BRUNSWICK STEAM ELECTRIC PLANT
UNIT NO. 2

REACTOR CONTAINMENT BUILDING
INTEGRATED LEAK RATE TEST

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CAROLINA POWER & LIGHT COMPANY

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1.0 SYNOPSIS

The Brunswick Steam Electric Plant Unit No. 2 reactor containment building was subjected to a periodic integrated leak rate test during the period of May 3 to May 5, 1986. The purpose of this test was to demonstrate the acceptability of the building leakage rate at an internal pressure of 49.0 psig (P_a). Testing was performed in accordance with the requirements of 10CFR50, Appendix J, ANSI N45.4-1972, Bechtel Topical Report BN-TOP-1 and Brunswick Steam Electric Plant Unit No. 2 Technical Specifications.

The Mass Point method of analysis resulted in a measured leakage rate of 0.186% by weight per day at 49.0 psig. The leakage rate at the upper bound of the 95% confidence interval was 0.191% by weight per day. A correction factor of 0.003 percent by weight per day for 11 penetrations which were not vented for the test must be added to the test results. Therefore, the leakage rate at the upper bound of the 95 percent confidence interval is 0.194 percent by weight per day which is below the allowable leakage rate of 0.375 percent by weight per day.

Utilizing the Total Time method of analysis, the calculated leakage rate was found to be 0.172% by weight per day and 0.237% by weight per day at the upper bound of the 95% confidence interval at the 49 psig pressure level. The mean of the measured leak rates based on the total time calculations for the last five hours of test was 0.199% by weight per day. With the addition of the Type C penalty the leakage rate at the upper bound of the 95 percent confidence interval is 0.240 percent by weight per day. All total time analyses are below the allowable leakage rate of 0.375 percent by weight per day and meet the criteria set forth in Bechtel Topical Report BN-TOP-1 for conduct of a reduced duration integrated leakage rate test.

Using the minimum pathway leakage analysis to determine the "as found" reactor containment integrated leakage rate indicates that the acceptance criteria would have been exceeded. This was due to two penetrations that could not be pressurized during local leakage rate testing and required maintenance to be performed.

The supplemental instrumentation verification test at P_a demonstrated an agreement between measured reactor containment building integrated leakage rates of 2% using the Mass Point method and 8.6% using the Total Time method which are within the 25% requirement of 10CFR50, Appendix J, Section III A.3.b.

Testing was performed by Carolina Power and Light Company with the technical assistance of United Energy Services Corporation. Procedural and calculational methods were witnessed by Nuclear Regulatory Commission personnel.

2.0 INTRODUCTION

The objective of the integrated leak rate test was the establishment of the degree of overall leak tightness of the reactor containment building at the calculated design basis accident pressure of 49.0 psig. The allowable leakage is defined by the design basis accident applied in the safety analysis in accordance with site exposure guidelines specified by 10CFR100. For Brunswick Steam Electric Plant Unit No. 2, the maximum allowable integrated leak rate at the design basis accident pressure of 49.0 psig (P_a) is 0.5% by weight per day (L_a).

Testing was performed in accordance with the procedural requirements as stated in Brunswick Steam Electric Plant Integrated Primary Containment Leak Rate Test Procedure PT-20.5. This procedure received two independent technical safety reviews and was approved by the Manager, Technical Support prior to the commencement of the test.

Leakage rate testing was accomplished at the pressure level of 49.0 psig for a period of 8.0 hours. The 8.0 hour period was followed by a one hour stabilization period and 4.0 hour supplemental test for a verification of test instrumentation.

3.0 GENERAL, TECHNICAL, AND TEST DATA

3.1 GENERAL DATA

Owner:	Carolina Power & Light
Docket No.	50-324
Location:	Southport, North Carolina
Type:	Mark 1, BWR-4
Containment Description:	Steel lined, reinforced concrete, 'light bulb' shaped drywell with torus shaped suppression chamber connected by a vent system. Vacuum breakers are provided between the suppression chamber and both the drywell and reactor building.
Date Test Completed:	May 5, 1986

3.2 TECHNICAL DATA

Containment Net Free Volume:	294,981 cubic feet
Design Pressure:	62 psig
Design Temperature:	300°F (drywell), 220°F (suppression chamber)
Calculated Accident Peak Pressure:	49.0 psig
Calculated Accident Peak Temperature:	297°F

3.3 TEST DATA

Test Method:	Absolute
Data Analysis:	Mass Point and Total Time
Test Pressure:	63.7 psia
Max Allowable Leakage Rate (L_a):	0.500 wt % per day

3.3 TEST DATA (Cont'd)

Measured Leakage Rate:

Mass Point	0.186 wt % per day
Total Time	0.172 wt % per day

Measured Leakage Rate at UCL:

Mass Point	0.191 wt % per day
Total Time	0.237 wt % per day

Supplemental Test Flow Rate 0.506 wt % per day

Supplemental Test Measured Leak Rate:

Mass Point	0.702 wt % per day
Total Time	0.721 wt % per day

Supplemental Test and L_{am} Agreement:

Mass Point	2.0%
Total Time	8.6%

4.0 ACCEPTANCE CRITERIA

4.1 TECHNICAL SPECIFICATION ACCEPTANCE CRITERIA

Acceptance criteria established prior to the test and as specified by 10CFR50, Appendix J, ANSI N45.4-1972 and the Brunswick Steam Electric Plant Unit No. 2 Technical Specifications are as follows:

1. The measured leakage rate (L_{am}) at the calculated design accident pressure of 49.0 psig (P_a) shall be less than 75% of the maximum allowable leakage rate (L_a), specified as 0.5% by weight of the building atmosphere per day. The acceptance criteria is determined as follows:

$$L_a = 0.5\%/\text{day}$$

$$0.75\ L_a = 0.375\%/\text{day}$$

2. The test instrumentation shall be verified by means of a supplemental test. Agreement between the containment leakage measured during the Type A test and the containment leakage measured during the supplemental test shall be within 25% of L_a.

4.2 REDUCED DURATION TESTING ACCEPTANCE CRITERIA

In addition to the acceptance criteria mentioned above, the following reduced duration testing acceptance criteria contained in Bechtel Topical Report BN-TOP-1, Revision 1 dated November 1, 1972, was used:

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 ($0.75\ L_a$).

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.

3. The mean of the measured leak rates based on total time calculations over the last five hours of test or last 20 data points, whichever provides the most data, shall be less than the maximum allowable leak rate.

4. At least 20 data points shall be provided for statistical analysis.

5.0 TEST INSTRUMENTATION

5.1 SUMMARY OF INSTRUMENTS

Test instruments employed are described, by system, in the following subsections.

5.1.1 Temperature Indicating System

Components:

1. Resistance Temperature Detectors:

Quantity	23
Manufacturer	Rosemount
Type	78-S 100 ohm platinum
Range, ^{o}F	0 to 400
Accuracy, ^{o}F	$\pm$0.1
Sensitivity, ^{o}F	$\pm$0.1

2. Temperature Indicator:

Quantity	3
Manufacturer	Chromalox
Type	2510 process indicator
Accuracy, ^{o}F	$\pm$0.1
Repeatability, ^{o}F	$\pm$0.1

5.1.2 Dewpoint Indicating System

1. Dewcell Elements

Quantity	10
Manufacturer	Foxboro
Type	2701 RG Nickel RTD
Range, ^{o}F	0 - 150 dewpoint
Accuracy, ^{o}F	$\pm$2
Sensitivity, ^{o}F	$\pm$0.5

2. Dewpoint Transmitters

Quantity	10
Manufacturer	Foxboro
Type	Model E94, 4-20 ma output
Accuracy, ^{o}F	$\pm$0.4
Repeatability, ^{o}F	$\pm$0.1

5.1.3 Pressure Monitoring System

Precision Pressure Gauges

Quantity	2
Manufacturer	Texas Instruments
Type	Model 145 (with direct readout)
Range, psia	0 - 75
Accuracy, psia	0.015% of full scale
Sensor sensitivity,psia	0.0013% of full scale
Repeatability, psia	0.001% of full scale

5.1.4 Supplemental Test Flow Monitoring System

Flowmeter

Quantity	1
Manufacturer	Brooks
Type	Model 1110
Range, scfm	0 - 5
Accuracy	±2% of full scale

5.2 SCHEMATIC ARRANGEMENT

The arrangement of the four measuring systems summarized in Section 5.1 is depicted in Appendix A.

Drybulb temperature sensors were placed throughout the reactor containment vessel volume to permit monitoring of internal temperature variations at 23 locations. Dewcells were placed at ten locations to permit monitoring of the reactor containment partial pressure of water vapor. A temperature survey was performed after the sensors were installed which verified there were no large areas of temperature variation.

5.3 CALIBRATION CHECKS

Temperature, dewpoint, and pressure measuring systems were checked for calibration before the test as recommended by ANSI N45.4-1972, Section 6.2 and 6.3. The results of the calibration checks are on file at Brunswick Steam Electric Plant. The supplemental test at 49.0 psig confirmed the instrumentation acceptability.

5.4 INSTRUMENTATION PERFORMANCE

During the testing phase, one RTD exhibited abnormal behavior and was not used for the test. The remaining 23 RTDs, ten dewcells and two precision pressure gauges, and flow meter performed satisfactorily throughout the performance of the integrated leak rate test and provided more than adequate coverage of the containment.

5.5 VOLUME WEIGHTING FACTORS

Weighting factors were assigned to each drybulb temperature sensor and dewpoint temperature sensor based on the calculated volume of the reactor containment building each sensing device monitored. Drybulb and dewpoint temperature sensors elevation and weighting factors for the test were as follows:

Elevation/ Azimuth	Temperature Element	Weighting Factor
93/0°	TE 1	.0264
93/180°	TE 2	.0264
78/270°	TE 3	.0187
78/90°	TE 4	.0187
66/0°	TE 5	.0115
66/180°	TE 6	.0115
54/270°	TE 7	.0136
54/90°	TE 8	.0136
46/300°	TE 9	.0194
46/0°	TE 10	.0194
46/180°	TE 11	.0194
33/0°	TE 12	.0750
33/120°	TE 13	.0750
16/0°	TE 15	.0577
16/270°	TE 16	.0577
16/180°	TE 17	.0577
16/90°	TE 18	.0577
Torus/0°	TE 19	.0701
Torus/60°	TE 20	.0701
Torus/120°	TE 21	.0701
Torus/180°	TE 22	.0701
Torus/240°	TE 23	.0701
Torus/300°	TE 24	.0701
93/270°	DPE 1	.0527
78/90°	DPE 2	.0489
54/0°	DPE 3	.0386
46/180°	DPE 4	.0583
33/270°	DPE 5	.1502
16/90°	DPE 6	.2309
Torus/0°	DPE 7	.1051
Torus/90°	DPE 8	.1051
Torus/180°	DPE 9	.1051
Torus/270°	DPE 10	.1051

5.6 SYSTEMATIC ERROR ANALYSIS

Systematic error, in this test, is induced by the operation of the temperature indicating system, dewpoint indicating system, and the pressure indicating system.

Justification of instrumentation selection was accomplished, using manufacturer's sensitivity and repeatability tolerances stated in Section 5.1, by computing the instrumentation selection guide (ISG) formula.

Containment leakage determined by the Absolute Method requires accurate measurement of small changes in containment pressure with suitable corrections for temperature and water vapor. Since the Absolute Method utilizes the change in a reading (i.e., pressure and temperature) to calculate leak rate, the repeatability, sensitivity, and readability of the instrument system is of more concern than the accuracy. To perform the ISG calculation, the sensitivity error of the sensor and the repeatability error of the measurement system must be used.

Sensitivity is defined as "the capability of a sensor to respond to change." Sensitivity is usually a function of the system measuring the sensor output. When the sensor energy state is raised or lowered an amount equal to the smallest value which the entire system will process, a change of indication will occur. To determine sensitivity for ILRT sensors, it is necessary to analyze the smallest value of the analog sensor output which will cause a one digit change in the digital display.

Repeatability is defined as "the capability of the measurement system to reproduce a given reading from a constant source."

Utilizing the methods, techniques, and assumptions in Appendix G to ANS 56.8-1981, the ISG formula was computed for the Absolute Method as follows:

1. Conditions:

L_a = 0.5%/day

P = 63.7 psia

T = 543^{o}R drybulb

T_{dp} = 75^{o}F dewpoint

t = 8.0 hours

2. Total Absolute Pressure: e_p

No. of sensors = 2

Range = 0 - 75 psia

Sensor sensitivity error (E_p) = $\pm$0.0013% of full scale

Measurement system error (ε_p) = $\pm$0.001% of full scale

$$e_p = \pm \left[(E_p)^2 + (\varepsilon_p)^2 \right]^{1/2} / [\text{no. of sensors}]^{1/2}$$

$$e_p = \left[(0.000975)^2 + (0.00075)^2 \right]^{1/2} / [2]^{1/2}$$

$$e_p = \pm 0.00088 \text{ psia}$$

3. Water Vapor Pressure: e_{pv}

No. of sensors = 10

Sensor sensitivity error (E_{pv}) = $\pm 0.5^{\circ}F$

Measurement system error (ε_{pv}), excluding sensor = $\pm .1^{\circ}F$

At a dewpoint temperature of $75^{\circ}F$, the equivalent water vapor pressure change (as determined from steam tables) is 0.0141 psia/$^{\circ}F$

$$E_{pv} = \pm 0.5^{\circ}F \ (0.0141 \text{ psia}/^{\circ}F)$$

$$E_{pv} = \pm 0.00705 \text{ psia}$$

$$\varepsilon_{pv} = \pm 0.1^{\circ}F \ (0.0141 \text{ psia}/^{\circ}F)$$

$$\varepsilon_{pv} = \pm 0.00141 \text{ psia}$$

$$e_{pv} = \pm \left[(E_{pv})^2 + (\varepsilon_{pv})^2 \right]^{1/2} / [\text{no. of sensors}]^{1/2}$$

$$e_{pv} = \pm \left[(0.00705)^2 + (0.00141)^2 \right]^{1/2} / [10]^{1/2}$$

$$e_{pv} = \pm 0.00227 \text{ psia}$$

4. Temperature: e_T

No. of sensors = 23

Sensor sensitivity error (E_T) = $\pm 0.1^{\circ}F = \pm 0.1^{\circ}R$

Measurement system error (ε_T), excluding sensor = $\pm 0.1^{\circ}F = \pm 0.1^{\circ}R$

$$e_T = \pm \left[(E_T)^2 + (\varepsilon_T)^2 \right]^{1/2} / [\text{no. of sensors}]^{1/2}$$

$$e_T = \pm \left[(0.1)^2 + (0.1)^2 \right]^{1/2} / [23]^{1/2}$$

$$e_T = \pm 0.0295^{\circ}R$$

5. Instrument Selection Guide (ISG):

$$ISG = \pm \frac{2400}{t} \left[2\left(\frac{e_p}{p}\right)^2 + 2\left(\frac{e_{pv}}{p}\right)^2 + 2\left(\frac{e_T}{T}\right)^2 \right]^{1/2}$$

$$ISG = \pm \frac{2400}{8.0} \left[2\left(\frac{0.00088}{63.7}\right)^2 + 2\left(\frac{0.00227}{63.7}\right)^2 + 2\left(\frac{0.0295}{543}\right)^2 \right]^{1/2}$$

$$ISG = \pm 300 \left[3.817 \times 10^{-10} + 2.540 \times 10^{-9} + 5.903 \times 10^{-9} \right]^{1/2}$$

$$ISG = \pm 0.028\%/\text{day}$$

The ISG value does not exceed 0.25 L_a (0.125%/day) and it is therefore concluded that the instrumentation selected was acceptable for use in determining the reactor containment integrated leakage rate.

5.7 SUPPLEMENTAL VERIFICATION

In addition to the calibration checks described in Section 5.3, test instrumentation operation was verified by a supplemental test subsequent to the completion of the 8.0 hour leakage rate test. This test consisted of imposing a known calibrated leakage rate on the reactor containment building. After the flow rate was established, it was not altered for the duration of the test.

During the supplemental test, the measured leakage rate was:

$$L_c = L_v' + L_o$$

Where:

L_c = Measured composite leakage rate consisting of the reactor containment building leakage rate plus the imposed leakage rate

L_o = Imposed leakage rate

L_v' = Leakage rate of the reactor containment building during the supplemental test phase

Rearranging the above equation,

$$L_v' = L_c - L_o$$

The reactor containment building leakage during the supplemental test can be calculated by subtracting the known superimposed leakage rate from the measured composite leakage rate.

The reactor containment building leakage rate during the supplemental test (L_v') was then compared to the measured reactor containment building leakage rate during the preceding 8.0 hour test (L_{am}) to determine instrumentation acceptability. Instrumentation is considered acceptable if the difference between the two building leakage rates is within 25% of the maximum allowable leakage rate (L_a).

6.0 TEST PROCEDURE

6.1 PREREQUISITES

Prior to commencement of reactor containment building pressurization, the following prerequisites were satisfied:

1. Proper operation of all test instrumentation was verified.

2. All reactor containment building isolation valves were closed using the normal mode of operation. All associated system valves were placed in post-accident positions.

3. Equipment within the reactor containment building, subject to damage, was protected from external differential pressures.

4. Portions of fluid systems, which under post-accident conditions become extensions of the containment boundary, were drained and vented.

5. Type B and C testing was completed with a leakage value less than $0.6\ L_a$.

6. Containment pressurization system was operational.

7. Four drywell cooling fans were in operation.

8. Potential pressure sources were removed or isolated from the containment.

9. An inspection of the accessible interior and exterior surfaces of the containment was completed.

6.2 GENERAL DISCUSSION

Following the satisfaction of the prerequisites stated in Section 6.1, the reactor containment building pressurization was initiated at a rate of approximately 5.0 psi per hour. After the containment was stabilized, leak rate testing was initiated at the 49.0 psig pressure level. For the duration of the 8.0 hour leak test and the 4.0 hour supplemental test, average internal containment temperature remained within a band of $\pm 0.32^{\circ}F$.

During the test the following occurred at 15 minute intervals (see Appendix B - Reduced Leakage Data):

1. Readings indicated by the precision pressure gauges were recorded and entered into the computer.

2. Readings indicated by the 23 RTDs were recorded and entered into the computer. Tne computer program calculated the weighted average containment building drybulb temperature by use of a weighting factor that was assigned to each RTD. This value was subsequently converted to degrees Rankine for use in the ideal gas law equation to calculate containment building weight of air.

3. Readings indicated by the ten dewpoint temperature sensors were recorded and entered into the computer. The computer program converted the readings to dewpoint temperatures and then calculated the average containment dewpoint temperature by use of a weighting factor assigned to each sensor. This weighted average dewpoint temperature was then converted to a partial pressure of water vapor.

The use of water vapor pressure (P_{wv}), temperature (T), and the total pressure (P_t) is described in more detail in Section 7.1.

Data was entered into an IBM Personal Computer located in the plant computer room. The ILRT computer program utilized for the test had been previously checked with sample data of known results and certified prior to the test. The computer program then calculated the following at 15 minute intervals:

1. Total weight of containment air.

2. Mass point least squares fit leakage rate.

3. Mass point 95% upper confidence level leakage rate.

4. Observed total time leakage rate.

5. Total time mean leakage rate.

6. Total time least squares fit leakage rate.

7. Total time 95% upper confidence level leakage rate.

A plot of weighted average containment temperature, containment total pressure, containment average dewpoint temperature, and weight of air was performed for each 15 minute data set (see Appendix C).

Immediately following the 8.0 hour leak test, a superimposed leakage rate was established for a one hour stabilization period and 4.0 hour test period. During this time, temperature, pressure, and vapor pressure were monitored as described above.

6.3 TEST PROCEDURE

6.3.1 Pressurization and Stabilization Phase

Pressurization of the reactor containment building was started on May 2, 1986, at 1010. The pressurization rate was approximately 5 psi per hour. When containment internal pressure reached 50 psig at 2020 on May 2, pressurization was secured. By 0100 on May 3, temperature stabilization criteria had been met.

6.3.2 Integrated Leak Rate Testing Phase

At 0200 on May 3, 1986, 15 minute frequency test data collection was initiated. Subsequent to 0200, the following sequence of events took place:

1. At approximately 0600, leak detection teams were sent to investigate for potential leakage paths due to a relatively constant leakage rate of 0.580%/day. By 1200 several leaks were discovered on valve packings, however, no single large leak was discovered.

2. Leakage investigation continued throughout the day with no major leaks discovered. By 2300 two packing leaks were repaired on E11-F024A and E11-F024B. These repairs resulted in no apparent change to the overall leakage rate.

3. By 0230 on May 4, packing leaks were repaired on CAC-V-5 and CAC-V-17. Leakage rate results, subsequent to repair of the packing leaks (0430 to 1000 hours), were 0.590%/day. This was essentially the same leakage value detected earlier and therefore the repair of packing leaks on CAC-V-5 and CAC-V-17 had no effect on the overall containment leakage rate.

4. At 1000, operations opened CAC-V-5 and CAC-V-6 to allow an 18 inch diameter communications path between the drywell and suppression chamber in addition to the 1 inch diameter path already present. Leak rate data taken from this time thru the remainder of the day indicated a smaller leakage rate of approximately 0.440%/day but still not below the acceptance criteria. The reduced leakage rate was attributed to the added free volume of the torus reducing the existing leaks to a smaller percentage of the free volume.

5. At approximately 2300 a leak was discovered at the suppression pool to reactor building vacuum breaker valve CAC-X20A but due to the configuration of the valve no maintenance could be performed while the containment was at pressure. At 0030 on May 5 a flowmeter, utilized for local leak rate testing, was connected between CAC-X20A and CAC-V-16 to pressurize the volume to 48 psig. This pressure caused the CAC-X20A to become seated and no further evidence of leakage was observed past the valve seat. At this time the flowmeter was disconnected and the test connection was closed.

Following the sequence of events mentioned above, an acceptable leakage rate was obtained from 0100 on May 5, 1986, until 0900 on May 5. Utilizing the Mass Point method of analysis, the measured leakage rate was 0.186%/day with an associated 95% confidence interval of 0.005% by weight per day. Utilizing the Total Time method, the measured leakage rate was 0.172%/day and 0.237% by weight per day at the upper bound of the 95% confidence interval.

6.3.3 Supplemental Leakage Rate Test Phase

Following completion of the 8.0 hour integrated leak rate test, a leakage rate of 4.34 scfm was imposed on the containment building through a calibrated flow meter at 0900 on May 5. After a one hour stabilization period, leakage rate data was again collected at 15 minute intervals for a period of four hours. With an imposed leak rate of 0.506% per day a measured composite leakage rate of 0.702% per day was obtained using the Mass Point method. This results in a containment building leakage rate agreement of 2.0% of L_a with the results of the eight hour test. Using the Total Time method of analysis, the measured composite leakage rate was 0.721% per day, resulting in an agreement of 8.6% of L_a with the results of the eight hour test. These values are both well within the acceptance limit of 25% of L_a.

6.3.4 Depressurization Phase

After all required data was obtained and evaluated, containment building depressurization to 0 psig was started. A post test inspection of the drywell and torus revealed no unusual findings.

6.3.5 Post ILRT Testing

Following the integrated leakage rate test CAC-X20A and CAC-V-16 were tested using local leakage rate methods. This test was performed so that pre and post maintenance leakage rate values could be established and added to the results of the ILRT. Several tests were performed, however, each test resulted in a 0 measured leakage rate. This possibly indicates that some dirt or debris was trapped in the sealing surface of the CAC-V16 valve during the integrated leakage rate test.

A small rust bloom was discovered beneath the rubber sealing surface of the CAC-X20A. With only slight leakage of the CAC-V16 during the integrated leakage rate test, no back pressure build-up and the CAC-X20A would not hold. However, when the volume between the CAC-V16 and CAC-X20A was pressurized to 48 psig, the valve was leak tight. The valve has since been reconditioned and with the magnetic seal, should remain leak tight at any pressure.

7.0 METHODS OF ANALYSIS

7.1 GENERAL DISCUSSION

The Absolute Method of leakage rate determination was employed during testing at the 49.0 psig pressure level. The Gilbert/Commonwealth, Inc. ILRT computer code calculates the percent per day leakage rate using both the mass point and total time methods.

7.1.1 Mass Point Analysis

The Mass Point method of computing leakage rates uses the following ideal gas law equation to calculate the weight of air inside containment for each 15 minute interval:

$$W = \frac{144\ PV}{RT} = \frac{KP}{R}$$

Where:

W = Mass of air inside containment, lbm

$K = 144\ V/R = 7.96199 \times 10^5 \ \frac{\text{lbm} - {}^{\circ}\text{R} - \text{in.}^2}{\text{lbf}}$

P = Partial pressure of air, psia

T = Average internal containment temperature, ${}^{\circ}$R

$V = 294{,}981\ \text{ft}^3$

$R = 53.35\ \frac{\text{lbf} - \text{ft}}{\text{lbm}-{}^{\circ}\text{R}}$

The partial pressure of air, P, is calculated as follows:

$$P = P_T - P_{wv}$$

Where:

P_T = Total containment pressure

P_{wv} = Partial pressure of water vapor determined by averaging the ten dewpoint temperatures and converting to partial pressure of water vapor, psia

The average internal containment temperature, T, is calculated as follows:

$$T = \frac{1}{\Sigma_i \frac{V_{fi}}{T_i}}$$

The weight of air is plotted versus time for the 8.0 hour test and for the 4.0 hour supplemental test. The Gilbert/Commonwealth, Inc. ILRT computer code fits the locus of these points to a straight line using a linear least squares fit. The equation of the linear least squares fit line is of the form $W = A_t + B$, where A is the slope in lbm per hour and B is the initial weight at time zero. The least squares parameters are calculated as follows:

$$A = \frac{N\,(\Sigma t_i\, W_i) - (\Sigma t_i)\,(\Sigma W_i)}{S_{xx}}$$

$$B = \frac{(\Sigma t_i^2)\,(\Sigma W_i) - (\Sigma t_i)\,(\Sigma t_i\, W_i)}{S_{xx}}$$

Where:

$$S_{xx} = N\,(\Sigma t_i^2) - (\Sigma t_i)^2$$

The weight percent leakage per day can then be determined from the following equation:

$$L_{am} = \frac{-2400\,A}{B}$$

where the negative sign is used since A is a negative slope to express the leakage rate as a positive quantity.

7.1.2 Total Time Analysis

The total time method utilizes the following equation to determine the leakage rate of the reactor containment building:

$$L = \frac{2400}{t} \left[1 - \frac{T_1\, P_2}{T_2\, P_1} \right]$$

Where:

L = Measured leak rate in weight percent per day

t = Time interval, in hours, between measurements

T_1, T_2 = Average internal containment temperature, ^{o}R, at the beginning and the end of the test interval respectively.

P_1, P_2 = Average containment pressure (corrected for water vapor pressure) at the beginning and end of the test interval respectively.

The mean total time leakage rate is derived from the above individual total time calculations. The equation for the mean leakage rate is in the form:

$$\bar{L} = \frac{\Sigma_i L_i}{n}$$

Where:

L_i = Individual total time leakage rates

n = Number of total time leakage rates

The individual leakage rates are then plotted aginst time for the duration of the 8.0 hour test. The Gilbert/Commonwealth, Inc. ILRT computer code fits the locus of these points to a straight line using a linear least squares fit. The equation is of the form $L = L_o + L_1 t$ where L_1 is the slope in percent per hour and L_o is the initial leakage rate at time zero. The least squares parameters are calculated as follows:

$$L_o = \frac{\Sigma t_i^2 \ \Sigma L_i - \Sigma t_i \ \Sigma L_i}{S_{xx}}$$

$$L_1 = \frac{N \ \Sigma t_i \ \Sigma L_i - \Sigma t_i \ \Sigma L_i}{S_{xx}}$$

Where:

$$S_{xx} = N \ \Sigma t_i^2 - (\Sigma t_i)^2$$

7.2 STATISTICAL EVALUATION

7.2.1 General

After performing the least squares fit, the ILRT computer code calculates the following statistical parameters:

1. Limits of the 95% confidence interval for the mass point leakage rate (C_M).

2. Limits of the 95% confidence interval for the total time leakage rate (C_L).

These statistical parameters are then used to determine that the measured leakage rate plus the 95 UCL meet the acceptance criteria.

7.2.2 Mass Point Confidence

The upper 95% confidence limit for the mass point leakage rate is calculated as follows:

$$C_M = 2400\ t_{95}\ (S_A/B)$$

Where:

C_M = Upper 95% confidence limit

t_{95} = Student's t distribution with N-2 degrees of freedom

S_A = Standard deviation of the slope of the least squares fit line

B = Intercept of the least squares fit line

The standard deviation of the slope of the least squares fit line (S_A) is calculated as follows:

$$S_A = \frac{S\ (N)^{1/2}}{[N(\Sigma t_i^2) - (\Sigma t_i)^2]^{1/2}}$$

Where:

S = Common standard deviation of the weighted from the least squares fit line

N = Number of data points

t_i = Time interval of the ith data point

The common standard deviation (S) is defined by:

$$S = \left[\frac{\Sigma (W_i - W)^2}{N-2}\right]^{1/2}$$

Where:

W_i = Observed mass of air

W = Least squares calculated mass of air

The ILRT computer code calculates an upper 95% confidence leakage rate as follows:

$$UCL = L_{am} + 2400\ t_{95}\ (S_A/B)$$

This UCL value is then used to determine that the measured leakage rate at the upper 95% confidence limit meets the acceptance criteria.

7.2.3 Total Time Confidence

The 95% confidence limit for the total time leakage rate is calculated as follows:

$$C_L = t_{95}\ Se \left[1 + \frac{1}{n} + \frac{(t - \bar{t})^2}{\Sigma (t_i - t)^2}\right]^{1/2}$$

Where:

t = Total time interval

$\bar{t} = \frac{\Sigma t_i}{n}$

t_i = Time interval for each data point

n = Number of individual total time leakage rates

8.0 DISCUSSION OF RESULTS

8.1 RESULTS AT P_a

8.1.1 Mass Point Method of Analysis

Data obtained during the leak rate test at P_a indicated the following changes (highest to lowest) during the 8.0 hour test.

Variable	Maximum Change
P_T	0.074 psia
P_{wv}	0.005 psia
T	0.266°F

The method used in calculating the Mass Point leakage rate is described in Section 7.1.1. The results of this calculation is a mass point leakage rate of 0.186%/day (see Appendix D).

The 95% confidence limit associated with this leakage rate is 0.005% per day. Thus, the leakage rate at the upper bound of the 95% confidence level becomes:

$$UCL = .186 + .005$$

$$UCL = 0.191\%/day$$

Additional leakage rates must be applied to the measured leakage rate at the upper 95% confidence level to account for penetration paths not exposed to the test pressure and for changes in the net free volume of the containment due to water level changes. Penetration paths not exposed to the test pressure and the corresponding leakage rates based on analysis of minimum pathway local leakage rate testing are as follows:

System	Containment Isolation Valves	Minimum Pathway Local Leakage Rate (SCFH)
Drywell Drains	1-G16-F003/F004	0
Drywell Drains	1-G16-F019/F020	0
Feedwater (RCIC Injection Line B)	1-B21-F032B, 1-E51-V88, 1-E51-F013, 1-B21-F010B, 1-G31-F042	0

System	Containment Isolation Valves	Minimum Pathway Local Leakage Rate (SCFH)
Feedwater (HPCI Injection Line A)	1-B21-F032A, 1-E41-F006, 1-B21-F010A	0
Reactor Building Cooling Water	1-RCC-V28/V52	1.125
	RXS-SV1222B/C	0
CRD Purge to Reactor Recirc Pumps	1-B32-V24/V22, V30	0
	1-B32-V32/V22, V30	0
Recirc Sample	1-B32-F019/F020	0.303
RHR Suction	1-E11-F008/F009	0
Reactor Water Cleanup	1-G31-F001/F004	0

The total applicable local leakage rate is 1.428 scfh which is equivalent to a leakage rate of 0.003%/day.

Water level changes in the containment during the 8.0 hour integrated leakage rate test are summarized below:

Reactor Vessel Water Level:

0100	5-5-86	196.8 inches
0900	5-5-86	196.2 inches

Torus Water Level:

0100	5-5-86	-2.5 feet
0900	5-5-86	-2.6 feet

An increasing reactor vessel water level or torus water level would cause containment net free volume to decrease, resulting in a lower calculated leakage rate than is actually the case. Since both reactor vessel and torus water levels indicated a decrease during the integrated leak rate data period, no correction to the leakage rate is necessary.

The total containment leakage rate at the upper 95% confidence level (UCL) is calculated as follows

$$UCL = L_{am} + 95\% \text{ confidence limit} + \text{Type C leakage} + \text{changes in net free volume}$$

$$UCL = 0.186\%/day + 0.005\%/day + 0.003\%/day + 0.000\%/day$$

$$UCL = 0.194\%/day$$

This value is well below the acceptance criteria leakage rate of $0.375\%/day$ ($.75L_a$).

8.1.2 Total Time Method of Analysis

The method used in calculating the total time leakage rates is defined in Section 7.1.2. The results of these calculations are as follows:

1. The measured total time leakage rate for the 8.0 hour test was 0.172% by weight per day.

2. The 95% confidence limit associated with this leakage rate is 0.065% per day. Thus, the leakage rate at the upper bound of the 95% confidence level becomes:

$$UCL = 0.172 + 0.065$$

$$UCL = 0.237\%/day$$

3. The mean of the measured leakage rates based on the last five hours of the test was 0.199 percent by weight per day.

The corrected containment leakage rate at the upper 95% confidence level (UCL) for Type C penalties and changes in net free volume is calculated as follows:

$$UCL = L_{am} + 95\% \text{ confidence limit} + \text{Type C leakage} + \text{changes in net free volume.}$$

$$UCL = 0.172\%/day + 0.065\%/day + 0.003\%/day + 0.000\%/day$$

$$UCL = 0.240\%/day$$

The total time measured leakage rate, the measured leakage rate at the upper bound of the 95% confidence level and the mean of the measured leakage rates based on the last five hours of testing are below the acceptance criteria of 0.375%/day.

Therefore, the reactor containment building leakage rate, based on both the mass point method and total time method of analysis, at the calculated design basis accident pressure (P_a) of 49.0 psig is acceptable.

8.2 SUPPLEMENTAL TEST RESULTS

After conclusion of the 8.0 hour test at 49.0 psig (P_a), the flowmeter was placed in service and a flow rate of 4.34 scfm was established. This flow rate is equivalent to a leakage rate of 0.506% per day. After the flow rate was established it was not altered for the duration of the supplemental test. The measured leakage rate (L_c) during the supplemental test was calculated to be 0.702% per day using the Mass Point method of analysis and 0.721% per day using the Total Time method.

The building leakage rate during the supplemental test is then determined as follows:

Mass Point	Total Time
$L_v' = L_c - L_o$	$L_v' = L_c - L_o$
$L_v' = 0.702 - 0.506$	$L_v' = 0.721 - 0.506$
$L_v' = 0.196\%/day$	$L_v' = 0.215\%/day$

Comparing this leakage rate with the building leakage rate measured during the 8.0 hour test yields the following:

$$\text{Mass Point} = \frac{L_{am} - L_v'}{L_a} = \frac{.186 - .196}{0.5} = 0.020$$

$$\text{Total Time} = \frac{L_{am} - L_v'}{L} = \frac{.172 - .215}{0.5} = 0.086$$

The building leakage rates agree within 2% of L_a using the Mass Point method and 8.6% using Total Time which are well below the acceptance criteria of 25%.

Using the formulation of ANS 56.8-1981,

$$(L_o + L_{am} - 0.25L_a) \leq L_c \leq (L_o + L_{am} + 0.25L_a)$$

$$(0.506 + 0.186 - 0.125) \leq L_c \leq (0.506 + 0.186 + 0.125)$$

$$0.567 \leq L_c \leq 0.817$$

Since L_c was measured to be 0.702%/day, this value falls within the acceptable range of 0.567% to 0.817% per day. Therefore, the acceptability of the test instrumentation is considered to have been verified.

8.3 AS FOUND ANALYSIS

To determine the as-found containment leakage rate, an analysis was performed to evaluate any leakage savings from repairs or maintenance to containment isolation barriers. Leakage savings are realized when containment isolation barrier repairs or maintenance result in a lower minimum pathway leakage than that which existed prior to the repair or maintenance.

The results of the analysis are presented in Appendix F. The total leakage savings due to performing Type B and C tests prior to the Type A test indicates that the acceptance criteria (L_a) would have been exceeded due to two penetrations that could not be pressurized.

9.0 REFERENCES

1. PT-20.5, Integrated Primary Containment Leak Rate Test.

2. Brunswick Steam Electric Plant Unit No. 2 Final Safety Analysis Report.

3. Code of Federal Regulations, Title 10, Part 50, Appendix J.

4. ANSI N45.4-1972, Leakage Rate Testing of Containment Structures for Nuclear Reactors, American Nuclear Society (March 16, 1972).

5. ANS-56.8-1981, Containment System Leakage Testing Requirements, American Nuclear Society.

6. ILRT Computer Code, Gilbert/Commonwealth, Inc.

7. Steam Tables, American Society of Mechanical Engineers, 1967.

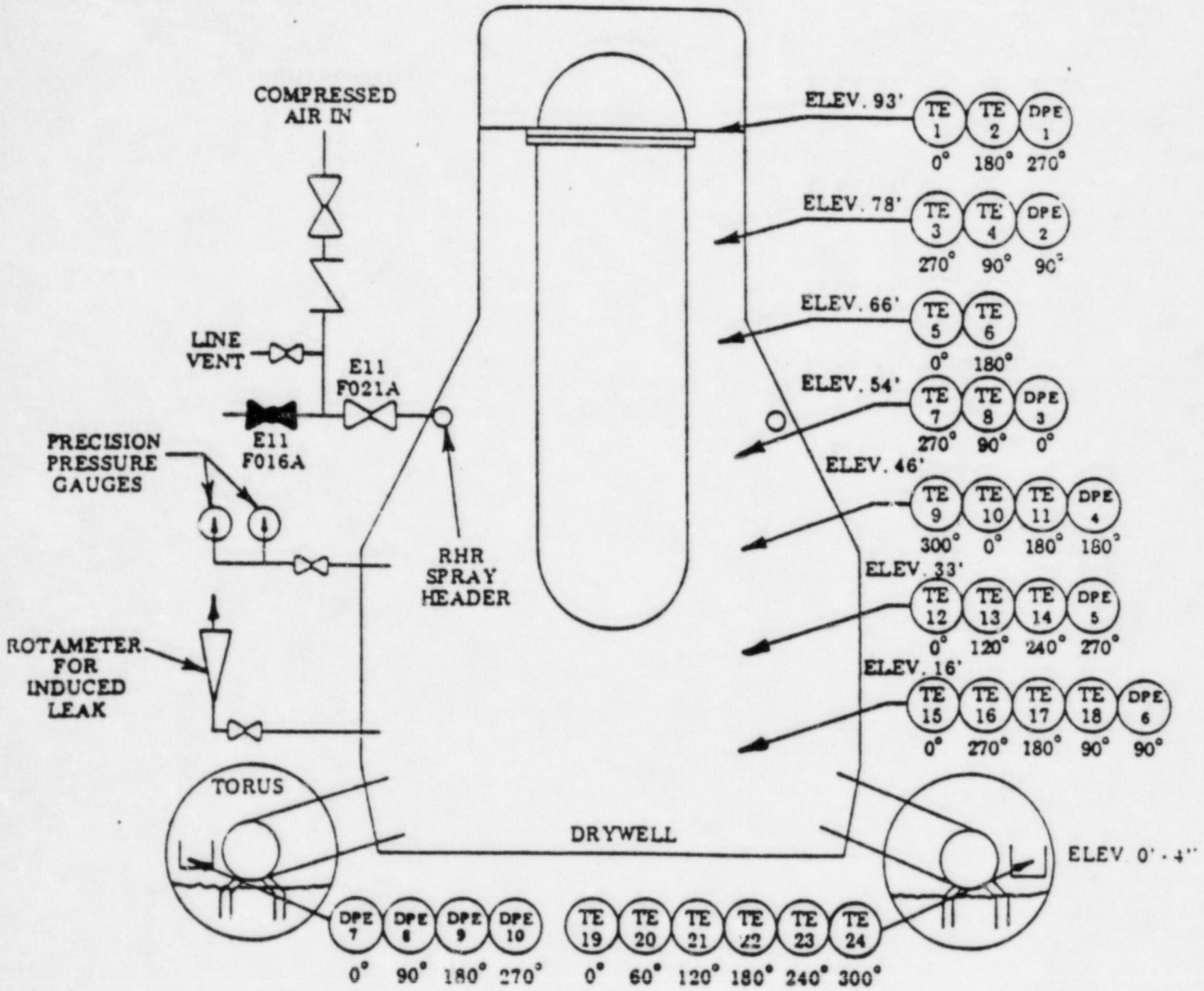
8. BN-TOP-1, Testing Criteria for Integrated Leakage Rate Testing of Primary Containment Structures for Nuclear Power Plants, Revision 1, November 1, 1972.

APPENDIX A

SCHEMATIC ARRANGEMENT OF TEST INSTRUMENTATION

APPENDIX A

SCHEMATIC ARANGEMENT
OF TEST INSTRUMENTATION



TE = TEMPERATURE ELEMENT (RTD)
DPE = DEWPOINT ELEMENT (DEWCELL)

TE-14 Not Used For Test

APPENDIX B

REDUCED TEST DATA

APPENDIX B

REDUCED TEST DATA

05-05-1986

TIME	PAVG	PWV	TAVG	WEIGHT
100	63.71601	.4381202	83.7863	92702.914
115	63.713	.4377135	83.7799	92700.203
130	63.71051	.4392462	83.7712	92695.789
145	63.709	.4387848	83.77706	92693.266
200	63.7085	.4374401	83.77419	92694.992
215	63.7055	.4391736	83.76096	92690.320
230	63.704	.4386601	83.76235	92688.641
245	63.702	.4389894	83.74815	92687.641
300	63.6995	.4384337	83.75181	92684.164
315	63.697	.4386848	83.73526	92682.953
330	63.6945	.4391051	83.73064	92679.469
345	63.6925	.4391185	83.72497	92677.484
400	63.6905	.4377031	83.71635	92678.094
415	63.6885	.4376273	83.70589	92677.063
430	63.6865	.4375625	83.69133	92676.711
445	63.6845	.4360973	83.68343	92677.281
500	63.68251	.4372329	83.68191	92672.938
515	63.679	.4367744	83.67675	92669.359
530	63.677	.4375744	83.66582	92667.125
545	63.6735	.4363113	83.65767	92665.242
600	63.6715	.436142	83.64919	92664.008
615	63.669	.4367744	83.63688	92661.5
630	63.6665	.4355445	83.62956	92660.898
645	63.6625	.4353649	83.61548	92657.703
700	63.66	.4357153	83.59699	92656.680
715	63.6575	.4353864	83.59043	92654.625
730	63.6535	.4360532	83.57574	92650.273
745	63.652	.4348914	83.56543	92651.547
800	63.6495	.4357271	83.55372	92648.648
815	63.6465	.4349032	83.53666	92648.367
830	63.6445	.4348747	83.5293	92646.734
845	63.6425	.4350541	83.51915	92645.266
900	63.642	.4336716	83.52015	92646.398

APPENDIX B

REDUCED TEST DATA
(SUPERIMPOSED TEST)

05-05-1986

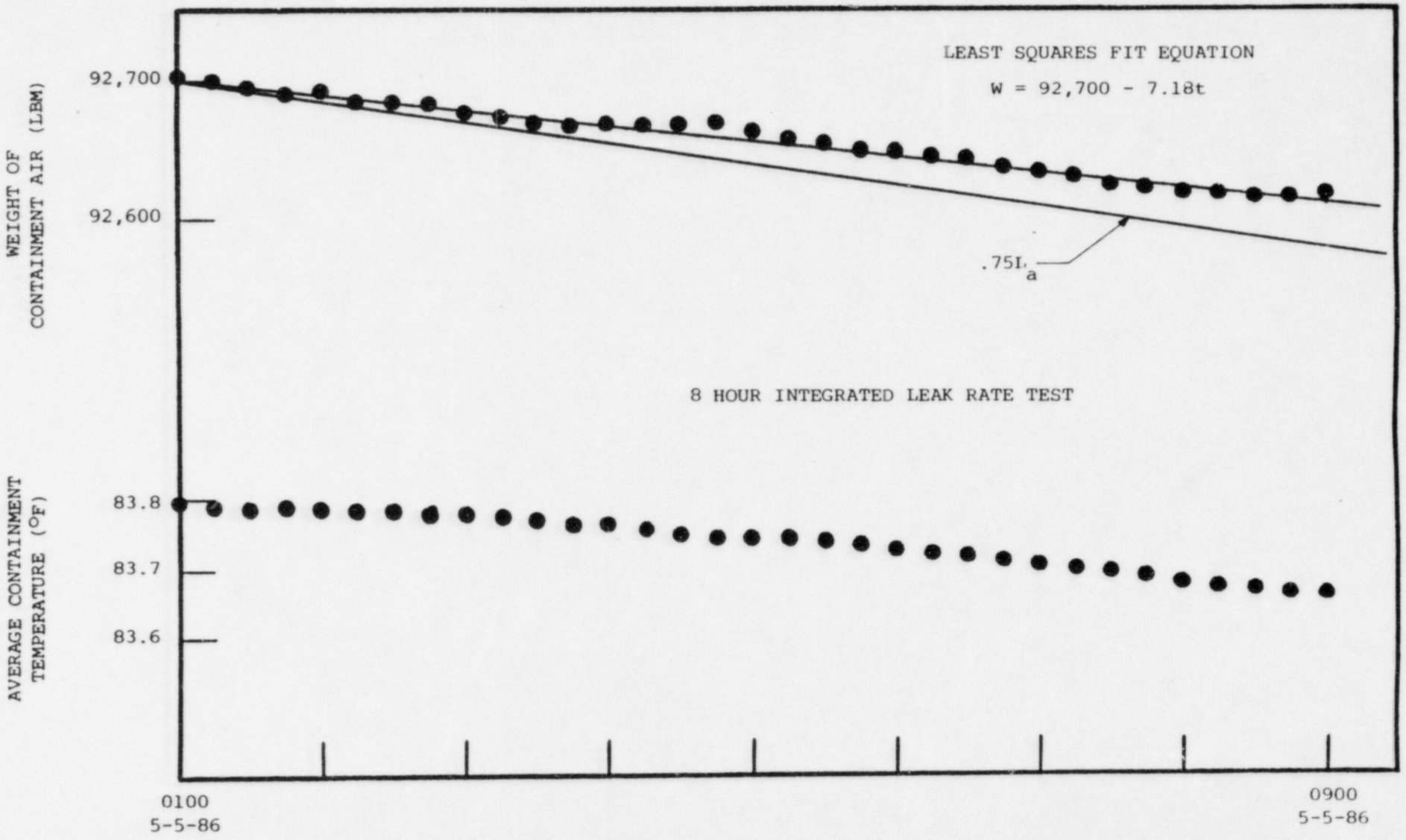
TIME	PAVG	PWV	TAVG	WEIGHT
1000	63.62	.4332948	83.47666	92622.109
1015	63.6165	.4330806	83.47758	92617.133
1030	63.611	.432896	83.47556	92609.703
1045	63.6065	.4337757	83.47194	92602.422
1100	63.602	.4345983	83.47176	92594.648
1115	63.59851	.4339162	83.47451	92590.062
1130	63.594	.4339065	83.47828	92582.836
1145	63.59	.4353473	83.48263	92574.117
1200	63.5865	.4344056	83.48038	92570.75
1215	63.5825	.4358446	83.48991	92561.141
1230	63.5775	.4354426	83.49454	92553.617
1245	63.5725	.4357561	83.4905	92546.531
1300	63.5675	.4354296	83.48824	92540.055
1315	63.5635	.4354371	83.49213	92533.523
1330	63.5615	.4356173	83.50167	92528.703
1345	63.559	.4359057	83.50353	92524.297
1400	63.5535	.4365776	83.5095	92514.234

APPENDIX C

LEAKAGE RATE TEST GRAPHS

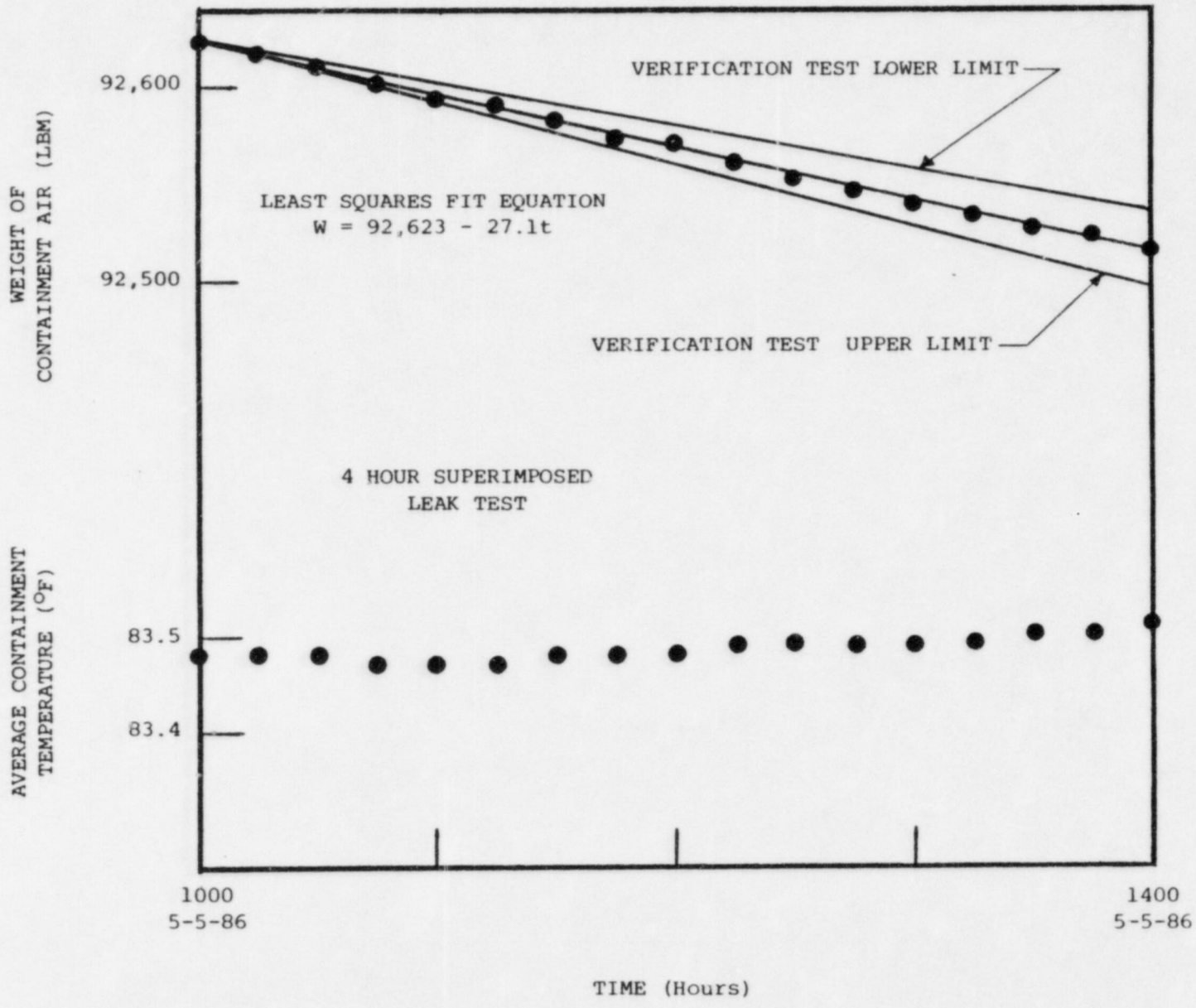
APPENDIX C

WEIGHT OF CONTAINMENT AIR AND
AVERAGE CONTAINMENT TEMPERATURE VERSUS TIME



APPENDIX C

WEIGHT OF CONTAINMENT AIR AND
AVERAGE CONTAINMENT TEMPERATURE VERSUS TIME



APPENDIX D

COMPUTER RESULTS

APPENDIX D

COMPUTER RESULTS

1. Mass Point Results

A = Slope of least squares line (Lbs/hr) is -7.18

B = Intercept of least squares line (lbs) is 92700

L_{am} = Measured leak rate is 0.186%/day

UCL = 95% upper confidence leakage rate is 0.191%/day

2. Total Time Results

A = Slope of least squares line (%/day/hr) is -0.0125

B = Intercept of least squares line (%/day) is 0.272

L_{am} = Measured leak rate is 0.172

UCL = 95% upper confidence leakage rate is 0.237%/day

Mean leakage rate for last five hours is 0.199%/day

3. Verification Test - Mass Point

A = Slope of least squares line (lbs/hr) is -27.1

B = Intercept of least squares line (lbs) is 92622.8

L_c = Composite leakage rate is 0.702%/day

4. Verification Test - Total Time

A = Slope of least squares line (%/day/hr) is 0.0221

B = Intercept of least squares line (%/day) is 0.633

L_c = Composite leakage rate is 0.721%/day

APPENDIX E

SUMMARY OF MEASURED DATA

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 100 DATE : 05-05-1986

RTD	1	86.42	RTD	16	84.69
RTD	2	86.83999	RTD	17	85.2
RTD	3	90.5	RTD	18	84.67
RTD	4	89.98001	RTD	19	79.68
RTD	5	91.13	RTD	20	78.39
RTD	6	91.83	RTD	21	78.29
RTD	7	90.8	RTD	22	78.72
RTD	8	90.74	RTD	23	78.96
RTD	9	89.98001	RTD	24	79.47
RTD	10	90.97	RTD	25	0
RTD	11	88.88	RTD	26	0
RTD	12	88.97	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	85.01999	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.7863 IN F
= 543.4763 IN R

PRESS 1 63.734 PRESS 2 63.698

THE AVE PRESSURE IS = 63.71601 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.85038	DEWPT	8	77.35153
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.59568
THE PWV IS = .4381202 PSIA

THE MASS WEIGHT IS = 92702.9140625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 115 DATE : 05-05-1986

RTD	1	86.38	RTD	16	84.69
RTD	2	86.88	RTD	17	85.2
RTD	3	90.46	RTD	18	84.67
RTD	4	89.94	RTD	19	79.64
RTD	5	91.08999	RTD	20	78.39
RTD	6	91.87	RTD	21	78.29
RTD	7	90.76	RTD	22	78.76
RTD	8	90.74	RTD	23	78.96
RTD	9	89.98001	RTD	24	79.43
RTD	10	90.93	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.97	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.36	RTD	29	0
RTD	15	85.01999	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.7799 IN F
= 543.47 IN R

PRESS 1 63.731 PRESS 2 63.695

THE AVE PRESSURE IS = 63.713 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.37481
DEWPT	2	77.35153	DEWPT	7	75.94631
DEWPT	3	74.85038	DEWPT	8	77.35153
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.56776
THE PWV IS = .4377135 PSIA

THE MASS WEIGHT IS = 92700.203125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 130 DATE : 05-05-1986

RTD	1	86.38	RTD	16	84.69
RTD	2	86.83999	RTD	17	85.2
RTD	3	90.46	RTD	18	84.67
RTD	4	89.9	RTD	19	79.64
RTD	5	91.08999	RTD	20	78.39
RTD	6	91.83	RTD	21	78.29
RTD	7	90.76	RTD	22	78.72
RTD	8	90.7	RTD	23	78.96
RTD	9	89.98001	RTD	24	79.43
RTD	10	90.89	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.97	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.98001	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.7712 IN F
= 543.4612 IN R

PRESS 1 63.728 PRESS 2 63.693

THE AVE PRESSURE IS = 63.71051 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	75.59669
DEWPT	2	77.35153	DEWPT	7	75.94631
DEWPT	3	75.07225	DEWPT	8	77.56668
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.47746	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.67281
THE PWV IS = .4392462 PSIA

THE MASS WEIGHT IS = 92695.7890625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 145 DATE : 05-05-1986

RTD	1	86.38	RTD	16	84.69
RTD	2	86.83999	RTD	17	85.2
RTD	3	90.46	RTD	18	84.67
RTD	4	89.94	RTD	19	79.64
RTD	5	91.08999	RTD	20	78.43
RTD	6	91.83	RTD	21	78.29
RTD	7	90.76	RTD	22	78.72
RTD	8	90.7	RTD	23	78.96
RTD	9	89.94	RTD	24	79.43
RTD	10	90.93	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.97	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	85.01999	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.77706 IN F
= 543.4671 IN R

PRESS 1 63.727 PRESS 2 63.691

THE AVE PRESSURE IS = 63.709 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	75.07225	DEWPT	8	77.35153
DEWPT	4	75.79166	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	72.08027

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.6412
THE PWV IS = .4387848 PSIA

THE MASS WEIGHT IS = 92693.265625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 215 DATE : 05-05-1986

RTD	1	86.33999	RTD	16	84.65
RTD	2	86.8	RTD	17	85.16001
RTD	3	90.42	RTD	18	84.63
RTD	4	89.9	RTD	19	79.64
RTD	5	91.05	RTD	20	78.39
RTD	6	91.83	RTD	21	78.29
RTD	7	90.76	RTD	22	78.72
RTD	8	90.7	RTD	23	78.96
RTD	9	89.94	RTD	24	79.43
RTD	10	90.93	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.97	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	84.98001	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.76096 IN F
= 543.451 IN R

PRESS 1 63.723 PRESS 2 63.688

THE AVE PRESSURE IS = 63.7055 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.56668
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.47746	DEWPT	10	72.08027

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.66782
THE PWV IS = .4391736 PSIA

THE MASS WEIGHT IS = 92690.3203125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 230 DATE : 05-05-1986

RTD	1	86.3	RTD	16	84.65
RTD	2	86.76	RTD	17	85.16001
RTD	3	90.46	RTD	18	84.63
RTD	4	89.9	RTD	19	79.64
RTD	5	91.05	RTD	20	78.39
RTD	6	91.83	RTD	21	78.29
RTD	7	90.72	RTD	22	78.76
RTD	8	90.7	RTD	23	78.96
RTD	9	89.94	RTD	24	79.47
RTD	10	90.93	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.97	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.94	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.76235 IN F
= 543.4523 IN R

PRESS 1 63.722 PRESS 2 63.686

THE AVE PRESSURE IS = 63.704 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.35153	DEWPT	7	75.94631
DEWPT	3	74.85038	DEWPT	8	77.12965
DEWPT	4	75.79166	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	72.08027

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.63263
THE PWV IS = .4386601 PSIA

THE MASS WEIGHT IS = 92688.640625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 245 DATE : 05-05-1986

RTD	1	86.3	RTD	16	84.65
RTD	2	86.76	RTD	17	85.12
RTD	3	90.42	RTD	18	84.58999
RTD	4	89.9	RTD	19	79.64
RTD	5	91.05	RTD	20	78.39
RTD	6	91.79	RTD	21	78.29
RTD	7	90.72	RTD	22	78.72
RTD	8	90.66001	RTD	23	78.96
RTD	9	89.94	RTD	24	79.43
RTD	10	90.93	RTD	25	0
RTD	11	88.88	RTD	26	0
RTD	12	88.93	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.32	RTD	29	0
RTD	15	84.94	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.74815 IN F
= 543.4382 IN R

PRESS 1 63.72 PRESS 2 63.684

THE AVE PRESSURE IS = 63.702 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.85038	DEWPT	8	77.56668
DEWPT	4	75.79166	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	72.08027

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.65525
THE PWV IS = .4389894 PSIA

THE MASS WEIGHT IS = 92687.640625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 200 DATE : 05-05-1986

RTD	1	86.33999	RTD	16	84.69
RTD	2	86.83999	RTD	17	85.16001
RTD	3	90.46	RTD	18	84.63
RTD	4	89.94	RTD	19	79.64
RTD	5	91.08999	RTD	20	78.39
RTD	6	91.83	RTD	21	78.29
RTD	7	90.76	RTD	22	78.76
RTD	8	90.7	RTD	23	78.96
RTD	9	89.94	RTD	24	79.47
RTD	10	90.93	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.97	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	85.01999	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.77419 IN F
= 543.4642 IN R

PRESS 1 63.727 PRESS 2 63.69

THE AVE PRESSURE IS = 63.7085 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.85038	DEWPT	8	77.12965
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.54903
THE PWV IS = .4374401 PSIA

THE MASS WEIGHT IS = 92694.9921875 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 300 DATE : 05-05-1986

RTD	1	86.3	RTD	16	84.65
RTD	2	86.76	RTD	17	85.12
RTD	3	90.46	RTD	18	84.58999
RTD	4	89.9	RTD	19	79.64
RTD	5	91.08999	RTD	20	78.39
RTD	6	91.83	RTD	21	78.29
RTD	7	90.72	RTD	22	78.72
RTD	8	90.7	RTD	23	78.96
RTD	9	89.94	RTD	24	79.43
RTD	10	90.89	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.97	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.48001	RTD	29	0
RTD	15	84.94	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.75181 IN F
= 543.4418 IN R

PRESS 1 63.719 PRESS 2 63.68

THE AVE PRESSURE IS = 63.6995 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	75.07225	DEWPT	8	77.35153
DEWPT	4	75.79166	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.61718
THE PWV IS = .4384337 PSIA

THE MASS WEIGHT IS = 92684.1640625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 315 DATE : 05-05-1986

RTD	1	86.26	RTD	16	84.61
RTD	2	86.72	RTD	17	85.08
RTD	3	90.42	RTD	18	84.55
RTD	4	89.9	RTD	19	79.64
RTD	5	91.05	RTD	20	78.39
RTD	6	91.79	RTD	21	78.29
RTD	7	90.72	RTD	22	78.72
RTD	8	90.66001	RTD	23	78.96
RTD	9	89.94	RTD	24	79.43
RTD	10	90.89	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.93	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.9	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.73526 IN F
= 543.4253 IN R

PRESS 1 63.715 PRESS 2 63.679

THE AVE PRESSURE IS = 63.697 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.56668	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.35153
DEWPT	4	75.79166	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	72.08027

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.63433
THE PWV IS = .4386848 PSIA

THE MASS WEIGHT IS = 92682.953125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 330 DATE : 05-05-1986

RTD	1	86.26	RTD	16	84.61
RTD	2	86.72	RTD	17	85.04
RTD	3	90.42	RTD	18	84.51
RTD	4	89.9	RTD	19	79.64
RTD	5	91.05	RTD	20	78.39
RTD	6	91.79	RTD	21	78.29
RTD	7	90.72	RTD	22	78.72
RTD	8	90.66001	RTD	23	78.96
RTD	9	89.94	RTD	24	79.43
RTD	10	90.89	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.93	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	84.9	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.73064 IN F
= 543.4206 IN R

PRESS 1 63.713 PRESS 2 63.676

THE AVE PRESSURE IS = 63.6945 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.35153	DEWPT	7	75.94631
DEWPT	3	75.07225	DEWPT	8	77.56668
DEWPT	4	75.79166	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.6631
THE PWV IS = .4391051 PSIA

THE MASS WEIGHT IS = 92679.46875 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 345 DATE : 05-05-1986

RTD	1	86.22	RTD	16	84.61
RTD	2	86.72	RTD	17	85
RTD	3	90.42	RTD	18	84.47
RTD	4	89.9	RTD	19	79.64
RTD	5	91.05	RTD	20	78.39
RTD	6	91.79	RTD	21	78.29
RTD	7	90.72	RTD	22	78.72
RTD	8	90.66001	RTD	23	78.96
RTD	9	89.94	RTD	24	79.43
RTD	10	90.89	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.93	RTD	27	0
RTD	13	87.6	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	84.9	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.72497 IN F
= 543.415 IN R

PRESS 1 63.71 PRESS 2 63.675

THE AVE PRESSURE IS = 63.6925 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.59669
DEWPT	2	77.56668	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.35153
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.69261	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.66402
THE PWV IS = .4391185 PSIA

THE MASS WEIGHT IS = 92677.484375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 400 DATE : 05-05-1986

RTD	1	86.22	RTD	16	84.57
RTD	2	86.72	RTD	17	84.96
RTD	3	90.38	RTD	18	84.47
RTD	4	89.86	RTD	19	79.64
RTD	5	91.05	RTD	20	78.39
RTD	6	91.79	RTD	21	78.29
RTD	7	90.72	RTD	22	78.76
RTD	8	90.66001	RTD	23	78.96
RTD	9	83.94	RTD	24	79.43
RTD	10	90.89	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.93	RTD	27	0
RTD	13	87.56	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	84.86	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.71635 IN F
= 543.4064 IN R

PRESS 1 63.709 PRESS 2 63.672

THE AVE PRESSURE IS = 63.6905 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.37481
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.85038	DEWPT	8	77.56668
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.56705
THE PWV IS = .4377031 PSIA

THE MASS WEIGHT IS = 92678.09375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 415 DATE : 05-05-1986

RTD	1	86.22	RTD	16	84.57
RTD	2	86.68	RTD	17	84.96
RTD	3	90.38	RTD	18	84.43
RTD	4	89.82	RTD	19	79.64
RTD	5	91.01	RTD	20	78.39
RTD	6	91.79	RTD	21	78.29
RTD	7	90.72	RTD	22	78.72
RTD	8	90.66001	RTD	23	78.96
RTD	9	89.94	RTD	24	79.43
RTD	10	90.85	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.93	RTD	27	0
RTD	13	87.56	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	84.82	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.70589 IN F
= 543.3959 IN R

PRESS 1 63.707 PRESS 2 63.67

THE AVE PRESSURE IS = 63.6885 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.37481
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	75.30085	DEWPT	8	77.35153
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.56183
THE PWV IS = .4376273 PSIA

THE MASS WEIGHT IS = 92677.0625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 430 DATE : 05-05-1986

RTD	1	86.22	RTD	16	84.53
RTD	2	86.68	RTD	17	84.88
RTD	3	90.42	RTD	18	84.39
RTD	4	89.82	RTD	19	79.64
RTD	5	91.01	RTD	20	78.39
RTD	6	91.79	RTD	21	78.29
RTD	7	90.72	RTD	22	78.72
RTD	8	90.66001	RTD	23	78.96
RTD	9	89.9	RTD	24	79.43
RTD	10	90.85	RTD	25	0
RTD	11	88.83999	RTD	26	0
RTD	12	88.89	RTD	27	0
RTD	13	87.56	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.78	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.69133 IN F
= 543.3814 IN R

PRESS 1 63.705 PRESS 2 63.668

THE AVE PRESSURE IS = 63.6865 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.37481
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.85038	DEWPT	8	77.35153
DEWPT	4	75.79166	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.55738
THE PWV IS = .4375625 PSIA

THE MASS WEIGHT IS = 92676.7109375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 445 DATE : 05-05-1986

RTD	1	86.22	RTD	16	84.53
RTD	2	86.68	RTD	17	84.88
RTD	3	90.33999	RTD	18	84.35
RTD	4	89.82	RTD	19	79.64
RTD	5	91.01	RTD	20	78.39
RTD	6	91.75	RTD	21	78.29
RTD	7	90.68	RTD	22	78.72
RTD	8	90.66001	RTD	23	78.96
RTD	9	89.9	RTD	24	79.43
RTD	10	90.85	RTD	25	0
RTD	11	88.8	RTD	26	0
RTD	12	88.89	RTD	27	0
RTD	13	87.56	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	84.74	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.68343 IN F
= 543.37335 IN R

PRESS 1 63.703 PRESS 2 63.666

THE AVE PRESSURE IS = 63.6845 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.37481
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.12965
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.45666
THE PWV IS = .4360973 PSIA

THE MASS WEIGHT IS = 92677.28125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 500 DATE : 05-05-1986

RTD	1	86.18	RTD	16	84.53
RTD	2	86.68	RTD	17	84.88
RTD	3	90.33999	RTD	18	84.35
RTD	4	89.82	RTD	19	79.64
RTD	5	91.01	RTD	20	78.39
RTD	6	91.71	RTD	21	78.29
RTD	7	90.68	RTD	22	78.72
RTD	8	90.66001	RTD	23	78.96
RTD	9	89.9	RTD	24	79.43
RTD	10	90.85	RTD	25	0
RTD	11	88.8	RTD	26	0
RTD	12	88.89	RTD	27	0
RTD	13	87.56	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	84.74	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.68191 IN F
= 543.372 IN R

PRESS 1 63.701 PRESS 2 63.664

THE AVE PRESSURE IS = 63.68251 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.37481
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.85038	DEWPT	8	77.56668
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.53473
THE PWV IS = .4372329 PSIA

THE MASS WEIGHT IS = 92672.9375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 515 DATE : 05-05-1986

RTD	1	86.18	RTD	16	84.49
RTD	2	86.6	RTD	17	84.88
RTD	3	90.33999	RTD	18	84.35
RTD	4	89.78	RTD	19	79.64
RTD	5	91.01	RTD	20	78.39
RTD	6	91.71	RTD	21	78.29
RTD	7	90.68	RTD	22	78.72
RTD	8	90.66001	RTD	23	78.96
RTD	9	89.9	RTD	24	79.43
RTD	10	90.85	RTD	25	0
RTD	11	88.8	RTD	26	0
RTD	12	88.89	RTD	27	0
RTD	13	87.56	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.74	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.67675 IN F
= 543.3668 IN R

PRESS 1 63.698 PRESS 2 63.66

THE AVE PRESSURE IS = 63.679 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.37481
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.35153
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.50331
THE PWV IS = .4367744 PSIA

THE MASS WEIGHT IS = 92669.359375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 530 DATE : 05-05-1986

RTD	1	86.14	RTD	16	84.49
RTD	2	86.64	RTD	17	84.83999
RTD	3	90.33999	RTD	18	84.31
RTD	4	89.78	RTD	19	79.64
RTD	5	90.97	RTD	20	78.39
RTD	6	91.71	RTD	21	78.29
RTD	7	90.68	RTD	22	78.72
RTD	8	90.62	RTD	23	78.96
RTD	9	89.9	RTD	24	79.43
RTD	10	90.85	RTD	25	0
RTD	11	88.8	RTD	26	0
RTD	12	88.89	RTD	27	0
RTD	13	87.51999	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.7	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.66582 IN F
= 543.3558 IN R

PRESS 1 63.696 PRESS 2 63.658

THE AVE PRESSURE IS = 63.677 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.37481
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.56668
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.55823
THE PWV IS = .4375744 PSIA

THE MASS WEIGHT IS = 92667.125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 545 DATE : 05-05-1986

RTD	1	86.14	RTD	16	84.49
RTD	2	86.6	RTD	17	84.83939
RTD	3	90.3	RTD	18	84.31
RTD	4	89.78	RTD	19	79.64
RTD	5	90.97	RTD	20	78.39
RTD	6	91.67	RTD	21	78.26
RTD	7	90.68	RTD	22	78.72
RTD	8	90.62	RTD	23	78.96
RTD	9	89.86	RTD	24	79.43
RTD	10	90.85	RTD	25	0
RTD	11	88.8	RTD	26	0
RTD	12	88.85	RTD	27	0
RTD	13	87.51999	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.7	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.65767 IN F
= 543.3477 IN R

PRESS 1 63.691 PRESS 2 63.656

THE AVE PRESSURE IS = 63.6735 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.15065
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.85038	DEWPT	8	77.35153
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.47145
THE PWV IS = .4363113 PSIA

THE MASS WEIGHT IS = 92665.2421875 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 600 DATE : 05-05-1986

RTD	1	86.1	RTD	16	84.45
RTD	2	86.56	RTD	17	84.81
RTD	3	90.33999	RTD	18	84.26999
RTD	4	89.78	RTD	19	79.64
RTD	5	90.97	RTD	20	78.39
RTD	6	91.67	RTD	21	78.26
RTD	7	90.68	RTD	22	78.72
RTD	8	90.62	RTD	23	78.96
RTD	9	89.86	RTD	24	79.43
RTD	10	90.81	RTD	25	0
RTD	11	88.8	RTD	26	0
RTD	12	88.85	RTD	27	0
RTD	13	87.51999	RTD	28	0
RTD	14	86.32	RTD	29	0
RTD	15	84.7	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.64919 IN F
= 543.3392 IN R

PRESS 1 63.69 PRESS 2 63.653

THE AVE PRESSURE IS = 63.6715 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	75.15965
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.85038	DEWPT	8	77.35153
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.45975
THE PWV IS = .436142 PSIA

THE MASS WEIGHT IS = 92664.00781250 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 615 DATE : 05-05-1986

RTD	1	86.1	RTD	16	84.41001
RTD	2	86.56	RTD	17	84.76999
RTD	3	90.26	RTD	18	84.26999
RTD	4	89.78	RTD	19	79.64
RTD	5	90.97	RTD	20	78.39
RTD	6	91.67	RTD	21	78.26
RTD	7	90.64	RTD	22	78.72
RTD	8	90.58	RTD	23	78.92
RTD	9	89.86	RTD	24	79.43
RTD	10	90.81	RTD	25	0
RTD	11	88.8	RTD	26	0
RTD	12	88.85	RTD	27	0
RTD	13	87.51999	RTD	28	0
RTD	14	86.48001	RTD	29	0
RTD	15	84.66001	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.63688 IN F
= 543.3269 IN R

PRESS 1 63.687 PRESS 2 63.651

THE AVE PRESSURE IS = 63.669 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.54961	DEWPT	6	75.37481
DEWPT	2	77.35153	DEWPT	7	75.94631
DEWPT	3	74.62178	DEWPT	8	77.12965
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.5033
THE PWV IS = .4367744 PSIA

THE MASS WEIGHT IS = 92661.5 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 630 DATE : 05-05-1986

RTD	1	86.1	RTD	16	84.41001
RTD	2	86.56	RTD	17	84.73001
RTD	3	90.26	RTD	18	84.23001
RTD	4	89.74	RTD	19	79.64
RTD	5	90.97	RTD	20	78.39
RTD	6	91.67	RTD	21	78.29
RTD	7	90.64	RTD	22	78.72
RTD	8	90.58	RTD	23	78.96
RTD	9	89.82	RTD	24	79.43
RTD	10	90.81	RTD	25	0
RTD	11	88.76	RTD	26	0
RTD	12	88.85	RTD	27	0
RTD	13	87.48001	RTD	28	0
RTD	14	86.4	RTD	29	0
RTD	15	84.62	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.62956 IN F
= 543.3196 IN R

PRESS 1 63.685 PRESS 2 63.648

THE AVE PRESSURE IS = 63.6665 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	75.15965
DEWPT	2	77.35153	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.35153
DEWPT	4	75.5699	DEWPT	9	75.79166
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.41861
THE PWV IS = .4355445 PSIA

THE MASS WEIGHT IS = 92660.8984375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 645 DATE : 05-05-1986

RTD	1	86.1	RTD	16	84.41001
RTD	2	86.51999	RTD	17	84.69
RTD	3	90.22	RTD	18	84.23001
RTD	4	89.7	RTD	19	79.64
RTD	5	90.92	RTD	20	78.39
RTD	6	91.67	RTD	21	78.29
RTD	7	90.64	RTD	22	78.72
RTD	8	90.54	RTD	23	78.92
RTD	9	89.86	RTD	24	79.43
RTD	10	90.76999	RTD	25	0
RTD	11	88.76	RTD	26	0
RTD	12	88.81	RTD	27	0
RTD	13	87.48001	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.58	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.61548 IN F
= 543.3055 IN R

PRESS 1 63.681 PRESS 2 63.644

THE AVE PRESSURE IS = 63.6625 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT 1	75.32775	DEWPT 6	75.15965
DEWPT 2	76.91449	DEWPT 7	75.72443
DEWPT 3	74.62178	DEWPT 8	77.12965
DEWPT 4	75.5698	DEWPT 9	75.79166
DEWPT 5	76.24887	DEWPT 10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.40624
THE PWV IS = .4353649 PSIA

THE MASS WEIGHT IS = 92657.703125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 700 DATE : 05-05-1986

RTD	1	86.06	RTD	16	84.37
RTD	2	86.51999	RTD	17	84.65
RTD	3	90.26	RTD	18	84.19
RTD	4	89.74	RTD	19	79.64
RTD	5	90.92	RTD	20	78.39
RTD	6	91.63	RTD	21	78.26
RTD	7	90.6	RTD	22	78.68
RTD	8	90.54	RTD	23	78.92
RTD	9	89.82	RTD	24	79.43
RTD	10	90.76999	RTD	25	0
RTD	11	88.76	RTD	26	0
RTD	12	88.81	RTD	27	0
RTD	13	87.44	RTD	28	0
RTD	14	86.56	RTD	29	0
RTD	15	84.54	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.59699 IN F
= 543.287 IN R

PRESS 1 63.678 PRESS 2 63.642

THE AVE PRESSURE IS = 63.66 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	75.15965
DEWPT	2	77.12965	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.56668
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.43038
THE PWV IS = .4357153 PSIA

THE MASS WEIGHT IS = 92656.6796875 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 715 DATE : 05-05-1986

RTD	1	86.06	RTD	16	84.33
RTD	2	86.51999	RTD	17	84.61
RTD	3	90.22	RTD	18	84.19
RTD	4	89.74	RTD	19	79.64
RTD	5	90.88	RTD	20	78.39
RTD	6	91.58999	RTD	21	78.26
RTD	7	90.6	RTD	22	78.72
RTD	8	90.54	RTD	23	78.92
RTD	9	89.82	RTD	24	79.43
RTD	10	90.76999	RTD	25	0
RTD	11	88.72	RTD	26	0
RTD	12	88.81	RTD	27	0
RTD	13	87.44	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.5	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.59043 IN F
= 543.2804 IN R

PRESS 1 63.678 PRESS 2 63.637

THE AVE PRESSURE IS = 63.6575 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	75.15965
DEWPT	2	77.12965	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.35153
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.40776
THE PWV IS = .4353864 PSIA

THE MASS WEIGHT IS = 92654.625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 730 DATE : 05-05-1986

RTD	1	86.01999	RTD	16	84.29
RTD	2	86.51999	RTD	17	84.61
RTD	3	90.14	RTD	18	84.15
RTD	4	89.7	RTD	19	79.64
RTD	5	90.88	RTD	20	78.39
RTD	6	91.58999	RTD	21	78.26
RTD	7	90.6	RTD	22	78.72
RTD	8	90.54	RTD	23	78.92
RTD	9	89.82	RTD	24	79.43
RTD	10	90.73001	RTD	25	0
RTD	11	88.72	RTD	26	0
RTD	12	88.76999	RTD	27	0
RTD	13	87.4	RTD	28	0
RTD	14	86.44	RTD	29	0
RTD	15	84.5	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.57574 IN F
= 543.2658 IN R

PRESS 1 63.673 PRESS 2 63.634

THE AVE PRESSURE IS = 63.6535 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT 1	75.32775	DEWPT 6	75.15965
DEWPT 2	77.12965	DEWPT 7	75.72443
DEWPT 3	74.62178	DEWPT 8	77.56668
DEWPT 4	75.5698	DEWPT 9	76.01355
DEWPT 5	76.03371	DEWPT 10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.45369
THE PWV IS = .4360532 PSIA

THE MASS WEIGHT IS = 92650.2734375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 745 DATE : 05-05-1986

RTD	1	86.01999	RTD	16	84.29
RTD	2	86.48001	RTD	17	84.57
RTD	3	90.18	RTD	18	84.11
RTD	4	89.66001	RTD	19	79.64
RTD	5	90.88	RTD	20	78.39
RTD	6	91.55	RTD	21	78.26
RTD	7	90.56	RTD	22	78.72
RTD	8	90.5	RTD	23	78.92
RTD	9	89.82	RTD	24	79.43
RTD	10	90.73001	RTD	25	0
RTD	11	88.68	RTD	26	0
RTD	12	88.76999	RTD	27	0
RTD	13	87.4	RTD	28	0
RTD	14	86.28	RTD	29	0
RTD	15	84.46	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.56543 IN F
= 543.2555 IN R

PRESS 1 63.672 PRESS 2 63.632

THE AVE PRESSURE IS = 63.652 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	75.15965
DEWPT	2	76.91449	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.56668
DEWPT	4	75.34791	DEWPT	9	75.79166
DEWPT	5	75.81184	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.37359
THE PWV IS = .4348914 PSIA

THE MASS WEIGHT IS = 92651.54685 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 800 DATE : 05-05-1986

RTD	1	86.01	RTD	16	84.25
RTD	2	86.48001	RTD	17	84.57
RTD	3	90.22	RTD	18	84.11
RTD	4	89.66001	RTD	19	79.64
RTD	5	90.83999	RTD	20	78.35
RTD	6	91.55	RTD	21	78.26
RTD	7	90.56	RTD	22	78.72
RTD	8	90.46	RTD	23	78.92
RTD	9	89.78	RTD	24	79.43
RTD	10	90.73001	RTD	25	0
RTD	11	88.68	RTD	26	0
RTD	12	88.13001	RTD	27	0
RTD	13	87.4	RTD	28	0
RTD	14	86.32	RTD	29	0
RTD	15	84.42	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.55372 IN F
= 543.2437 IN R

PRESS 1 63.669 PRESS 2 63.63

THE AVE PRESSURE IS = 63.6495 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT 1	75.32775	DEWPT 6	75.15965
DEWPT 2	77.35153	DEWPT 7	75.72443
DEWPT 3	74.62178	DEWPT 8	77.56668
DEWPT 4	75.5698	DEWPT 9	76.01355
DEWPT 5	75.81184	DEWPT 10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.43121
THE PWV IS = .4357271 PSIA

THE MASS WEIGHT IS = 92648.6484375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 815 DATE : 05-05-1986

RTD	1	85.98001	RTD	16	84.25
RTD	2	86.44	RTD	17	84.53
RTD	3	90.18	RTD	18	84.11
RTD	4	89.66001	RTD	19	79.6
RTD	5	90.83999	RTD	20	78.35
RTD	6	91.55	RTD	21	78.26
RTD	7	90.51999	RTD	22	78.72
RTD	8	90.46	RTD	23	78.92
RTD	9	89.78	RTD	24	79.39
RTD	10	90.73001	RTD	25	0
RTD	11	88.68	RTD	26	0
RTD	12	88.73001	RTD	27	0
RTD	13	87.32	RTD	28	0
RTD	14	86.32	RTD	29	0
RTD	15	84.42	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.53666 IN F
= 543.2267 IN R

PRESS 1 63.666 PRESS 2 63.627

THE AVE PRESSURE IS = 63.6465 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	75.15965
DEWPT	2	77.12965	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.12965
DEWPT	4	75.5698	DEWPT	9	76.01355
DEWPT	5	75.81184	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.37443
THE PWV IS = .4349032 PSIA

THE MASS WEIGHT IS = 92648.3671875 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 830 DATE : 05-05-1986

RTD	1	85.98001	RTD	16	84.21
RTD	2	86.44	RTD	17	84.53
RTD	3	90.14	RTD	18	84.07
RTD	4	89.62	RTD	19	79.64
RTD	5	90.83999	RTD	20	78.35
RTD	6	91.55	RTD	21	78.26
RTD	7	90.51999	RTD	22	78.72
RTD	8	90.46	RTD	23	78.92
RTD	9	89.78	RTD	24	79.39
RTD	10	90.68	RTD	25	0
RTD	11	88.64	RTD	26	0
RTD	12	88.73001	RTD	27	0
RTD	13	87.32	RTD	28	0
RTD	14	86.28	RTD	29	0
RTD	15	84.38	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.5293 IN F
= 543.2193 IN R

PRESS 1 63.664 PRESS 2 63.625

THE AVE PRESSURE IS = 63.6445 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.09243	DEWPT	6	75.15965
DEWPT	2	77.12965	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.35153
DEWPT	4	75.34791	DEWPT	9	76.01355
DEWPT	5	75.81184	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.37242
THE PWV IS = .4348747 PSIA

THE MASS WEIGHT IS = 92646.734375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 845 DATE : 05-05-1986

RTD	1	85.98001	RTD	16	84.17
RTD	2	86.44	RTD	17	84.49
RTD	3	90.1	RTD	18	84.07
RTD	4	89.62	RTD	19	79.64
RTD	5	90.83999	RTD	20	78.39
RTD	6	91.51	RTD	21	78.26
RTD	7	90.51999	RTD	22	78.68
RTD	8	90.42	RTD	23	78.92
RTD	9	89.74	RTD	24	79.39
RTD	10	90.68	RTD	25	0
RTD	11	88.64	RTD	26	0
RTD	12	88.69	RTD	27	0
RTD	13	87.32	RTD	28	0
RTD	14	86.36	RTD	29	0
RTD	15	84.38	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.51915 IN F
= 543.2092 IN R

PRESS 1 63.662 PRESS 2 63.623

THE AVE PRESSURE IS = 63.6425 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT 1	75.32775	DEWPT 6	75.15965
DEWPT 2	77.12965	DEWPT 7	75.72443
DEWPT 3	74.62178	DEWPT 8	77.35153
DEWPT 4	75.34791	DEWPT 9	76.01355
DEWPT 5	75.81184	DEWPT 10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.38482
THE PWV IS = .4350541 PSIA

THE MASS WEIGHT IS = 92645.265625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

*** MAIN ILRT TEST ****

READING TAKEN AT TIME PERIOD : 900 DATE : 05-05-1986

RTD	1	85.98001	RTD	16	84.17
RTD	2	86.44	RTD	17	84.45
RTD	3	90.06	RTD	18	84.03
RTD	4	89.66001	RTD	19	79.64
RTD	5	90.83999	RTD	20	78.39
RTD	6	91.51	RTD	21	78.26
RTD	7	90.51999	RTD	22	78.72
RTD	8	90.42	RTD	23	78.92
RTD	9	89.74	RTD	24	79.43
RTD	10	90.68	RTD	25	0
RTD	11	88.64	RTD	26	0
RTD	12	88.69	RTD	27	0
RTD	13	87.32	RTD	28	0
RTD	14	86.32	RTD	29	0
RTD	15	84.38	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.52015 IN F
= 543.2101 IN R

PRESS 1 63.662 PRESS 2 63.622

THE AVE PRESSURE IS = 63.642 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT 1	75.09243	DEWPT 6	74.93778
DEWPT 2	77.12965	DEWPT 7	75.72443
DEWPT 3	74.3999	DEWPT 8	77.35153
DEWPT 4	75.34791	DEWPT 9	75.79166
DEWPT 5	75.81184	DEWPT 10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.2893
THE PWV IS = .4336716 PSIA

THE MASS WEIGHT IS = 92646.3984375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1000 DATE : 05-05-1986

RTD	1	85.98001	RTD	16	84.08999
RTD	2	86.44	RTD	17	84.33
RTD	3	90.06	RTD	18	83.95
RTD	4	89.58	RTD	19	79.64
RTD	5	90.76	RTD	20	78.39
RTD	6	91.47	RTD	21	78.26
RTD	7	90.48001	RTD	22	78.72
RTD	8	90.38	RTD	23	78.92
RTD	9	89.7	RTD	24	79.39
RTD	10	90.64	RTD	25	0
RTD	11	88.6	RTD	26	0
RTD	12	88.65	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.48001	RTD	29	0
RTD	15	84.22	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.47666 IN F
= 543.1667 IN R

PRESS 1 63.64 PRESS 2 63.6

THE AVE PRESSURE IS = 63.62 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	74.71591
DEWPT	2	76.91449	DEWPT	7	75.72443
DEWPT	3	74.3999	DEWPT	8	77.35153
DEWPT	4	75.34791	DEWPT	9	76.01355
DEWPT	5	75.81184	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.26327
THE PWV IS = .4332948 PSIA

THE MASS WEIGHT IS = 92622.109375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1015 DATE : 05-05-1986

RTD	1	86.01	RTD	16	84.08999
RTD	2	86.44	RTD	17	84.37
RTD	3	89.98001	RTD	18	83.95
RTD	4	89.58	RTD	19	79.64
RTD	5	90.76	RTD	20	78.35
RTD	6	91.47	RTD	21	78.26
RTD	7	90.48001	RTD	22	78.72
RTD	8	90.38	RTD	23	78.92
RTD	9	89.7	RTD	24	79.43
RTD	10	90.64	RTD	25	0
RTD	11	88.6	RTD	26	0
RTD	12	88.61	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.16001	RTD	29	0
RTD	15	84.26	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.47758 IN F
= 543.1676 IN R

PRESS 1 63.635 PRESS 2 63.598

THE AVE PRESSURE IS = 63.6165 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.09243	DEWPT	6	74.93778
DEWPT	2	76.47746	DEWPT	7	75.72443
DEWPT	3	74.3999	DEWPT	8	77.35153
DEWPT	4	75.34791	DEWPT	9	76.01355
DEWPT	5	75.59669	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.24841
THE PWV IS = .4330806 PSIA

THE MASS WEIGHT IS = 92617.1328125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1030 DATE : 05-05-1986

RTD	1	86.01	RTD	16	84.08999
RTD	2	86.44	RTD	17	84.41001
RTD	3	89.98001	RTD	18	83.95
RTD	4	89.54	RTD	19	79.64
RTD	5	90.76	RTD	20	78.35
RTD	6	91.47	RTD	21	78.26
RTD	7	90.48001	RTD	22	78.72
RTD	8	90.38	RTD	23	78.92
RTD	9	89.7	RTD	24	79.39
RTD	10	90.6	RTD	25	0
RTD	11	88.6	RTD	26	0
RTD	12	88.61	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.12	RTD	29	0
RTD	15	84.26	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.47556 IN F
= 543.1655 IN R

PRESS 1 63.628 PRESS 2 63.594

THE AVE PRESSURE IS = 63.611 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT 1	75.09243	DEWPT 6	74.93778
DEWPT 2	76.69261	DEWPT 7	75.72443
DEWPT 3	74.3999	DEWPT 8	77.12965
DEWPT 4	75.34791	DEWPT 9	76.01355
DEWPT 5	75.59669	DEWPT 10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.23561
THE PWV IS = .432896 PSIA

THE MASS WEIGHT IS = 92609.703125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1045 DATE : 05-05-1986

RTD	1	86.01	RTD	16	84.08999
RTD	2	86.48001	RTD	17	84.41001
RTD	3	89.98001	RTD	18	83.95
RTD	4	89.54	RTD	19	79.6
RTD	5	90.76	RTD	20	78.39
RTD	6	91.47	RTD	21	78.26
RTD	7	90.44	RTD	22	78.68
RTD	8	90.33999	RTD	23	78.92
RTD	9	89.7	RTD	24	79.39
RTD	10	90.6	RTD	25	0
RTD	11	88.56	RTD	26	0
RTD	12	88.61	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.12	RTD	29	0
RTD	15	84.26	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.47194 IN F
= 543.162 IN R

PRESS 1 63.623 PRESS 2 63.59

THE AVE PRESSURE IS = 63.6065 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT 1	75.69243	DEWPT 6	75.15965
DEWPT 2	76.69261	DEWPT 7	75.72443
DEWPT 3	74.3999	DEWPT 8	77.56668
DEWPT 4	75.12604	DEWPT 9	75.79166
DEWPT 5	75.59669	DEWPT 10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.29653
THE PWV IS = .4337757 PSIA

THE MASS WEIGHT IS = 92602.421875 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1100 DATE : 05-05-1986

RTD	1	86.01	RTD	16	84.08999
RTD	2	86.48001	RTD	17	84.45
RTD	3	89.98001	RTD	18	83.95
RTD	4	89.5	RTD	19	79.6
RTD	5	90.72	RTD	20	78.35
RTD	6	91.47	RTD	21	78.26
RTD	7	90.44	RTD	22	78.68
RTD	8	90.33999	RTD	23	78.92
RTD	9	89.7	RTD	24	79.39
RTD	10	90.56	RTD	25	0
RTD	11	88.56	RTD	26	0
RTD	12	88.61	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.08	RTD	29	0
RTD	15	84.3	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.47176 IN F
= 543.1618 IN R

PRESS 1 63.62 PRESS 2 63.584

THE AVE PRESSURE IS = 63.602 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT 1	75.09243	DEWPT 6	75.15965
DEWPT 2	76.91449	DEWPT 7	75.72443
DEWPT 3	74.3999	DEWPT 8	77.35153
DEWPT 4	75.34791	DEWPT 9	76.01355
DEWPT 5	75.81184	DEWPT 10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.35333
THE PWV IS = .4345983 PSIA

THE MASS WEIGHT IS = 92594.6484375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1115 DATE : 05-05-1986

RTD	1	86.01999	RTD	16	84.08999
RTD	2	86.49001	RTD	17	84.45
RTD	3	90.01999	RTD	18	83.99
RTD	4	89.54	RTD	19	79.6
RTD	5	90.72	RTD	20	78.35
RTD	6	91.47	RTD	21	78.26
RTD	7	90.44	RTD	22	78.68
RTD	8	90.3	RTD	23	78.92
RTD	9	89.66001	RTD	24	79.39
RTD	10	90.56	RTD	25	0
RTD	11	88.56	RTD	26	0
RTD	12	88.61	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.01	RTD	29	0
RTD	15	84.3	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.47451 IN F
= 543.1645 IN R

PRESS 1 63.617 PRESS 2 63.58

THE AVE PRESSURE IS = 63.59851 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.09243	DEWPT	6	75.15965
DEWPT	2	76.69261	DEWPT	7	75.72443
DEWPT	3	74.3999	DEWPT	8	77.12965
DEWPT	4	75.12604	DEWPT	9	76.01355
DEWPT	5	75.81184	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.30622
THE PWV IS = .4339162 PSIA

THE MASS WEIGHT IS = 92590.0625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1130 DATE : 05-05-1986

RTD	1	86.06	RTD	16	84.08999
RTD	2	86.51999	RTD	17	84.49
RTD	3	89.94	RTD	18	83.99
RTD	4	89.54	RTD	19	79.6
RTD	5	90.72	RTD	20	78.35
RTD	6	91.43	RTD	21	78.26
RTD	7	90.44	RTD	22	78.68
RTD	8	90.33999	RTD	23	78.92
RTD	9	89.66001	RTD	24	79.39
RTD	10	90.51999	RTD	25	0
RTD	11	88.51999	RTD	26	0
RTD	12	88.61	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.04	RTD	29	0
RTD	15	84.33999	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.47828 IN F
= 543.1683 IN R

PRESS 1 63.613 PRESS 2 63.575

THE AVE PRESSURE IS = 63.594 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	74.87055	DEWPT	6	75.15965
DEWPT	2	77.12965	DEWPT	7	75.72443
DEWPT	3	74.3999	DEWPT	8	77.12965
DEWPT	4	75.34791	DEWPT	9	75.79166
DEWPT	5	75.81184	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.30552
THE PWV IS = .4339065 PSIA

THE MASS WEIGHT IS = 92582.8359375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1145 DATE : 05-05-1986

RTD	1	86.06	RTD	16	84.08999
RTD	2	86.51999	RTD	17	84.53
RTD	3	89.94	RTD	18	83.99
RTD	4	89.5	RTD	19	79.6
RTD	5	90.68	RTD	20	78.35
RTD	6	91.43	RTD	21	78.26
RTD	7	90.4	RTD	22	78.72
RTD	8	90.3	RTD	23	78.92
RTD	9	89.62	RTD	24	79.39
RTD	10	90.51999	RTD	25	0
RTD	11	88.51999	RTD	26	0
RTD	12	88.61	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.01	RTD	29	0
RTD	15	84.38	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.48263 IN F
= 543.1726 IN R

PRESS 1 63.608 PRESS 2 63.572

THE AVE PRESSURE IS = 63.59 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.09243	DEWPT	6	75.15965
DEWPT	2	77.12965	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.56668
DEWPT	4	75.34791	DEWPT	9	75.79166
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.40504
THE PWV IS = .4353473 PSIA

THE MASS WEIGHT IS = 92574.1171875 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1200 DATE : 05-05-1986

RTD	1	86.06	RTD	16	84.08999
RTD	2	86.51999	RTD	17	84.53
RTD	3	89.98001	RTD	18	83.99
RTD	4	89.5	RTD	19	79.6
RTD	5	90.68	RTD	20	78.35
RTD	6	91.43	RTD	21	78.26
RTD	7	90.4	RTD	22	78.72
RTD	8	90.3	RTD	23	78.92
RTD	9	89.62	RTD	24	79.39
RTD	10	90.51999	RTD	25	0
RTD	11	88.51999	RTD	26	0
RTD	12	88.57	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	85.97	RTD	29	0
RTD	15	84.38	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.48038 IN F
= 543.1705 IN R

PRESS 1 63.604 PRESS 2 63.569

THE AVE PRESSURE IS = 63.5865 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.09243	DEWPT	6	75.15965
DEWPT	2	76.91449	DEWPT	7	75.72443
DEWPT	3	74.3999	DEWPT	8	77.12965
DEWPT	4	75.34791	DEWPT	9	75.79166
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.34002
THE PWV IS = .4344056 PSIA

THE MASS WEIGHT IS = 925/0.75 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1215 DATE : 05-05-1986

RTD	1	86.1	RTD	16	84.13
RTD	2	86.51999	RTD	17	84.61
RTD	3	89.9	RTD	18	84.03
RTD	4	89.54	RTD	19	79.6
RTD	5	90.68	RTD	20	78.35
RTD	6	91.43	RTD	21	78.26
RTD	7	90.4	RTD	22	78.72
RTD	8	90.3	RTD	23	78.92
RTD	9	89.62	RTD	24	79.39
RTD	10	90.51999	RTD	25	0
RTD	11	88.51999	RTD	26	0
RTD	12	88.57	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	85.97	RTD	29	0
RTD	15	84.38	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.48991 IN F
= 543.18 IN R

PRESS 1 63.6 PRESS 2 63.565

THE AVE PRESSURE IS = 63.5825 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.09243	DEWPT 6 75.15965
DEWPT	2	76.69261	DEWPT 7 75.72443
DEWPT	3	74.62178	DEWPT 8 77.56668
DEWPT	4	75.34791	DEWPT 9 76.01355
DEWPT	5	76.24887	DEWPT 10 71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.4393
THE PWV IS = .4358446 PSIA

THE MASS WEIGHT IS = 92561.140625 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1230 DATE : 05-05-1986

RTD	1	86.1	RTD	16	84.13
RTD	2	86.51999	RTD	17	84.61
RTD	3	89.98001	RTD	18	84.03
RTD	4	89.5	RTD	19	79.6
RTD	5	90.68	RTD	20	78.39
RTD	6	91.39	RTD	21	78.26
RTD	7	90.4	RTD	22	78.72
RTD	8	90.3	RTD	23	78.92
RTD	9	89.62	RTD	24	79.39
RTD	10	90.51999	RTD	25	0
RTD	11	88.48001	RTD	26	0
RTD	12	88.57	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.01	RTD	29	0
RTD	15	84.42	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.49454 IN F
= 543.1846 IN R

PRESS 1 63.595 PRESS 2 63.56

THE AVE PRESSURE IS = 63.5775 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT 1	75.09243	DEWPT 6	75.37481
DEWPT 2	76.91449	DEWPT 7	75.72443
DEWPT 3	74.62178	DEWPT 8	77.35153
DEWPT 4	75.34791	DEWPT 9	76.01355
DEWPT 5	75.81184	DEWPT 10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.41158
THE PWV IS = .4354426 PSIA

THE MASS WEIGHT IS = 92553.6171875 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1245 DATE : 05-05-1986

RTD	1	86.1	RTD	16	84.13
RTD	2	86.56	RTD	17	84.65
RTD	3	89.94	RTD	18	84.03
RTD	4	89.46	RTD	19	79.6
RTD	5	90.64	RTD	20	78.35
RTD	6	91.39	RTD	21	78.26
RTD	7	90.36	RTD	22	78.72
RTD	8	90.26	RTD	23	78.92
RTD	9	89.58	RTD	24	79.39
RTD	10	90.48001	RTD	25	0
RTD	11	88.48001	RTD	26	0
RTD	12	88.57	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.04	RTD	29	0
RTD	15	84.42	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.4905 IN F
= 543.1805 IN R

PRESS 1 63.59 PRESS 2 63.555

THE AVE PRESSURE IS = 63.5725 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.11259	DEWPT	6	75.37481
DEWPT	2	77.12965	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.35153
DEWPT	4	75.34791	DEWPT	9	75.79166
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.43316
THE PWV IS = .4357561 PSIA

THE MASS WEIGHT IS = 92546.53125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1300 DATE : 05-05-1986

RTD	1	86.1	RTD	16	84.13
RTD	2	86.51999	RTD	17	84.65
RTD	3	89.86	RTD	18	84.07
RTD	4	89.42	RTD	19	79.6
RTD	5	90.64	RTD	20	78.35
RTD	6	91.39	RTD	21	78.26
RTD	7	90.36	RTD	22	78.68
RTD	8	90.26	RTD	23	78.92
RTD	9	89.58	RTD	24	79.39
RTD	10	90.44	RTD	25	0
RTD	11	88.48001	RTD	26	0
RTD	12	88.57	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.01	RTD	29	0
RTD	15	84.46	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.48824 IN F
= 543.1783 IN R

PRESS 1 63.585 PRESS 2 63.55

THE AVE PRESSURE IS = 63.5675 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.09243	DEWPT	6	75.37481
DEWPT	2	76.69261	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.35153
DEWPT	4	75.34791	DEWPT	9	75.79166
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.41073
THE PWV IS = .4354296 PSIA

THE MASS WEIGHT IS = 92540.05468/5 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1315 DATE : 05-05-1986

RTD	1	86.1	RTD	16	84.13
RTD	2	86.56	RTD	17	84.69
RTD	3	89.9	RTD	18	84.07
RTD	4	89.46	RTD	19	79.6
RTD	5	90.64	RTD	20	78.35
RTD	6	91.39	RTD	21	78.26
RTD	7	90.36	RTD	22	78.72
RTD	8	90.26	RTD	23	78.92
RTD	9	89.58	RTD	24	79.39
RTD	10	90.44	RTD	25	0
RTD	11	88.44	RTD	26	0
RTD	12	88.53	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.01	RTD	29	0
RTD	15	84.46	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.49213 IN F
= 543.1821 IN R

PRESS 1 63.582 PRESS 2 63.545

THE AVE PRESSURE IS = 63.5635 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.09243	DEWPT	6	75.37481
DEWPT	2	76.91449	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.12965
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.06371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.4112
THE PWV IS = .4354371 PSIA

THE MASS WEIGHT IS = 92533.5234375 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1330 DATE : 05-05-1986

RTD	1	86.14	RTD	16	84.17
RTD	2	86.56	RTD	17	84.73001
RTD	3	89.9	RTD	18	84.11
RTD	4	89.42	RTD	19	79.6
RTD	5	90.64	RTD	20	78.35
RTD	6	91.39	RTD	21	78.26
RTD	7	90.36	RTD	22	78.72
RTD	8	90.26	RTD	23	78.92
RTD	9	89.54	RTD	24	79.39
RTD	10	90.48001	RTD	25	0
RTD	11	88.44	RTD	26	0
RTD	12	88.53	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.01	RTD	29	0
RTD	15	84.5	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.50167 IN F
= 543.1916 IN R

PRESS 1 63.58 PRESS 2 63.543

THE AVE PRESSURE IS = 63.5615 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	75.37481
DEWPT	2	76.91449	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.12965
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.03371	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.4236
THE PWV IS = .4356173 PSIA

THE MASS WEIGHT IS = 92528.703125 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1345 DATE : 05-05-1986

RTD	1	86.14	RTD	16	84.17
RTD	2	86.56	RTD	17	84.76999
RTD	3	89.86	RTD	18	84.11
RTD	4	89.42	RTD	19	79.6
RTD	5	90.64	RTD	20	78.35
RTD	6	91.35	RTD	21	78.26
RTD	7	90.36	RTD	22	78.72
RTD	8	90.26	RTD	23	78.92
RTD	9	89.54	RTD	24	79.39
RTD	10	90.4	RTD	25	0
RTD	11	88.44	RTD	26	0
RTD	12	88.53	RTD	27	0
RTD	13	87.24	RTD	28	0
RTD	14	86.04	RTD	29	0
RTD	15	84.54	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.50353 IN F
= 543.1956 IN R

PRESS 1 63.578 PRESS 2 63.54

THE AVE PRESSURE IS = 63.559 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.09243	DEWPT	6	75.37481
DEWPT	2	76.91449	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.12965
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.44351
THE PWV IS = .4359057 PSIA

THE MASS WEIGHT IS = 92524.296875 LBM

BRUNSWICK STEAM ELECTRIC PLANT UNIT 2
1986 ILRT
SUMMARY OF ILRT MEASURED DATA

**** VERIFICATION ILRT TEST ****

READING TAKEN AT TIME PERIOD : 1400 DATE : 05-05-1986

RTD	1	86.14	RTD	16	84.21
RTD	2	86.6	RTD	17	84.81
RTD	3	89.86	RTD	18	84.15
RTD	4	89.42	RTD	19	79.6
RTD	5	90.64	RTD	20	78.35
RTD	6	91.35	RTD	21	78.26
RTD	7	90.36	RTD	22	78.72
RTD	8	90.22	RTD	23	78.92
RTD	9	89.54	RTD	24	79.39
RTD	10	90.4	RTD	25	0
RTD	11	88.4	RTD	26	0
RTD	12	88.53	RTD	27	0
RTD	13	87.2	RTD	28	0
RTD	14	86.01	RTD	29	0
RTD	15	84.58	RTD	30	0

THE AVE RTD WITH WEIGHTING FACTORS IS = 83.5095 IN F
= 543.1995 IN R

PRESS 1 63.572 PRESS 2 63.535

THE AVE PRESSURE IS = 63.5535 PSIA

DEWCELLS WERE CONVERTED TO DEWPOINT

DEWPT	1	75.32775	DEWPT	6	75.37481
DEWPT	2	77.12965	DEWPT	7	75.72443
DEWPT	3	74.62178	DEWPT	8	77.35153
DEWPT	4	75.5698	DEWPT	9	75.79166
DEWPT	5	76.24887	DEWPT	10	71.85168

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 75.48976
THE PWV IS = .4365776 PSIA

THE MASS WEIGHT IS = 92514.234375 LBM

APPENDIX F

AS FOUND ANALYSIS

		TYPE B ANALYSIS			MINIMUM PATH ANALYSIS			
Pen	Valves	As Found	As Left	Pen Leakage	As Found	As Left	Savings	NOTES
100A	ELECTRICAL	0	0		0	0	0	
100B	ELECTRICAL	0	0		0	0	0	
100C	ELECTRICAL	0	0		0	0	0	
103A	ELECTRICAL	0	0		0	0	0	
100D	ELECTRICAL	0	0		0	0	0	
104D	ELECTRICAL	0	0		0	0	0	
102A	ELECTRICAL	0	0		0	0	0	
104B	ELECTRICAL	0	0		0	0	0	
102B	ELECTRICAL	0	0		0	0	0	
101A	ELECTRICAL	0	0		0	0	0	
101C	ELECTRICAL	0	0		0	0	0	
105D	ELECTRICAL	0	0		0	0	0	
105E	ELECTRICAL	0	0		0	0	0	
102C	ELECTRICAL	0	0		0	0	0	
104C	ELECTRICAL	0	0		0	0	0	
105H	ELECTRICAL	0	0		0	0	0	
105G	ELECTRICAL	0	0		0	0	0	
102E	ELECTRICAL	0	0		0	0	0	
104E	ELECTRICAL	0	0		0	0	0	
100F	ELECTRICAL	0	0		0	0	0	
100E	ELECTRICAL	0	0		0	0	0	
100G	ELECTRICAL	0	0		0	0	0	
100H	ELECTRICAL	0	0		0	0	0	
102F	ELECTRICAL	0	0		0	0	0	
104F	ELECTRICAL	0	0		0	0	0	
103B	ELECTRICAL	0	0		0	0	0	
104G	ELECTRICAL	0	0		0	0	0	
102H	ELECTRICAL	0	0		0	0	0	

		TYPE B ANALYSIS			MINIMUM PATH ANALYSIS			
Pen	Valves	As Found	As Left	Pen Leakage	As Found	As Left	Savings	NOTES
105J	ELECTRICAL	0	0		0	0	0	
105K	ELECTRICAL	0	0		0	0	0	
101F	ELECTRICAL	0	0		0	0	0	
101D	ELECTRICAL	0	0		0	0	0	
105C	ELECTRICAL	0	0		0	0	0	
105B	ELECTRICAL	0	0		0	0	0	
232B	ELECTRICAL	0	0		0	0	0	
232C	ELECTRICAL	0	0		0	0	0	
232A	ELECTRICAL	0	0		0	0	0	
232D	ELECTRICAL	0	0		0	0	0	
1	EQPT HATCH	0	0		0	0	0	
2	LINER SEAL	0	0		0	0	0	
3	DW HD BLANK	0	0		0	0	0	
4	DW HD HATCH	0	0		0	0	0	
6	CRD HATCH	0	0		0	0	0	
200A	S. TORUS	0	0		0	0	0	
200B	N. TORUS	0	0		0	0	0	
-	HEAD SEAL	0	0		0	0	0	
3B	V49-O RING	0	0		0	0	0	
205	V5-O RING	0	0		0	0	0	
25	V6-O RING	0	0		0	0	0	
220	V7-O RING	0	0		0	0	0	
26	V9-O RING	0	0		0	0	0	
205	V16-O RING	0	0		0	0	0	
205	V17-O RING	0	0		0	0	0	

PEN	VALVES	TYPE C ANALYSIS AS FOUND	TYPE C ANALYSIS AS LEFT	PEN LEAKAGE	MINIMUM PATH ANALYSIS AS FOUND	MINIMUM PATH ANALYSIS AS LEFT	SAVINGS	NOTES
3B	CAC-49							
	CAC-50	1.278	1.278		.639	.639	0	Tested in parallel
7A	B21-F022A							
	B21-F028A	2.924	0					See Note 7
7B	B21-F022B							
	B21-F028B	2.449	5.851					See Note 7
7C	B21-F022C							
	B21-F028C	0	0					See Note 7
7D	B21-F022D							
	B21-F028D	6.422	6.502					See Note 7
8	B21-F016							Tested in parallel
	B21-F019	.691	.716		.346	.358	0	
	B21-F010A	WNP	0					
9A	B21-F032A							
	E41-F006	27.438	0		27.438	0	27.438	
	B21-F010B	WNP	0					
	E51-F013							
	B21-F032B							
9B	E51-V88	N/A	1.814		49.299	0	49.299	See Note (a)
	E51-F013							
	B21-F032B							
	G31-F039	WNP	N/A					
	G31-F042	47.485	0					
10	E51-F007							
	E51-F008	5.497	0		2.749	0	2.749	Tested in parallel
11	E41-F002							
	E41-F003	0	0		0	0	0	Tested in parallel
12	E11-F008							Tested in parallel
	E11-F009	8.721	0		4.361	0	4.361	
13A	E11-F015A	5.308	3.056					
	E11-F017A	0	6.890		0	3.056	0	
13B	E11-F015B	WNP	0					
	E11-F017B	WNP	0		WNP	0	>L_a	

		TYPE C ANALYSIS			MINIMUM PATH ANALYSIS			
PEN	VALVES	AS FOUND	AS LEFT	PEN LEAKAGE	AS FOUND	AS LEFT	SAVINGS	NOTES
14	G31-F001							
	G31-F004	0	4.35		0	2.18	0	Tested in parallel
16A	E21-F004A	.331	2.255					
	E21-F005A	0	5.339		0	2.255	0	
16B	E21-F004B	0	0					
	E21-F005B	6.983	2.088		0	0	0	
17	E11-F022							Tested in parallel
	E11-F023	2.242	2.242		1.121	1.121	0	
18	G16-F003							
	G16-F004	24.957	0		12.479	0	12.479	Tested in parallel
19	G16-F019							
	G16-F020	0	0		0	0	0	Tested in parallel
23	RCC-V52							
& 24	RCC-V28	1.125	1.125		.563	.563	0	Tested in parallel
	CAC-V6, V15							Tested in parallel
	V-4,V-5	WNP	8.09		4.05	4.05	0	See Note (b)
	CAC-V17							
	X20B	WNP	1.317		.659	.659	0	See Note (c)
25	CAC-V16							
&	X20A	20.782	0		0	0	0	See Note (d)
205	160,162,170	0	0		NA	NA	NA	New Valves
	171,163,161	0	2.624		NA	NA	NA	New Valves
	55,56	1.308	1.308		NA	NA	NA	
	CAC-V9							Tested in parallel
	CAC-V10							
26	CAC-V23	32.482	5.463		16.241	2.732	13.509	
35A	TIP-V1	0	0		0	0	0	

PEN	VALVES	TYPE C ANALYSIS AS FOUND	TYPE C ANALYSIS AS LEFT	PEN LEAKAGE	MINIMUM PATH ANALYSIS AS FOUND	MINIMUM PATH ANALYSIS AS LEFT	SAVINGS	NOTES
35B	TIP-V2	.787	.787		.787	.787	0	
35C	TIP-V3	0	0		0	0	0	
35D	TIP-V4	0	0		0	0	0	
35E	TIP-N_2 ChK	2.532	2.532		2.532	2.532	0	
39A	E11-F016A							
	E11-F021A	.813	1.026		.407	.518	0	Tested in parallel
39B	E11-F016B							
	E11-F021B	0	0		0	0	0	Tested in parallel
	C41-F006	0	0					
42	C41-F007	21.509	.953		0	0	0	
	CAC-SV-1200B	0	0					
49B	CAC-SV-1261	0	0		0	0	0	
51A	E11-SV-F043C	1.773	0		NA	NA	NA	See Note 3
51B	E11-SV-F043A	.254	0		NA	NA	NA	See Note 3
51C	E11-SV-F037C	.333	0		NA	NA	NA	See Note 3
51D	E11-SV-F037A	0	0		NA	NA	NA	See Note 3
52A	IA-SV-5253		0					New Valve
	CAC-SV-1211E	4.37	0					
54E	CAC-SV-3439	0	0		0	0	0	
	CAC-SV-1211F	.791	0			0		
54F	CAC-SV-1261	0	0		0	0	0	
55	IA-SV-5262		0					New Valve
	B32-F019							Tested in parallel
56E	B32-F020	13.693	.303		.152	.152	0	See Note (e)
	CAC-SV-1209A	0	.076					
57A	CAC-SV-4409-4	0	0		NA	NA	NA	See Note 4
	CAC-SV-1209B	0	0					
57B	CAC-SV-4409-3	0	0		NA	NA	NA	See Note 4
57D	CAC-SV-1209D	0	0		NA	NA	NA	See Note 3
	CAC-SV-1205E	0	0					
60E	CAC-SV-4409-2	0	0		NA	NA	NA	See Note 4
	B32-V22	0	0		0	0	0	
62A	B32-V24	.251	.251		0	0	0	

PEN	VALVES	TYPE C ANALYSIS AS FOUND	TYPE C ANALYSIS AS LEFT	PEN LEAKAGE	MINIMUM PATH ANALYSIS AS FOUND	MINIMUM PATH ANALYSIS AS LEFT	SAVINGS	NOTES
68A	E11-SV-F037D	.568	0		NA	NA	NA	See Note 3
68B	E11-SV-F043B	.804	0		NA	NA	NA	See Note 3
68C	E11-SV-F043D	2.675	0		NA	NA	NA	See Note 3
68D	E11-SV-F037B	.811	0		NA	NA	NA	See Note 3
71	IA-SV-5261	0	0		0	0	0	New Valve
	CAC-SV-1227A	.249	.249					
73A	CAC-SV-4410-4	0	0		NA	NA	NA	See Note 4
	CAC-SV-1227B	0	0					
73B	CAC-SV-4410-3	0	0		NA	NA	NA	See Note 4
	CAC-SV-1227C	0	0					
73C	CAC-SV-4410-2	0	0		NA	NA	NA	See Note 4
	CAC-SV-1227E	0	0					
73E	CAC-SV-1260	0			0	0	0	
	CAC-SV-1225B	0	0					
76B	CAC-SV-3440		0		0	0	0	
76C	CAC-SV-1225C	0	0		NA	NA	NA	See Note 3
77B	RXS-SV-1222B	6.567	0		6.567	0	6.567	
77C	RXS-SV-1222C	WNP	0		WNP	0	>La	
	B32-V30	0	0					
78A	B32-V32	0	0		0	0	0	
83D	IA-SV-5251	0	0				0	New Valve
206 A/A	CAC-SV-1218A	0	0					
	CAC-SV-4410-1	0	0		NA	NA	NA	See Note 4
206 A/C	CAC-SV-1218C	0	.646		NA	NA	NA	See Note 3
206 A/D	E41-SV-1218D	0	0		NA	NA	NA	See Note 3
206 B/B	CAC-SV-1219B	0	0		NA	NA	NA	See Note 3
206 B/C	CAC-SV-1219C	8.677	0		NA	NA	NA	See Note 3

PEN	VALVES	TYPE C ANALYSIS AS FOUND	TYPE C ANALYSIS AS LEFT	PEN LEAKAGE	MINIMUM PATH ANALYSIS AS FOUND	MINIMUM PATH ANALYSIS AS LEFT	SAVINGS	NOTES
206 B/D	E41-SV-1219D	0	0		NA	NA	NA	See Note 3
206 C/D	E41-SV-1220D		0		NA	NA	NA	See Note 3 Tested with Pen 206A(D)
206 D/D	E41-SV-1221D		.804		NA	NA	NA	See Note 3 Tested with Pen 206B(D)
209 A/B	RXS-SV-4186	0	0					
	RXS-SV-4187	0	0		0	0	0	
209 A/D	RXS-SV-4188	0	0					
	RXS-SV-4189	0	0		0	0	0	
209 B/A	CAC-SV-1213A	0	0					
	CAC-SV-4409-1	1.818	0		NA	NA	NA	See Note 4
210A	E11-F007A	0	0					See Note 5
	E11-F011A	WNP	0					
	E11-F024A	Tested with Pen. 211A			NA	NA	NA	
	E11-F025A	6.697	.205					
210B	E11-F007B	WNP	0					See Note 5
	E11-F011B	1.665	1.665					
	E11-F024B	Tested with Pen. 211B						
	E11-F025B	3.485	1.116					
	E11-F029	0	0		NA	NA	NA	
	E11-F097	.596	.596					
	E41-F012	.101	.101					
	E51-F019	0	0					
211A	E11-F027A E11-F028A	0	0		0	0	0	Tested in parallel
211B	E11-F027B E11-F028B	0	0		0	0	0	Tested in parallel
212	E51-F001 E51-F040	WNP	5.457		2.729	2.729	0	See Note (f)

PEN	VALVES	TYPE C ANALYSIS AS FOUND	TYPE C ANALYSIS AS LEFT	PEN LEAKAGE	MINIMUM PATH ANALYSIS AS FOUND	MINIMUM PATH ANALYSIS AS LEFT	SAVINGS	NOTES
	E11-F055A	.800	.800					See Note 5
	E11-F055B	0	0					
	E11-F103A	0	0					
214	E11-F103B	5.286	0		NA	NA	NA	
	E11-V20	0	0					
	E11-V21	0	0					
	E41-F049,F021	WNP	11.35					See Note (g)
	E51-F062							
216	E51-F066	.354	.354		.177	.177	0	Tested in parallel
	E41-F075							
218	E41-F079	.202	.202		.101	.101	0	Tested in parallel
	CAC-V22,V172		0					
220	CAC-V7	4.170	1.311		2.085	.656	1.429	Tested in parallel
	CAC-V8							See Note (h)
	E51-F002							Tested in parallel
221	E51-F028	12.772	0		6.386	0	6.386	See Note (i)
	E41-F022							
222	E41-F040	0	0		0	0	0	
	E21-F015A	0	0		NA	NA	NA	See Note 5
223A	E21-F031A	0						
	E21-F015B	11.678	0		NA	NA	NA	See Note 5
223B	E21-F031B	0	0					
224	E51-F031	0	0		0	0	0	
225A	E11-F020A	47.333	8.587		NA	NA	NA	See Note 6
225B	E11-F020B	8.624	8.624		NA	NA	NA	See Note 6
226	E41-F042	0	0		0	0	0	
227A	E21-F001A	WNP	6.198		NA	NA	NA	See Note 6
227B	E21-F001B	1.285	1.285		NA	NA	NA	See Note 6
	TD-V1							
231	TD-V22	0	0		0	0	0	
	CAC-SV-1231B	2.657	0					See Note 4
244B	CAC-SV-4541	4.116	0		NA	NA	NA	
	CAC-SV-1215F	3.102	0					See Note 4
245E	CAC-SV-4540	18.492	.511		NA	NA	NA	
225A	CAC-SV-4344	0	0		NA	NA	NA	New Valve

NOTES

General

1. All values are given in scfh.

2. The MPL assignment to penetrations that have valves tested in parallel is 1/2 the Type C value unless otherwise noted.

3. Valves do not receive containment isolation signal. These lines are required operable during normal operation, shutdown and accident conditions to monitor critical parameters. Piping and instruments tested during Type A test.

4. H_2-O_2 monitors are Seismic I designed and used post-accident to monitor containment atmosphere. Piping and monitors are tested during Type A test.

5. These lines are part of a closed, seismic qualififed loop that discharge back to containment below the minimum required torus water level. These penetrations do not constitute a potential atmospheric leak path.

6. These lines, which take suction below the min. torus water level, provide emergency cooling water to qualified closed systems which are built to Seismic I, Safety Class II standards. No potential atmospheric leak path exists.

7. Leakage from Main Steam Isolation Valves (MSIV) is considered a separate source term from containment leakage in the accident analyses. Technical specification acceptance criteria for MSIV's is 11.5 scfh per valve which equates to 92 scfh for 8 MSIV's. The as found for all 8 MSIV's is 11.8 scfh.

NOTES

Specific

a. B21-F032B tested with E51-F013 and G31-F039 prior to plant mod, G31-F039 needed repair. E51-V88 replaced G31-F039.

b. Maintenance performed to outboard valves CAC-V4 and V15 only.

c. Maintenance performed to only CAC-V17.

NOTES (Continued)

d. Maintenance performed to only CAC-V16.

e. Maintenance performed to only B32-F020.

f. Maintenance performed to only E51-F001.

g. Maintenance performed to only E41-F049.

h. Plant mod installed V172 in series with CAC-V22 after CAC-V22 was tested in parallel with CAC-V7 and V8.

i. Maintenance performed to only E51-F028.