

Reading # 110 - May 26 14:00:14

Pressures (PSIA)

1.. 3 74.874 74.871 14.275

Dew Points (°F)

1.. 6 78.923 80.438 90.254 87.179 86.457 85.408

Temperatures (°F)

1..14 75.565 75.844 81.088 81.066 80.073 83.893 82.1 84.367 84.818 84.423 74.209 74.638 75.572 80.218
15..24 81.19 84.037 84.009 88.969 89.639 81.955 83.889 89.646 89.662 90.523

Reading # 111 - May 26 14:15:15

Pressures (PSIA)

1.. 3 74.869 74.866 14.272

Dew Points (°F)

1.. 6 78.903 80.438 90.229 87.205 86.747 85.18

Temperatures (°F)

1..14 75.546 75.811 81.079 81.057 80.063 83.912 82.086 84.381 84.799 84.497 74.186 74.55 75.549 80.199
15..24 81.176 84.037 84.009 88.904 89.616 81.946 83.889 89.548 89.541 90.458

Reading # 112 - May 26 14:30:15

Pressures (PSIA)

1.. 3 74.863 74.86 14.268

Dew Points (°F)

1.. 6 78.87 80.438 90.163 87.211 85.664 85.342

Temperatures (°F)

1..14 75.532 75.802 81.079 81.043 80.04 83.912 82.086 84.381 84.785 84.497 74.172 74.573 75.54 80.199
15..24 81.167 84.027 83.991 88.839 89.551 81.923 83.88 89.492 89.467 90.407

Reading # 113 - May 26 14:45:16

Pressures (PSIA)

1.. 3 74.859 74.855 14.266

Dew Points (°F)

1.. 6 78.875 80.456 90.141 87.211 85.546 85.46

Temperatures (°F)

1..14 75.514 75.779 81.061 81.043 80.04 83.912 82.077 84.39 84.776 84.465 74.163 74.564 75.521 80.185
15..24 81.167 84.027 84.009 88.76 89.476 81.904 83.885 89.441 89.406 90.346

Calibrated Instrument Data

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Oconee Nuclear Station
Unit 1 - 5/90

Reading # 114 - May 26 15:00:16

Pressures (PSIA)

1.. 3 74.853 74.849 14.263

Dew Points (°F)

1.. 6 78.844 80.378 90.116 87.211 85.284 85.415

Temperatures (°F)

1..14 75.491 75.755 81.061 81.033 80.017 83.903 82.086 84.334 84.753 84.441 74.163 74.527 75.498 80.176
15..24 81.157 84.004 83.967 88.709 89.397 81.946 83.88 89.353 89.355 90.295

Reading # 115 - May 26 15:15:17

Pressures (PSIA)

1.. 3 74.847 74.844 14.259

Dew Points (°F)

1.. 6 78.876 80.438 90.129 87.244 85.559 85.434

Temperatures (°F)

1..14 75.486 75.751 81.056 81.029 80.026 83.889 82.081 84.339 84.757 84.451 74.149 74.578 75.479 80.181
15..24 81.153 83.999 83.986 88.658 89.327 81.923 83.889 89.297 89.29 90.262

Reading # 116 - May 26 15:30:17

Pressures (PSIA)

1.. 3 74.842 74.839 14.253

Dew Points (°F)

1.. 6 78.87 80.404 90.116 87.27 85.429 83.959

Temperatures (°F)

1..14 75.458 75.732 81.023 81.01 80.008 83.856 82.063 84.334 84.753 84.441 74.144 74.541 75.451 80.167
15..24 81.143 84.004 83.967 88.597 89.258 81.932 83.866 89.232 89.234 90.207

Reading # 117 - May 26 15:45:18

Pressures (PSIA)

1.. 3 74.836 74.833 14.251

Dew Points (°F)

1.. 6 78.851 80.378 90.097 87.258 85.323 84.989

Temperatures (°F)

1..14 75.435 75.714 81.023 81.001 79.998 83.903 82.063 84.311 84.743 84.423 74.13 74.508 75.433 80.153
15..24 81.134 84.004 83.977 88.532 89.3 81.932 83.88 89.176 89.192 90.146

Reading # 118 - May 26 16:00:18

Pressures (PSIA)

1.. 3 74.832 74.828 14.252

Dew Points (°F)

1.. 6 78.844 80.397 90.077 87.198 85.316 76.811

Temperatures (°F)

1..14 75.426 75.69 81.014 81.001 79.989 83.879 82.063 84.334 84.734 84.409 74.121 74.508 75.433 80.153
15..24 81.12 84.027 83.977 88.49 89.234 81.946 83.861 89.134 89.127 90.011

Calibrated Instrument Data

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Oconee Nuclear Station
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Reading # 119 - May 26 16:15:19

Pressures (PSIA)

1.. 3 74.826 74.824 14.247

Dew Points (°F)

1.. 6 78.81 80.397 90.077 87.27 85.375 85.965

Temperatures (°F)

1..14	75.416	75.681	81.014	80.987	79.989	83.879	82.077	84.325	84.72	84.409	74.112	74.42	75.41	80.144
15..24	81.12	84.004	83.977	88.42	89.202	81.932	83.88	89.069	89.062	90.188				

Reading # 120 - May 26 16:30:19

Pressures (PSIA)

1.. 3 74.822 74.818 14.242

Dew Points (°F)

1.. 6 78.882 80.377 90.057 87.211 85.217 87.079

Temperatures (°F)

1..14	75.402	75.681	81.005	80.987	79.975	83.838	82.063	84.325	84.734	84.39	74.112	74.517	75.4	80.144
15..24	81.12	84.004	83.991	88.369	89.137	81.932	83.861	89.013	89.02	89.839				

Reading # 121 - May 26 16:45:33

Pressures (PSIA)

1.. 3 74.819 74.814 14.24

Dew Points (°F)

1.. 6 78.845 80.385 90.046 87.239 84.301 85.002

Temperatures (°F)

1..14	75.384	75.658	80.991	80.978	79.975	83.87	82.063	84.334	84.734	84.423	74.088	74.527	75.377	80.134
15..24	81.111	83.981	83.944	88.314	89.072	81.946	83.847	88.948	88.964	89.862				

Reading # 122 - May 26 17:00:42

Pressures (PSIA)

1.. 3 74.813 74.808 14.237

Dew Points (°F)

1.. 6 78.81 80.352 90.051 87.251 24.44 87.362

Temperatures (°F)

1..14	75.37	75.635	80.991	80.968	79.952	83.847	82.053	84.311	84.702	84.409	74.088	74.541	75.363	80.134
15..24	81.111	83.972	83.967	88.258	89.016	81.923	83.847	88.893	88.922	89.862				

Reading # 123 - May 26 17:05:16

Pressures (PSIA)

1.. 3 74.811 74.808 14.237

Dew Points (°F)

1.. 6 78.798 80.358 90.058 87.239 23.818 82.182

Temperatures (°F)

1..14	75.365	75.653	80.986	80.964	79.957	83.833	82.058	84.306	84.692	84.381	74.079	74.48	75.349	80.125
15..24	81.106	83.976	83.949	88.244	89.002	81.923	83.838	88.893	88.899	89.783				

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 124 - May 26 17:10:25

Pressures (PSIA)

1.. 3 74.81 74.807 14.236

Dew Points (°F)

1.. 6 78.851 80.378 90.051 87.258 24.723 86.648

Temperatures (°F)

1..14 75.351 75.63 80.986 80.964 79.947 83.833 82.058 84.283 84.702 84.339 74.07 74.49 75.349 80.116
15..24 81.097 83.976 83.935 88.221 88.955 81.923 83.866 88.874 88.899 89.718

Reading # 125 - May 26 17:15:25

Pressures (PSIA)

1.. 3 74.808 74.805 14.234

Dew Points (°F)

1.. 6 78.798 80.372 90.039 87.211 25.464 85.965

Temperatures (°F)

1..14 75.347 75.625 80.991 80.968 79.952 83.847 82.053 84.325 84.702 84.4 74.075 74.443 75.345 80.12
15..24 81.102 83.962 83.953 88.207 88.955 81.923 83.847 88.865 88.867 89.514

Reading # 126 - May 26 17:20:25

Pressures (PSIA)

1.. 3 74.806 74.803 14.233

Dew Points (°F)

1.. 6 78.838 80.365 90.032 87.225 26.822 87.861

Temperatures (°F)

1..14 75.347 75.635 80.982 80.968 79.952 83.856 82.053 84.311 84.702 84.4 74.075 74.527 75.345 80.12
15..24 81.102 83.981 83.926 88.197 88.941 81.932 83.838 88.828 88.853 89.89

Reading # 127 - May 26 17:25:25

Pressures (PSIA)

1.. 3 74.803 74.8 14.232

Dew Points (°F)

1.. 6 78.838 80.352 90.039 87.297 25.615 86.246

Temperatures (°F)

1..14 75.333 75.612 80.977 80.95 79.938 83.833 82.039 84.297 84.692 84.372 74.07 74.466 75.326 80.116
15..24 81.097 83.976 83.935 88.179 88.923 81.932 83.838 88.809 88.853 89.653

Reading # 128 - May 26 17:30:26

Pressures (PSIA)

1.. 3 74.802 74.798 14.229

Dew Points (°F)

1.. 6 78.87 80.365 90.032 87.244 44.167 84.477

Temperatures (°F)

1..14 75.333 75.621 80.977 80.95 79.938 83.833 82.039 84.283 84.683 84.372 74.07 74.457 75.317 80.116
15..24 81.097 83.967 83.893 88.156 88.9 81.923 83.824 88.809 88.843 89.742

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 129 - May 26 17:35:26

Pressures (PSIA)

1.. 3 74.799 74.796 14.229

Dew Points (°F)

1.. 6 78.838 80.346 90.005 87.211 58.916 85.46

Temperatures (°F)

1..14 75.324 75.598 80.977 80.95 79.924 83.842 82.026 84.306 84.683 84.381 74.061 74.466 75.317 80.116
15..24 81.097 83.958 83.93 88.132 88.881 81.923 83.824 88.786 88.811 89.848

Reading # 130 - May 26 17:40:26

Pressures (PSIA)

1.. 3 74.798 74.794 14.228

Dew Points (°F)

1.. 6 78.817 80.325 90.005 87.251 66.888 86.09

Temperatures (°F)

1..14 75.324 75.588 80.977 80.941 79.924 83.861 82.039 84.283 84.683 84.372 74.061 74.48 75.317 80.102
15..24 81.083 83.958 83.958 88.123 88.858 81.932 83.824 88.762 88.778 89.848

Reading # 131 - May 26 17:45:26

Pressures (PSIA)

1.. 3 74.796 74.792 14.227

Dew Points (°F)

1.. 6 78.824 80.346 90.011 87.239 78.462 86.006

Temperatures (°F)

1..14 75.31 75.588 80.968 80.941 79.924 83.833 82.039 84.274 84.669 84.372 74.047 74.49 75.317 80.116
15..24 81.083 83.944 83.949 88.1 88.848 81.909 83.815 88.73 88.755 89.732

Reading # 132 - May 26 17:50:26

Pressures (PSIA)

1.. 3 74.793 74.79 14.224

Dew Points (°F)

1.. 6 78.804 80.325 90.011 87.225 80.209 84.148

Temperatures (°F)

1..14 75.31 75.598 80.968 80.941 79.915 83.833 82.039 84.306 84.669 84.381 74.047 74.411 75.307 80.102
15..24 81.083 83.958 83.958 88.081 88.825 81.923 83.861 88.73 88.746 89.793

Reading # 133 - May 26 17:55:26

Pressures (PSIA)

1.. 3 74.792 74.787 14.224

Dew Points (°F)

1.. 6 78.896 80.325 90.011 87.217 86.306 85.736

Temperatures (°F)

1..14 75.31 75.574 80.968 80.941 79.924 83.852 82.026 84.297 84.66 84.372 74.047 74.457 75.294 80.102
15..24 81.083 83.967 83.916 88.067 88.802 81.909 83.838 88.707 88.727 89.793

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 134 - May 26 18:00:27

Pressures (PSIA)

1.. 3 74.788 74.785 14.222

Dew Points (°F)

1.. 6 78.857 80.339 90.032 87.225 84.576 83.276

Temperatures (°F)

1..14 75.3 75.588 80.968 80.941 79.924 83.852 82.039 84.274 84.66 84.339 74.047 74.383 75.294 80.102
15..24 81.083 83.958 83.93 88.058 88.783 81.909 83.815 88.707 88.713 89.774

Reading # 135 - May 26 18:05:27

Pressures (PSIA)

1.. 3 74.786 74.783 14.222

Dew Points (°F)

1.. 6 78.876 80.339 90.039 87.217 85.776 86.156

Temperatures (°F)

1..14 75.3 75.574 80.954 80.941 79.924 83.819 82.039 84.306 84.651 84.362 74.047 74.457 75.294 80.102
15..24 81.083 83.944 83.935 88.035 88.769 81.923 83.806 88.688 88.694 89.774

Reading # 136 - May 26 18:10:27

Pressures (PSIA)

1.. 3 74.783 74.78 14.222

Dew Points (°F)

1.. 6 78.81 80.325 90.025 87.198 85.061 85.042

Temperatures (°F)

1..14 75.3 75.588 80.954 80.927 79.915 83.819 82.039 84.274 84.669 84.349 74.037 74.434 75.284 80.092
15..24 81.074 83.944 83.916 88.016 88.751 81.923 83.815 88.688 88.671 89.751

Reading # 137 - May 26 18:15:27

Pressures (PSIA)

1.. 3 74.782 74.779 14.222

Dew Points (°F)

1.. 6 78.838 80.332 90.032 87.232 86.83 85.585

Temperatures (°F)

1..14 75.296 75.57 80.963 80.936 79.919 83.838 82.035 84.283 84.678 84.367 74.047 74.443 75.289 80.097
15..24 81.078 83.953 83.902 87.998 88.746 81.923 83.806 88.656 88.657 89.751

Reading # 138 - May 26 18:20:27

Pressures (PSIA)

1.. 3 74.78 74.777 14.222

Dew Points (°F)

1.. 6 78.89 80.32 90.005 87.239 23.733 85.802

Temperatures (°F)

1..14 75.296 75.561 80.963 80.936 79.919 83.838 82.035 84.269 84.665 84.335 74.033 74.429 75.28 80.097
15..24 81.078 83.953 83.935 87.988 88.737 81.923 83.838 88.623 88.629 89.718

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 139 - May 26 18:25:27

Pressures (PSIA)

1.. 3 74.778 74.775 14.221

Dew Points (°F)

1.. 6 78.87 80.32 90.025 87.211 25.399 84.778

Temperatures (°F)

1..14	75.286	75.561	80.949	80.936	79.91	83.856	82.035	84.283	84.655	84.344	74.033	74.411	75.28	80.097
15..24	81.078	83.953	83.935	87.965	88.69	81.918	83.82	88.628	88.625	89.714				

Reading # 140 - May 26 18:30:28

Pressures (PSIA)

1.. 3 74.775 74.772 14.222

Dew Points (°F)

1.. 6 78.832 80.306 90.039 87.211 25.589 85.46

Temperatures (°F)

1..14	75.286	75.561	80.949	80.922	79.919	83.838	82.035	84.283	84.655	84.358	74.033	74.443	75.28	80.097
15..24	81.078	83.953	83.935	87.956	88.658	81.927	83.81	88.604	88.625	89.728				

Reading # 141 - May 26 18:35:28

Pressures (PSIA)

1.. 3 74.775 74.771 14.222

Dew Points (°F)

1.. 6 78.844 80.32 90.051 87.211 31.372 85.514

Temperatures (°F)

1..14	75.277	75.565	80.944	80.927	79.901	83.819	82.026	84.283	84.651	84.362	74.028	74.392	75.261	80.092
15..24	81.074	83.944	83.935	87.928	88.621	81.909	83.806	88.59	88.606	89.695				

Reading # 142 - May 26 18:40:28

Pressures (PSIA)

1.. 3 74.773 74.768 14.221

Dew Points (°F)

1.. 6 78.824 80.313 90.058 87.198 83.945 85.499

Temperatures (°F)

1..14	75.268	75.556	80.944	80.927	79.915	83.819	82.026	84.264	84.651	84.349	74.028	74.383	75.261	80.083
15..24	81.074	83.944	83.907	87.905	88.597	81.909	83.806	88.567	88.573	89.676				

Reading # 143 - May 26 18:45:28

Pressures (PSIA)

1.. 3 74.771 74.768 14.22

Dew Points (°F)

1.. 6 78.851 80.325 87.546 87.205 85.27 85.434

Temperatures (°F)

1..14	75.273	75.537	80.949	80.922	79.91	83.814	82.044	84.246	84.655	84.358	74.033	74.388	75.256	80.088
15..24	81.078	83.953	83.902	87.891	88.574	81.909	83.815	88.558	88.55	89.653				

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 144 - May 26 18:50:28

Pressures (PSIA)

1.. 3 74.768 74.764 14.221

Dew Points (°F)

1.. 6 78.857 80.32 87.572 87.191 86.006 85.691

Temperatures (°F)

1..14	75.263	75.528	80.94	80.922	79.896	83.814	82.035	84.283	84.655	84.358	74.024	74.411	75.247	80.088
15..24	81.069	83.939	83.902	87.867	88.537	81.923	83.824	88.535	88.55	89.653				

Reading # 145 - May 26 18:55:28

Pressures (PSIA)

1.. 3 74.767 74.762 14.221

Dew Points (°F)

1.. 6 78.857 80.299 87.067 87.205 85.454 85.042

Temperatures (°F)

1..14	75.263	75.537	80.949	80.922	79.896	83.805	82.035	84.26	84.655	84.335	74.024	74.378	75.247	80.088
15..24	81.069	83.953	83.902	87.858	88.518	81.923	83.815	88.511	88.536	89.644				

Reading # 146 - May 26 19:00:29

Pressures (PSIA)

1.. 3 74.765 74.761 14.221

Dew Points (°F)

1.. 6 78.844 80.306 86.489 87.191 82.28 87.028

Temperatures (°F)

1..14	75.263	75.537	80.94	80.922	79.91	83.814	82.035	84.269	84.646	84.344	74.014	74.388	75.247	80.088
15..24	81.069	83.939	83.902	87.844	88.528	81.909	83.815	88.511	88.518	89.63				

Reading # 147 - May 26 19:05:29

Pressures (PSIA)

1.. 3 74.761 74.758 14.221

Dew Points (°F)

1.. 6 78.844 80.299 86.969 87.217 79.474 83.113

Temperatures (°F)

1..14	75.263	75.551	80.94	80.922	79.896	83.814	82.035	84.269	84.637	84.335	74.024	74.401	75.247	80.079
15..24	81.069	83.939	83.935	87.826	88.551	81.909	83.815	88.493	88.508	89.621				

Reading # 148 - May 26 19:10:29

Pressures (PSIA)

1.. 3 74.76 74.756 14.221

Dew Points (°F)

1.. 6 78.876 80.287 90.058 87.232 73.676 88.496

Temperatures (°F)

1..14	75.249	75.537	80.926	80.913	79.896	83.828	82.035	84.26	84.623	84.335	74.024	74.378	75.238	80.079
15..24	81.069	83.939	83.944	87.816	88.56	81.909	83.824	88.46	88.494	89.611				

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 149 - May 26 19:15:29

Pressures (PSIA)

1.. 3 74.758 74.755 14.22

Dew Points (°F)

1.. 6 78.883 80.313 88.314 87.244 46.515 84.266

Temperatures (°F)

1..14	75.235	75.523	80.931	80.917	79.882	83.81	82.026	84.232	84.627	84.297	74.005	74.392	75.228	80.069
15..24	81.06	83.934	83.907	87.784	88.532	81.909	83.815	88.46	88.476	89.597				

Reading # 150 - May 26 19:20:29

Pressures (PSIA)

1.. 3 74.756 74.754 14.22

Dew Points (°F)

1.. 6 78.838 80.325 90.032 87.232 59.053 81.552

Temperatures (°F)

1..14	75.235	75.5	80.931	80.917	79.882	83.819	82.026	84.25	84.641	84.316	74.005	74.383	75.228	80.069
15..24	81.06	83.934	83.907	87.765	88.509	81.9	83.815	88.446	88.453	89.579				

Reading # 151 - May 26 19:25:29

Pressures (PSIA)

1.. 3 74.755 74.751 14.22

Dew Points (°F)

1.. 6 78.87 80.306 90.032 87.205 62.411 84.824

Temperatures (°F)

1..14	75.24	75.509	80.94	80.913	79.892	83.828	82.035	84.26	84.623	84.344	74.014	74.388	75.224	80.079
15..24	81.069	83.953	83.888	87.747	88.481	81.909	83.838	88.437	88.443	89.569				

Reading # 152 - May 26 19:30:30

Pressures (PSIA)

1.. 3 74.753 74.748 14.221

Dew Points (°F)

1.. 6 78.883 80.32 90.039 87.211 66.22 90.058

Temperatures (°F)

1..14	75.231	75.509	80.926	80.913	79.892	83.814	82.021	84.26	84.646	84.311	74	74.378	75.224	80.079
15..24	81.069	83.939	83.879	87.737	88.463	81.909	83.815	88.414	88.443	89.569				

Reading # 153 - May 26 19:35:30

Pressures (PSIA)

1.. 3 74.75 74.746 14.22

Dew Points (°F)

1.. 6 78.838 80.314 90.046 87.213 58.102 88.281

Temperatures (°F)

1..14	75.226	75.523	80.921	80.908	79.873	83.786	82.016	84.25	84.627	84.316	74.005	74.411	75.205	80.069
15..24	81.051	83.944	83.907	87.723	88.421	81.9	83.806	88.386	88.434	89.546				

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 154 - May 26 19:40:30

Pressures (PSIA)

1.. 3 74.748 74.745 14.219

Dew Points (°F)

1.. 6 78.884 80.301 90.065 87.2 61.486 86.236

Temperatures (°F)

1..14	75.212	75.5	80.912	80.908	79.873	83.819	82.016	84.283	84.641	84.339	73.996	74.383	75.205	80.06
15..24	81.06	83.925	83.93	87.709	88.411	81.9	83.806	88.391	88.397	89.532				

Reading # 155 - May 26 19:45:30

Pressures (PSIA)

1.. 3 74.747 74.742 14.219

Dew Points (°F)

1.. 6 78.89 80.306 90.011 87.205 42.514 83.945

Temperatures (°F)

1..14	75.221	75.509	80.926	80.913	79.878	83.838	82.021	84.26	84.623	84.321	74	74.323	75.215	80.069
15..24	81.069	83.939	83.902	87.695	88.407	81.909	83.792	88.386	88.378	89.523				

Reading # 156 - May 26 19:50:30

Pressures (PSIA)

1.. 3 74.745 74.741 14.218

Dew Points (°F)

1.. 6 78.851 80.313 89.992 87.225 52.331 86.006

Temperatures (°F)

1..14	75.221	75.486	80.926	80.913	79.878	83.847	82.021	84.246	84.623	84.293	73.991	74.346	75.205	80.069
15..24	81.055	83.953	83.912	87.672	88.397	81.909	83.792	88.372	88.378	89.523				

Reading # 157 - May 26 19:55:30

Pressures (PSIA)

1.. 3 74.741 74.74 14.218

Dew Points (°F)

1.. 6 78.876 80.294 89.998 87.191 56.895 86.246

Temperatures (°F)

1..14	75.203	75.491	80.912	80.894	79.873	83.819	82.016	84.25	84.618	84.307	73.982	74.369	75.196	80.06
15..24	81.051	83.925	83.916	87.668	88.379	81.909	83.792	88.349	88.378	89.514				

Reading # 158 - May 26 20:00:31

Pressures (PSIA)

1.. 3 74.742 74.737 14.218

Dew Points (°F)

1.. 6 78.916 80.306 89.998 87.172 35.432 88.405

Temperatures (°F)

1..14	75.212	75.491	80.912	80.908	79.873	83.819	82.016	84.25	84.618	84.297	73.996	74.369	75.196	80.06
15..24	81.051	83.934	83.884	87.644	88.37	81.909	83.782	88.339	88.378	89.481				

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 159 - May 26 20:05:31

Pressures (PSIA)

1.. 3 74.739 74.734 14.217

Dew Points (°F)

1.. 6 78.804 80.313 89.985 87.225 39.865 85.854

Temperatures (°F)

1..14 75.203 75.458 80.912 80.894 79.873 83.796 82.016 84.218 84.604 84.316 73.982 74.392 75.187 80.06
15..24 81.051 83.925 83.884 87.635 88.36 81.9 83.782 88.316 88.364 89.481

Reading # 160 - May 26 20:10:31

Pressures (PSIA)

1.. 3 74.738 74.733 14.216

Dew Points (°F)

1.. 6 78.864 80.299 89.985 87.211 37.202 86.549

Temperatures (°F)

1..14 75.189 75.477 80.912 80.894 79.873 83.81 82.016 84.218 84.604 84.316 73.982 74.369 75.187 80.06
15..24 81.051 83.911 83.884 87.621 88.36 81.909 83.806 88.307 88.364 89.472

Reading # 161 - May 26 20:15:31

Pressures (PSIA)

1.. 3 74.734 74.732 14.215

Dew Points (°F)

1.. 6 78.838 80.306 89.979 87.166 46.645 85.913

Temperatures (°F)

1..14 75.18 75.491 80.912 80.894 79.873 83.786 82.016 84.241 84.604 84.316 73.982 74.35 75.187 80.051
15..24 81.051 83.925 83.884 87.602 88.346 81.9 83.806 88.288 88.346 89.458

Reading # 162 - May 26 20:20:31

Pressures (PSIA)

1.. 3 74.734 74.73 14.216

Dew Points (°F)

1.. 6 78.844 80.299 88.162 87.217 49.4 83.992

Temperatures (°F)

1..14 75.189 75.491 80.912 80.894 79.859 83.796 82.016 84.209 84.572 84.307 73.972 74.35 75.187 80.051
15..24 81.051 83.911 83.874 87.589 88.337 81.923 83.792 88.274 88.322 89.449

Reading # 163 - May 26 20:25:31

Pressures (PSIA)

1.. 3 74.731 74.728 14.214

Dew Points (°F)

1.. 6 78.857 80.294 86.393 87.217 47.675 84.89

Temperatures (°F)

1..14 75.18 75.445 80.898 80.894 79.859 83.786 82.016 84.209 84.586 84.316 73.972 74.327 75.173 80.051
15..24 81.051 83.911 83.884 87.589 88.323 81.9 83.806 88.265 88.29 89.449

Calibrated Instrument Data

Oconee Nuclear Station
Unit 1 - 5/90

Reading # 164 - May 26 20:30:32

Pressures (PSIA)

1.. 3 74.73 74.727 14.213

Dew Points (°F)

1.. 6 78.876 80.287 84.307 87.244 36.94 86.489

Temperatures (°F)

1..14	75.189	75.458	80.898	80.894	79.859	83.81	82.007	84.25	84.586	84.316	73.972	74.336	75.173	80.051
15..24	81.051	83.925	83.874	87.57	88.323	81.9	83.792	88.242	88.266	89.425				

Reading # 165 - May 26 20:35:32

Pressures (PSIA)

1.. 3 74.728 74.725 14.213

Dew Points (°F)

1.. 6 78.838 80.287 85.022 87.198 44.953 85.854

Temperatures (°F)

1..14	75.184	75.463	80.907	80.903	79.854	83.805	82.021	84.246	84.6	84.311	73.977	74.346	75.182	80.055
15..24	81.055	83.93	83.87	87.565	88.318	81.909	83.792	88.233	88.248	89.425				

Reading # 166 - May 26 20:40:32

Pressures (PSIA)

1.. 3 74.726 74.723 14.214

Dew Points (°F)

1.. 6 78.87 80.287 84.458 87.198 51.74 85.71

Temperatures (°F)

1..14	75.184	75.454	80.907	80.889	79.868	83.805	82.021	84.213	84.6	84.279	73.977	74.355	75.168	80.055
15..24	81.055	83.939	83.87	87.565	88.309	81.923	83.782	88.219	88.234	89.402				

Reading # 167 - May 26 20:45:32

Pressures (PSIA)

1.. 3 74.724 74.721 14.215

Dew Points (°F)

1.. 6 78.824 80.287 84.614 87.205 45.707 84.523

Temperatures (°F)

1..14	75.184	75.454	80.907	80.889	79.854	83.814	82.021	84.204	84.6	84.27	73.977	74.323	75.168	80.055
15..24	81.055	83.93	83.856	87.533	88.286	81.9	83.782	88.209	88.225	89.393				

Reading # 168 - May 26 20:50:32

Pressures (PSIA)

1.. 3 74.721 74.718 14.215

Dew Points (°F)

1.. 6 78.876 80.287 84.333 87.205 54.521 85.729

Temperatures (°F)

1..14	75.175	75.472	80.907	80.889	79.854	83.814	82.012	84.227	84.6	84.27	73.977	74.401	75.168	80.055
15..24	81.055	83.93	83.856	87.519	88.286	81.9	83.768	88.177	88.215	89.393				

Calibrated Instrument Data

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Oconee Nuclear Station
Unit 1 - 5/90

Reading # 169 - May 26 20:55:33

Pressures (PSIA)

1.. 3 74.721 74.717 14.216

Dew Points (°F)

1.. 6 78.857 80.294 84.148 87.191 57.786 85.566

Temperatures (°F)

1..14 75.17 75.445 80.889 80.894 79.85 83.786 82.016 84.218 84.586 84.274 73.959 74.336 75.163 80.041
15..24 81.041 83.925 83.842 87.505 88.263 81.9 83.782 88.186 88.201 89.369

Reading # 170 - May 26 21:00:33

Pressures (PSIA)

1.. 3 74.718 74.715 14.217

Dew Points (°F)

1.. 6 78.909 80.294 84.352 87.185 73.919 85.33

Temperatures (°F)

1..14 75.157 75.435 80.889 80.885 79.85 83.786 82.007 84.199 84.595 84.284 73.959 74.36 75.154 80.051
15..24 81.041 83.911 83.884 87.491 88.249 81.89 83.782 88.154 88.192 89.369

Reading # 171 - May 26 21:05:33

Pressures (PSIA)

1.. 3 74.715 74.713 14.218

Dew Points (°F)

1.. 6 78.824 80.287 84.03 87.179 87.539 85.415

Temperatures (°F)

1..14 75.157 75.426 80.889 80.885 79.85 83.796 82.007 84.199 84.586 84.284 73.959 74.336 75.154 80.041
15..24 81.051 83.911 83.874 87.482 88.249 81.876 83.782 88.144 88.178 89.36

Reading # 172 - May 26 21:10:33

Pressures (PSIA)

1.. 3 74.715 74.712 14.219

Dew Points (°F)

1.. 6 78.844 80.287 84.011 87.185 85.415 86.057

Temperatures (°F)

1..14 75.147 75.445 80.889 80.885 79.85 83.796 82.007 84.232 84.572 84.284 73.949 74.369 75.145 80.041
15..24 81.051 83.911 83.851 87.482 88.225 81.89 83.759 88.144 88.169 89.337

Reading # 173 - May 26 21:15:33

Pressures (PSIA)

1.. 3 74.713 74.71 14.22

Dew Points (°F)

1.. 6 78.876 80.279 84.136 87.198 79.48 85.46

Temperatures (°F)

1..14 75.157 75.445 80.889 80.885 79.85 83.81 82.016 84.232 84.586 84.307 73.959 74.336 75.145 80.041
15..24 81.041 83.925 83.86 87.468 88.216 81.64 83.768 88.121 88.159 89.337

4. Raw Instrument Data

Raw Instrument Data

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Oconee Nuclear Station
Unit 1 - 5/90

Reading # 69 - May 26 03:45:06

Pressures (PSIA)

1.. 3 75.771 75.766 14.314

Dew Points (amps)

1.. 6 0.014654 0.014639 0.014976 0.015336 0.015043 0.015112

Temperatures (ohms)

1..14 110.66 111.04 111.4 110.86 110.85 111.45 111.07 111.34 111.5 111.28 109.9 110.03 111.15 111.28
15..24 111.19 111.37 111.37 114.3 114.42 111.06 111.34 114.39 114.4 114.44

Reading # 70 - May 26 04:02:10

Pressures (PSIA)

1.. 3 75.626 75.622 14.313

Dew Points (amps)

1.. 6 0.014641 0.014643 0.014955 0.015317 0.015077 0.015173

Temperatures (ohms)

1..14 110.59 110.77 111.29 110.94 110.85 111.35 111.05 111.29 111.46 111.23 109.89 109.9 110.88 111.19
15..24 111.16 111.3 111.28 114.08 114.12 111.03 111.27 114.14 114.11 114.22

Reading # 71 - May 26 04:15:07

Pressures (PSIA)

1.. 3 75.533 75.531 14.31

Dew Points (amps)

1.. 6 0.014657 0.014632 0.015542 0.015333 0.015079 0.015096

Temperatures (ohms)

1..14 110.28 110.36 111.08 111.03 110.86 111.34 111.04 111.35 111.5 111.42 109.73 109.86 110.37 111.05
15..24 111.08 111.32 111.3 113.92 113.94 111 111.31 113.96 113.93 114.13

Reading # 72 - May 26 04:30:16

Pressures (PSIA)

1.. 3 75.464 75.458 14.313

Dew Points (amps)

1.. 6 0.01465 0.014632 0.01496 0.015329 0.015062 0.015175

Temperatures (ohms)

1..14 110.09 110.17 111.03 111.01 110.8 111.34 111.02 111.37 111.54 111.45 109.59 109.73 110.15 110.96
15..24 111 111.33 111.3 113.77 113.78 110.97 111.32 113.81 113.77 113.94

Reading # 73 - May 26 04:45:17

Pressures (PSIA)

1.. 3 75.41 75.404 14.315

Dew Points (amps)

1.. 6 0.014646 0.014639 0.014956 0.015315 0.015035 0.015047

Temperatures (ohms)

1..14 109.98 110.07 110.98 110.97 110.75 111.33 111 111.38 111.57 111.46 109.5 109.65 110.03 110.9
15..24 110.95 111.33 111.3 113.63 113.66 110.94 111.31 113.69 113.64 113.83

Raw Instrument Data

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Oconee Nuclear Station
Unit 1 - 5/90

Reading # 74 - May 26 05:00:06

Pressures (PSIA)

1.. 3 75.365 75.361 14.316

Dew Points (amps)

1.. 6 0.014646 0.014646 0.014956 0.015318 0.014921 0.015186

Temperatures (ohms)

1..14	109.91	110	110.94	110.94	110.71	111.32	110.99	111.37	111.59	111.47	109.45	109.59	109.95	110.85
15..24	110.91	111.33	111.29	113.52	113.57	110.93	111.31	113.59	113.55	113.68				

Reading # 75 - May 26 05:15:15

Pressures (PSIA)

1.. 3 75.326 75.322 14.317

Dew Points (amps)

1.. 6 0.014633 0.014653 0.014974 0.015321 0.014848 0.015099

Temperatures (ohms)

1..14	109.85	109.93	110.91	110.91	110.68	111.32	110.97	111.38	111.59	111.47	109.41	109.54	109.89	110.81
15..24	110.88	111.32	111.3	113.42	113.48	110.92	111.3	113.52	113.46	113.56				

Reading # 76 - May 26 05:30:16

Pressures (PSIA)

1.. 3 75.293 75.289 14.319

Dew Points (amps)

1.. 6 0.014629 0.014661 0.015008 0.015325 0.013358 0.015158

Temperatures (ohms)

1..14	109.8	109.89	110.88	110.89	110.65	111.31	110.96	111.39	111.57	111.47	109.38	109.51	109.85	110.77
15..24	110.85	111.32	111.3	113.34	113.42	110.91	111.3	113.44	113.39	113.52				

Reading # 77 - May 26 05:45:16

Pressures (PSIA)

1.. 3 75.264 75.259 14.322

Dew Points (amps)

1.. 6 0.014625 0.014674 0.014988 0.015331 0.011634 0.015168

Temperatures (ohms)

1..14	109.76	109.84	110.86	110.86	110.63	111.3	110.95	111.37	111.57	111.47	109.36	109.48	109.8	110.75
15..24	110.83	111.32	111.31	113.27	113.35	110.9	111.3	113.38	113.33	113.45				

Reading # 78 - May 26 06:00:17

Pressures (PSIA)

1.. 3 75.237 75.232 14.323

Dew Points (amps)

1.. 6 0.014605 0.014679 0.014998 0.015325 0.012658 0.015159

Temperatures (ohms)

1..14	109.72	109.8	110.83	110.84	110.6	111.3	110.94	111.37	111.57	111.47	109.34	109.45	109.77	110.72
15..24	110.81	111.32	111.3	113.21	113.29	110.89	111.3	113.32	113.27	113.43				

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Reading # 79 - May 26 06:15:17

Pressures (PSIA)

1.. 3 75.213 75.207 14.323

Dew Points (amps)

1.. 6 0.014592 0.014686 0.014999 0.015319 0.01187 0.015176

Temperatures (ohms)

1..14	109.69	109.77	110.8	110.82	110.58	111.3	110.94	111.37	111.57	111.46	109.32	109.43	109.73	110.69
15..24	110.78	111.31	111.3	113.14	113.24	110.88	111.29	113.27	113.22	113.33				

Reading # 80 - May 26 06:30:18

Pressures (PSIA)

1.. 3 75.191 75.187 14.321

Dew Points (amps)

1.. 6 0.014565 0.01469 0.014999 0.015316 0.011094 0.015172

Temperatures (ohms)

1..14	109.67	109.74	110.78	110.8	110.57	111.29	110.93	111.37	111.56	111.46	109.3	109.42	109.71	110.67
15..24	110.77	111.31	111.3	113.1	113.19	110.87	111.29	113.22	113.17	113.29				

Reading # 81 - May 26 06:45:18

Pressures (PSIA)

1.. 3 75.17 75.167 14.32

Dew Points (amps)

1.. 6 0.014562 0.014694 0.015002 0.015305 0.010882 0.015168

Temperatures (ohms)

1..14	109.65	109.71	110.77	110.79	110.55	111.29	110.92	111.36	111.55	111.46	109.29	109.42	109.69	110.65
15..24	110.76	111.31	111.29	113.05	113.15	110.86	111.29	113.17	113.12	113.27				

Reading # 82 - May 26 07:00:19

Pressures (PSIA)

1.. 3 75.151 75.147 14.321

Dew Points (amps)

1.. 6 0.01456 0.014694 0.015005 0.015298 0.010081 0.015153

Temperatures (ohms)

1..14	109.63	109.69	110.76	110.77	110.53	111.29	110.92	111.35	111.55	111.45	109.28	109.4	109.66	110.63
15..24	110.74	111.31	111.28	113	113.1	110.86	111.28	113.13	113.08	113.21				

Reading # 83 - May 26 07:15:19

Pressures (PSIA)

1.. 3 75.134 75.131 14.323

Dew Points (amps)

1.. 6 0.014558 0.014701 0.015002 0.015291 0.009984 0.015162

Temperatures (ohms)

1..14	109.61	109.68	110.74	110.76	110.51	111.29	110.91	111.36	111.54	111.45	109.26	109.38	109.64	110.61
15..24	110.73	111.3	111.28	112.96	113.07	110.85	111.28	113.09	113.04	113.18				

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Reading # 84 - May 26 07:30:20

Pressures (PSIA)

1.. 3 75.118 75.113 14.326

Dew Points (amps)

1.. 6 0.014578 0.014701 0.015007 0.015288 0.009745 0.015164

Temperatures (ohms)

1..14 109.59 109.66 110.73 110.74 110.5 111.28 110.91 111.36 111.54 111.45 109.25 109.37 109.62 110.6
15..24 110.72 111.3 111.28 112.92 113.03 110.84 111.27 113.05 113 113.15

Reading # 85 - May 26 07:45:20

Pressures (PSIA)

1.. 3 75.102 75.099 14.323

Dew Points (amps)

1.. 6 0.014581 0.0147 0.015005 0.015285 0.009775 0.015182

Temperatures (ohms)

1..14 109.57 109.64 110.72 110.73 110.49 111.28 110.9 111.35 111.54 111.44 109.24 109.36 109.61 110.58
15..24 110.71 111.3 111.28 112.89 113 110.84 111.28 113.02 112.97 113.1

Reading # 86 - May 26 08:00:21

Pressures (PSIA)

1.. 3 75.087 75.084 14.32

Dew Points (amps)

1.. 6 0.014553 0.014701 0.015002 0.01529 0.009805 0.015154

Temperatures (ohms)

1..14 109.56 109.62 110.71 110.72 110.48 111.27 110.89 111.35 111.53 111.44 109.24 109.35 109.59 110.57
15..24 110.69 111.3 111.26 112.85 112.96 110.84 111.27 112.98 112.94 113.07

Reading # 87 - May 26 08:15:21

Pressures (PSIA)

1.. 3 75.075 75.07 14.319

Dew Points (amps)

1.. 6 0.014576 0.014702 0.015008 0.01529 0.009788 0.01516

Temperatures (ohms)

1..14 109.55 109.62 110.7 110.71 110.47 111.28 110.89 111.34 111.53 111.43 109.23 109.34 109.57 110.56
15..24 110.69 111.29 111.27 112.82 112.94 110.83 111.27 112.95 112.91 113.06

Reading # 88 - May 26 08:30:22

Pressures (PSIA)

1.. 3 75.062 75.057 14.318

Dew Points (amps)

1.. 6 0.014567 0.014705 0.015008 0.015292 0.010292 0.015173

Temperatures (ohms)

1..14 109.53 109.6 110.69 110.7 110.46 111.27 110.88 111.34 111.52 111.43 109.22 109.33 109.56 110.55
15..24 110.68 111.29 111.26 112.78 112.91 110.83 111.27 112.92 112.88 113.04

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Reading # 89 - May 26 08:45:22

Pressures (PSIA)

1.. 3 75.048 75.045 14.319

Dew Points (amps)

1.. 6 0.01458 0.014703 0.015009 0.015292 0.01103 0.015176

Temperatures (ohms)

1..14	109.52	109.59	110.68	110.69	110.45	111.26	110.88	111.34	111.52	111.43	109.21	109.31	109.55	110.53
15..24	110.67	111.29	111.26	112.75	112.88	110.83	111.27	112.89	112.85	113.04				

Reading # 90 - May 26 09:00:23

Pressures (PSIA)

1.. 3 75.038 75.035 14.32

Dew Points (amps)

1.. 6 0.014559 0.014704 0.01501 0.0153 0.01245 0.015176

Temperatures (ohms)

1..14	109.51	109.58	110.67	110.68	110.45	111.23	110.88	111.34	111.52	111.43	109.2	109.32	109.54	110.52
15..24	110.66	111.29	111.26	112.72	112.85	110.82	111.26	112.86	112.83	112.93				

Reading # 91 - May 26 09:15:24

Pressures (PSIA)

1.. 3 75.025 75.023 14.32

Dew Points (amps)

1.. 6 0.014576 0.014709 0.015013 0.0153 0.010718 0.015175

Temperatures (ohms)

1..14	109.5	109.57	110.66	110.68	110.44	111.24	110.87	111.34	111.51	111.43	109.2	109.3	109.53	110.51
15..24	110.66	111.28	111.26	112.7	112.83	110.82	111.26	112.83	112.8	112.96				

Reading # 92 - May 26 09:30:24

Pressures (PSIA)

1.. 3 75.017 75.012 14.319

Dew Points (amps)

1.. 6 0.014576 0.014711 0.015011 0.0153 0.012238 0.015178

Temperatures (ohms)

1..14	109.49	109.56	110.66	110.67	110.43	111.25	110.87	111.33	111.5	111.42	109.19	109.31	109.51	110.5
15..24	110.65	111.28	111.25	112.67	112.8	110.82	111.26	112.81	112.78	112.91				

Reading # 93 - May 26 09:45:24

Pressures (PSIA)

1.. 3 75.005 75.001 14.316

Dew Points (amps)

1.. 6 0.01458 0.014709 0.015014 0.015295 0.014397 0.015154

Temperatures (ohms)

1..14	109.48	109.55	110.65	110.66	110.43	111.25	110.86	111.33	111.51	111.42	109.19	109.29	109.5	110.5
15..24	110.65	111.28	111.25	112.64	112.78	110.82	111.25	112.78	112.75	112.79				

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Reading # 94 - May 26 10:00:25

Pressures (PSIA)

1.. 3 74.995 74.992 14.316

Dew Points (amps)

1.. 6 0.01458 0.01471 0.015015 0.015301 0.0133 0.015155

Temperatures (ohms)

1..14 109.47 109.54 110.64 110.66 110.42 111.25 110.86 111.33 111.5 111.41 109.18 109.29 109.49 110.49
15..24 110.64 111.28 111.25 112.62 112.76 110.82 111.25 112.76 112.73 112.89

Reading # 95 - May 26 10:15:25

Pressures (PSIA)

1.. 3 74.985 74.983 14.314

Dew Points (amps)

1.. 6 0.014575 0.014709 0.015018 0.0153 0.013484 0.015161

Temperatures (ohms)

1..14 109.46 109.53 110.64 110.65 110.41 111.25 110.86 111.32 111.49 111.4 109.18 109.28 109.48 110.48
15..24 110.63 111.28 111.24 112.59 112.73 110.82 111.25 112.73 112.7 112.84

Reading # 96 - May 26 10:30:26

Pressures (PSIA)

1.. 3 74.976 74.973 14.311

Dew Points (amps)

1.. 6 0.014576 0.014709 0.015013 0.015304 0.014239 0.015153

Temperatures (ohms)

1..14 109.45 109.53 110.63 110.64 110.41 111.25 110.85 111.32 111.5 111.41 109.17 109.28 109.48 110.47
15..24 110.63 111.27 111.24 112.57 112.71 110.81 111.24 112.71 112.68 112.84

Reading # 97 - May 26 10:45:27

Pressures (PSIA)

1.. 3 74.969 74.965 14.308

Dew Points (amps)

1.. 6 0.01458 0.014709 0.015023 0.015304 0.012505 0.01518

Temperatures (ohms)

1..14 109.44 109.52 110.62 110.64 110.4 111.25 110.85 111.32 111.49 111.41 109.17 109.27 109.47 110.47
15..24 110.62 111.27 111.24 112.55 112.69 110.82 111.24 112.69 112.66 112.83

Reading # 98 - May 26 11:00:27

Pressures (PSIA)

1.. 3 74.959 74.956 14.305

Dew Points (amps)

1.. 6 0.014579 0.01471 0.015018 0.015307 0.013052 0.015165

Temperatures (ohms)

1..14 109.44 109.52 110.62 110.63 110.4 111.25 110.85 111.31 111.49 111.41 109.17 109.26 109.46 110.46
15..24 110.62 111.27 111.23 112.52 112.67 110.82 111.24 112.67 112.64 112.81

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Reading # 99 - May 26 11:15:27

Pressures (PSIA)

1.. 3 74.951 74.948 14.304

Dew Points (amps)

1.. 6 0.014576 0.014708 0.01502 0.015307 0.01061 0.015181

Temperatures (ohms)

1..14	109.43	109.51	110.61	110.63	110.39	111.25	110.85	111.31	111.48	111.4	109.16	109.25	109.45	110.45
15..24	110.62	111.27	111.23	112.5	112.64	110.81	111.24	112.65	112.62	112.79				

Reading # 100 - May 26 11:30:28

Pressures (PSIA)

1.. 3 74.944 74.939 14.302

Dew Points (amps)

1.. 6 0.014573 0.014714 0.015023 0.01531 0.013321 0.015174

Temperatures (ohms)

1..14	109.42	109.5	110.61	110.62	110.39	111.25	110.84	111.3	111.48	111.4	109.15	109.26	109.44	110.45
15..24	110.62	111.27	111.23	112.49	112.63	110.81	111.24	112.63	112.59	112.78				

Reading # 101 - May 26 11:45:29

Pressures (PSIA)

1.. 3 74.936 74.932 14.299

Dew Points (amps)

1.. 6 0.014573 0.014709 0.015065 0.015309 0.012547 0.015184

Temperatures (ohms)

1..14	109.41	109.49	110.6	110.62	110.39	111.25	110.84	111.31	111.48	111.4	109.15	109.26	109.44	110.44
15..24	110.61	111.27	111.23	112.46	112.61	110.81	111.23	112.61	112.57	112.76				

Reading # 102 - May 26 12:00:29

Pressures (PSIA)

1.. 3 74.928 74.925 14.301

Dew Points (amps)

1.. 6 0.014579 0.01471 0.015019 0.015308 0.011342 0.015185

Temperatures (ohms)

1..14	109.41	109.49	110.6	110.61	110.38	111.24	110.84	111.3	111.47	111.39	109.15	109.25	109.43	110.44
15..24	110.61	111.26	111.23	112.45	112.6	110.8	111.23	112.59	112.55	112.75				

Reading # 103 - May 26 12:15:29

Pressures (PSIA)

1.. 3 74.92 74.918 14.298

Dew Points (amps)

1.. 6 0.014573 0.014709 0.015016 0.015307 0.01135 0.015189

Temperatures (ohms)

1..14	109.41	109.48	110.6	110.61	110.38	111.24	110.84	111.31	111.47	111.4	109.14	109.25	109.43	110.44
15..24	110.6	111.26	111.23	112.43	112.57	110.8	111.23	112.57	112.54	112.73				

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Reading # 104 - May 26 12:30:30

Pressures (PSIA)

1.. 3 74.913 74.91 14.295

Dew Points (amps)

1.. 6 0.014573 0.014707 0.015011 0.015306 0.010508 0.015291

Temperatures (ohms)

1..14	109.4	109.48	110.59	110.61	110.37	111.24	110.84	111.3	111.47	111.4	109.14	109.24	109.42	110.43
15..24	110.6	111.27	111.22	112.41	112.54	110.8	111.23	112.55	112.52	112.72				

Reading # 105 - May 26 12:45:31

Pressures (PSIA)

1.. 3 74.907 74.904 14.291

Dew Points (amps)

1.. 6 0.014579 0.014707 0.015015 0.015305 0.010832 0.015199

Temperatures (ohms)

1..14	109.39	109.47	110.59	110.6	110.37	111.24	110.84	111.29	111.46	111.38	109.14	109.24	109.41	110.43
15..24	110.6	111.26	111.22	112.39	112.53	110.8	111.23	112.54	112.51	112.7				

Reading # 106 - May 26 13:00:31

Pressures (PSIA)

1.. 3 74.899 74.897 14.286

Dew Points (amps)

1.. 6 0.014573 0.014709 0.01559 0.015307 0.013912 0.015153

Temperatures (ohms)

1..14	109.39	109.47	110.59	110.6	110.37	111.23	110.83	111.3	111.46	111.39	109.13	109.23	109.41	110.42
15..24	110.6	111.25	111.22	112.37	112.51	110.8	111.23	112.52	112.49	112.69				

Reading # 107 - May 26 13:15:42

Pressures (PSIA)

1.. 3 74.892 74.89 14.283

Dew Points (amps)

1.. 6 0.014571 0.014707 0.015583 0.015305 0.011884 0.015192

Temperatures (ohms)

1..14	109.38	109.46	110.58	110.6	110.36	111.23	110.83	111.3	111.46	111.38	109.13	109.23	109.4	110.42
15..24	110.59	111.25	111.22	112.36	112.49	110.8	111.22	112.5	112.47	112.68				

Reading # 108 - May 26 13:30:32

Pressures (PSIA)

1.. 3 74.887 74.885 14.279

Dew Points (amps)

1.. 6 0.014571 0.014707 0.015578 0.015307 0.014191 0.015163

Temperatures (ohms)

1..14	109.38	109.46	110.58	110.59	110.36	111.23	110.83	111.29	111.46	111.37	109.13	109.23	109.4	110.42
15..24	110.59	111.25	111.21	112.34	112.48	110.79	111.22	112.49	112.45	112.67				

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Reading # 109 - May 26 13:45:05

Pressures (PSIA)

1.. 3 74.881 74.877 14.276

Dew Points (amps)

1.. 6 0.014571 0.014707 0.014984 0.015302 0.015017 0.015161

Temperatures (ohms)

1..14 109.38 109.45 110.58 110.59 110.36 111.23 110.83 111.29 111.45 111.38 109.12 109.21 109.39 110.41
15..24 110.59 111.25 111.21 112.32 112.46 110.79 111.22 112.48 112.44 112.66

Reading # 110 - May 26 14:00:14

Pressures (PSIA)

1.. 3 74.874 74.871 14.275

Dew Points (amps)

1.. 6 0.014571 0.014706 0.015578 0.015305 0.015241 0.015147

Temperatures (ohms)

1..14 109.37 109.45 110.57 110.59 110.36 111.22 110.83 111.29 111.46 111.36 109.12 109.22 109.39 110.41
15..24 110.59 111.25 111.21 112.31 112.44 110.8 111.22 112.46 112.43 112.64

Reading # 111 - May 26 14:15:15

Pressures (PSIA)

1.. 3 74.869 74.866 14.272

Dew Points (amps)

1.. 6 0.014569 0.014706 0.015576 0.015307 0.015266 0.015127

Temperatures (ohms)

1..14 109.36 109.44 110.57 110.59 110.35 111.23 110.82 111.29 111.45 111.38 109.12 109.2 109.38 110.41
15..24 110.58 111.25 111.21 112.3 112.44 110.79 111.22 112.44 112.41 112.63

Reading # 112 - May 26 14:30:15

Pressures (PSIA)

1.. 3 74.863 74.86 14.268

Dew Points (amps)

1.. 6 0.014566 0.014706 0.01557 0.015308 0.01517 0.015142

Temperatures (ohms)

1..14 109.36 109.44 110.57 110.58 110.35 111.23 110.82 111.29 111.45 111.38 109.11 109.21 109.38 110.41
15..24 110.58 111.25 111.2 112.28 112.42 110.79 111.22 112.43 112.39 112.62

Reading # 113 - May 26 14:45:16

Pressures (PSIA)

1.. 3 74.859 74.855 14.266

Dew Points (amps)

1.. 6 0.014567 0.014707 0.015568 0.015308 0.01516 0.015152

Temperatures (ohms)

1..14 109.36 109.43 110.56 110.58 110.35 111.23 110.82 111.29 111.45 111.37 109.11 109.2 109.38 110.4
15..24 110.58 111.25 111.21 112.27 112.41 110.78 111.22 112.42 112.38 112.61

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Reading # 114 - May 26 15:00:16

Pressures (PSIA)

1.. 3 74.853 74.849 14.263

Dew Points (amps)

1.. 6 0.014564 0.0147 0.015566 0.015308 0.015136 0.015148

Temperatures (ohms)

1..14	109.35	109.43	110.56	110.58	110.34	111.23	110.82	111.28	111.44	111.37	109.11	109.2	109.37	110.4
15..24	110.58	111.24	111.2	112.25	112.39	110.79	111.22	112.4	112.37	112.59				

Reading # 115 - May 26 15:15:17

Pressures (PSIA)

1.. 3 74.847 74.844 14.259

Dew Points (amps)

1.. 6 0.014567 0.014706 0.015567 0.015311 0.015161 0.01515

Temperatures (ohms)

1..14	109.35	109.43	110.56	110.58	110.35	111.22	110.82	111.28	111.44	111.37	109.11	109.21	109.37	110.4
15..24	110.58	111.24	111.2	112.24	112.37	110.79	111.22	112.39	112.35	112.59				

Reading # 116 - May 26 15:30:17

Pressures (PSIA)

1.. 3 74.842 74.839 14.253

Dew Points (amps)

1.. 6 0.014566 0.014703 0.015566 0.015313 0.015149 0.015019

Temperatures (ohms)

1..14	109.34	109.42	110.56	110.58	110.34	111.22	110.82	111.28	111.44	111.37	109.11	109.2	109.36	110.4
15..24	110.58	111.24	111.2	112.23	112.36	110.79	111.21	112.37	112.34	112.58				

Reading # 117 - May 26 15:45:18

Pressures (PSIA)

1.. 3 74.836 74.833 14.251

Dew Points (amps)

1.. 6 0.014565 0.0147 0.015564 0.015312 0.01514 0.01511

Temperatures (ohms)

1..14	109.34	109.42	110.56	110.57	110.34	111.23	110.82	111.28	111.44	111.36	109.11	109.19	109.36	110.4
15..24	110.57	111.24	111.2	112.22	112.37	110.79	111.22	112.36	112.33	112.56				

Reading # 118 - May 26 16:00:18

Pressures (PSIA)

1.. 3 74.832 74.828 14.252

Dew Points (amps)

1.. 6 0.014564 0.014702 0.015562 0.015307 0.015139 0.014383

Temperatures (ohms)

1..14	109.34	109.41	110.55	110.57	110.34	111.22	110.82	111.28	111.44	111.36	109.1	109.19	109.36	110.4
15..24	110.57	111.25	111.2	112.21	112.35	110.79	111.21	112.35	112.32	112.53				

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Reading # 119 - May 26 16:15:19

Pressures (PSIA)

1.. 3 74.826 74.824 14.247

Dew Points (amps)

1.. 6 0.014561 0.014702 0.015562 0.015313 0.015144 0.015197

Temperatures (ohms)

1..14 109.34 109.41 110.55 110.57 110.34 111.22 110.82 111.28 111.43 111.36 109.1 109.17 109.35 110.4
15..24 110.57 111.24 111.2 112.19 112.35 110.79 111.22 112.34 112.3 112.57

Reading # 120 - May 26 16:30:19

Pressures (PSIA)

1.. 3 74.822 74.818 14.242

Dew Points (amps)

1.. 6 0.014567 0.0147 0.015561 0.015308 0.01513 0.015296

Temperatures (ohms)

1..14 109.33 109.41 110.55 110.57 110.33 111.21 110.82 111.28 111.44 111.36 109.1 109.19 109.35 110.4
15..24 110.57 111.24 111.2 112.18 112.33 110.79 111.21 112.33 112.3 112.5

Reading # 121 - May 26 16:45:33

Pressures (PSIA)

1.. 3 74.819 74.814 14.24

Dew Points (amps)

1.. 6 0.014564 0.014701 0.01556 0.01531 0.015049 0.015111

Temperatures (ohms)

1..14 109.33 109.41 110.55 110.57 110.33 111.22 110.82 111.28 111.44 111.36 109.1 109.2 109.34 110.39
15..24 110.57 111.24 111.19 112.17 112.32 110.79 111.21 112.31 112.28 112.5

Reading # 122 - May 26 17:00:42

Pressures (PSIA)

1.. 3 74.813 74.808 14.237

Dew Points (amps)

1.. 6 0.014561 0.014698 0.01556 0.015311 0.009728 0.015321

Temperatures (ohms)

1..14 109.33 109.4 110.55 110.57 110.33 111.21 110.82 111.28 111.43 111.36 109.1 109.2 109.34 110.39
15..24 110.57 111.24 111.2 112.16 112.31 110.79 111.21 112.3 112.27 112.5

Reading # 123 - May 26 17:05:16

Pressures (PSIA)

1.. 3 74.811 74.808 14.237

Dew Points (amps)

1.. 6 0.01456 0.014699 0.015561 0.01531 0.009672 0.014861

Temperatures (ohms)

1..14 109.32 109.41 110.55 110.57 110.33 111.21 110.82 111.28 111.43 111.35 109.09 109.19 109.34 110.39
15..24 110.57 111.24 111.19 112.15 112.3 110.79 111.21 112.3 112.27 112.48

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Reading # 124 - May 26 17:10:25

Pressures (PSIA)

1.. 3 74.81 74.807 14.236

Dew Points (amps)

1.. 6 0.014565 0.0147 0.01556 0.015312 0.009753 0.015258

Temperatures (ohms)

1..14	109.32	109.4	110.55	110.57	110.33	111.21	110.82	111.27	111.43	111.34	109.09	109.19	109.34	110.39
15..24	110.57	111.24	111.19	112.15	112.29	110.79	111.21	112.3	112.27	112.47				

Reading # 125 - May 26 17:15:25

Pressures (PSIA)

1.. 3 74.808 74.805 14.234

Dew Points (amps)

1.. 6 0.01456 0.0147 0.015559 0.015308 0.009819 0.015197

Temperatures (ohms)

1..14	109.32	109.4	110.55	110.57	110.33	111.21	110.82	111.28	111.43	111.36	109.09	109.18	109.34	110.39
15..24	110.57	111.23	111.2	112.15	112.29	110.79	111.21	112.29	112.26	112.43				

Reading # 126 - May 26 17:20:25

Pressures (PSIA)

1.. 3 74.806 74.803 14.233

Dew Points (amps)

1.. 6 0.014563 0.014699 0.015558 0.015309 0.009939 0.015365

Temperatures (ohms)

1..14	109.32	109.4	110.55	110.57	110.33	111.22	110.82	111.28	111.43	111.36	109.09	109.2	109.34	110.39
15..24	110.57	111.24	111.19	112.14	112.29	110.79	111.21	112.29	112.26	112.51				

Reading # 127 - May 26 17:25:25

Pressures (PSIA)

1.. 3 74.803 74.8 14.232

Dew Points (amps)

1.. 6 0.014563 0.014698 0.015559 0.015315 0.009832 0.015222

Temperatures (ohms)

1..14	109.32	109.4	110.55	110.56	110.33	111.21	110.81	111.27	111.43	111.35	109.09	109.18	109.33	110.39
15..24	110.57	111.24	111.19	112.14	112.29	110.79	111.21	112.28	112.26	112.46				

Reading # 128 - May 26 17:30:26

Pressures (PSIA)

1.. 3 74.802 74.798 14.229

Dew Points (amps)

1.. 6 0.014566 0.014699 0.015558 0.015311 0.011482 0.015065

Temperatures (ohms)

1..14	109.32	109.4	110.55	110.56	110.33	111.21	110.81	111.27	111.43	111.35	109.09	109.18	109.33	110.39
15..24	110.57	111.23	111.18	112.14	112.28	110.79	111.2	112.28	112.26	112.48				

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Reading # 129 - May 26 17:35:26

Pressures (PSIA)

1.. 3 74.799 74.796 14.229

Dew Points (amps)

1.. 6 0.014563 0.014697 0.015556 0.015308 0.012793 0.015152

Temperatures (ohms)

1..14	109.32	109.39	110.55	110.56	110.32	111.21	110.81	111.28	111.43	111.35	109.09	109.18	109.33	110.39
15..24	110.57	111.23	111.19	112.13	112.28	110.79	111.2	112.28	112.25	112.5				

Reading # 130 - May 26 17:40:26

Pressures (PSIA)

1.. 3 74.798 74.794 14.228

Dew Points (amps)

1.. 6 0.014562 0.014696 0.015556 0.015311 0.013501 0.015208

Temperatures (ohms)

1..14	109.32	109.39	110.55	110.56	110.32	111.22	110.81	111.27	111.43	111.35	109.09	109.19	109.33	110.39
15..24	110.56	111.23	111.2	112.13	112.27	110.79	111.2	112.27	112.24	112.5				

Reading # 131 - May 26 17:45:26

Pressures (PSIA)

1.. 3 74.796 74.792 14.227

Dew Points (amps)

1.. 6 0.014562 0.014697 0.015557 0.01531 0.01453 0.015201

Temperatures (ohms)

1..14	109.31	109.39	110.54	110.56	110.32	111.21	110.81	111.27	111.42	111.35	109.09	109.19	109.33	110.39
15..24	110.56	111.23	111.19	112.12	112.27	110.79	111.2	112.26	112.24	112.47				

Reading # 132 - May 26 17:50:26

Pressures (PSIA)

1.. 3 74.793 74.79 14.224

Dew Points (amps)

1.. 6 0.01456 0.014696 0.015557 0.015309 0.014685 0.015035

Temperatures (ohms)

1..14	109.31	109.39	110.54	110.56	110.32	111.21	110.81	111.28	111.42	111.35	109.09	109.17	109.33	110.39
15..24	110.56	111.23	111.2	112.12	112.27	110.79	111.21	112.26	112.24	112.49				

Reading # 133 - May 26 17:55:26

Pressures (PSIA)

1.. 3 74.792 74.787 14.224

Dew Points (amps)

1.. 6 0.014569 0.014696 0.015557 0.015308 0.015227 0.015177

Temperatures (ohms)

1..14	109.31	109.39	110.54	110.56	110.32	111.22	110.81	111.27	111.42	111.35	109.09	109.18	109.33	110.39
15..24	110.56	111.23	111.19	112.12	112.26	110.79	111.21	112.26	112.23	112.49				

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Reading # 134 - May 26 18:00:27

Pressures (PSIA)

1.. 3 74.788 74.785 14.222

Dew Points (amps)

1.. 6 0.014565 0.014697 0.015558 0.015309 0.015073 0.014958

Temperatures (ohms)

1..14	109.31	109.39	110.54	110.56	110.32	111.22	110.81	111.27	111.42	111.34	109.09	109.17	109.33	110.39
15..24	110.56	111.23	111.19	112.11	112.26	110.79	111.2	112.26	112.23	112.48				

Reading # 135 - May 26 18:05:27

Pressures (PSIA)

1.. 3 74.786 74.783 14.222

Dew Points (amps)

1.. 6 0.014567 0.014697 0.015559 0.015308 0.01518 0.015214

Temperatures (ohms)

1..14	109.31	109.39	110.54	110.56	110.32	111.21	110.81	111.28	111.42	111.35	109.09	109.18	109.33	110.39
15..24	110.56	111.23	111.19	112.11	112.25	110.79	111.2	112.26	112.23	112.48				

Reading # 136 - May 26 18:10:27

Pressures (PSIA)

1.. 3 74.783 74.78 14.222

Dew Points (amps)

1.. 6 0.014561 0.014696 0.015558 0.015307 0.015117 0.015115

Temperatures (ohms)

1..14	109.31	109.39	110.54	110.56	110.32	111.21	110.81	111.27	111.42	111.35	109.09	109.18	109.32	110.38
15..24	110.56	111.23	111.19	112.11	112.25	110.79	111.2	112.26	112.22	112.48				

Reading # 137 - May 26 18:15:27

Pressures (PSIA)

1.. 3 74.782 74.779 14.222

Dew Points (amps)

1.. 6 0.014563 0.014696 0.015558 0.01531 0.015274 0.015163

Temperatures (ohms)

1..14	109.31	109.39	110.54	110.56	110.32	111.21	110.81	111.27	111.43	111.35	109.09	109.18	109.33	110.39
15..24	110.56	111.23	111.18	112.1	112.25	110.79	111.2	112.25	112.22	112.48				

Reading # 138 - May 26 18:20:27

Pressures (PSIA)

1.. 3 74.78 74.777 14.222

Dew Points (amps)

1.. 6 0.014568 0.014695 0.015556 0.01531 0.009665 0.015182

Temperatures (ohms)

1..14	109.31	109.39	110.54	110.56	110.32	111.21	110.81	111.27	111.42	111.34	109.08	109.18	109.32	110.39
15..24	110.56	111.23	111.19	112.1	112.25	110.79	111.21	112.24	112.21	112.47				

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Reading # 139 - May 26 18:25:27

Pressures (PSIA)

1.. 3 74.778 74.775 14.221

Dew Points (amps)

1.. 6 0.014566 0.014695 0.015558 0.015308 0.009813 0.015091

Temperatures (ohms)

1..14 109.31 109.39 110.54 110.56 110.32 111.22 110.81 111.27 111.42 111.35 109.08 109.17 109.32 110.39
15..24 110.56 111.23 111.19 112.09 112.24 110.79 111.2 112.24 112.21 112.47

Reading # 140 - May 26 18:30:28

Pressures (PSIA)

1.. 3 74.775 74.772 14.222

Dew Points (amps)

1.. 6 0.014563 0.014694 0.015559 0.015308 0.009830 0.015152

Temperatures (ohms)

1..14 109.31 109.39 110.54 110.56 110.32 111.21 110.81 111.27 111.42 111.35 109.08 109.18 109.32 110.39
15..24 110.56 111.23 111.19 112.09 112.23 110.79 111.2 112.24 112.21 112.47

Reading # 141 - May 26 18:35:28

Pressures (PSIA)

1.. 3 74.775 74.771 14.222

Dew Points (amps)

1.. 6 0.014564 0.014695 0.01556 0.015308 0.010344 0.015157

Temperatures (ohms)

1..14 109.31 109.39 110.54 110.56 110.32 111.21 110.81 111.27 111.42 111.35 109.08 109.17 109.32 110.38
15..24 110.56 111.23 111.19 112.09 112.22 110.79 111.2 112.23 112.21 112.47

Reading # 142 - May 26 18:40:28

Pressures (PSIA)

1.. 3 74.773 74.768 14.221

Dew Points (amps)

1.. 6 0.014562 0.014695 0.015561 0.015307 0.015017 0.015156

Temperatures (ohms)

1..14 109.3 109.39 110.54 110.56 110.32 111.21 110.81 111.27 111.42 111.35 109.08 109.17 109.32 110.38
15..24 110.56 111.23 111.19 112.08 112.22 110.79 111.2 112.23 112.2 112.46

Reading # 143 - May 26 18:45:28

Pressures (PSIA)

1.. 3 74.771 74.768 14.22

Dew Points (amps)

1.. 6 0.014565 0.014696 0.015337 0.015307 0.015135 0.01515

Temperatures (ohms)

1..14 109.3 109.38 110.54 110.56 110.32 111.21 110.81 111.26 111.42 111.35 109.08 109.17 109.32 110.38
15..24 110.56 111.23 111.18 112.08 112.21 110.79 111.2 112.23 112.19 112.46

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Reading # 144 - May 26 18:50:28

Pressures (PSIA)

1.. 3 74.768 74.764 14.221

Dew Points (amps)

1.. 6 0.014565 0.014695 0.01534 0.015306 0.015201 0.015173

Temperatures (ohms)

1..14	109.3	109.38	110.54	110.56	110.32	111.21	110.81	111.27	111.42	111.35	109.08	109.17	109.32	110.38
15..24	110.56	111.23	111.18	112.07	112.2	110.79	111.2	112.22	112.19	112.46				

Reading # 145 - May 26 18:55:28

Pressures (PSIA)

1.. 3 74.767 74.762 14.221

Dew Points (amps)

1.. 6 0.014565 0.014693 0.015295 0.015307 0.015152 0.015115

Temperatures (ohms)

1..14	109.3	109.38	110.54	110.56	110.32	111.21	110.81	111.27	111.42	111.34	109.08	109.16	109.32	110.38
15..24	110.56	111.23	111.18	112.07	112.2	110.79	111.2	112.22	112.19	112.45				

Reading # 146 - May 26 19:00:29

Pressures (PSIA)

1.. 3 74.765 74.761 14.221

Dew Points (amps)

1.. 6 0.014564 0.014694 0.015244 0.015306 0.014869 0.015291

Temperatures (ohms)

1..14	109.3	109.38	110.54	110.56	110.32	111.21	110.81	111.27	111.42	111.35	109.08	109.17	109.32	110.38
15..24	110.56	111.23	111.18	112.07	112.2	110.79	111.2	112.22	112.19	112.45				

Reading # 147 - May 26 19:05:29

Pressures (PSIA)

1.. 3 74.761 74.758 14.221

Dew Points (amps)

1.. 6 0.014564 0.014693 0.015286 0.015308 0.01462 0.014943

Temperatures (ohms)

1..14	109.3	109.38	110.54	110.56	110.32	111.21	110.81	111.27	111.42	111.34	109.08	109.17	109.32	110.38
15..24	110.56	111.23	111.19	112.06	112.21	110.79	111.2	112.21	112.19	112.45				

Reading # 148 - May 26 19:10:29

Pressures (PSIA)

1.. 3 74.76 74.756 14.221

Dew Points (amps)

1.. 6 0.014567 0.014692 0.015561 0.01531 0.014105 0.015422

Temperatures (ohms)

1..14	109.3	109.38	110.54	110.55	110.32	111.21	110.81	111.27	111.41	111.34	109.08	109.16	109.31	110.38
15..24	110.56	111.23	111.19	112.06	112.21	110.79	111.2	112.21	112.18	112.45				

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Reading # 149 - May 26 19:15:29

Pressures (PSIA)

1.. 3 74.758 74.755 14.22

Dew Points (amps)

1.. 6 0.014567 0.014695 0.015406 0.015311 0.01169 0.015046

Temperatures (ohms)

1..14	109.3	109.38	110.54	110.56	110.31	111.21	110.81	111.26	111.41	111.34	109.08	109.17	109.31	110.38
15..24	110.56	111.23	111.19	112.06	112.2	110.79	111.2	112.21	112.18	112.44				

Reading # 150 - May 26 19:20:29

Pressures (PSIA)

1.. 3 74.756 74.754 14.22

Dew Points (amps)

1.. 6 0.014563 0.014696 0.015558 0.01531 0.012805 0.014805

Temperatures (ohms)

1..14	109.3	109.37	110.54	110.56	110.31	111.21	110.81	111.26	111.42	111.34	109.08	109.17	109.31	110.38
15..24	110.56	111.23	111.19	112.05	112.2	110.78	111.2	112.2	112.17	112.44				

Reading # 151 - May 26 19:25:29

Pressures (PSIA)

1.. 3 74.755 74.751 14.22

Dew Points (amps)

1.. 6 0.014566 0.014694 0.015558 0.015307 0.013103 0.015096

Temperatures (ohms)

1..14	109.3	109.38	110.54	110.55	110.32	111.21	110.81	111.27	111.41	111.35	109.08	109.17	109.31	110.38
15..24	110.56	111.23	111.18	112.05	112.19	110.79	111.21	112.2	112.17	112.44				

Reading # 152 - May 26 19:30:30

Pressures (PSIA)

1.. 3 74.753 74.748 14.221

Dew Points (amps)

1.. 6 0.014567 0.014695 0.015559 0.015308 0.013442 0.015561

Temperatures (ohms)

1..14	109.3	109.38	110.54	110.55	110.32	111.21	110.81	111.27	111.42	111.34	109.08	109.16	109.31	110.38
15..24	110.56	111.23	111.18	112.05	112.19	110.79	111.2	112.2	112.17	112.44				

Reading # 153 - May 26 19:35:30

Pressures (PSIA)

1.. 3 74.75 74.746 14.22

Dew Points (amps)

1.. 6 0.014563 0.014695 0.01556 0.015308 0.01272 0.015403

Temperatures (ohms)

1..14	109.29	109.38	110.53	110.55	110.31	111.2	110.81	111.26	111.41	111.34	109.08	109.17	109.31	110.38
15..24	110.56	111.23	111.19	112.04	112.18	110.78	111.2	112.19	112.17	112.43				

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Reading # 154 - May 26 19:40:30

Pressures (PSIA)

1.. 3 74.748 74.745 14.219

Dew Points (amps)

1.. 6 0.014568 0.014693 0.015561 0.015307 0.013021 0.015221

Temperatures (ohms)

1..14	109.29	109.37	110.53	110.55	110.31	111.21	110.81	111.27	111.42	111.34	109.08	109.17	109.31	110.38
15..24	110.56	111.23	111.19	112.04	112.18	110.78	111.2	112.19	112.16	112.43				

Reading # 155 - May 26 19:45:30

Pressures (PSIA)

1.. 3 74.747 74.742 14.219

Dew Points (amps)

1.. 6 0.014568 0.014694 0.015557 0.015307 0.011335 0.015017

Temperatures (ohms)

1..14	109.29	109.38	110.54	110.55	110.31	111.21	110.81	111.27	111.41	111.34	109.08	109.15	109.31	110.38
15..24	110.56	111.23	111.18	112.04	112.18	110.79	111.2	112.19	112.16	112.43				

Reading # 156 - May 26 19:50:30

Pressures (PSIA)

1.. 3 74.745 74.741 14.218

Dew Points (amps)

1.. 6 0.014565 0.014695 0.015555 0.015309 0.012207 0.015201

Temperatures (ohms)

1..14	109.29	109.37	110.54	110.55	110.31	111.21	110.81	111.26	111.41	111.33	109.08	109.16	109.31	110.38
15..24	110.56	111.23	111.19	112.03	112.17	110.79	111.2	112.19	112.16	112.43				

Reading # 157 - May 26 19:55:30

Pressures (PSIA)

1.. 3 74.741 74.74 14.218

Dew Points (amps)

1.. 6 0.014567 0.014693 0.015555 0.015306 0.012613 0.015222

Temperatures (ohms)

1..14	109.29	109.37	110.53	110.55	110.31	111.21	110.81	111.26	111.41	111.34	109.07	109.16	109.31	110.38
15..24	110.56	111.23	111.19	112.03	112.17	110.79	111.2	112.18	112.16	112.43				

Reading # 158 - May 26 20:00:31

Pressures (PSIA)

1.. 3 74.742 74.737 14.218

Dew Points (amps)

1.. 6 0.01457 0.014694 0.015555 0.015304 0.010705 0.015414

Temperatures (ohms)

1..14	109.29	109.37	110.53	110.55	110.31	111.21	110.81	111.26	111.41	111.34	109.08	109.16	109.31	110.38
15..24	110.56	111.23	111.18	112.03	112.17	110.79	111.2	112.18	112.16	112.42				

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Reading # 159 - May 26 20:05:31

Pressures (PSIA)

1.. 3 74.739 74.734 14.217

Dew Points (amps)

1.. 6 0.01456 0.014695 0.015554 0.015309 0.011099 0.015187

Temperatures (ohms)

1..14	109.29	109.36	110.53	110.55	110.31	111.2	110.81	111.26	111.41	111.34	109.07	109.17	109.3	110.38
15..24	110.56	111.23	111.18	112.02	112.17	110.78	111.2	112.18	112.15	112.42				

Reading # 160 - May 26 20:10:31

Pressures (PSIA)

1.. 3 74.738 74.733 14.216

Dew Points (amps)

1.. 6 0.014566 0.014693 0.015554 0.015308 0.010862 0.015249

Temperatures (ohms)

1..14	109.29	109.37	110.53	110.55	110.31	111.21	110.81	111.26	111.41	111.34	109.07	109.16	109.3	110.38
15..24	110.56	111.22	111.18	112.02	112.17	110.79	111.2	112.17	112.15	112.42				

Reading # 161 - May 26 20:15:31

Pressures (PSIA)

1.. 3 74.734 74.732 14.215

Dew Points (amps)

1.. 6 0.014563 0.014694 0.015554 0.015304 0.011702 0.015192

Temperatures (ohms)

1..14	109.28	109.37	110.53	110.55	110.31	111.2	110.81	111.26	111.41	111.34	109.07	109.16	109.3	110.38
15..24	110.56	111.23	111.18	112.02	112.16	110.78	111.2	112.17	112.15	112.41				

Reading # 162 - May 26 20:20:31

Pressures (PSIA)

1.. 3 74.734 74.73 14.216

Dew Points (amps)

1.. 6 0.014564 0.014693 0.015392 0.015308 0.011947 0.015022

Temperatures (ohms)

1..14	109.29	109.37	110.53	110.55	110.31	111.2	110.81	111.26	111.4	111.34	109.07	109.16	109.3	110.38
15..24	110.56	111.22	111.18	112.01	112.16	110.79	111.2	112.17	112.15	112.41				

Reading # 163 - May 26 20:25:31

Pressures (PSIA)

1.. 3 74.731 74.728 14.214

Dew Points (amps)

1.. 6 0.014565 0.014693 0.015235 0.015308 0.011793 0.015101

Temperatures (ohms)

1..14	109.28	109.36	110.53	110.55	110.31	111.2	110.81	111.26	111.41	111.34	109.07	109.15	109.3	110.38
15..24	110.56	111.22	111.18	112.01	112.16	110.78	111.2	112.16	112.14	112.41				

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Reading # 164 - May 26 20:30:32

Pressures (PSIA)

1.. 3 74.73 74.727 14.213

Dew Points (amps)

1.. 6 0.014567 0.014692 0.01505 0.015311 0.010839 0.015244

Temperatures (ohms)

1..14	109.29	109.36	110.53	110.55	110.31	111.21	110.81	111.26	111.41	111.34	109.07	109.16	109.3	110.38
15..24	110.56	111.23	111.18	112.01	112.16	110.78	111.2	112.16	112.13	112.41				

Reading # 165 - May 26 20:35:32

Pressures (PSIA)

1.. 3 74.728 74.725 14.213

Dew Points (amps)

1.. 6 0.014563 0.014692 0.015113 0.015307 0.011551 0.015187

Temperatures (ohms)

1..14	109.29	109.37	110.53	110.55	110.31	111.21	110.81	111.26	111.41	111.34	109.07	109.16	109.3	110.38
15..24	110.56	111.23	111.18	112.01	112.16	110.79	111.2	112.16	112.13	112.41				

Reading # 166 - May 26 20:40:32

Pressures (PSIA)

1.. 3 74.726 74.723 14.214

Dew Points (amps)

1.. 6 0.014566 0.014692 0.015063 0.015307 0.012155 0.015174

Temperatures (ohms)

1..14	109.29	109.36	110.53	110.55	110.31	111.21	110.81	111.26	111.41	111.33	109.07	109.16	109.3	110.38
15..24	110.56	111.23	111.18	112.01	112.16	110.79	111.2	112.15	112.13	112.4				

Reading # 167 - May 26 20:45:32

Pressures (PSIA)

1.. 3 74.724 74.721 14.215

Dew Points (amps)

1.. 6 0.014562 0.014692 0.015077 0.015307 0.011618 0.015069

Temperatures (ohms)

1..14	109.29	109.36	110.53	110.55	110.31	111.21	110.81	111.25	111.41	111.33	109.07	109.15	109.3	110.38
15..24	110.56	111.23	111.17	112	112.15	110.78	111.2	112.15	112.12	112.4				

Reading # 168 - May 26 20:50:32

Pressures (PSIA)

1.. 3 74.721 74.718 14.215

Dew Points (amps)

1.. 6 0.014567 0.014692 0.015052 0.015307 0.012402 0.015176

Temperatures (ohms)

1..14	109.28	109.37	110.53	110.55	110.31	111.21	110.81	111.26	111.41	111.33	109.07	109.17	109.3	110.38
15..24	110.56	111.23	111.17	112	112.15	110.78	111.19	112.15	112.12	112.4				

Raw Instrument Data

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Reading # 169 - May 26 20:55:33

Pressures (PSIA)

1.. 3 74.721 74.717 14.216

Dew Points (amps)

1.. 6 0.014565 0.014693 0.015035 0.015306 0.012692 0.015161

Temperatures (ohms)

1..14	109.28	109.36	110.53	110.55	110.31	111.2	110.81	111.26	111.41	111.33	109.07	109.16	109.3	110.37
15..24	110.55	111.23	111.17	112	112.15	110.78	111.2	112.15	112.12	112.4				

Reading # 170 - May 26 21:00:33

Pressures (PSIA)

1.. 3 74.718 74.715 14.217

Dew Points (amps)

1.. 6 0.01457 0.014693 0.015054 0.015305 0.014126 0.01514

Temperatures (ohms)

1..14	109.28	109.36	110.53	110.55	110.31	111.2	110.81	111.25	111.41	111.33	109.07	109.16	109.3	110.38
15..24	110.55	111.22	111.18	111.99	112.14	110.78	111.2	112.14	112.12	112.4				

Reading # 171 - May 26 21:05:33

Pressures (PSIA)

1.. 3 74.715 74.713 14.218

Dew Points (amps)

1.. 6 0.014562 0.014692 0.015025 0.015305 0.015337 0.015148

Temperatures (ohms)

1..14	109.28	109.36	110.53	110.55	110.31	111.2	110.81	111.25	111.41	111.33	109.07	109.16	109.3	110.37
15..24	110.56	111.22	111.18	111.99	112.14	110.78	111.2	112.14	112.11	112.39				

Reading # 172 - May 26 21:10:33

Pressures (PSIA)

1.. 3 74.715 74.712 14.219

Dew Points (amps)

1.. 6 0.014564 0.014692 0.015023 0.015305 0.015148 0.015205

Temperatures (ohms)

1..14	109.28	109.36	110.53	110.55	110.31	111.2	110.81	111.26	111.4	111.33	109.07	109.16	109.29	110.37
15..24	110.56	111.22	111.17	111.99	112.14	110.78	111.19	112.14	112.11	112.39				

Reading # 173 - May 26 21:15:33

Pressures (PSIA)

1.. 3 74.713 74.71 14.22

Dew Points (amps)

1.. 6 0.014567 0.014692 0.015034 0.015307 0.01462 0.015152

Temperatures (ohms)

1..14	109.28	109.36	110.53	110.55	110.31	111.21	110.81	111.26	111.41	111.34	109.07	109.16	109.29	110.37
15..24	110.55	111.23	111.18	111.99	112.14	110.73	111.19	112.13	112.11	112.39				

5. Mass Point Termination Criteria

Mass Point Termination Criteria

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Oconee Nuclear Station
Unit 1 - 5/90

RDG	TIME	Mass lbm	MP Leak %/day	MP UCL %/day	Max Wind %/day	Scatter	Predictor %
98	0.00	685861.3643	0.0000	0.0000	-	0.0000	-
99	15.00	685857.6903	0.0514	0.0000	-	1.0000	-
100	30.02	685840.1108	0.1487	0.6287	-	1.0299	-
101	45.03	685837.9853	0.1227	0.2087	0.2458	1.2264	-
102	60.03	685822.0420	0.1376	0.1822	0.1487	1.2641	-
103	75.03	685808.1806	0.1499	0.1804	0.1487	1.2603	-
104	90.05	685804.2492	0.1441	0.1656	0.1610	1.3117	-
105	105.07	685811.2697	0.1215	0.1512	0.1525	1.3742	-
106	120.07	685782.8535	0.1294	0.1534	0.1638	1.3631	-
107	135.25	685785.6743	0.1241	0.1437	0.1515	1.4202	-
108	150.08	685791.7845	0.1117	0.1322	0.1515	1.4904	-
109	164.63	685778.9661	0.1074	0.1249	0.1515	1.5542	-
110	179.78	685762.1885	0.1089	0.1236	0.1441	1.5687	-
111	194.80	685759.4288	0.1078	0.1204	0.1441	1.6009	-
112	209.80	685748.0115	0.1084	0.1193	0.1304	1.6108	-
113	224.82	685743.7969	0.1077	0.1172	0.1304	1.6310	-
114	239.82	685752.3740	0.1028	0.1125	0.1294	1.6832	29.4884
115	254.83	685726.6369	0.1038	0.1125	0.1294	1.6803	28.8114
116	269.83	685726.8440	0.1029	0.1107	0.1241	1.7006	29.7361
117	284.85	685697.0464	0.1067	0.1146	0.1241	1.6472	27.6226
118	299.85	685699.4469	0.1077	0.1149	0.1217	1.6413	27.2913
119	314.87	685670.3726	0.1120	0.1198	0.1334	1.5839	26.0129
120	329.87	685681.0787	0.1124	0.1196	0.1334	1.5851	20.3372
121	345.10	685680.9656	0.1116	0.1182	0.1311	1.5979	14.4287
122	360.25	685662.2910	0.1124	0.1185	0.1311	1.5936	12.4576

6. BN-TOP-1 Temperature Stabilization Data

BN-TOP-1 Temperature Stabilization

Oconee Nuclear Station

Unit 1 - 5/90

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TIME	TEMP	AVE. DT OVER LAST 2 HOURS	RATE OF DT CHANGE OVER LAST 2 HOURS
t	T	$\frac{ T_t - T_{t-2} }{2}$	
HOURS	°F	°F/HR	°F/HR/HR
03:45	90.537		
04:02	89.834		
04:15	89.424		
04:30	88.984		
04:45	88.657		
05:00	88.375		
05:15	88.132		
05:30	87.947		
05:45	87.767	1.383	0.985
06:00	87.621	1.124	0.757
06:15	87.456	0.983	0.613
06:30	87.329	0.827	0.420
06:45	87.217	0.720	0.341
07:00	87.086	0.644	0.217
07:15	86.985	0.574	0.204
07:30	86.891	0.528	0.179
07:45	86.791	0.488	0.123
08:00	86.696	0.462	0.145
08:15	86.623	0.416	0.110
08:30	86.551	0.389	0.099
08:45	86.474	0.371	0.110
09:00	86.378	0.354	0.072
09:15	86.326	0.329	0.065
09:30	86.245	0.323	0.034
09:45	86.157	0.316	0.000
10:00	86.135	0.280	0.075
10:15	86.060	0.281	0.030
10:30	86.013	0.269	0.074
10:45	85.957	0.258	0.117