

DAVIS-BESSE NUCLEAR POWER STATION  
UNIT NO. 1

REACTOR CONTAINMENT BUILDING  
INTEGRATED LEAK RATE TEST

DECEMBER 1984

TOLEDO EDISON COMPANY

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SYNOPSIS

The Davis-Besse Nuclear Power Station Unit No. 1 reactor containment building was subjected to a periodic integrated leak rate test during the period of December 9, 1984 to December 10, 1984. The purpose of this test was to demonstrate the acceptability of the building leakage rate at an internal pressure of 38 psig (P). Testing was performed in conformance with the requirements of 10CFR50 Appendix J, ANSI N45.4-1972, Bechtel Topical Report BN-TOP-1, and the Davis-Besse Technical Specifications.

The Mass Point method of analysis resulted in a measured leakage rate of 0.000% by weight per day at 39 psig. The leakage rate at the upper bound of the 95% confidence interval was 0.003% by weight per day.

Utilizing the Total Time method of analysis, the measured leakage rate was found to be -0.019% by weight per day and 0.087% by weight per day at the upper bound of the 95% confidence interval at the 39 psig pressure level. The mean of the measured leakage rates based on the total time calculations for the last five hours of the test was -0.002% by weight per day. All total time analyses are below the allowable leakage rate of 0.375% by weight per day and meet the criteria set forth in Bechtel Topical Report BN-TOP-1 for conduct of a short duration integrated leakage rate test.

An equivalent leakage rate reduction of 0.175% by weight per day was achieved by performing Type B and Type C tests prior to the integrated leakage rate test (see Section 8.3). Therefore, the 'as found' reactor containment integrated leakage rate is the measured leakage rate of 0.003% by weight per day plus the 0.175% by weight per day or 0.178% by weight per day using the Mass Point method of analysis. Utilizing the Total Time method, the 'as found' leakage rate is the measured upper confidence leakage rate of 0.087% by weight per day plus the 0.175% by weight per day or 0.262% by weight per day. These values are well below the allowable 'as found' leakage rate of 0.375% by weight per day (see Appendix F).

The supplemental instrumentation verification test at P demonstrated an agreement between measured reactor containment building integrated leakage rates of 1% using the Mass Point method and 4% using the Total Time Method which are within the 25% requirement of 10CFR50, Appendix J, Section III A.3.b.

Testing was performed by Toledo Edison with the technical assistance of Gilbert/Commonwealth, Inc. Procedural and calculational methods were witnessed by Nuclear Regulatory Commission personnel.

## 2.0 INTRODUCTION

The objective of the integrated leakage rate test was the verification of the overall leak tightness of the reactor containment building at the calculated design basis accident pressure of 38 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 Davis-Besse, the maximum allowable integrated leak rate at the design basis accident pressure of 38 psig ( $P_a$ ) is 0.5% by weight per day ( $L_a$ ).

Testing was performed in accordance with the procedural requirements as stated in Davis-Besse Nuclear Power Station Unit No. 1 Surveillance Procedure ST-5061.01. This procedure was approved by the station superintendent prior to commencement of the test.

Leakage rate testing was accomplished at the pressure level of 39 psig for a period of 15.75 hours. The 15.75 hour period was followed by a one hour stabilization period and four hour supplemental test for a verification of test instrumentation.

3.0 GENERAL, TECHNICAL, AND TEST DATA

## 3.1 GENERAL DATA

Owner:	Toledo Edison Company
Docket No.:	50-346
Location:	Oak Harbor, Ohio
Containment Type:	Steel
Date Test Completed:	December 10, 1984

## 3.2 TECHNICAL DATA

Containment Net Free Volume:	$2.834 \times 10^6$ cubic feet
Design Pressure:	36 psig/40 psig (max)
Design Temperature:	265°F
Calculated Accident Peak Pressure:	38 psig
Calculated Accident Peak Temperature:	255°F

## 3.3 TEST DATA

Test Method:	Absolute
Data Analysis:	Mass Point and Total Time
Test Pressure:	39 psig
Max Allowable Leakage Rate ( $L_a$ )	0.500 wt % per day
Measured Leakage Rate:	
Mass Point	0.000 wt % per day
Total Time	-0.019 wt % per day
Measured Leakage Rate at UCL:	
Mass Point	0.003 wt % per day
Total Time	0.087 wt % per day

Supplemental Test Flow Rate:	0.396% per day
Supplemental Test Measured Leak Rate:	
Mass Point	0.391 wt % per day
Total Time	0.397 wt % per day
Supplemental Test and L <sub>am</sub> Agreement:	
Mass Point	1%
Total Time	4%

#### 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 Davis-Besse Nuclear Power Station Unit No. 1 Technical Specifications are as follows:

1. The measured leakage rate ( $L_a$ ) at the calculated design basis accident pressure of 38 psig<sup>am</sup> ( $P_a$ ) shall be less than 75% of the maximum allowable leakage rate ( $L_a$ ) specified at 0.5% by weight of the building atmosphere per day<sup>a</sup>. The acceptance criteria is determined as follows:

$$L_a = 0.5\%/day$$

$$0.75 L_a = 0.375\%/day$$

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 SHORT DURATION TESTING ACCEPTANCE CRITERIA

In addition to the acceptance criteria mentioned above, the following short 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 ( $L_a$ ).
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

## Resistance Temperature Detectors

Quantity	20
Manufacturer	Burns
Type	100 ohm platinum
Range, °F (calibrated)	32 - 100
Accuracy, °F	+0.5
Sensitivity, °F	<u>+0.5</u>

5.1.2 Dewpoint Indicating System

## Dewcell Elements

Quantity	5
Manufacturer	EG&G
Type	Model 660
Range, °F	-58 to 212
Accuracy, °F	+0.54
Sensitivity, °F	<u>+0.01</u>
Repeatability, °F	<u>+0.1</u>

5.1.3 Pressure Monitoring System

## Precision Pressure Gauges

Quantity	2
Manufacturer	Mensor
Type	Dual Quartz Manometer
Range, psia	0 - 60
Accuracy, psia	+0.01% of reading plus 0.002% full scale
Sensitivity, psia	<u>+0.005 psia</u>
Repeatability, psia	<u>+0.005 psia</u>

#### 5.1.4 Supplemental Test Flow Monitoring System

##### Mass Flow Meter

Quantity	2
Manufacturer	Brooks
Type	Model 5812
Range, scfm	0 - 14
Accuracy	<u>+1%</u> 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 20 locations. Dewpoint temperature sensors were placed at five locations to permit monitoring of the reactor containment partial pressure of water vapor. A temperature modeling survey was performed after the sensors were installed which verified that the sensors were monitoring representative volumes and that 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 Davis-Besse Nuclear Power Station Unit No. 1. The supplemental test at 38 psig confirmed the instrumentation acceptability.

#### 5.4 INSTRUMENTATION PERFORMANCE

During the pressurization phase, one dewpoint instrument exhibited abnormal behavior and was not used for the test. The volume weighting fraction assigned to the defective dewpoint instrument was then assigned to the other dewpoint instrument on the same elevation. The remaining five dewpoint instruments, 20 RTDs, two precision pressure gauges, and two mass flowmeters performed satisfactorily throughout the performance of the integrated leak rate test and provided more than adequate coverage of containment.

## 5.5 VOLUME WEIGHTING FACTORS

Weighting factors were assigned to each operable 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:

<u>Elevation/ Azimuth</u>	<u>Temperature Element</u>	<u>Weighting Factor</u>
782/0°	TE-5056A	.056
782/180°	TE-5056B	.056
760/270°	TE-5056C	.056
760/90°	TE-5056D	.056
739/0°	TE-5056E	.056
739/180°	TE-5056F	.056
714/270°	TE-5056G	.056
714/90°	TE-5056H	.056
689/0°	TE-5056I	.056
689/180°	TE-5056J	.056
664/270°	TE-5056K	.056
664/90°	TE-5056L	.056
634/0°	TE-5056M	.051
634/180°	TE-5056N	.051
603/270°	TE-5056O	.051
603/90°	TE-5056P	.051
590/270°	TE-5056S	.031
590/90°	TE-5056T	.031
584/0°	TE-5056Q	.031
584/180°	TE-5056R	.031
760/90°	TE-5057D	.334
689/0°	TE-5057I	.169
689/180°	TE-5057J	.169
603/270°	TE-5057O	.164
603/90°	TE-5057P	.164

## 5.6 SYSTEM 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:

- $L_a = 0.5\%/day$
- $P = 53.7 \text{ psia}$
- $T = 525^{\circ}R \text{ drybulb}$
- $T_{dp} = 49^{\circ}F \text{ dewpoint}$
- $t = 15.75 \text{ hours}$

2. Total Absolute Pressure:  $e_p$ 

No. of sensors - 2

Range = 0 - 60 psia

Sensor sensitivity error ( $E_p$ ) =  $\pm 0.005$  psiaMeasurement system error ( $\epsilon_p$ ) =  $\pm 0.005$  psia

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

$$e_p = \left[ (5 \times 10^{-3})^2 + (5 \times 10^{-3})^2 \right]^{1/2} / [2]^{1/2}$$

$$e_p = \pm 5 \times 10^{-3} \text{ psia}$$

3. Water Vapor Pressure:  $e_{pv}$ 

No. of sensors = 5

Sensor sensitivity error ( $E_{pv}$ ) =  $\pm 0.01^\circ\text{F}$ Measurement system error ( $\epsilon_{pv}$ ),  
excluding sensor =  $\pm 0.1^\circ\text{F}$ 

At a dewpoint temperature of  $49^\circ\text{F}$ , the equivalent water vapor pressure change (as determined from steam tables) is  $0.0065 \text{ psia}/^\circ\text{F}$

$$E_{pv} = \pm 0.01^\circ\text{F} (0.0065 \text{ psia}/^\circ\text{F})$$

$$E_{pv} = 6.5 \times 10^{-5} \text{ psia}$$

$$\epsilon_{pv} = \pm 0.1^\circ\text{F} (0.0065 \text{ psia}/^\circ\text{F})$$

$$\epsilon_{pv} = 6.5 \times 10^{-4} \text{ psia}$$

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

$$e_{pv} = \pm \left[ (6.5 \times 10^{-5})^2 + (6.5 \times 10^{-4})^2 \right]^{1/2} / [5]^{1/2}$$

$$e_{pv} = \pm 2.92 \times 10^{-4} \text{ psia}$$

4. Temperature:  $e_T$ 

No. of sensors = 20

Sensor sensitivity error ( $E_T$ ) =  $\pm 0.5^\circ\text{F} = \pm 0.5^\circ\text{R}$ Measurement system error ( $\epsilon_T$ ) =  $\pm 0.1^\circ\text{F} = \pm 0.1^\circ\text{R}$ 

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

$$e_T = \pm \left[ (0.5)^2 + (0.1)^2 \right]^{1/2} / [20]^{1/2}$$

$$e_T = \pm 0.114^\circ\text{R}$$

## 5. Instrument Selection Guide (ISG):

$$\text{ISG} = \pm \frac{2400}{t} \left[ 2\left(\frac{e_P}{P}\right)^2 + 2\left(\frac{e_{PV}}{P}\right)^2 + 2\left(\frac{e_T}{T}\right)^2 \right]^{1/2}$$

$$\text{ISG} = \pm \frac{2400}{15.75} \left[ 2\left(\frac{5 \times 10^{-3}}{53.7}\right)^2 + 2\left(\frac{2.92 \times 10^{-4}}{53.7}\right)^2 + 2\left(\frac{0.114}{525}\right)^2 \right]^{1/2}$$

$$\text{ISG} = \pm 152.4 \left[ 1.734 \times 10^{-8} + 5.914 \times 10^{-11} + 9.430 \times 10^{-8} \right]^{1/2}$$

$$\text{ISG} = \pm 0.051\%/ \text{day}$$

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 15.75 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 15.75 hour test ( $L_a$ ) to determine instrumentation acceptability. Instrumentation is <sup>am</sup> 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. Potential pressure sources were removed or isolated from the containment.
8. Containment recirculation fans were in operation.
9. A general inspection of the accessible interior and exterior areas 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 2.2 psi per hour. After the containment was stabilized, leak rate testing was initiated at the 39.0 psig pressure level. For the duration of the 15.75 hour leak test and the four hour supplemental test, average internal containment temperature remained within a band of  $\pm 0.6^{\circ}F$ .



During the test, the following occurred at 15 minute intervals (see Appendix B and Appendix E):

1. Readings indicated by the precision pressure gauges were recorded and entered into the computer. The computer then computed the average pressure in psia.
2. Readings indicated by the 20 RTDs were recorded and entered into the computer. The computer program calculated the 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 five dewpoint temperature sensors were recorded and entered into the computer. The computer program 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 ( $P_{wy}$ ), temperature (T), and the total pressure ( $P_t$ ) is described in more detail in Section 7.1. All original data is on file at Davis-Besse Nuclear Power Station Unit No. 1.

Data was entered into an Atrona attache microcomputer 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 at Davis-Besse Unit No. 1. 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 15.75 hour leak test, a superimposed leakage rate was established for a one hour stabilization period and four hour test period. During this time, temperature, pressure, and vapor pressure were monitored as described above.

### 6.3 TEST PERFORMANCE

#### 6.3.1 Pressurization and Stabilization Phase

Pressurization of the reactor containment building was started on December 8, 1984 at 2145. The pressurization rate was approximately 2.2 psi per hour. When containment internal pressure reached 39.0 psig at approximately 1630 on December 9, pressurization was secured. By 2100 on December 9, temperature stabilization criteria had been met and leakage rate data recording, reduction, and analysis began.

#### 6.3.2 Integrated Leak Rate Testing Phase

Fifteen minute frequency test data showed that stable conditions existed within the containment. Test duration for the ILRT was extended to 15.75 hours to ensure that a stable leakage rate had been established prior to the start of the superimposed test. For the 15.75 hour period from 2100 on December 9 to 1245 on December 10, an acceptable leakage rate of 0.000%/day with an associated 95% confidence interval of 0.003% by weight per day was obtained using the Mass Point method of analysis. Utilizing the Total Time method, the measured leakage rate was -0.019%/day and 0.087% 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 15.75 hour integrated leak rate test, a leakage rate of 28.64 scfm was imposed on the containment building through two mass flowmeters at 1300 on December 10. 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 0.396% per day, a measured composite leakage rate of 0.391% per day was obtained using the Mass Point method. This results in a containment building leakage rate agreement of 1% of  $L_a$  with the results of the 15.75 hour test. Using the Total Time method of analysis, the measured composite leakage rate was 0.397% per day, resulting in an agreement of 4% of  $L_a$  with the results of the 15.75 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 reactor containment building interior revealed no unusual findings.

7.0 METHODS OF ANALYSIS

## 7.1 GENERAL DISCUSSION

The Absolute Method of leakage rate determination was employed during testing at the 38.0 psig pressure level. The Gilbert/Commonwealth, Inc. ILRT computer code calculates the percent per day leakage rate for 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:

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

Where:

W = Mass of air inside containment, lbm

$$K = 144 V/R = 7.54941 \times 10^6 \frac{\text{lbm} - ^\circ\text{R} - \text{in.}^2}{\text{lbm}}$$

P = Partial pressure of air, psia

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

$$V = 2.834 \times 10^6 \text{ ft}^3$$

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

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

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

Where:

$P_T$  = True corrected pressure by converting pressure gauge readings and averaging, psia

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

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

$$T = \text{Sum of the products of each RTD } \times \text{ assigned weighting factor} + 459.69^{\circ}\text{R}$$

The weight of air is plotted versus time for the 15.75 hour test and for the four 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:

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

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

Where:

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

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,  $^{\circ}R$ , 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:

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

Where:

- $L_i$  = Individual total time leakage rates
- $n$  = Number of total time leakage rates

The individual leakage rates are then plotted against time for the duration of the 15.75 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  $L = L_0 + L_1 t$  where  $L_1$  is the slope in percent per hour and  $L_0$  is the initial leakage rate at time zero. The least squares parameters are calculated as follows:

$$L_0 = \frac{\sum t_i^2 \sum L_i - \sum t_i \sum L_i t_i}{S_{xx}}$$

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

Where:

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

## 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:

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

Where:

S = Common standard deviation of the weights 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:

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

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:

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

Where:

$t$  = Total time interval

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

$t_i$  = Time interval for each data point

$n$  = Number of individual total time leakage rates

8.0 DISCUSSION OF RESULTS8.1 RESULTS AT P<sub>a</sub>8.1.1 Mass Point Method of Analysis

Data obtained during the leak rate test at P<sub>a</sub> indicated the following changes (highest to lowest) during the 15.75<sup>a</sup> hour test.

<u>Variable</u>	<u>Maximum Change</u>
P <sub>T</sub>	0.104 psia
P <sub>wv</sub>	0.004 psia
T	1.07 <sup>o</sup> 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 0.000%/day (see Appendix D).

The 95% confidence limit associated with this leakage rate is 0.003% per day. Thus, the leakage rate at the upper bound of the 95% confidence level becomes:

$$UCL = 0.000 + 0.003$$

$$UCL = 0.003\%/day$$

Additional leakage rates must be applied to the measured leakage rate at the upper 95% confidence level to account for changes in the net free volume of the containment due to water level changes, penetration paths not exposed to the test pressure, and for nitrogen additions to the electrical penetrations during the test. 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:

<u>System</u>	<u>Isolation Valve</u>	<u>Type C Leakage (sccm)</u>
ILRT Pressurization	CV-343	119
Ctmt Spray	CS-33, CS-17	0
Ctmt Spray	CS-36, CS-18	0
Seal Return	MU-59A-D, MU-38	0
ILRT Pressure Sensing	CV-5094	0



The total applicable local leakage rate is 119 sccm which is equivalent to  $6 \times 10^{-5}$  %/day. The addition of this negligible value does not change the results of the integrated leakage rate test.

Water level changes in the containment during the 15.75 hour integrated leakage rate test are summarized below:

Containment Sump Water Level:

1500	12-08-84	0.35'
1325	12-10-84	0.61'

Pressurizer and Hot Leg Level:

2100	12-09-84	268"
1800	12-10-84	263"

During the test, no makeup water was introduced into the reactor coolant system. Therefore, the volume change associated with the change in pressurizer/hot leg water level showed an increase in the net free volume of 44 cubic feet in 21 hours or 50.3 cubic feet extrapolated out to 24 hours. This corresponds to a reduction in the measured containment leakage rate of 0.0017%/day. However, it is conservatively assumed that the water level decrease was not lost out of containment and no change in net free volume occurred.

The level change in the containment sump showed a decrease in the net free volume of 12.5 cubic feet in 15.75 hours or 19 cubic feet when extrapolated out to 24 hours. This corresponds to an additional leakage rate of 0.00067%/day.

The nitrogen addition to the electrical penetrations is conservatively assumed to have gone into containment. The amount of nitrogen used was measured to be 8.472 cubic feet from 2100 on December 9 to 1400 on December 10. This is equivalent to 11.96 cubic feet for a 24 hour period. This corresponds to an additional leakage rate of 0.0001%/day.

The addition of these very small leakage rates due to water level changes, Type C penalties, and nitrogen additions have no significant effect on the results of the integrated leakage rate test.

The measured leakage rate and the measured leakage rate at the upper bound of the 95% confidence level are well below the acceptance criteria of 0.375%/day (0.75 L<sub>a</sub>).

### 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 15.75 hour test was -0.019% by weight per day.
2. The 95% confidence limit associated with this leakage rate is 0.106% per day. Thus, the leakage rate at the upper bound of the 95% confidence level becomes:

$$\begin{aligned} \text{UCL} &= -0.019 + 0.106 \\ \text{UCL} &= 0.087\%/day \end{aligned}$$

3. The mean of the measured leakage rates based on the last five hours of the test was -0.002 percent by weight per 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 38.0 psig is acceptable.

### 8.2 SUPPLEMENTAL TEST RESULTS

After conclusion of the 15.75 hour test at 38.0 psig ( $P_a$ ), the mass flowmeters were placed in service and a flow rate of 28.64 scfm was established. This flow rate is equivalent to a leakage rate of 0.396%/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 0.391%/day using the Mass Point method of analysis and 0.397%/day using the Total Time Method.

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

<u>Mass Point</u>	<u>Total Time</u>
$L_v' = L_c - L_o$	$L_v' = L_c - L_o$
$L_v' = 0.391 - 0.396$	$L_v' = 0.397 - 0.396$
$L_v' = -0.005\%/day$	$L_v' = 0.001\%/day$

Comparing this leakage rate with the building leakage rate measured during the 15.75 hour test yields the following:

$$\text{Mass Point} = \frac{|L_{am} - L_v|}{L_a} = \frac{|0.000 - (-0.005)|}{0.5} = .001$$

$$\text{Total Time} = \frac{|L_{am} - L_v|}{L_a} = \frac{|-0.019 - 0.001|}{0.5} = .004$$

The building leakage rates agree within 1% of  $L_a$  using the Mass Point method and 4% using Total Time which are well below the acceptance criteria of 25%.

Using the formulation of ANS 56.8-1981,

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

$$(0.396 + 0 - 0.125) \leq L_c \leq (0.396 + 0 + 0.125)$$

$$0.271 \leq L_c \leq 0.521$$

Since  $L_c$  was measured to be 0.391%/day, this value falls within the acceptable range of 0.271% to 0.521% 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 of containment isolation barriers. Leakage savings are realized when containment isolation barrier repairs result in a lower minimum pathway leakage which is the minimum leakage value that can be quantified through a penetration leakage path.

Repairs were performed on eight penetrations during the 1984 outage with only two resulting in a minimum pathway leakage (MPL) savings. The results of these eight penetrations (in sccm) are listed below.

<u>Penet.</u>	<u>As Found</u>	<u>As Left</u>	<u>MPL Pre-Maint</u>	<u>MPL Post-Maint</u>	<u>Leakage Savings</u>
3	(1)	423	212	212	0
33	700,000	504	350,000	252	349,748
34	371	1188	186	594	0
41	34,400 368	0 368	- 368	0 -	368 -
42A	11,814 89	280 89	- 89	- 89	- 0
44A	(2) 775	1869 775	- 775	- 775	- 0
81	(3)	1743	872	872	0

- (1) Valves tested in parallel, penetration would not pressurize, maintenance performed on only one valve.
- (2) Valves tested in series, one valve would not pressurize, maintenance performed on only one valve.
- (3) Personnel lock would not pressurize, maintenance performed on one handwheel shaft seal.

The leakage savings due to performing Type B and C tests prior to the Type A test is 350,116 sccm. This value is equivalent to 0.175% by weight per day.

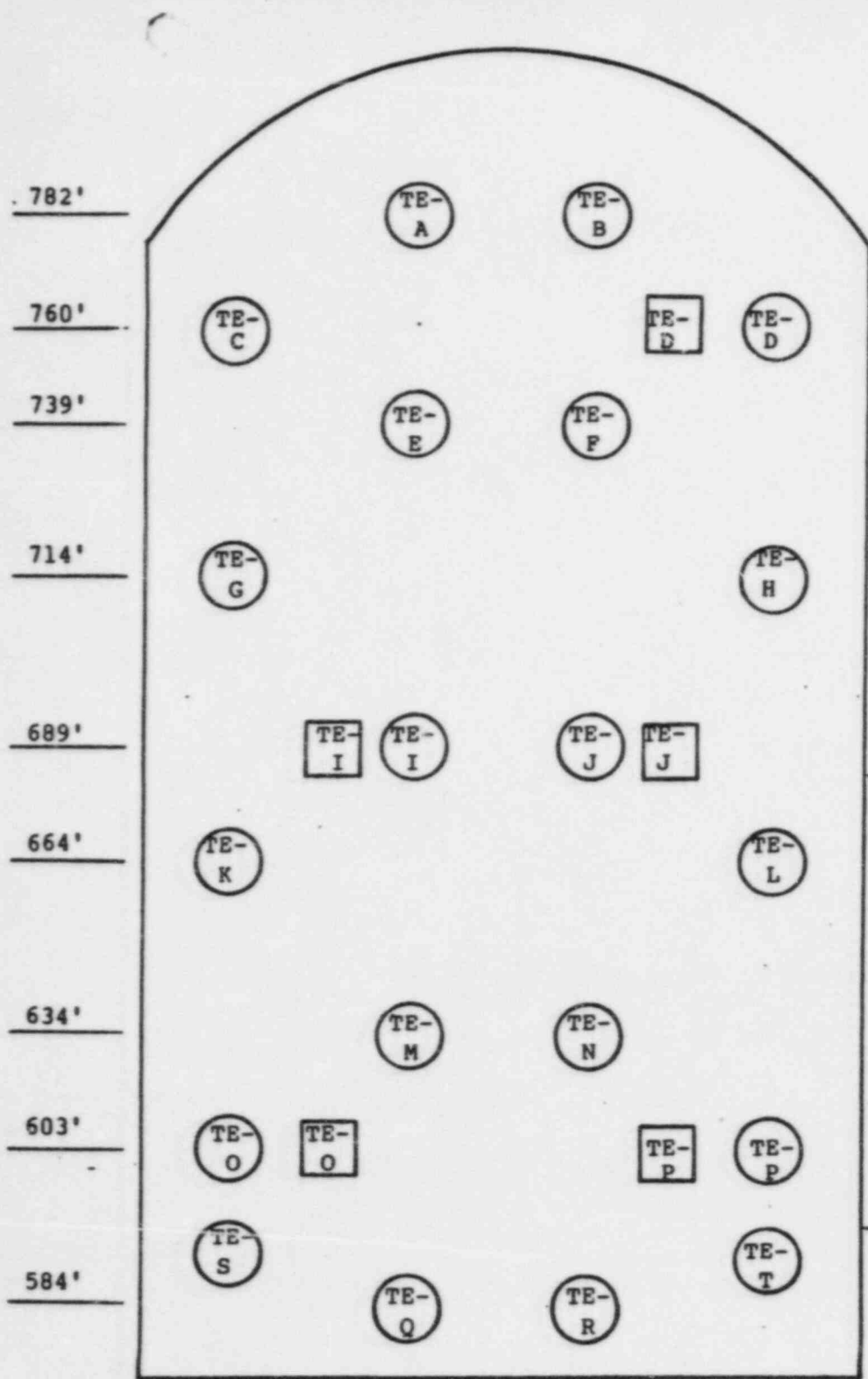
**9.0**      REFERENCES

1.    Surveillance Test ST 5061.01 Containment Integrated Leak Rate Test.
2.    Davis-Besse Nuclear Power Station Unit No. 1 Updated 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.

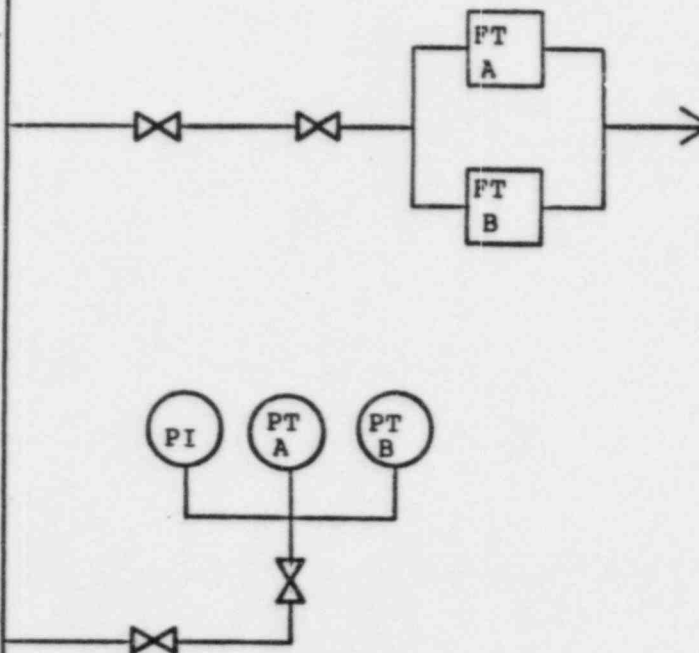
**APPENDICES**

APPENDIX A

SCHEMATIC ARRANGEMENT OF TEST INSTRUMENTATION



TEST INSTRUMENTS	TAG NUMBERS
DEWPOINT TEMPERATURE	□ TE-5057 D, I, J, O, P
DRYBULB TEMPERATURE	○ TE-5056A thru TE-5056T
CONTAINMENT PRESSURE	PT-5094A & B PI-5094
SUPERIMPOSED FLOW	FT-4912A & B



APPENDIX A  
SCHEMATIC ARRANGEMENT OF TEST INSTRUMENTATION



APPENDIX B  
REDUCED TEST DATA

## APPENDIX B

REDUCED TEST DATA

<u>Date</u>	<u>Time</u>	<u>PAVG</u>	<u>PWV</u>	<u>TAVG</u>	<u>Weight</u>
12-09-84	2100	53.778	.171	65.52	780752
	2115	53.773	.172	65.49	780721
	2130	53.77	.172	65.45	780735
	2145	53.766	.172	65.41	780735
	2200	53.764	.172	65.37	780759
	2215	53.76	.172	65.35	780738
	2230	53.758	.172	65.31	780761
	2245	53.755	.172	65.29	780751
	2300	53.753	.172	65.26	780757
	2315	53.751	.172	65.23	780776
	2330	53.749	.173	65.22	780746
	2345	53.746	.172	65.20	780756
	12-10-84	0000	53.744	.172	65.19
0015		53.743	.173	65.16	780756
0030		53.741	.172	65.13	780782
0045		53.739	.173	65.10	780783
0100		53.738	.173	65.10	780776
0115		53.737	.172	65.08	780790
0130		53.736	.173	65.06	780796
0145		53.734	.173	65.05	780793
0200		53.732	.173	65.04	780781
0215		53.731	.172	65.03	780786
0230		53.731	.172	65.02	780783
0245		53.729	.172	65.00	780797
0300		53.728	.172	64.98	780807
0315		53.727	.173	64.97	780791
0330		53.725	.173	64.97	780763
0345		53.723	.173	64.95	780771
0400		53.721	.173	64.92	780795
0415		53.719	.173	64.90	780785
0430		53.716	.174	64.90	780729
0445		53.715	.174	64.87	780759
0500		53.712	.173	64.85	780762
0515		53.71	.174	64.82	780771
0530		53.709	.173	64.80	780779
0545		53.706	.173	64.77	780789
0600		53.705	.173	64.77	780772
0615		53.703	.174	64.75	780772
0630	53.702	.174	64.73	780775	
0645	53.699	.174	64.71	780758	

APPENDIX B (Cont'd)

<u>Date</u>	<u>Time</u>	<u>PAVG</u>	<u>PWV</u>	<u>TAVG</u>	<u>Weight</u>
12-10-84	0700	53.697	.173	64.69	780785
	0715	53.696	.174	64.68	780775
	0730	53.695	.173	64.66	780786
	0745	53.693	.174	64.66	780759
	0800	53.692	.174	64.63	780784
	0815	53.69	.174	64.64	780742
	0830	53.689	.174	64.62	780745
	0845	53.687	.174	64.60	780752
	0900	53.686	.174	64.58	780769
	0915	53.685	.174	64.56	780785
	0930	53.684	.175	64.55	780770
	0945	53.682	.174	64.55	780753
	1000	53.681	.174	64.53	780764
	1015	53.679	.175	64.51	780765
	1030	53.679	.175	64.51	780771
	1045	53.678	.175	64.49	780776
	1100	53.677	.174	64.48	780780
	1115	53.676	.175	64.47	780773
	1130	53.675	.174	64.47	780762
	1145	53.673	.175	64.47	780726
	1200	53.672	.176	64.45	780752
	1215	53.672	.175	64.45	780737
	1230	53.670	.175	64.42	780761
	1245	53.669	.175	64.43	780724

VERIFICATION TEST

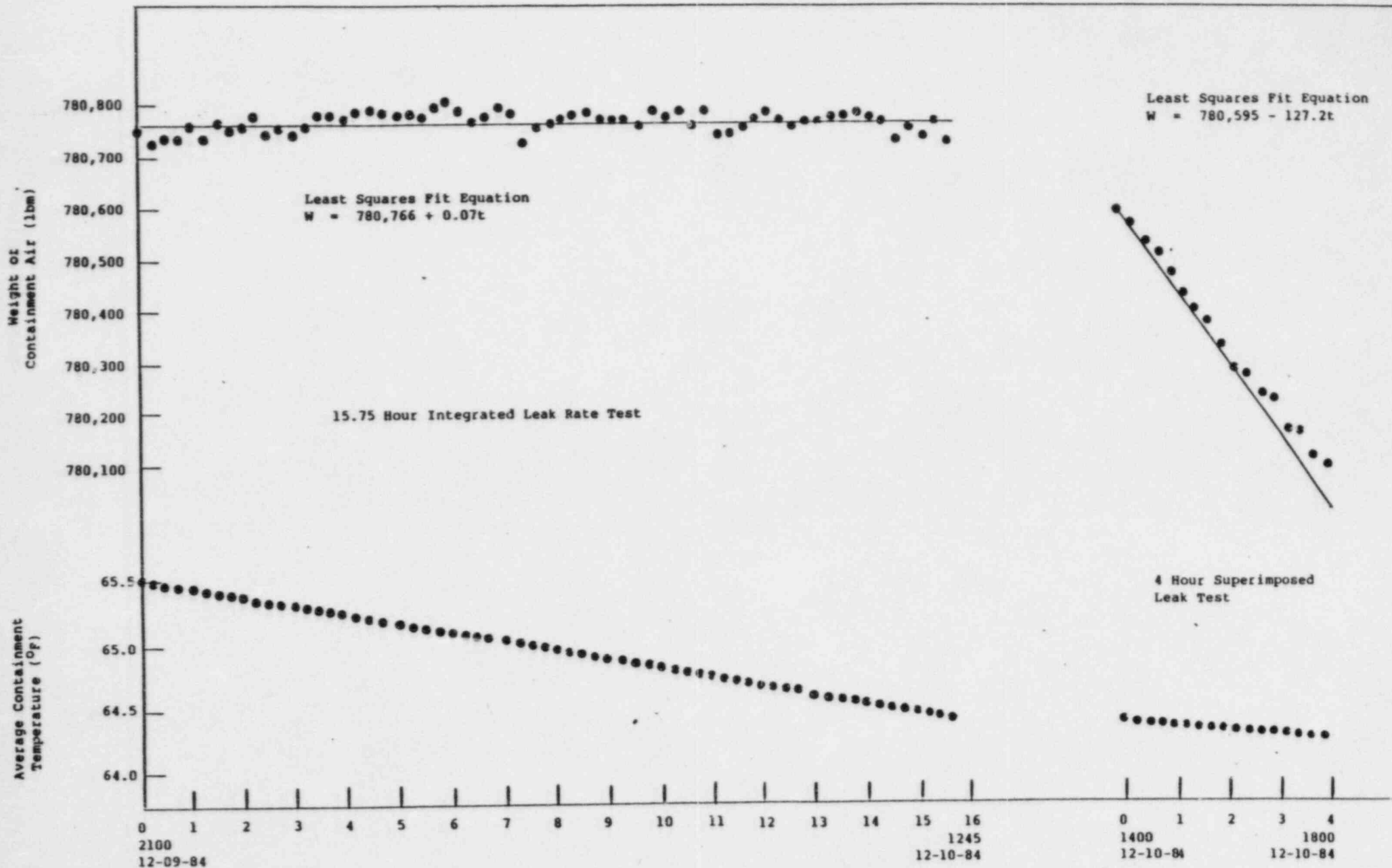
1400	53.654	.175	64.38	780596
1415	53.650	.176	64.36	780565
1430	53.648	.175	64.35	780535
1445	53.645	.176	64.34	780511
1500	53.642	.175	64.35	780470
1515	53.639	.176	64.33	780431
1530	53.636	.176	64.31	780405
1545	53.633	.176	64.31	780379
1600	53.63	.176	64.31	780335
1615	53.627	.176	64.32	780280
1630	53.624	.175	64.29	780271
1645	53.620	.175	64.28	780239
1700	53.618	.175	64.27	780231
1715	53.615	.175	64.28	780168
1730	53.612	.175	64.26	780163
1745	53.609	.175	64.26	780113
1800	53.606	.175	64.24	780101

APPENDIX C

LEAKAGE RATE TEST GRAPHS

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 0.07  
B = Intercept of least squares line (lbs) is 780765.5  
 $L_{am}$  = Measured leak rate is 0.000%/day  
UCL = 95% upper confidence leakage rate is 0.003%/day

2. Total Time Results

- A = Slope of least squares line (%/day/hr) is 0.021  
B = Intercept of least squares line (%/day) is -2.479  
 $L_{am}$  = Measured leak rate is -0.019  
UCL = 95% upper confidence leakage rate is 0.087%/day  
Mean leakage rate for last five hours is -0.002%/day

3. Verification Test

- A = Slope of least squares line (lbs/hr) is -127.19  
B = Intercept of least squares line (lbs) is 780595  
 $L_c$  = Composite leakage rate is 0.391%/day

APPENDIX E  
SUMMARY OF MEASURED DATA



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2100

DATE : 12/9/84

RTD 1	64.9	RTD 11	65.74
RTD 2	65.38	RTD 12	65.53
RTD 3	65.46	RTD 13	65.81
RTD 4	65.24	RTD 14	66.19
RTD 5	65.47	RTD 15	65.71
RTD 6	64.83	RTD 16	65.96
RTD 7	65.53	RTD 17	64.55
RTD 8	65.35	RTD 18	65.41
RTD 9	65.62	RTD 19	65.03
RTD 10	65.53	RTD 20	67.33

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.5156 IN F  
= 525.206 IN R

PRESS 1 53.789

PRESS 2 53.766

THE AVE PRESSURE IS = 53.7775 PSIA

DEWPT 1 48.75

DEWPT 4 49.58

DEWPT 2 49.54

DEWPT 5 48.64

DEWPT 3 48.65

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 48.9847  
THE PWV IS = .171401 PSIA

THE MASS WEIGHT IS = 780751.5 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2115

DATE : 12/9/84

RTD 1	64.9	RTD 11	65.71
RTD 2	65.33	RTD 12	65.44
RTD 3	65.46	RTD 13	65.75
RTD 4	65.18	RTD 14	66.18
RTD 5	65.35	RTD 15	65.71
RTD 6	64.83	RTD 16	65.96
RTD 7	65.49	RTD 17	64.55
RTD 8	65.35	RTD 18	65.41
RTD 9	65.56	RTD 19	65.15
RTD 10	65.5	RTD 20	67.22

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.4854 IN F  
= 525.175 IN R

PRESS 1 53.784

PRESS 2 53.761

THE AVE PRESSURE IS = 53.7725 PSIA

DEWPT 1 48.82  
DEWPT 2 49.71  
DEWPT 3 48.79

DEWPT 4 49.62  
DEWPT 5 48.31

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.0129  
THE PWV IS = .171582 PSIA

THE MASS WEIGHT IS = 780720.8125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2130

DATE : 12/9/84

RTD 1	64.84	RTD 11	65.68
RTD 2	65.33	RTD 12	65.38
RTD 3	65.4	RTD 13	65.75
RTD 4	65.18	RTD 14	66.18
RTD 5	65.35	RTD 15	65.71
RTD 6	64.71	RTD 16	65.9
RTD 7	65.43	RTD 17	64.55
RTD 8	65.28	RTD 18	65.35
RTD 9	65.47	RTD 19	65.21
RTD 10	65.47	RTD 20	67.22

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.4499 IN F  
= 525.14 IN R

PRESS -1 53.781

PRESS 2 53.759

THE AVE PRESSURE IS = 53.77 PSIA

DEWPT 1 48.82  
DEWPT 2 49.63  
DEWPT 3 48.9

DEWPT 4 49.65  
DEWPT 5 48.37

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.0327  
THE PWV IS = .171709 PSIA

THE MASS WEIGHT IS = 780735.375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2145

DATE : 12/9/84

RTD 1	64.78	RTD 11	65.6
RTD 2	65.27	RTD 12	65.27
RTD 3	65.34	RTD 13	65.69
RTD 4	65.12	RTD 14	66.1
RTD 5	65.3	RTD 15	65.71
RTD 6	64.7	RTD 16	65.96
RTD 7	65.41	RTD 17	64.55
RTD 8	65.28	RTD 18	65.35
RTD 9	65.47	RTD 19	65.27
RTD 10	65.3	RTD 20	67.22

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.4096 IN F  
= 525.1 IN R

PRESS 1 53.777

PRESS 2 53.755

THE AVE PRESSURE IS = 53.766 PSIA

DEWPT 1 48.81  
DEWPT 2 49.63  
DEWPT 3 48.82

DEWPT 4 49.63  
DEWPT 5 48.64

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.0569  
THE PWV IS = .171864 PSIA

THE MASS WEIGHT IS = 780734.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2200

DATE : 12/9/84

RTD 1	64.72	RTD 11	65.53
RTD 2	65.21	RTD 12	65.27
RTD 3	65.34	RTD 13	65.63
RTD 4	65.06	RTD 14	66.1
RTD 5	65.24	RTD 15	65.65
RTD 6	64.7	RTD 16	65.96
RTD 7	65.35	RTD 17	64.49
RTD 8	65.22	RTD 18	65.3
RTD 9	65.41	RTD 19	65.33
RTD 10	65.37	RTD 20	67.1

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.3747 IN F  
= 525.065 IN R

PRESS 1 53.775

PRESS 2 53.753

THE AVE PRESSURE IS = 53.764 PSIA

DEWPT 1 48.65  
DEWPT 2 49.64  
DEWPT 3 48.99

DEWPT 4 49.62  
DEWPT 5 48.71

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.0437  
THE PWV IS = .171779 PSIA

THE MASS WEIGHT IS = 780758.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2215

DATE : 12/9/84

RTD 1	64.72	RTD 11	65.56
RTD 2	65.21	RTD 12	65.27
RTD 3	65.28	RTD 13	65.57
RTD 4	65	RTD 14	66.12
RTD 5	65.24	RTD 15	65.65
RTD 6	64.7	RTD 16	65.96
RTD 7	65.22	RTD 17	64.49
RTD 8	65.16	RTD 18	65.3
RTD 9	65.41	RTD 19	65.27
RTD 10	65.3	RTD 20	67.1

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.3512 IN F  
= 525.041 IN R

PRESS 1 53.771

PRESS 2 53.749

THE AVE PRESSURE IS = 53.76 PSIA

DEWPT 1 48.82  
DEWPT 2 49.65  
DEWPT 3 48.64

DEWPT 4 49.63  
DEWPT 5 48.55

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.0184  
THE PWV IS = .171617 PSIA

THE MASS WEIGHT IS = 780737.875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2230

DATE : 12/9/84

RTD 1	64.67	RTD 11	65.49
RTD 2	65.15	RTD 12	65.21
RTD 3	65.22	RTD 13	65.57
RTD 4	65	RTD 14	65.91
RTD 5	65.18	RTD 15	65.65
RTD 6	64.56	RTD 16	65.96
RTD 7	65.28	RTD 17	64.49
RTD 8	65.11	RTD 18	65.24
RTD 9	65.35	RTD 19	65.33
RTD 10	65.24	RTD 20	67.1

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.3063 IN F  
= 524.996 IN R

PRESS 1 53.768

PRESS 2 53.747

THE AVE PRESSURE IS = 53.7575 PSIA

DEWPT 1 48.77  
DEWPT 2 49.74  
DEWPT 3 48.97

DEWPT 4 49.6  
DEWPT 5 48.71

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.094  
THE PWV IS = .172102 PSIA

THE MASS WEIGHT IS = 780761 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2245

DATE : 12/9/84

RTD 1	64.61	RTD 11	65.56
RTD 2	65.09	RTD 12	65.21
RTD 3	65.22	RTD 13	65.52
RTD 4	64.94	RTD 14	65.87
RTD 5	65.18	RTD 15	65.63
RTD 6	64.5	RTD 16	65.96
RTD 7	65.25	RTD 17	64.43
RTD 8	65.11	RTD 18	65.24
RTD 9	65.3	RTD 19	65.33
RTD 10	65.27	RTD 20	67.05

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.285 IN F  
= 524.975 IN R

PRESS 1 53.766

PRESS 2 53.744

THE AVE PRESSURE IS = 53.755 PSIA

DEWPT 1 48.87  
DEWPT 2 49.65  
DEWPT 3 48.94

DEWPT 4 49.69  
DEWPT 5 48.86

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1465  
THE PWV IS = .172439 PSIA

THE MASS WEIGHT IS = 780751.4375 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2300

DATE : 12/9/84

RTD 1	64.61	RTD 11	65.49
RTD 2	65.09	RTD 12	65.15
RTD 3	65.16	RTD 13	65.52
RTD 4	64.94	RTD 14	65.88
RTD 5	65.06	RTD 15	65.57
RTD 6	64.52	RTD 16	65.96
RTD 7	65.18	RTD 17	64.43
RTD 8	65.05	RTD 18	65.18
RTD 9	65.3	RTD 19	65.33
RTD 10	65.28	RTD 20	67.03

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.257 IN F  
= 524.947 IN R

PRESS 1 53.763

PRESS 2 53.742

THE AVE PRESSURE IS = 53.7525 PSIA

DEWPT 1 49.05  
DEWPT 2 49.68  
DEWPT 3 48.79

DEWPT 4 49.66  
DEWPT 5 48.65

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.147  
THE PWV IS = .172443 PSIA

THE MASS WEIGHT IS = 780756.6875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2315

DATE : 12/9/84

RTD 1	64.61	RTD 11	65.44
RTD 2	65.03	RTD 12	65.09
RTD 3	65.11	RTD 13	65.46
RTD 4	64.89	RTD 14	65.87
RTD 5	65.12	RTD 15	65.57
RTD 6	64.46	RTD 16	65.9
RTD 7	65.18	RTD 17	64.43
RTD 8	65.05	RTD 18	65.18
RTD 9	65.3	RTD 19	65.38
RTD 10	65.15	RTD 20	66.97

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.2276 IN F  
= 524.918 IN R

PRESS 1 53.761

PRESS 2 53.74

THE AVE PRESSURE IS = 53.7505 PSIA

DEWPT 1 48.82  
DEWPT 2 49.71  
DEWPT 3 48.98

DEWPT 4 49.73  
DEWPT 5 48.48

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.0909  
THE PWV IS = .172082 PSIA

THE MASS WEIGHT IS = 780776.375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2330

DATE : 12/9/84

RTD 1	64.55	RTD 11	65.43
RTD 2	65.03	RTD 12	65.09
RTD 3	65.11	RTD 13	65.46
RTD 4	64.89	RTD 14	65.78
RTD 5	65.06	RTD 15	65.57
RTD 6	64.52	RTD 16	65.96
RTD 7	65.12	RTD 17	64.43
RTD 8	65.05	RTD 18	65.18
RTD 9	65.3	RTD 19	65.33
RTD 10	65.24	RTD 20	66.97

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.2223 IN F  
= 524.912 IN R

PRESS 1 53.759

PRESS 2 53.738

THE AVE PRESSURE IS = 53.7485 PSIA

DEWPT 1 48.91  
DEWPT 2 49.76  
DEWPT 3 49.03

DEWPT 4 49.77  
DEWPT 5 48.76

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1904  
THE PWV IS = .172722 PSIA

THE MASS WEIGHT IS = 780745.6875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 2345

DATE : 12/9/84

RTD 1	64.55	RTD 11	65.35
RTD 2	65.03	RTD 12	65.09
RTD 3	65.11	RTD 13	65.4
RTD 4	64.83	RTD 14	65.82
RTD 5	65.06	RTD 15	65.57
RTD 6	64.53	RTD 16	65.9
RTD 7	65.09	RTD 17	64.37
RTD 8	64.99	RTD 18	65.18
RTD 9	65.24	RTD 19	65.33
RTD 10	65.27	RTD 20	66.97

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.2024 IN F  
= 524.892 IN R

PRESS -1 53.756

PRESS 2 53.736

THE AVE PRESSURE IS = 53.746 PSIA

DEWPT 1 48.92  
DEWPT 2 49.7  
DEWPT 3 48.79

DEWPT 4 49.73  
DEWPT 5 47.97

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.0069  
THE PWV IS = .171543 PSIA

THE MASS WEIGHT IS = 780756.1875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 0

DATE : 12/10/84

RTD 1	64.55	RTD 11	65.33
RTD 2	64.97	RTD 12	65.03
RTD 3	65.11	RTD 13	65.4
RTD 4	64.83	RTD 14	65.79
RTD 5	65.06	RTD 15	65.63
RTD 6	64.46	RTD 16	65.84
RTD 7	65.09	RTD 17	64.37
RTD 8	64.99	RTD 18	65.18
RTD 9	65.24	RTD 19	65.33
RTD 10	65.21	RTD 20	66.97

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.1857 IN F  
= 524.876 IN R

PRESS 1 53.754

PRESS 2 53.734

THE AVE PRESSURE IS = 53.744 PSIA

DEWPT 1 48.82  
DEWPT 2 49.69  
DEWPT 3 48.93

DEWPT 4 49.81  
DEWPT 5 48.27

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.0578  
THE PWV IS = .171869 PSIA

THE MASS WEIGHT IS = 780747 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 15

DATE : 12/10/84

RTD 1	64.49	RTD 11	65.33
RTD 2	64.97	RTD 12	65.03
RTD 3	65.05	RTD 13	65.34
RTD 4	64.83	RTD 14	65.75
RTD 5	65	RTD 15	65.63
RTD 6	64.46	RTD 16	65.78
RTD 7	65.09	RTD 17	64.37
RTD 8	64.93	RTD 18	65.12
RTD 9	65.18	RTD 19	65.33
RTD 10	65.21	RTD 20	66.91

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.1571 IN F  
= 524.847 IN R

PRESS -1 53.753

PRESS 2 53.732

THE AVE PRESSURE IS = 53.7425 PSIA

DEWPT 1 48.96  
DEWPT 2 49.77  
DEWPT 3 48.98

DEWPT 4 49.76  
DEWPT 5 48.69

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1872  
THE PWV IS = .172702 PSIA

THE MASS WEIGHT IS = 780755.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 30

DATE : 12/10/84

RTD 1	64.49	RTD 11	65.31
RTD 2	64.97	RTD 12	64.97
RTD 3	65.05	RTD 13	65.34
RTD 4	64.77	RTD 14	65.62
RTD 5	65	RTD 15	65.56
RTD 6	64.93	RTD 16	65.84
RTD 7	65.03	RTD 17	64.37
RTD 8	64.93	RTD 18	65.12
RTD 9	65.18	RTD 19	65.27
RTD 10	65.15	RTD 20	66.88

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.1589 IN F  
= 524.849 IN R

PRESS -1 53.751

PRESS 2 53.731

THE AVE PRESSURE IS = 53.741 PSIA

DEWPT 1 48.82  
DEWPT 2 49.66  
DEWPT 3 49.14

DEWPT 4 49.82  
DEWPT 5 48.48

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1243  
THE PWV IS = .172297 PSIA

THE MASS WEIGHT IS = 780737.0625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 45

DATE : 12/10/84

RTD 1	64.43	RTD 11	65.31
RTD 2	64.92	RTD 12	64.92
RTD 3	64.99	RTD 13	65.34
RTD 4	64.77	RTD 14	65.72
RTD 5	64.94	RTD 15	65.56
RTD 6	64.33	RTD 16	65.94
RTD 7	65.03	RTD 17	64.31
RTD 8	64.87	RTD 18	65.06
RTD 9	65.12	RTD 19	65.33
RTD 10	65.12	RTD 20	66.88

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.1045 IN F  
= 524.794 IN R

PRESS 1 53.749

PRESS 2 53.729

THE AVE PRESSURE IS = 53.739 PSIA

DEWPT 1 48.96  
DEWPT 2 49.74  
DEWPT 3 48.96

DEWPT 4 49.82  
DEWPT 5 48.7

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1902  
THE PWV IS = .172721 PSIA

THE MASS WEIGHT IS = 780782.6875 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 100

DATE : 12/10/84

RTD 1	64.43	RTD 11	65.28
RTD 2	64.92	RTD 12	64.92
RTD 3	64.99	RTD 13	65.28
RTD 4	64.77	RTD 14	65.68
RTD 5	64.94	RTD 15	65.56
RTD 6	64.4	RTD 16	65.84
RTD 7	65.03	RTD 17	64.31
RTD 8	64.87	RTD 18	65.06
RTD 9	65.12	RTD 19	65.27
RTD 10	65.08	RTD 20	66.82

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.0956 IN F  
= 524.786 IN R

PRESS -1 53.747

PRESS 2 53.728

THE AVE PRESSURE IS = 53.7375 PSIA

DEWPT 1 48.98  
DEWPT 2 49.74  
DEWPT 3 48.88

DEWPT 4 49.77  
DEWPT 5 48.69

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1735  
THE PWV IS = .172614 PSIA

THE MASS WEIGHT IS = 780775.5 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 115

DATE : 12/10/84

RTD 1	64.37	RTD 11	65.3
RTD 2	64.92	RTD 12	64.92
RTD 3	64.93	RTD 13	65.28
RTD 4	64.74	RTD 14	65.57
RTD 5	64.94	RTD 15	65.56
RTD 6	64.34	RTD 16	65.84
RTD 7	64.97	RTD 17	64.26
RTD 8	64.87	RTD 18	65.06
RTD 9	65.12	RTD 19	65.27
RTD 10	65.18	RTD 20	66.83

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.0804 IN F  
= 524.77 IN R

PRESS 1 53.746

PRESS 2 53.727

THE AVE PRESSURE IS = 53.7365 PSIA

DEWPT 1 48.96  
DEWPT 2 49.8  
DEWPT 3 48.3

DEWPT 4 49.77  
DEWPT 5 48.86

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1069  
THE PWV IS = .172185 PSIA

THE MASS WEIGHT IS = 780790 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 130

DATE : 12/10/84

RTD 1	64.43	RTD 11	65.25
RTD 2	64.86	RTD 12	64.92
RTD 3	64.93	RTD 13	65.22
RTD 4	64.74	RTD 14	65.53
RTD 5	64.89	RTD 15	65.56
RTD 6	64.34	RTD 16	65.82
RTD 7	64.97	RTD 17	64.26
RTD 8	64.87	RTD 18	65.06
RTD 9	65.06	RTD 19	65.27
RTD 10	65.12	RTD 20	66.81

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.0613 IN F  
= 524.751 IN R

PRESS 1 53.745

PRESS 2 53.726

THE AVE PRESSURE IS = 53.7355 PSIA

DEWPT 1 48.97  
DEWPT 2 49.84  
DEWPT 3 48.79

DEWPT 4 49.75  
DEWPT 5 48.8

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1867  
THE PWV IS = .172699 PSIA

THE MASS WEIGHT IS = 780796.25 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 145

DATE : 12/10/84

RTD 1	64.37	RTD 11	65.25
RTD 2	64.86	RTD 12	64.86
RTD 3	64.93	RTD 13	65.22
RTD 4	64.68	RTD 14	65.59
RTD 5	64.89	RTD 15	65.56
RTD 6	64.29	RTD 16	65.82
RTD 7	64.97	RTD 17	64.26
RTD 8	64.81	RTD 18	65
RTD 9	65.06	RTD 19	65.27
RTD 10	65.15	RTD 20	66.81

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.048 IN F  
= 524.738 IN R

PRESS 1 53.744

PRESS 2 53.724

THE AVE PRESSURE IS = 53.734 PSIA

DEWPT 1 48.94  
DEWPT 2 49.74  
DEWPT 3 48.93

DEWPT 4 49.82  
DEWPT 5 48.86

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.2047  
THE PWV IS = .172815 PSIA

THE MASS WEIGHT IS = 780792.5 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 200

DATE : 12/10/84

RTD 1	64.37	RTD 11	65.3
RTD 2	64.86	RTD 12	64.86
RTD 3	64.93	RTD 13	65.22
RTD 4	64.68	RTD 14	65.56
RTD 5	64.89	RTD 15	65.5
RTD 6	64.3	RTD 16	65.82
RTD 7	64.97	RTD 17	64.26
RTD 8	64.81	RTD 18	65
RTD 9	65.06	RTD 19	65.21
RTD 10	65.09	RTD 20	66.67

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.0372 IN F  
= 524.727 IN R

PRESS -1 53.74

PRESS 2 53.724

THE AVE PRESSURE IS = 53.732 PSIA

DEWPT 1 48.92  
DEWPT 2 49.86  
DEWPT 3 49.05

DEWPT 4 49.82  
DEWPT 5 48.57

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.191  
THE PWV IS = .172727 PSIA

THE MASS WEIGHT IS = 780780.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 215

DATE : 12/10/84

RTD 1	64.37	RTD 11	65.24
RTD 2	64.86	RTD 12	64.87
RTD 3	64.87	RTD 13	65.22
RTD 4	64.68	RTD 14	65.56
RTD 5	64.89	RTD 15	65.5
RTD 6	64.3	RTD 16	65.76
RTD 7	64.94	RTD 17	64.26
RTD 8	64.81	RTD 18	65
RTD 9	65.06	RTD 19	65.27
RTD 10	65.03	RTD 20	66.79

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.0285 IN F  
= 524.719 IN R

PRESS 1 53.741

PRESS 2 53.721

THE AVE PRESSURE IS = 53.731 PSIA

DEWPT 1 48.92  
DEWPT 2 49.86  
DEWPT 3 48.9

DEWPT 4 49.86  
DEWPT 5 48.26

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1214  
THE PWV IS = .172278 PSIA

THE MASS WEIGHT IS = 780785.5625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 230

DATE : 12/10/84

RTD 1	64.36	RTD 11	65.3
RTD 2	64.86	RTD 12	64.87
RTD 3	64.93	RTD 13	65.16
RTD 4	64.68	RTD 14	65.52
RTD 5	64.89	RTD 15	65.5
RTD 6	64.3	RTD 16	65.71
RTD 7	64.92	RTD 17	64.26
RTD 8	64.81	RTD 18	65
RTD 9	65.06	RTD 19	65.21
RTD 10	65.03	RTD 20	66.76

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.0231 IN F  
= 524.713 IN R

PRESS 1 53.74

PRESS 2 53.721

THE AVE PRESSURE IS = 53.7305 PSIA

DEWPT 1 49.05  
DEWPT 2 49.76  
DEWPT 3 48.98

DEWPT 4 49.86  
DEWPT 5 48.22

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1549  
THE PWV IS = .172494 PSIA

THE MASS WEIGHT IS = 780783.25 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 245

DATE : 12/10/84

RTD 1	64.36	RTD 11	65.27
RTD 2	64.8	RTD 12	64.8
RTD 3	64.87	RTD 13	65.16
RTD 4	64.68	RTD 14	65.47
RTD 5	64.89	RTD 15	65.5
RTD 6	64.29	RTD 16	65.76
RTD 7	64.86	RTD 17	64.26
RTD 8	64.81	RTD 18	64.94
RTD 9	65	RTD 19	65.27
RTD 10	65.03	RTD 20	66.7

THE AVE RTD WITH WEIGHTING FACTORS IS = 65.0016 IN F  
= 524.692 IN R

PRESS 1 53.738

PRESS 2 53.72

THE AVE PRESSURE IS = 53.729 PSIA

DEWPT 1 49.08  
DEWPT 2 49.86  
DEWPT 3 48.81

DEWPT 4 49.85  
DEWPT 5 47.98

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1121  
THE PWV IS = .172218 PSIA

THE MASS WEIGHT IS = 780797.25 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 300

DATE : 12/10/84

RTD 1	64.3	RTD 11	65.19
RTD 2	64.86	RTD 12	64.86
RTD 3	64.87	RTD 13	65.16
RTD 4	64.62	RTD 14	65.53
RTD 5	64.81	RTD 15	65.5
RTD 6	64.29	RTD 16	65.63
RTD 7	64.86	RTD 17	64.2
RTD 8	64.75	RTD 18	64.94
RTD 9	65	RTD 19	65.21
RTD 10	64.97	RTD 20	66.73

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.9796 IN F  
= 524.67 IN R

PRESS 1 53.737

PRESS 2 53.718

THE AVE PRESSURE IS = 53.7275 PSIA

DEWPT 1 49.07  
DEWPT 2 49.75  
DEWPT 3 48.79

DEWPT 4 49.84  
DEWPT 5 48.25

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.1294  
THE PWV IS = .17233 PSIA

THE MASS WEIGHT IS = 780806.625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 315

DATE : 12/10/84

RTD 1	64.3	RTD 11	65.21
RTD 2	64.8	RTD 12	64.86
RTD 3	64.81	RTD 13	65.16
RTD 4	64.62	RTD 14	65.43
RTD 5	64.81	RTD 15	65.5
RTD 6	64.27	RTD 16	65.71
RTD 7	64.86	RTD 17	64.2
RTD 8	64.75	RTD 18	64.94
RTD 9	65	RTD 19	65.15
RTD 10	65.03	RTD 20	66.76

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.9743 IN F  
= 524.664 IN R

PRESS -1 53.736

PRESS 2 53.717

THE AVE PRESSURE IS = 53.7265 PSIA

DEWPT 1 49.07  
DEWPT 2 49.93  
DEWPT 3 49.03

DEWPT 4 49.88  
DEWPT 5 48.37

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.2266  
THE PWV IS = .172956 PSIA

THE MASS WEIGHT IS = 780790.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 330

DATE : 12/10/84

RTD 1	64.3	RTD 11	65.15
RTD 2	64.8	RTD 12	64.8
RTD 3	64.81	RTD 13	65.16
RTD 4	64.62	RTD 14	65.41
RTD 5	64.81	RTD 15	65.5
RTD 6	64.27	RTD 16	65.76
RTD 7	64.94	RTD 17	64.2
RTD 8	64.75	RTD 18	64.94
RTD 9	65	RTD 19	65.21
RTD 10	64.97	RTD 20	66.76

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.9721 IN F  
= 524.662 IN R

PRESS 1 53.734

PRESS 2 53.715

THE AVE PRESSURE IS = 53.7245 PSIA

DEWPT 1 49.19  
DEWPT 2 49.82  
DEWPT 3 48.96

DEWPT 4 49.86  
DEWPT 5 48.43

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.2428  
THE PWV IS = .173061 PSIA

THE MASS WEIGHT IS = 780763.4375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 345

DATE : 12/10/84

RTD 1	64.3	RTD 11	65.24
RTD 2	64.74	RTD 12	64.8
RTD 3	64.81	RTD 13	65.11
RTD 4	64.56	RTD 14	65.47
RTD 5	64.81	RTD 15	65.43
RTD 6	64.27	RTD 16	65.72
RTD 7	64.89	RTD 17	64.14
RTD 8	64.75	RTD 18	64.93
RTD 9	64.94	RTD 19	65.21
RTD 10	64.92	RTD 20	66.63

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.9501 IN F  
= 524.64 IN R

PRESS -1 53.732

PRESS 2 53.713

THE AVE PRESSURE IS = 53.7225 PSIA

DEWPT 1 49.15  
DEWPT 2 49.9  
DEWPT 3 48.93

DEWPT 4 49.88  
DEWPT 5 48.19

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.2019  
THE PWV IS = .172796 PSIA

THE MASS WEIGHT IS = 780770.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 400

DATE : 12/10/84

RTD 1	64.24	RTD 11	65.18
RTD 2	64.74	RTD 12	64.71
RTD 3	64.75	RTD 13	65.11
RTD 4	64.56	RTD 14	65.38
RTD 5	64.75	RTD 15	65.43
RTD 6	64.27	RTD 16	65.75
RTD 7	64.83	RTD 17	64.07
RTD 8	64.7	RTD 18	64.87
RTD 9	64.94	RTD 19	65.15
RTD 10	64.94	RTD 20	66.57

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.9158 IN F  
= 524.606 IN R

PRESS 1 53.73

PRESS 2 53.712

THE AVE PRESSURE IS = 53.721 PSIA

DEWPT 1 49.15  
DEWPT 2 49.95  
DEWPT 3 48.98

DEWPT 4 49.71  
DEWPT 5 48.57

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.2532  
THE PWV IS = .173128 PSIA

THE MASS WEIGHT IS = 780795.125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 415

DATE : 12/10/84

RTD 1	64.24	RTD 11	65.09
RTD 2	64.74	RTD 12	64.71
RTD 3	64.81	RTD 13	65.05
RTD 4	64.56	RTD 14	65.4
RTD 5	64.75	RTD 15	65.43
RTD 6	64.12	RTD 16	65.63
RTD 7	64.84	RTD 17	64.07
RTD 8	64.7	RTD 18	64.86
RTD 9	64.89	RTD 19	65.21
RTD 10	64.89	RTD 20	66.64

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.8962 IN F  
= 524.586 IN R

PRESS -1 53.728

PRESS 2 53.709

THE AVE PRESSURE IS = 53.7185 PSIA

DEWPT 1 49.07  
DEWPT 2 49.88  
DEWPT 3 48.86

DEWPT 4 49.91  
DEWPT 5 48.88

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.278  
THE PWV IS = .173288 PSIA

THE MASS WEIGHT IS = 780785.375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 430

DATE : 12/10/84

RTD 1	64.24	RTD 11	65.09
RTD 2	64.74	RTD 12	64.77
RTD 3	64.75	RTD 13	65.05
RTD 4	64.56	RTD 14	65.35
RTD 5	64.75	RTD 15	65.43
RTD 6	64.23	RTD 16	65.76
RTD 7	64.77	RTD 17	64.07
RTD 8	64.64	RTD 18	64.86
RTD 9	64.89	RTD 19	65.21
RTD 10	64.96	RTD 20	66.64

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.9031 IN F  
= 524.593 IN R

PRESS -1 53.725 PRESS 2 53.707

THE AVE PRESSURE IS = 53.716 PSIA

DEWPT 1	49.11	DEWPT 4	49.86
DEWPT 2	50.01	DEWPT 5	48.99
DEWPT 3	49.2		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3806  
THE PWV IS = .173952 PSIA

THE MASS WEIGHT IS = 780728.9375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 445

DATE : 12/10/84

RTD 1	64.24	RTD 11	64.96
RTD 2	64.68	RTD 12	64.71
RTD 3	64.75	RTD 13	65.05
RTD 4	64.5	RTD 14	65.38
RTD 5	64.7	RTD 15	65.37
RTD 6	64.17	RTD 16	65.71
RTD 7	64.83	RTD 17	64.07
RTD 8	64.64	RTD 18	64.86
RTD 9	64.89	RTD 19	65.15
RTD 10	64.92	RTD 20	66.57

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.8726 IN F  
= 524.563 IN R

PRESS 1 53.724

PRESS 2 53.706

THE AVE PRESSURE IS = 53.715 PSIA

DEWPT 1 49.09  
DEWPT 2 49.91  
DEWPT 3 49.22

DEWPT 4 49.96  
DEWPT 5 49.05

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3867  
THE PWV IS = .173992 PSIA

THE MASS WEIGHT IS = 780759.25 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 500

DATE : 12/10/84

RTD 1	64.18	RTD 11	65.03
RTD 2	64.68	RTD 12	64.71
RTD 3	64.75	RTD 13	64.99
RTD 4	64.5	RTD 14	65.3
RTD 5	64.7	RTD 15	65.37
RTD 6	64.11	RTD 16	65.63
RTD 7	64.81	RTD 17	64.07
RTD 8	64.64	RTD 18	64.78
RTD 9	64.83	RTD 19	65.22
RTD 10	64.86	RTD 20	66.53

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.8492 IN F  
= 524.539 IN R

PRESS 1 53.721

PRESS 2 53.703

THE AVE PRESSURE IS = 53.712 PSIA

DEWPT 1 49.09  
DEWPT 2 50.02  
DEWPT 3 48.82

DEWPT 4 49.92  
DEWPT 5 48.63

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.2622  
THE PWV IS = .173186 PSIA

THE MASS WEIGHT IS = 780762.125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 515

DATE : 12/10/84

RTD 1	64.18	RTD 11	65.09
RTD 2	64.68	RTD 12	64.68
RTD 3	64.7	RTD 13	64.99
RTD 4	64.45	RTD 14	65.18
RTD 5	64.64	RTD 15	65.31
RTD 6	64.09	RTD 16	65.57
RTD 7	64.75	RTD 17	63.99
RTD 8	64.58	RTD 18	64.78
RTD 9	64.83	RTD 19	65.21
RTD 10	64.86	RTD 20	66.53

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.8191 IN F  
= 524.509 IN R

PRESS -1 53.719 PRESS 2 53.701

THE AVE PRESSURE IS = 53.71 PSIA

DEWPT 1	49.15	DEWPT 4	49.86
DEWPT 2	49.86	DEWPT 5	48.8
DEWPT 3	49.18		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3341  
THE PWV IS = .173651 PSIA

THE MASS WEIGHT IS = 780771.125 LBM

APPENDIX E  
DAVIS SESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 530

DATE : 12/10/84

RTD 1	64.18	RTD 11	65.03
RTD 2	64.68	RTD 12	64.56
RTD 3	64.7	RTD 13	64.93
RTD 4	64.45	RTD 14	65.25
RTD 5	64.64	RTD 15	65.31
RTD 6	64.09	RTD 16	65.65
RTD 7	64.7	RTD 17	63.99
RTD 8	64.58	RTD 18	64.78
RTD 9	64.83	RTD 19	65.15
RTD 10	64.77	RTD 20	66.53

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.8039 IN F  
= 524.494 IN R

PRESS -1 53.717

PRESS 2 53.7

THE AVE PRESSURE IS = 53.7085 PSIA

DEWPT 1 49.14  
DEWPT 2 50.04  
DEWPT 3 49.05

DEWPT 4 49.87  
DEWPT 5 48.33

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.2638  
THE PWV IS = .173196 PSIA

THE MASS WEIGHT IS = 780778.5625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 545

DATE : 12/10/84

RTD 1	64.12	PTD 11	64.92
RTD 2	64.62	RTD 12	64.56
RTD 3	64.64	RTD 13	64.93
RTD 4	64.39	RTD 14	65.19
RTD 5	64.64	RTD 15	65.25
RTD 6	64.17	RTD 16	65.69
RTD 7	64.62	RTD 17	63.93
RTD 8	64.52	RTD 18	64.72
RTD 9	64.77	RTD 19	65.09
RTD 10	64.86	RTD 20	66.44

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.7701 IN F  
= 524.46 IN R

PRESS 1 53.715

PRESS 2 53.697

THE AVE PRESSURE IS = 53.706 PSIA

DEWPT 1 49.09  
DEWPT 2 49.99  
DEWPT 3 49.08

DEWPT 4 49.92  
DEWPT 5 48.68

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3093  
THE PWV IS = .17349 PSIA

THE MASS WEIGHT IS = 780787.9375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 600

DATE : 12/10/84

RTD 1	64.12	RTD 11	65.09
RTD 2	64.62	RTD 12	64.62
RTD 3	64.64	RTD 13	64.93
RTD 4	64.39	RTD 14	65.15
RTD 5	64.64	RTD 15	65.25
RTD 6	64.11	RTD 16	65.55
RTD 7	64.72	RTD 17	63.93
RTD 8	64.52	RTD 18	64.72
RTD 9	64.77	RTD 19	65.15
RTD 10	64.74	RTD 20	66.5

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.7731 IN F  
= 524.463 IN R

PRESS -1 53.714

PRESS 2 53.696

THE AVE PRESSURE IS = 53.705 PSIA

DEWPT 1 49.11  
DEWPT 2 49.99  
DEWPT 3 49.05

DEWPT 4 49.97  
DEWPT 5 48.42

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.2765  
THE PWV IS = .173278 PSIA

THE MASS WEIGHT IS = 780772.0625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 615

DATE : 12/10/84

RTD 1	64.12	RTD 11	65
RTD 2	64.62	RTD 12	64.56
RTD 3	64.64	RTD 13	64.93
RTD 4	64.39	RTD 14	65.09
RTD 5	64.58	RTD 15	65.25
RTD 6	64.11	RTD 16	65.49
RTD 7	64.62	RTD 17	63.87
RTD 8	64.52	RTD 18	64.72
RTD 9	64.77	RTD 19	65.15
RTD 10	64.8	RTD 20	66.44

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.7492 IN F  
= 524.439 IN R

PRESS 1 53.712

PRESS 2 53.694

THE AVE PRESSURE IS = 53.703 PSIA

DEWPT 1 49.13  
DEWPT 2 50.01  
DEWPT 3 49.03

DEWPT 4 49.93  
DEWPT 5 48.8

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3389  
THE PWV IS = .173682 PSIA

THE MASS WEIGHT IS = 780772.4375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 630

DATE : 12/10/84

RTD 1	64.07	RTD 11	65
RTD 2	64.56	RTD 12	64.56
RTD 3	64.58	RTD 13	64.87
RTD 4	64.33	RTD 14	65.24
RTD 5	64.58	RTD 15	65.19
RTD 6	64.11	RTD 16	65.49
RTD 7	64.65	RTD 17	63.79
RTD 8	64.46	RTD 18	64.72
RTD 9	64.77	RTD 19	65.15
RTD 10	64.78	RTD 20	66.44

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.7326 IN F  
= 524.423 IN R

PRESS -1 53.71

PRESS 2 53.693

THE AVE PRESSURE IS = 53.7015 PSIA

DEWPT 1 49.16  
DEWPT 2 50.01  
DEWPT 3 49.35

DEWPT 4 49.97  
DEWPT 5 48.37

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.339  
THE PWV IS = .173683 PSIA

THE MASS WEIGHT IS = 780775.3125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 645

DATE : 12/10/84

RTD 1	64.01	RTD 11	65
RTD 2	64.56	RTD 12	64.56
RTD 3	64.58	RTD 13	64.87
RTD 4	64.33	RTD 14	65.09
RTD 5	64.58	RTD 15	65.19
RTD 6	64.04	RTD 16	65.56
RTD 7	64.58	RTD 17	63.85
RTD 8	64.46	RTD 18	64.67
RTD 9	64.71	RTD 19	65.15
RTD 10	64.77	RTD 20	66.37

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.7115 IN F  
= 524.402 IN R

PRESS -1 53.708

PRESS 2 53.689

THE AVE PRESSURE IS = 53.6985 PSIA

DEWPT 1 49.24  
DEWPT 2 49.97  
DEWPT 3 49.14

DEWPT 4 50.01  
DEWPT 5 48.72

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3875  
THE PWV IS = .173997 PSIA

THE MASS WEIGHT IS = 780758.3125 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 700

DATE : 12/10/84

RTD 1	64.01	RTD 11	64.96
RTD 2	64.5	RTD 12	64.56
RTD 3	64.58	RTD 13	64.81
RTD 4	64.33	RTD 14	65.06
RTD 5	64.52	RTD 15	65.19
RTD 6	64.02	RTD 16	65.49
RTD 7	64.68	RTD 17	63.85
RTD 8	64.46	RTD 18	64.61
RTD 9	64.71	RTD 19	65.15
RTD 10	64.65	RTD 20	66.37

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.6903 IN F  
= 524.38 IN R

PRESS 1 53.706

PRESS 2 53.688

THE AVE PRESSURE IS = 53.697 PSIA

DEWPT 1 49.19  
DEWPT 2 49.95  
DEWPT 3 48.86

DEWPT 4 49.9  
DEWPT 5 48.16

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.2102  
THE PWV IS = .17285 PSIA

THE MASS WEIGHT IS = 780784.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 715

DATE : 12/10/84

RTD 1	64.01	RTD 11	64.86
RTD 2	64.5	RTD 12	64.56
RTD 3	64.58	RTD 13	64.81
RTD 4	64.33	RTD 14	65.02
RTD 5	64.52	RTD 15	65.19
RTD 6	64.02	RTD 16	65.59
RTD 7	64.56	RTD 17	63.79
RTD 8	64.4	RTD 18	64.67
RTD 9	64.65	RTD 19	65.09
RTD 10	64.77	RTD 20	66.34

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.6783 IN F  
= 524.368 IN R

PRESS 1 53.705

PRESS 2 53.687

THE AVE PRESSURE IS = 53.696 PSIA

DEWPT 1 49.21  
DEWPT 2 49.95  
DEWPT 3 49.32

DEWPT 4 49.97  
DEWPT 5 48.44

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.352  
THE PWV IS = .173767 PSIA

THE MASS WEIGHT IS = 780774.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 730

DATE : 12/10/84

RTD 1	63.95	RTD 11	64.9
RTD 2	64.5	RTD 12	64.5
RTD 3	64.52	RTD 13	64.81
RTD 4	64.27	RTD 14	65.06
RTD 5	64.52	RTD 15	65.13
RTD 6	64.02	RTD 16	65.46
RTD 7	64.56	RTD 17	63.79
RTD 8	64.4	RTD 18	64.61
RTD 9	64.65	RTD 19	65.09
RTD 10	64.77	RTD 20	66.39

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.6591 IN F  
= 524.349 IN R

PRESS -1 53.703

PRESS 2 53.686

THE AVE PRESSURE IS = 53.6945 PSIA

DEWPT 1 49.09  
DEWPT 2 50.09  
DEWPT 3 49.13

DEWPT 4 49.99  
DEWPT 5 48.44

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3068  
THE PWV IS = .173474 PSIA

THE MASS WEIGHT IS = 780785.625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 745

DATE : 12/10/84

RTD 1	64.01	RTD 11	64.96
RTD 2	64.5	RTD 12	64.5
RTD 3	64.52	RTD 13	64.81
RTD 4	64.27	RTD 14	65.03
RTD 5	64.52	RTD 15	65.13
RTD 6	64.01	RTD 16	65.53
RTD 7	64.56	RTD 17	63.79
RTD 8	64.4	RTD 18	64.61
RTD 9	64.65	RTD 19	65.09
RTD 10	64.65	RTD 20	66.41

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.6612 IN F  
= 524.351 IN R

PRESS -1 53.702

PRESS 2 53.684

THE AVE PRESSURE IS = 53.693 PSIA

DEWPT 1 49.21  
DEWPT 2 50.02  
DEWPT 3 49.13

DEWPT 4 50.01  
DEWPT 5 48.37

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3268  
THE PWV IS = .173604 PSIA

THE MASS WEIGHT IS = 780758.8125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 800

DATE : 12/10/84

RTD 1	64.01	RTD 11	64.84
RTD 2	64.52	RTD 12	64.45
RTD 3	64.52	RTD 13	64.81
RTD 4	64.27	RTD 14	65
RTD 5	64.46	RTD 15	65.08
RTD 6	63.95	RTD 16	65.4
RTD 7	64.56	RTD 17	63.79
RTD 8	64.4	RTD 18	64.61
RTD 9	64.65	RTD 19	65.03
RTD 10	64.68	RTD 20	66.32

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.6324 IN F  
= 524.322 IN R

PRESS -1 53.701

PRESS 2 53.683

THE AVE PRESSURE IS = 53.692 PSIA

DEWPT 1 49.21  
DEWPT 2 50.08  
DEWPT 3 49.2

DEWPT 4 50.03  
DEWPT 5 48.39

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3553  
THE PWV IS = .173788 PSIA

THE MASS WEIGHT IS = 780784.375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 815

DATE : 12/10/84

RTD 1	64.01	RTD 11	64.8
RTD 2	64.45	RTD 12	64.45
RTD 3	64.52	RTD 13	64.75
RTD 4	64.27	RTD 14	65.16
RTD 5	64.46	RTD 15	65.13
RTD 6	63.9	RTD 16	65.52
RTD 7	64.59	RTD 17	63.73
RTD 8	64.34	RTD 18	64.61
RTD 9	64.65	RTD 19	65.09
RTD 10	64.67	RTD 20	66.34

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.6356 IN F  
= 524.326 IN R

PRESS 1 53.699 PRESS 2 53.681

THE AVE PRESSURE IS = 53.69 PSIA

DEWPT 1	49.26	DEWPT 4	50.01
DEWPT 2	50.13	DEWPT 5	48.59
DEWPT 3	49.37		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4388  
THE PWV IS = .17433 PSIA

THE MASS WEIGHT IS = 780742.4375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 830

DATE : 12/10/84

RTD 1	63.95	RTD 11	64.92
RTD 2	64.45	RTD 12	64.45
RTD 3	64.46	RTD 13	64.75
RTD 4	64.21	RTD 14	65.02
RTD 5	64.46	RTD 15	65.13
RTD 6	63.99	RTD 16	65.52
RTD 7	64.55	RTD 17	63.73
RTD 8	64.4	RTD 18	64.59
RTD 9	64.59	RTD 19	65.03
RTD 10	64.59	RTD 20	66.28

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.6191 IN F  
= 524.309 IN R

PRESS 1 53.697

PRESS 2 53.68

THE AVE PRESSURE IS = 53.6885 PSIA

DEWPT 1 49.29  
DEWPT 2 49.99  
DEWPT 3 49.15

DEWPT 4 50.02  
DEWPT 5 48.91

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.442  
THE PWV IS = .174351 PSIA

THE MASS WEIGHT IS = 780745 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 845

DATE : 12/10/84

RTD 1	63.95	RTD 11	64.83
RTD 2	64.45	RTD 12	64.45
RTD 3	64.46	RTD 13	64.75
RTD 4	64.21	RTD 14	65.03
RTD 5	64.46	RTD 15	65.08
RTD 6	63.99	RTD 16	65.46
RTD 7	64.45	RTD 17	63.73
RTD 8	64.34	RTD 18	64.53
RTD 9	64.59	RTD 19	65.09
RTD 10	64.65	RTD 20	66.29

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.6036 IN F  
= 524.294 IN R

PRESS 1 53.696

PRESS 2 53.678

THE AVE PRESSURE IS = 53.687 PSIA

DEWPT 1 49.18  
DEWPT 2 50.09  
DEWPT 3 49.09

DEWPT 4 50.08  
DEWPT 5 48.64

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3776  
THE PWV IS = .173933 PSIA

THE MASS WEIGHT IS = 780752.1875 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 900

DATE : 12/10/84

RTD 1	63.95	RTD 11	64.71
RTD 2	64.39	RTD 12	64.45
RTD 3	64.46	RTD 13	64.7
RTD 4	64.21	RTD 14	64.94
RTD 5	64.4	RTD 15	65.08
RTD 6	63.83	RTD 16	65.46
RTD 7	64.62	RTD 17	63.66
RTD 8	64.34	RTD 18	64.53
RTD 9	64.59	RTD 19	65.09
RTD 10	64.61	RTD 20	66.23

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.5774 IN F  
= 524.267 IN R

PRESS 1 53.695

PRESS 2 53.677

THE AVE PRESSURE IS = 53.686 PSIA

DEWPT 1 49.11  
DEWPT 2 50.16  
DEWPT 3 49.2

DEWPT 4 50.05  
DEWPT 5 49.11

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4568  
THE PWV IS = .174447 PSIA

THE MASS WEIGHT IS = 780769.25 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 915

DATE : 12/10/84

RTD 1	63.89	RTD 11	64.72
RTD 2	64.39	RTD 12	64.33
RTD 3	64.46	RTD 13	64.7
RTD 4	64.21	RTD 14	65
RTD 5	64.4	RTD 15	65.08
RTD 6	63.89	RTD 16	65.46
RTD 7	64.48	RTD 17	64.64
RTD 8	64.29	RTD 18	64.48
RTD 9	64.53	RTD 19	65.03
RTD 10	64.59	RTD 20	66.29

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.588 IN F  
524.278 IN R

PRESS 1 53.694

PRESS 2 53.676

THE AVE PRESSURE IS = 53.685 PSIA

DEWPT 1 49.38

DEWPT 4 50.1

DEWPT 2 49.88

DEWPT 5 48.8

DEWPT 3 49.19

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4554  
THE PWV IS = .174438 PSIA

THE MASS WEIGHT IS = 780738.9375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 930

DATE : 12/10/84

RTD 1	63.89	RTD 11	64.8
RTD 2	64.33	RTD 12	64.33
RTD 3	64.46	RTD 13	64.7
RTD 4	64.15	RTD 14	64.94
RTD 5	64.4	RTD 15	65.08
RTD 6	63.82	RTD 16	65.46
RTD 7	64.53	RTD 17	63.64
RTD 8	64.34	RTD 18	64.48
RTD 9	64.52	RTD 19	65.03
RTD 10	64.61	RTD 20	66.23

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.552 IN F  
= 524.242 IN R

PRESS 1 53.692

PRESS 2 53.675

THE AVE PRESSURE IS = 53.6835 PSIA

DEWPT 1 49.26  
DEWPT 2 50.23  
DEWPT 3 49.13

DEWPT 4 50.08  
DEWPT 5 48.83

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4659  
THE PWV IS = .174506 PSIA

THE MASS WEIGHT IS = 780769.5625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 945

DATE : 12/10/84

RTD 1	63.89	RTD 11	64.75
RTD 2	64.39	RTD 12	64.33
RTD 3	64.39	RTD 13	64.64
RTD 4	64.15	RTD 14	65.02
RTD 5	64.34	RTD 15	65.08
RTD 6	63.86	RTD 16	65.49
RTD 7	64.48	RTD 17	63.64
RTD 8	64.29	RTD 18	64.48
RTD 9	64.52	RTD 19	65.09
RTD 10	64.67	RTD 20	66.2

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.5488 IN F  
= 524.239 IN R

PRESS 1 53.691

PRESS 2 53.673

THE AVE PRESSURE IS = 53.682 PSIA

DEWPT 1 49.2  
DEWPT 2 50.12  
DEWPT 3 49.32

DEWPT 4 50.09  
DEWPT 5 48.81

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4578  
THE PWV IS = .174453 PSIA

THE MASS WEIGHT IS = 780753.1875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1000

DATE : 12/10/84

RTD 1	63.89	RTD 11	64.86
RTD 2	64.33	RTD 12	64.33
RTD 3	64.39	RTD 13	64.64
RTD 4	64.15	RTD 14	64.94
RTD 5	64.34	RTD 15	65.02
RTD 6	63.86	RTD 16	65.43
RTD 7	64.42	RTD 17	63.64
RTD 8	64.29	RTD 18	64.48
RTD 9	64.52	RTD 19	65.02
RTD 10	64.5	RTD 20	66.2

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.5264 IN F  
= 524.216 IN R

PRESS 1 53.689

PRESS 2 53.672

THE AVE PRESSURE IS = 53.6805 PSIA

DEWPT 1 49.21

DEWPT 4 50.08

DEWPT 2 50.18

DEWPT 5 49.08

DEWPT 3 49.03

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4649  
THE PWV IS = .174499 PSIA

THE MASS WEIGHT IS = 780764.1875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1015

DATE : 12/10/84

RTD 1	63.89	RTD 11	64.71
RTD 2	64.33	RTD 12	64.33
RTD 3	64.39	RTD 13	64.64
RTD 4	64.09	RTD 14	64.9
RTD 5	64.34	RTD 15	65.02
RTD 6	63.8	RTD 16	65.35
RTD 7	64.42	RTD 17	63.58
RTD 8	64.29	RTD 18	64.48
RTD 9	64.52	RTD 19	65.02
RTD 10	64.56	RTD 20	66.26

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.5085 IN F  
= 524.198 IN R

PRESS 1 53.688

PRESS 2 53.67

THE AVE PRESSURE IS = 53.679 PSIA

DEWPT 1 49.24  
DEWPT 2 50.04  
DEWPT 3 49.27

DEWPT 4 50.07  
DEWPT 5 49.15

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5016  
THE PWV IS = .174739 PSIA

THE MASS WEIGHT IS = 780765.375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1030

DATE : 12/10/84

RTD 1	63.83	RTD 11	64.89
RTD 2	64.33	RTD 12	64.39
RTD 3	64.39	RTD 13	64.64
RTD 4	64.09	RTD 14	64.81
RTD 5	64.34	RTD 15	65.02
RTD 6	63.85	RTD 16	65.43
RTD 7	64.37	RTD 17	63.58
RTD 8	64.23	RTD 18	64.48
RTD 9	64.52	RTD 19	65.02
RTD 10	64.45	RTD 20	66.15

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.5051 IN F  
= 524.195 IN R

PRESS 1 53.688 PRESS 2 53.67

THE AVE PRESSURE IS = 53.679 PSIA

DEWPT 1	49.27	DEWPT 4	50.03
DEWPT 2	50.23	DEWPT 5	48.98
DEWPT 3	49.2		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4975  
THE PWV IS = .174712 PSIA

THE MASS WEIGHT IS = 780770.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1045

DATE : 12/10/84

RTD 1	63.83	RTD 11	64.78
RTD 2	64.27	RTD 12	64.27
RTD 3	64.33	RTD 13	64.64
RTD 4	64.09	RTD 14	64.92
RTD 5	64.29	RTD 15	65.02
RTD 6	63.7	RTD 16	65.49
RTD 7	64.43	RTD 17	63.85
RTD 8	64.23	RTD 18	64.42
RTD 9	64.45	RTD 19	65.02
RTD 10	64.45	RTD 20	66.2

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.4905 IN F  
= 524.18 IN R

PRESS 1 53.687

PRESS 2 53.669

THE AVE PRESSURE IS = 53.678 PSIA

DEWPT 1 49.22

DEWPT 4 50.07

DEWPT 2 50.21

DEWPT 5 49.11

DEWPT 3 49.27

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5171  
THE PWV IS = .174839 PSIA

THE MASS WEIGHT IS = 780776.125 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1100

DATE : 12/10/84

RTD 1	63.83	RTD 11	64.81
RTD 2	64.33	RTD 12	64.27
RTD 3	64.31	RTD 13	64.58
RTD 4	64.09	RTD 14	64.9
RTD 5	64.34	RTD 15	65.02
RTD 6	63.82	RTD 16	65.37
RTD 7	64.42	RTD 17	63.52
RTD 8	64.23	RTD 18	64.42
RTD 9	64.45	RTD 19	65.02
RTD 10	64.45	RTD 20	66.13

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.4808 IN F  
= 524.171 IN R

PRESS 1 53.685 PRESS 2 53.668

THE AVE PRESSURE IS = 53.6765 PSIA

DEWPT 1	49.27	DEWPT 4	50.12
DEWPT 2	50.05	DEWPT 5	48.39
DEWPT 3	49.27		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.3969  
THE PWV IS = .174058 PSIA

THE MASS WEIGHT IS = 780780.125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1115

DATE : 12/10/84

RTD 1	63.83	RTD 11	64.74
RTD 2	64.33	RTD 12	64.33
RTD 3	64.31	RTD 13	64.58
RTD 4	64.09	RTD 14	64.9
RTD 5	64.34	RTD 15	64.96
RTD 6	63.74	RTD 16	65.43
RTD 7	64.36	RTD 17	63.52
RTD 8	64.23	RTD 18	64.42
RTD 9	64.46	RTD 19	64.96
RTD 10	64.5	RTD 20	66.13

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.4739 IN F  
= 524.164 IN R

PRESS 1 53.685 PRESS 2 53.667

THE AVE PRESSURE IS = 53.676 PSIA

DEWPT 1	49.27	DEWPT 4	50.14
DEWPT 2	50.13	DEWPT 5	48.66
DEWPT 3	49.54		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5036  
THE PWV IS = .174752 PSIA

THE MASS WEIGHT IS = 780773 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1130

DATE : 12/10/84

RTD 1	63.83	RTD 11	64.59
RTD 2	64.33	RTD 12	64.29
RTD 3	64.37	RTD 13	64.58
RTD 4	64.09	RTD 14	64.84
RTD 5	64.34	RTD 15	65.02
RTD 6	63.82	RTD 16	65.43
RTD 7	64.42	RTD 17	63.52
RTD 8	64.23	RTD 18	64.42
RTD 9	64.46	RTD 19	64.97
RTD 10	64.49	RTD 20	66.13

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.4742 IN F  
= 524.164 IN R

PRESS 1 53.684

PRESS 2 53.666

THE AVE PRESSURE IS = 53.675 PSIA

DEWPT 1 49.3  
DEWPT 2 50.08  
DEWPT 3 49.32

DEWPT 4 50.12  
DEWPT 5 48.65

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4631  
THE PWV IS = .174488 PSIA

THE MASS WEIGHT IS = 780761.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1145

DATE : 12/10/84

RTD 1	63.83	RTD 11	64.8
RTD 2	64.27	RTD 12	64.27
RTD 3	64.31	RTD 13	64.58
RTD 4	64.09	RTD 14	64.86
RTD 5	64.29	RTD 15	64.96
RTD 6	63.82	RTD 16	65.43
RTD 7	64.34	RTD 17	63.58
RTD 8	64.23	RTD 18	64.42
RTD 9	64.46	RTD 19	65.03
RTD 10	64.45	RTD 20	66.19

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.4721 IN F  
= 524.162 IN R

PRESS 1 53.682

PRESS 2 53.664

THE AVE PRESSURE IS = 53.673 PSIA

DEWPT 1 49.29  
DEWPT 2 50.2  
DEWPT 3 49.57

DEWPT 4 50.18  
DEWPT 5 48.82

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.56  
THE PWV IS = .175119 PSIA

THE MASS WEIGHT IS = 780726.4375 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1200

DATE : 12/10/84

RTD 1	63.77	RTD 11	64.75
RTD 2	64.27	RTD 12	64.27
RTD 3	64.31	RTD 13	64.58
RTD 4	64.04	RTD 14	64.75
RTD 5	64.29	RTD 15	64.96
RTD 6	63.71	RTD 16	65.43
RTD 7	64.3	RTD 17	63.45
RTD 8	64.23	RTD 18	64.42
RTD 9	64.46	RTD 19	64.97
RTD 10	64.56	RTD 20	66.09

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.4463 IN F  
= 524.136 IN R

PRESS 1 53.681

PRESS 2 53.664

THE AVE PRESSURE IS = 53.6725 PSIA

DEWPT 1 49.35  
DEWPT 2 50.27  
DEWPT 3 49.43

DEWPT 4 50.13  
DEWPT 5 49.18

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.619  
THE PWV IS = .175505 PSIA

THE MASS WEIGHT IS = 780752.0625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1215

DATE : 12/10/84

RTD 1	63.77	RTD 11	64.77
RTD 2	64.21	RTD 12	64.27
RTD 3	64.31	RTD 13	64.58
RTD 4	64.04	RTD 14	64.84
RTD 5	64.29	RTD 15	64.96
RTD 6	63.71	RTD 16	65.46
RTD 7	64.37	RTD 17	63.51
RTD 8	64.17	RTD 18	64.42
RTD 9	64.46	RTD 19	65.03
RTD 10	64.45	RTD 20	66.1

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.4486 IN F  
= 524.139 IN R

PRESS 1 53.68

PRESS 2 53.663

THE AVE PRESSURE IS = 53.6715 PSIA

DEWPT 1 49.31  
DEWPT 2 50.02  
DEWPT 3 49.33

DEWPT 4 50.34  
DEWPT 5 49.21

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5859  
THE PWV IS = .175288 PSIA

THE MASS WEIGHT IS = 780737.125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1230

DATE : 12/10/84

RTD 1	63.77	RTD 11	64.7
RTD 2	64.21	RTD 12	64.27
RTD 3	64.31	RTD 13	64.52
RTD 4	64.04	RTD 14	64.78
RTD 5	64.29	RTD 15	64.96
RTD 6	63.66	RTD 16	65.46
RTD 7	64.37	RTD 17	63.45
RTD 8	64.17	RTD 18	64.36
RTD 9	64.4	RTD 19	64.97
RTD 10	64.33	RTD 20	66.09

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.4198 IN F  
= 524.11 IN R

PRESS 1 53.679                      PRESS 2 53.661

THE AVE PRESSURE IS = 53.67 PSIA

DEWPT 1	49.44	DEWPT 4	50.14
DEWPT 2	50.19	DEWPT 5	48.9
DEWPT 3	49.21		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5541  
THE PWV IS = .175081 PSIA

THE MASS WEIGHT IS = 780761.1875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF LEAK RATE DATA

READINGS TAKEN AT TIME PERIOD : 1245

DATE : 12/10/84

RTD 1	63.77	RTD 11	64.71
RTD 2	64.29	RTD 12	64.21
RTD 3	64.26	RTD 13	64.52
RTD 4	64.04	RTD 14	64.84
RTD 5	64.29	RTD 15	64.96
RTD 6	63.79	RTD 16	65.4
RTD 7	64.33	RTD 17	63.52
RTD 8	64.17	RTD 18	64.36
RTD 9	64.4	RTD 19	64.97
RTD 10	64.45	RTD 20	66.09

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.4326 IN F  
= 524.123 IN R

PRESS 1 53.678

PRESS 2 53.66

THE AVE PRESSURE IS = 53.669 PSIA

DEWPT 1 49.32  
DEWPT 2 50.13  
DEWPT 3 49.42

DEWPT 4 50.41  
DEWPT 5 48.96

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5935  
THE PWV IS = .175338 PSIA

THE MASS WEIGHT IS = 780723.6875 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1400

DATE : 12/10/84

RTD 1	63.71	RTD 11	64.75
RTD 2	64.18	RTD 12	64.2
RTD 3	64.29	RTD 13	64.46
RTD 4	63.98	RTD 14	64.68
RTD 5	64.23	RTD 15	64.9
RTD 6	63.68	RTD 16	65.34
RTD 7	64.3	RTD 17	63.41
RTD 8	64.11	RTD 18	64.3
RTD 9	64.34	RTD 19	64.97
RTD 10	64.33	RTD 20	66.07

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3752 IN F  
= 524.065 IN R

PRESS 1 53.663

PRESS 2 53.646

THE AVE PRESSURE IS = 53.6545 PSIA

DEWPT 1 49.44

DEWPT 4 50.23

DEWPT 2 50.24

DEWPT 5 48.91

DEWPT 3 49.42

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.6145  
THE PWV IS = .175475 PSIA

THE MASS WEIGHT IS = 780595.5625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1415

DATE : 12/10/84

RTD 1	63.71	RTD 11	64.56
RTD 2	64.18	RTD 12	64.09
RTD 3	64.21	RTD 13	64.46
RTD 4	63.98	RTD 14	64.83
RTD 5	64.23	RTD 15	64.9
RTD 6	63.64	RTD 16	65.37
RTD 7	64.24	RTD 17	63.41
RTD 8	64.05	RTD 18	64.3
RTD 9	64.34	RTD 19	65.03
RTD 10	64.36	RTD 20	66.01

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3559 IN F  
= 524.046 IN R

PRESS 1 53.659

PRESS 2 53.642

THE AVE PRESSURE IS = 53.6505 PSIA

DEWPT 1 49.46  
DEWPT 2 50.21  
DEWPT 3 49.35

DEWPT 4 50.21  
DEWPT 5 49.09

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.6305  
THE PWV IS = .175579 PSIA

THE MASS WEIGHT IS = 780564.5625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1430

DATE : 12/10/84

RTD 1	63.71	RTD 11	64.62
RTD 2	64.2	RTD 12	64.15
RTD 3	64.15	RTD 13	64.46
RTD 4	63.98	RTD 14	64.78
RTD 5	64.17	RTD 15	64.84
RTD 6	63.71	RTD 16	65.4
RTD 7	64.2	RTD 17	63.41
RTD 8	64.11	RTD 18	64.3
RTD 9	64.34	RTD 19	65.03
RTD 10	64.3	RTD 20	65.98

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3536 IN F  
= 524.044 IN R

PRESS 1 53.657

PRESS 2 53.639

THE AVE PRESSURE IS = 53.648 PSIA

DEWPT 1 49.42  
DEWPT 2 50.23  
DEWPT 3 49.32

DEWPT 4 50.24  
DEWPT 5 48.91

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5908  
THE PWV IS = .17532 PSIA

THE MASS WEIGHT IS = 780535.125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1445

DATE : 12/10/84

RTD 1	63.71	RTD 11	64.53
RTD 2	64.14	RTD 12	64.21
RTD 3	64.15	RTD 13	64.46
RTD 4	63.92	RTD 14	64.84
RTD 5	64.17	RTD 15	64.84
RTD 6	63.6	RTD 16	65.41
RTD 7	64.2	RTD 17	63.29
RTD 8	64.05	RTD 18	64.3
RTD 9	64.34	RTD 19	64.97
RTD 10	64.37	RTD 20	66

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3383 IN F  
= 524.028 IN R

PRESS 1 53.654

PRESS 2 53.636

THE AVE PRESSURE IS = 53.645 PSIA

DEWPT 1 49.41

DEWPT 4 50.24

DEWPT 2 50.29

DEWPT 5 48.86

DEWPT 3 49.54

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.6266  
THE PWV IS = .175554 PSIA

THE MASS WEIGHT IS = 780510.8125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1500

DATE : 12/10/84

RTD 1	63.71	RTD 11	64.5
RTD 2	64.2	RTD 12	64.18
RTD 3	64.21	RTD 13	64.46
RTD 4	63.98	RTD 14	64.67
RTD 5	64.17	RTD 15	64.84
RTD 6	63.66	RTD 16	65.43
RTD 7	64.31	RTD 17	63.35
RTD 8	64.05	RTD 18	64.3
RTD 9	64.34	RTD 19	64.97
RTD 10	64.37	RTD 20	65.96

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3475 IN F  
= 524.038 IN R

PRESS 1 53.651 PRESS 2 53.634

THE AVE PRESSURE IS = 53.6425 PSIA

DEWPT 1	49.37	DEWPT 4	50.25
DEWPT 2	50.34	DEWPT 5	48.38
DEWPT 3	49.47		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5328  
THE PWV IS = .174942 PSI\)

THE MASS WEIGHT IS = 780469.5 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1515

DATE : 12/10/84

RTD 1	63.71	RTD 11	64.61
RTD 2	64.14	RTD 12	64.15
RTD 3	64.21	RTD 13	64.4
RTD 4	63.92	RTD 14	64.77
RTD 5	64.17	RTD 15	64.84
RTD 6	63.54	RTD 16	65.34
RTD 7	64.26	RTD 17	63.35
RTD 8	64.05	RTD 18	64.23
RTD 9	64.34	RTD 19	64.97
RTD 10	64.36	RTD 20	66.06

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3335 IN F  
= 524.023 IN R

PRESS 1 53.648

PRESS 2 53.63

THE AVE PRESSURE IS = 53.639 PSIA

DEWPT 1 49.44  
DEWPT 2 50.36  
DEWPT 3 49.42

DEWPT 4 50.3  
DEWPT 5 48.76

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.6216  
THE PWV IS = .175522 PSIA

THE MASS WEIGHT IS = 780430.75 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1530

DATE : 12/10/84

RTD 1	63.66	RTD 11	64.53
RTD 2	64.14	RTD 12	64.09
RTD 3	64.15	RTD 13	64.4
RTD 4	63.92	RTD 14	64.71
RTD 5	64.17	RTD 15	64.84
RTD 6	63.55	RTD 16	65.4
RTD 7	64.21	RTD 17	63.41
RTD 8	64.05	RTD 18	64.23
RTD 9	64.29	RTD 19	64.97
RTD 10	64.33	RTD 20	66.01

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3131 IN F  
= 524.003 IN R

PRESS 1 53.644

PRESS 2 53.627

THE AVE PRESSURE IS = 53.6355 PSIA

DEWPT 1 49.46  
DEWPT 2 50.26  
DEWPT 3 49.44

DEWPT 4 50.27  
DEWPT 5 49.18

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.6787  
THE PWV IS = .175896 PSIA

THE MASS WEIGHT IS = 780404.5625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1545

DATE : 12/10/84

RTD 1	63.66	RTD 11	64.55
RTD 2	64.14	RTD 12	64.09
RTD 3	64.15	RTD 13	64.4
RTD 4	63.92	RTD 14	64.71
RTD 5	64.17	RTD 15	64.84
RTD 6	63.67	RTD 16	65.34
RTD 7	64.14	RTD 17	63.29
RTD 8	64.05	RTD 18	64.23
RTD 9	64.29	RTD 19	64.97
RTD 10	64.33	RTD 20	66

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3099 IN F  
= 524 IN R

PRESS 1 53.642                      PRESS 2 53.624

THE AVE PRESSURE IS = 53.633 PSIA

DEWPT 1	49.41	DEWPT 4	50.19
DEWPT 2	50.41	DEWPT 5	48.92
DEWPT 3	49.37		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.6198  
THE PWV IS = .17551 PSIA

THE MASS WEIGHT IS = 780378.5 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1600

DATE : 12/10/84

RTD 1	63.66	RTD 11	64.45
RTD 2	64.14	RTD 12	64.09
RTD 3	64.15	RTD 13	64.4
RTD 4	63.92	RTD 14	64.78
RTD 5	64.17	RTD 15	64.84
RTD 6	63.61	RTD 16	65.4
RTD 7	64.2	RTD 17	63.35
RTD 8	64.05	RTD 18	64.23
RTD 9	64.29	RTD 19	64.97
RTD 10	64.27	RTD 20	66

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3095 IN F  
= 523.999 IN R

PRESS 1 53.639

PRESS 2 53.621

THE AVE PRESSURE IS = 53.63 PSIA

DEWPT 1 49.42

DEWPT 4 50.31

DEWPT 2 50.36

DEWPT 5 49.03

DEWPT 3 49.19

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.622  
THE PWV IS = .175524 PSIA

THE MASS WEIGHT IS = 780335.1875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1615

DATE : 12/10/84

RTD 1	63.66	RTD 11	64.65
RTD 2	64.14	RTD 12	64.09
RTD 3	64.15	RTD 13	64.4
RTD 4	63.92	RTD 14	64.67
RTD 5	64.17	RTD 15	64.84
RTD 6	63.61	RTD 16	65.4
RTD 7	64.21	RTD 17	63.35
RTD 8	64.05	RTD 18	64.23
RTD 9	64.29	RTD 19	65.03
RTD 10	64.27	RTD 20	65.93

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.3153 IN F  
= 524.005 IN R

PRESS 1 53.635 PRESS 2 53.619

THE AVE PRESSURE IS = 53.627 PSIA

DEWPT 1	49.54	DEWPT 4	50.3
DEWPT 2	50.51	DEWPT 5	48.83
DEWPT 3	49.18		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.6513  
THE PWV IS = .175716 PSIA

THE MASS WEIGHT IS = 780279.875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1630

DATE : 12/10/84

RTD 1	63.66	RTD 11	64.5
RTD 2	64.14	RTD 12	64.04
RTD 3	64.15	RTD 13	64.4
RTD 4	63.92	RTD 14	64.71
RTD 5	64.11	RTD 15	64.77
RTD 6	63.61	RTD 16	65.4
RTD 7	64.15	RTD 17	63.35
RTD 8	64.05	RTD 18	64.23
RTD 9	64.29	RTD 19	64.97
RTD 10	64.27	RTD 20	65.93

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.294 IN F  
= 523.984 IN R

PRESS 1 53.632

PRESS 2 53.615

THE AVE PRESSURE IS = 53.6235 PSIA

DEWPT 1 49.44  
DEWPT 2 50.34  
DEWPT 3 49.42

DEWPT 4 50.29  
DEWPT 5 48.33

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5461  
THE PWV IS = .175029 PSIA

THE MASS WEIGHT IS = 780270.5 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1645

DATE : 12/10/84

RTD 1	63.6	RTD 11	64.48
RTD 2	64.14	RTD 12	64.09
RTD 3	64.15	RTD 13	64.4
RTD 4	63.92	RTD 14	64.71
RTD 5	64.11	RTD 15	64.77
RTD 6	63.6	RTD 16	65.4
RTD 7	64.15	RTD 17	63.35
RTD 8	63.99	RTD 18	64.23
RTD 9	64.23	RTD 19	64.97
RTD 10	64.21	RTD 20	65.93

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.2817 IN F  
= 523.972 IN R

PRESS 1 53.629

PRESS 2 53.612

THE AVE PRESSURE IS = 53.6205 PSIA

DEWPT 1 49.41  
DEWPT 2 50.38  
DEWPT 3 49.66

DEWPT 4 50.27  
DEWPT 5 48.5

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.608  
THE PWV IS = .175433 PSIA

THE MASS WEIGHT IS = 780239.125 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1700

DATE : 12/10/84

RTD 1	63.66	RTD 11	64.49
RTD 2	64.07	RTD 12	64.07
RTD 3	64.14	RTD 13	64.34
RTD 4	63.86	RTD 14	64.62
RTD 5	64.11	RTD 15	64.77
RTD 6	63.58	RTD 16	65.41
RTD 7	64.15	RTD 17	63.35
RTD 8	63.99	RTD 18	64.23
RTD 9	64.23	RTD 19	64.97
RTD 10	64.18	RTD 20	65.88

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.2652 IN F  
= 523.955 IN R

PRESS 1 53.626

PRESS 2 53.609

THE AVE PRESSURE IS = 53.6175 PSIA

DEWPT 1 49.44  
DEWPT 2 50.24  
DEWPT 3 49.32

DEWPT 4 50.36  
DEWPT 5 48.14

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4926  
THE PWV IS = .17468 PSIA

THE MASS WEIGHT IS = 780231 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1715

DATE : 12/10/84

RTD 1	63.66	RTD 11	64.48
RTD 2	64.12	RTD 12	64.04
RTD 3	64.14	RTD 13	64.34
RTD 4	63.92	RTD 14	64.7
RTD 5	64.11	RTD 15	64.77
RTD 6	63.58	RTD 16	65.37
RTD 7	64.15	RTD 17	63.35
RTD 8	63.99	RTD 18	64.23
RTD 9	64.23	RTD 19	64.97
RTD 10	64.26	RTD 20	65.87

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.2753 IN F  
= 523.965 IN R

PRESS 1 53.623

PRESS 2 53.607

THE AVE PRESSURE IS = 53.615 PSIA

DEWPT 1 49.49  
DEWPT 2 50.29  
DEWPT 3 49.33

DEWPT 4 50.36  
DEWPT 5 48.74

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.6178  
THE PWV IS = .175497 PSIA

THE MASS WEIGHT IS = 780167.5625 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1730

DATE : 12/10/84

RTD 1	63.66	RTD 11	64.5
RTD 2	64.07	RTD 12	64.04
RTD 3	64.08	RTD 13	64.34
RTD 4	63.86	RTD 14	64.62
RTD 5	64.11	RTD 15	64.77
RTD 6	63.52	RTD 16	65.37
RTD 7	64.15	RTD 17	63.35
RTD 8	63.79	RTD 18	64.23
RTD 9	64.23	RTD 19	64.92
RTD 10	64.27	RTD 20	65.88

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.2588 IN F  
= 523.949 IN R

PRESS 1 53.62

PRESS 2 53.604

THE AVE PRESSURE IS = 53.612 PSIA

DEWPT 1 49.48  
DEWPT 2 50.42  
DEWPT 3 49.54

DEWPT 4 50.32  
DEWPT 5 47.52

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.4653  
THE P<sub>WV</sub> IS = .174503 PSIA

THE MASS WEIGHT IS = 780162.6875 LBM

APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1745

DATE : 12/10/84

RTD 1	63.6	RTD 11	64.64
RTD 2	64.05	RTD 12	64.04
RTD 3	64.12	RTD 13	64.34
RTD 4	63.86	RTD 14	64.55
RTD 5	64.11	RTD 15	64.77
RTD 6	63.55	RTD 16	65.31
RTD 7	64.09	RTD 17	63.29
RTD 8	63.99	RTD 18	64.23
RTD 9	64.29	RTD 19	64.97
RTD 10	64.2	RTD 20	65.9

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.2558 IN F  
= 523.946 IN R

PRESS 1 53.617

PRESS 2 53.601

THE AVE PRESSURE IS = 53.609 PSIA

DEWPT 1 49.42

DEWPT 4 50.34

DEWPT 2 50.34

DEWPT 5 48.54

DEWPT 3 49.38

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5753  
THE PWV IS = .175219 PSIA

THE MASS WEIGHT IS = 780113 LBM



APPENDIX E  
DAVIS BESSE 1984 ILRT  
SUMMARY OF VERIFICATION DATA

READINGS TAKEN AT TIME PERIOD : 1800

DATE : 12/10/84

RTD 1	63.6	RTD 11	64.64
RTD 2	64.05	RTD 12	63.98
RTD 3	64.12	RTD 13	64.34
RTD 4	65.86	RTD 14	64.53
RTD 5	64.11	RTD 15	64.77
RTD 6	63.55	RTD 16	65.24
RTD 7	64.09	RTD 17	63.23
RTD 8	63.99	RTD 18	64.17
RTD 9	64.23	RTD 19	64.99
RTD 10	64.18	RTD 20	65.82

THE AVE RTD WITH WEIGHTING FACTORS IS = 64.2378 IN F  
= 523.928 IN R

PRESS 1 53.614 PRESS 2 53.598

THE AVE PRESSURE IS = 53.606 PSIA

DEWPT 1	49.55	DEWPT 4	50.27
DEWPT 2	50.41	DEWPT 5	47.74
DEWPT 3	49.62		

THE AVE DEWPOINT WITH WEIGHTING FACTORS IS = 49.5284  
THE PWV IS = .174913 PSIA

THE MASS WEIGHT IS = 780100.5 LBM

APPENDIX F  
TYPE B AND C  
LEAKAGE RATE HISTORIES

DATE: 1980- CONTAINMENT VESSEL LOCAL LEAK RATE TEST  
 1982 ST 5061.02  
 ADDITIONAL TESTS

Pent No	Valves	Valve Leakage As Left SCCM	Pent Leakage As Left SCCM	Comments
43B	CV5011E	0	0	10-6-80
44B	NN58	1000	1000	7-11-80
67	CV 210	370	370	7-30-80
80	Emergency Lock (Volumetric)	0	0	11-10-80
80	Emergency Lock (Volumetric)	0	0	5-12-81
80	Emergency Lock (Volumetric)	0	0	9-11-81
81	Personnel Lock (Volumetric)	447	447	12-11-80
81	Personnel Lock (Volumetric)	791	791	5-29-81
81	Personnel Lock (Volumetric)	800	800	10-12-81
82	Equipment Hatch	50	50	9-29-80
82	Equipment Hatch	0	0	1-25-81
82	Equipment Hatch	0	0	4-20-81
82	Equipment Hatch	0	0	7-14-81

DATE: 1980-82 CONTAINMENT VESSEL LOCAL LEAK RATE TEST  
 ST 5061.02  
 ADDITIONAL TESTS

Pent No	Valves	Valve Leakage As Left SCCM	Pent Leakage As Left SCCM	Comments
82	Equipment Hatch	0	0	11-28-81
102	Elect Penetration	0	0	1-28-81
101	Elect Penetration	0	0	1-28-81

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
1	RC240A	0	0			
	RC240E	303	303	303	303	
3	CC 1411A, CC 1411B	> 3800	0	> 3800	0	
4	CC 1407A, CC 1407B	40	40	40	40	
8A	CV 5070, CV 5080	2000	2000	2000	2000	
8B	CV 5071, CV 5081	1202	1202	1202	1202	
8C	CV 5072, CV 5082	0	0	0	0	
8D	CV 5073, CV 5083	0	0	0	0	
8E	CV 5074, CV 5084	180	180	180	180	
8F	CV 5075, CV 5085	0	0	0	0	
8G	CV 5076, CV 5086	0	0	0	0	
8H	CV 5077, CV 5087	0	0	0	0	
8I	CV 5078, CV 5088	0	0	0	0	
8J	CV 5079, CV 5089	0	0	0	0	
12	CC 1567A	0	0			
	CC 1567B	0	0	0	0	
13	DR 2012A	50	50			
	DR 2012B	0	0	50	50	
14	MU 3	0	0			
	MU 2A	0	0	0	0	
16	RC 1719A	0	0			
	RC 1719B	0	0	0	0	
17	CV 343	248	248			
	Blind Flanges	248	248	248	248	
19	MU 33	35	35	35	35	

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
21	DW 6831A	0	0			*Penetration could not be pressurized
	DW 6831B	0	0	0	0	
23	Fuel Trans Fling	0	0			
	Fuel Trans Fling	0	0	0	0	
24	Fuel Trans Fling	0	0			
	Fuel Trans Fling	0	0	0	0	
25	SA 532, SA 536	0	0			
	CS 33	0	0	0	0	
	CS 17	0	0			
26	SA 533, SA 535	0	0			
	CS 36	0	0	0	0	
	CS 18	0	0			
29	DH 23	0	0	0	0	
30	Emer. Sump Guard	0	0	0	0	
31	Emer. Sump Guard	0	0	0	0	
32	RC 1773A	0	0			
	RC 1773B	0	0	0	0	
33	CV 5005, CV 5006	*	17,400	*	17,400	
34	CV 5007, CV 5008	3,796	3,796	3,796	3,796	
37	Feed Wtr Inner Bellows	0	0			
	Feed Wtr Outer Bellows	0	0	0	0	
38	Feed Wtr Inner Bellows	0	0			
	Feed Wtr Outer Bellows	0	0	0	0	
39	Main Steam Inner Bellows	0	0			
	Main Steam Outer Bellows	0	0	0	0	
40	Main Steam Inner Bellows	0	0			
	Main Steam Outer Bellows	0	0	0	0	

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
41	RC 113	0	0	0	0	
	RC 232	0	0			
42A	SA 502	> 3,800	1,298	> 3,800	1,298	
	SA 2010	> 3,800	0			
42B	CV 124	0	0	0	0	
	CV 5010E	0	0			
43A	IA 501	251	251	251	251	
	IA 2011	198	198			
43B	CV 125	> 3,800	0	> 3,800	0	
	CV 5011E	0	0			
44A	CF 15	727	727	> 3,800	727	
	CF 1541	> 3,800	80			
44B	NN 58	954	0	954	100	
	NN 236	100	100			
47A	CF 1545	75	75	75	75	
	CF 2A	75	75			
	CF 2B	0	0			
47B	CF 5A	0	0	90	90	
	CF 5B	0	0			
	CF 1542	90	90			
48	RC 229A	0	0	0	0	
	RC 229B	0	0			
49	DH 87	0	0	0	0	
	DH 88	0	0			
51	DH 5037, DH 5038	0	0	0	0	

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
52	MU 242	3,577	238	3,577	238	
	MU 66A	2,096	0			
53	MU 243	0	0	1,996	0	
	MU 66B	1,996	0			
54	MU 244	605	605	605	605	
	MU 66C	0	0			
55	MU 245	0	0	25	25	
	MU 66D	25	25			
56	MU 38, MU 59A,B,C,D	0	0	0	0	
59	Blind Flanges	0	0	0	0	
67	CV 210	1,447	324	2,500	864	
	CV 5090	2,500	864			
68A	SS 235A	90	90	90	90	
	SS 235B	0	0			
68B	CV 5010B, CV 5011B	0	0	0	0	
69	CV 209	361	361	601	601	
	CV 5065	601	601			
71B	CV 5010A, CV 5011A	*	20	*	20	
71C	CF 16	677	754	677	754	
	CF 1544	0	0			
73B	CV 5010C, CV 5011C	0	0	0	0	
74B	CV 5010D, CV 5011D	49	49	49	49	
74C	DH 2735	0	0	0	0	
	DH 2736	0	0			
80	Emer. Lock	0	0	0	0	
81	Personnel Lock	0	0	0	0	

\*Penetration could not be pressurized



Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
82	Equip. Hatch	0	0	0	0	
101	Elect. Pent.	0	0	0	0	
102	Elect. Pent.	0	0	0	0	

LEAKAGE TOTAL

31,041

ADDITIONAL TESTS

Pent No	Valves	Valve Leakage As Left SCCM	Pent Leakage As Left SCCM	Comments
101	PIP3BX	0	0	7-17-82
101	P2L4GX	0	0	7-23-82
80	Emergency Hatch	266	266	9-14-82
81	Personnel Lock	296	296	9-15-82
80	Emergency Lock	1,016	1,016	1-19-83
81	Personnel Lock	1,742	1,742	1-19-83
80	Emergency Lock	0	0	5-26-83
81	Personnel Lock	0	0	3-27-83

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
1	RC240A	0	0	0	0	*Penetration could not be pressurized On Pen. 3 only CC1411B was worked
	RC240B	0	0			
3	CC 1411A, CC 1411B	*	0	*	0	
4	CC 1407A, CC 1407B	610,000	2,900	610,000	2,900	
8A	CV 5070, CV 5080	0	0	0	0	
8B	CV 5071, CV 5081	0	0	0	0	
8C	CV 5072, CV 5082	0	0	0	0	
8D	CV 5073, CV 5083	0	0	0	0	
8E	CV 5074, CV 5084	0	0	0	0	
8F	CV 5075, CV 5085	0	0	0	0	
8G	CV 5076, CV 5086	0	0	0	0	
8H	CV 5077, CV 5087	0	0	0	0	
8I	CV 5078, CV 5088	0	0	0	0	
8J	CV 5079, CV 5089	0	0	0	0	
12	CC 1567A	0	0	0	0	
	CC 1567B	0	0			
13	DR 2012A	350,000	0	350,000	0	
	DR 2012B	0	0			
14	MU 3	0	0	0	0	
	MU 2A	0	0			
16	RC 1719A	0	0	0	0	
	RC 1719B	0	0			
17	CV 343	250	250	270	270	
	Blind Flanges	270	270			
19	MU 33	0	0	0	0	

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
21	DW 6831A	700	700	725	725	
	DW 6831B	725	725			
23	Fuel Trans Flng	0	0	0	0	
	Fuel Trans Flng	0	0			
24	Fuel Trans Flng	0	0	0	0	
	Fuel Trans Flng	0	0			
25	SA 532, SA 536	50	50	50	50	
	CS 33	0	0			
	CS 17	0	0			
26	SA 533, SA 535	0	0	0	0	
	CS 36	0	0			
	CS 18	0	0			
29	DH 23	0	0	0	0	
30	Emer. Sump Guard	0	0	0	0	
31	Emer. Sump Guard	0	0	0	0	
32	RC 1773A	0	0	0	0	
	RC 1773B	0	0			
33	CV 5005, CV 5006	395	395	395	395	
34	CV 5007, CV 5008	960	960	960	960	
37	Feed Wtr Inner Bellows	0	0	0	0	
	Feed Wtr Outer Bellows	0	0			
38	Feed Wtr Inner Bellows	0	0	0	0	
	Feed Wtr Outer Bellows	0	0			
39	Main Steam Inner Bellows	0	0	0	0	
	Main Steam Outer Bellows	0	0			
40	Main Steam Inner Bellows	0	0	0	0	
	Main Steam Outer Bellows	0	0			

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
41	RC 113	0	0	165	165	
	RC 232	165	165			
42A	SA 502	0	0	68,600	735	
	SA 2010	68,600	735			
42B	CV 124	260	260	260	260	
	CV 5010E	0	0			
43A	TA 501	130	130	175	175	
	TA 2011	175	175			
43B	CV 125	0	0	0	0	
	CV 5011E	0	0			
44A	CF 15	0	0	0	0	
	CF 1541	0	0			
44B	NN 58	595	595	795	795	
	NN 236	795	795			
47A	CF 1545	0	0	0	0	
	CF 2A	0	0			
	CF 2B	0	0			
47B	CF 5A	0	0	60	60	
	CF 5B	0	0			
	CF 1542	60	60			
48	RC 229A	0	0	0	0	
	RC 229B	0	0			
49	DH 87	195	195	195	195	
	DH 88	0	0			
51	DH 5037, DH 5038	0	0	0	0	

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
52	MU 242	110	110	110	110	
	MU 66A	0	0			
53	MU 243	0	0	0	0	
	MU 66B	0	0			
54	MU 244	1,655	1,655	1,655	1,655	
	MU 66C	0	0			
55	MU 245	0	0	0	0	
	MU 66D	0	0			
56	MU 38, MU 59A,B,C,D	0	0	0	0	
59	Blind Flanges	0	0	0	0	
67	CV 210	365	365	1,235	1,235	
	CV 5090	1,235	1,235			
68A	SS 235A	40	40	40	40	
	SS 235B	0	0			
68B	CV 5010B, CV 5011B	0	0	0	0	
69	CV 209	40	40	40	40	
	CV 5065	0	0			
71B	CV 5010A, CV 5011A	0	0	0	0	
71C	CF 16	420	420	420	420	
	CF 1544	0	0			
73B	CV 5010C, CV 5011C	0	0	0	0	
74B	CV 5010D, CV 5011D	0	0	0	0	
74C	DH 2735	0	0	0	0	
	DH 2736	0	0			
80	Emer. Lock	---	---	---	---	
81	Personnel Lock	---	---	---	---	

81 & 80 not  
Included in this  
package

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
82	Equip. Hatch	0	0	0	0	
101	Elect. Pent.	0	0	0	0	
102	Elect. Pent.	40	40	40	40	

TOTAL LEAKAGE

11,225

DATE: 1983884 CONTAINMENT VESSEL LOCAL LEAK RATE TEST  
 ST 5061.02  
 ADDITIONAL TESTS

Pent No	Valves	Valve Leakage As Left SCCM	Pent Leakage As Left SCCM	Comments
1	RC 24JB	0	0	9-24-83
67	CV 5090-H <sub>2</sub> dil supply	175	175	9-28-83
43B	CHT Air Sample Return CV 5011E	0	0	9-29-83
80	Emergency Lock	0	0	12-6-83
81	Personnel Lock	40	40	12-6-83
74C	Przr Aux Spray DH 2735	165	165	3-3-84
81	Personnel Lock	40	40	4-3-84
80	Emergency Lock	0	0	4-4-84



Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
1	RC240A	0 <sup>+</sup>	0	0	0	Only CC1411B was worked *Penetration could not be pressurized
	RC240B	0 <sup>+</sup>	0			
3	CC 1411A, CC 1411B	*	423	*	423	
4	CC 1407A, CC 1407B	2,330 <sup>+</sup>	2,330	2,330	2,330	
8A	CV 5070, CV 5080	397	397	397	397	
8B	CV 5071, CV 5081	30	30	30	30	
8C	CV 5072, CV 5082	0	0	0	0	
8D	CV 5073, CV 5083	0	0	0	0	
8E	CV 5074, CV 5084	249	249	249	249	
8F	CV 5075, CV 5085	100	100	100	100	
8G	CV 5076, CV 5086	50	50	50	50	
8H	CV 5077, CV 5087	80	80	80	80	
8I	CV 5078, CV 5088	100	100	100	100	
8J	CV 5079, CV 5089	100	100	100	100	
12	CC 1567A	0	0	0	0	
	CC 1567B	0 <sup>+</sup>	0			
13	DR 2012A	300	300	329	329	
	DR 2012B	329 <sup>+</sup>	329			
14	MU 3	400	400	400	400	
	MU 2A	0	0			
16	RC 1719A	0	0	0	0	
	RC 1719B	0	0			
17	CV 343	199	119	228	168	
	Blind Flanges	228	168			
19	MU 33	0	0	0	0	

Pent No	Valves	Vaive Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
21	DW 6831A	129	129	129	129	
	DW 6831B	40	40			
23	Fuel Trans Flng	0	0	0	0	
	Fuel Trans Flng	0	0			
24	Fuel Trans Flng	0	0	0	0	
	Fuel Trans Flng	0	0			
25	SA 532, SA 536	0	0	73	73	
	CS 33	73	73			
	CS 17	0	0			
26	SA 533, SA 535	100	100	100	100	
	CS 36	0	0			
	CS 18	0	0			
29	DII 23	0	0	0	0	
30	Emer. Sump Guard	0	0	0	0	
31	Emer. Sump Guard	0	0	0	0	
32	RC 1773A	0	0	0	0	
	RC 1773B	0	0			
33	CV 5005, CV 5006	700,000	504	700,000	504	
34	CV 5007, CV 5008	371	1,188	371	1,188	
37	Feed Wtr Inner Bellows	0	0	0	0	
	Feed Wtr Outer Bellows	0	0			
38	Feed Wtr Inner Bellows	0	0	0	0	
	Feed Wtr Outer Bellows	0	0			
39	Main Steam Inner Bellows	0	0	0	0	
	Main Steam Outer Bellows	0	0			
40	Main Steam Inner Bellows	0	0	0	0	
	Main Steam Outer Bellows	0	0			

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
41	RC 113	34,400	0	34,400	368	*Penetration could not be pressurized
	RC 232	368	368			
42A	SA 502	89	89	11,814	280	
	SA 2010	11,814	280			
42B	CV 124	330	330	330	330	
	CV 5010E	0 <sup>+</sup>	0			
43A	IA 501	90	90	90	90	
	IA 2011	30	30			
43B	CV 125	0	0	0	0	
	CV 5011E	0	0			
44A	CF 15	775	775	*	1,869	
	CF 1541	*	1,869			
44B	NN 58	0	0	0	0	
	NN 236	0	0			
47A	CF 1545	100	100	161	161	
	CF 2A	161	161			
	CF 2B	0	0			
47B	CF 5A	65	65	125	125	
	CF 5B	60 <sup>+</sup>	60			
	CF 1542	100	100			
48	RC 229A	0	0	0	0	
	RC 229B	0	0			
49	DH 87	0	0	0	0	
	DH 88	0	0			
51	DH 5037, DH 5038	0	0	0	0	

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
52	MU 242	1,191	1,191	1,191	1,191	
	MU 66A	0	0			
53	MU 243	0	0	0	0	
	MU 66B	0	0			
54	MU 244	1,494	1,494	1,494	1,494	
	MU 66C	0	0			
55	MU 245	178	178	178	178	
	MU 66D	0	0			
56	MU 38, MU 59A,B,C,D	0	0	0	0	
59	Blind Flanges	75	75	75	75	
67	CV 210	966	966	966	966	
	CV 5090	247	247			
68A	SS 235A	0	0	0	0	
	SS 235B	0	0			
68B	CV 5010B, CV 5011B	0	0	0	0	
69	CV 209	0	0	0	0	
	CV 5065	0	0			
71B	CV 5010A, CV 5011A	0	0	0	0	
71C	CF 16	853	853	853	853	
	CF 1544	0	0			
73B	CV 5010C, CV 5011C	0	0	0	0	
74B	CV 5010D, CV 5011D	0 <sup>+</sup>	0	0	0	
74C	DH 2735	0 <sup>+</sup>	0	0	0	
	DH 2736	0 <sup>+</sup>	0			
80	Emer. Lock	826	826	826	826	
81	Personnel Lock	*	1,743	*	1,743	

\*Penetration could not be pressurized. Only lower interior handwheel on exterior door was adjusted.

Pent No	Valves	Valve Leakage		Penetration Leakage		Comments
		As Found SCCM	As Left SCCM	As Found SCCM	As Left SCCM	
82	Equip. Hatch	0	0	0	0	
101	Elect. Pent.	0	0	0	0	
102	Elect. Pent.	0	0	0	0	
73A	Pressure Sensing Line	0	0	0	0	73A tested since ILRT performed in 1984.
TOTAL LEAKAGE					17,299	

\*Maintenance Performed on Valve