

COMANCHE PEAK STEAM ELECTRIC STATION

REACTOR CONTAINMENT BUILDING

UNIT ONE

PREOPERATIONAL

INTEGRATED LEAK RATE TEST

1983

DOCKET NUMBER 50-445

TEXAS UTILITIES GENERATING COMPANY

ILRT Test Summary

1.0 Introduction

1.1 General Data:

The Comanche Peak Steam Electric Station (CPSES) Unit 1 preoperational Containment Integrated Leakage Rate Test was conducted during the period from January 18, 1983 to February 2, 1983. Both a reduced pressure and a peak pressure test were conducted in accordance with 10CFR50, Appendix J, Reactor Containment Leakage Testing for Water Cooled Power Reactors.

1.2 Technical Data:

The containment building at CPSES is a reinforced concrete structure with a carbon steel liner. The structure contains a net free volume of 2,919,893 cubic feet. The design pressure is 50 psig and the calculated peak accident pressure is 48.1 psig. The design temperature is 120°F and the calculated peak accident temperature is 280°F. The Technical Specification limit for the containment leakage (La) is 0.1 percent by weight of the containment air per 24 hours at pressure Pa (48.1 psig).

2.0 Test Summary

The Comanche Peak Steam Electric Station Unit One preoperational containment Integrated Leak Rate Test (ILRT) was conducted concurrently with the Structural Integrity Test (SIT) as shown on Figure 1. Immediately prior to closing the containment building for the SIT/ILRT test, a pre-test containment survey was conducted to ensure the building was properly prepared for the tests. No deficiencies were found during this inspection. The containment was pressurized for the SIT in five (5) increments to a peak pressure of 57.5 psig.

The containment was subsequently depressurized to 12.5 psig to allow personnel entry to check for leakage on the steam generators. A number of instrument valves were found to be leaking and were reclosed to better seat the valves and stop the leakage.

After completing the entry, the containment was pressurized to Pt (24.05 psig) for the reduced pressure test. Both reduced pressure and full pressure tests were conducted to meet 10CFR50, Appendix J requirements. A temperature stabilization period of approximately five hours preceded the reduced pressure leakage measurement. Leakage data was taken for 25 hours at Pt to ensure sufficient data was contained for a reliable test indication. The resultant leakage rate Ltm was 0.02026%/day and the upper confidence limit (UCL) was 0.02559%/day. At the end of the reduced pressure test, a verification test was performed by superimposing a known leak of Lt for approximately eight hours.

The containment pressure was next increased to Pa (48.1 psig) for the peak pressure ILRT. A temperature stabilization period of five hours was allowed prior to taking leakage data. The leakage measurement was started but was terminated after about nine hours when it became apparent the leakage rate was excessive. The containment was again depressurized to 12.5 psig to allow entry. A number of valves, packings, and fittings on the steam generators were found to be leaking and were tightened.

The containment was repressurized to Pa to start another leakage measurement. Another five hour temperature stabilization preceded the leakage measurement and the test was once again terminated after about 20 hours due to an excessive leakage rate. The containment was completely depressurized this time to allow more time for leak repairs. All four steam generators were thoroughly checked and various leaks repaired on instrument lines on the generators. Also, the ventilation penetrations were local tested to ensure that leakage through them was not the problem.

After about sixteen hours at atmospheric pressure, all checks and repairs were completed and the containment once again pressurized to Pa. This time a six hour temperature stabilization period preceded the leakage measurement. The leakage data was taken for 25 hours and the resultant leakage rate L_m was 0.05579%/day and the UCL was 0.05936%/day. Then the verification test was started by super-imposing a known leakage of L_a . The verification test was delayed about three hours due to a computer software error which incorrectly limited the superimposed leak. This error was found and corrected and the verification test completed after six hours. The containment was then depressurized to 5 psig for a Hydrogen Purge System preoperational test and then to atmospheric pressure to complete the ILRT.

After complete depressurization of containment, a post-test survey was conducted to check for any possible damage or abnormal conditions. No deficiencies were found during this inspection.

During the reduced pressure test, an electrical penetration was observed to be leaking excessively and its vent path was isolated. This penetration was left isolated during the peak pressure test also. Additionally, two more electrical penetrations were found leaking during the peak pressure test and their vent paths isolated. After the ILRT, the penetrations were pre-repair local leak tested. Penetrations E-49 and E-68 showed a minimal leakage rate, while penetration E-62 was 118 SCCM. Penetration E-62 was repaired and the post-repair leakage was less than 2 SCCM, which is acceptable. Penetrations E-49 and E-68 low leakage rates indicate a uni-directional leakage path since the local leak rate test is conducted in the opposite direction of the ILRT. These two penetrations have high voltage power cables in them whereas the other penetration, E-62, which was repaired, has smaller control cables in it. A determination of the leakage mechanism in these two penetrations has as yet not been determined. Further testing is forth coming and the results and necessary repairs will be a supplement to this report. No other penetrations, electrical or mechanical, required isolation during the conduct of the ILRT.

3.0 Plant Conditions

During the ILRT, the plant was maintained in a mode similar to that which would be expected during a periodic ILRT. To simulate post accident conditions, all systems that would not be expected to be fluid filled post accident were drained and vented to the containment atmosphere. The containment recirculation cooling units were in service to support ILRT testing and their corresponding penetrations were not drained or vented. The local leakage rate values for these two penetrations are additions to the measured UCL.

The reactor coolant system (RCS) was filled to a level of 35 percent in the pressurizer and the RCS was vented to containment through the pressurizer power operated relief valves. One train of the residual heat removal (RHR) system was in recirculation to the RCS to simulate core cooling and to provide letdown for the reactor coolant pump seal injection system which was in service.

During the entire test, the containment recirculation fans, whose blade pitch had been reset for the denser air, were in operation to provide containment atmosphere mixing. This resulted in a very small variation between temperature and dewpoint readings throughout the containment. To prevent the introduction of temperature variances during the ILRT, the chillers for the cooling water to the containment recirculation fans were secured.

All pressurized tanks, i.e. accumulators were depressurized and vented during the ILRT. Also, all compressed gas sources were removed from the containment, including fire extinguishers.

The electrical penetrations, which normally have 60 psig nitrogen gas applied between their seals, were depressurized to ensure no leakage of the nitrogen into the containment building. Each penetration was vented to atmosphere to provide a leakage path should the seals in the penetration assembly leak.

As an added precaution against possible fires, all equipment in the containment building not needed for the test was de-energized from outside the containment building. Also, all lighting in containment was turned off during the test.

4.0 Pressurization System

The containment was pressurized through an ILRT dedicated penetration, MIII-30. This is a twelve inch penetration through which the containment was both pressurized and depressurized. See Figure 2 for an illustration of the pressurization system.

A fleet of air compressors was used to supply the pressurization air. The air compressors were arranged in two banks, each of which connected to a coalescing filter for hydrocarbon removal. These were connected to a pair of air dryers which conditioned the incoming air to maintain a 40°F dewpoint. The two dryers were connected to a common demister and then through an eight inch line to penetration MIII-30. Also attached to this eight inch line is a blowdown silencer for use when depressurizing the containment. Inside the containment, a flow diverter was attached to the penetration to prevent the high velocity air flow from impinging on any equipment.

5.0 Instrumentation System

The instrumentation system for ILRT was based around a mini-computer controlled data acquisition system (DAS), see Figure 3. The DAS is capable of reading all sensors rapidly, storing the information and then outputting to the mini-computer for conversions and calculations on the data.

A system of 13 dewcells and 42 resistance thermometer devices (RTD) was installed throughout the containment as shown on Figures 4 through 8. These locations were selected to provide thorough coverage of the containment in order to provide an accurate representation of wet bulb and dry bulb temperatures. Each sensor was assigned a volume fraction and the containment average wet bulb and dry bulb temperatures were then computed. Just prior to closing the containment building for the ILRT, a temperature survey was conducted. This survey verified that the location of the temperature sensors was correct for each of the assigned volume fractions.

Connected to containment penetration MV-7 were two precision quartz pressure gauges to provide the containment total pressure. The total pressure less the vapor pressure, with temperature corrections, provides a corrected containment pressure.

Also connected to the DAS were an RTD, a dewcell and a barometer for monitoring the atmospheric conditions outside the containment building.

Two mass flowmeters were connected to the DAS to provide an indication of the superimposed leakage during the flow verification test, see Figure 9.

There were no instrument failures during the ILRT.

6.0 Instrument Selection Guide

The guidelines of ANSI/ANS-56.8-1981, Containment System Leakage Testing Requirements, were used to select the instruments for the ILRT. In addition, the formula from the Instrumentation Selection Guide (ISG) was used during the ILRT to ensure that the data acquisition system accuracy was sufficient to provide reliable test results. This formula utilizes the systematic error of each sensor to determine an overall value for the system. At the start and end of each test, the ISG value was acceptable if it did not exceed 0.25 La.

7.0 Calculation of Leakage Rate

7.1 Leakage Rate Test:

The method chosen for leakage rate calculation was the Absolute Method as recommended by both ANSI N45.4-1972 and ANSI/ANS-56.8-1981. This calculational technique was applied to the "mass-plot method" to determine the containment leakage rate.

In the mass-plot method the air mass inside containment is determined absolutely, utilizing the ideal gas law, at each time point and a least squares analysis is used to estimate the leakage rate. For each time point (t_i), the corresponding mass of contained air (W_i) is determined directly from the ideal gas law:

$$W_i = \frac{144V}{R} \frac{(P_i - P_{vi})}{T_i}$$

V - Containment free air volume
R - Gas constant for air
P - Containment total absolute pressure
P_v - Containment water vapor partial pressure
T - Containment mean absolute temperature

The linear least squares fit of the total number (n) of mass points is given by:

$$W_i = At_i + B$$

Where the slope (A) and intercept (B) are given by:

$$A = \frac{n(\sum W_i t_i) - (\sum W_i)(\sum t_i)}{n(\sum t_i^2) - (\sum t_i)^2}$$

and

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

The leakage rate is then expressed as the ratio of the rate of change of mass and the mass in containment at time $t_i=0$:

$$Lam = (-2400) (A/B) \text{ \%/day}$$

A = Mass rate of change
B = Initial contained mass
- 2400 Converts to \%/day

The Upper Confidence Limit (UCL) is established such that there is only a five percent probability that the actual leakage rate exceeds the UCL value. This value is approximated by:

$$UCL = Lam + 2400 t.95 SA/B$$

t.95 = 95th percentile of Student's t distribution

SA = Estimate of the standard deviation of A

7.2 Supplemental Test:

The supplement test was conducted by superimposing a known leak onto the existing leak. The known leak (L_o) was in the range of L_t or L_a as appropriate. The supplemental test is acceptable provided that the composite leakage (L_c) is within $\pm 0.25L_t$ or $\pm 0.25L_a$ of the sum of the measured leakage L_{tm} or L_{am} and the superimposed leakage L_o .

8.0 Data Analysis

The results of both the reduced pressure and peak pressure ILRT's are tabulated in Appendix A and B respectively.

During the test, data was taken at fifteen minute intervals to provide sufficient data for a good confidence level.

8.1 Reduced Pressure Test:

After pressurization to $24.05 \pm 1.0 - 0.0$ psig a temperature stabilization period was started which lasted approximately five hours. The containment atmosphere was considered to be stable when the last hourly average temperature was less than $\pm 0.5^\circ\text{F}$ different from the average temperature over the last four hours. The ILRT measurement was begun and lasted for 25 hours.

The reduced pressure test resulted in a measured leakage rate (L_{tm}) of 0.02026%/day with an upper confidence limit (UCL) of 0.02559%/day. Adding the penalty leakages, Appendix D, does not alter the UCL since the penalty leakages are so small. The UCL of 0.02559%/day is less than the allowable leakage 0.0272%/day ($0.75L_t$).

L_t was determined by the formula from 10CFR50, Appendix J:

$$\begin{aligned} L_t &= L_a (L_{tm}/L_{am}) \\ L_t &= 0.1\%/day (0.02026/0.05579) \\ L_t &= 0.036315\%/day \end{aligned}$$

The reduced pressure test is therefore acceptable since the UCL is less than 75 percent of the allowable reduced pressure leakage (L_t).

A verification test was subsequently performed by superimposing a leakage rate (L_o) of approximately L_t . The resulting L_o was 0.06864%/day with a composite leakage (L_c) of 0.09482%/day.

The acceptance criteria for the composite leakage (L_c) is:

$$\begin{aligned} L_c &= (L_o + L_{tm}) \pm 0.25L_t \%/day \\ L_c &= (0.06864 + 0.02026) \pm 0.25 (0.036315) \%/day \\ L_c &= 0.08890 \pm 0.0091\%/day \end{aligned}$$

or

$$0.07982 \leq L_c \leq 0.09798$$

The verification test is therefore acceptable since the composite leakage L_c (0.09482%/day) is within the required values, and this then provides confidence that the data acquisition system is functioning properly.

8.2 Peak Pressure Test:

The containment was pressurized to $48.1 + 1.4 - 0.0$ psig for the peak pressure test. The first test was terminated early due to excessive steam system boundary leakage. The containment was again pressurized and during the conduct of the second peak pressure test it was noted that there were large variations in containment air mass occurring. Upon examining the raw data, it was observed that humidity element (HE) number 10 was varying several degrees. These changes were occurring at the same times as the large air mass changes. Upon checking the volume fraction assignments, it was noted that HE-10 was assigned 56.8 percent of the total containment volume. This large volume fraction was causing the large air mass changes to occur in accordance with HE-10 changes. The volume fraction was reassigned such that four other groups received a portion of the volume fraction leaving HE-10 with a more representative volume. The computer program was updated to reflect these changes and no further problems were observed. See Appendix C for the volume fractions.

The second peak test was also terminated early due to an excessive leak rate. After complete depressurization for repairs, the containment was again repressurized to peak test pressure and the temperature stabilization period begun. The containment atmosphere was considered to be stable after approximately eight hours. The extra time for stabilization was allowed to ensure a good mixing of the containment atmosphere because of the prior depressurization to zero psig. The average temperature change at this time was less than 0.1°F .

The peak pressure leakage rate measurements lasted for approximately 24 hours resulting in a measured leakage rate (L_m) of 0.05579%/day and a UCL of 0.05936%/day. The allowable leakage rate (L_a) is 0.075%/day so the leakage rate is acceptable. The penalty leakage, Appendix D, has not been added to the UCL pending the results of the post-repair leakage rate for the three electrical penetrations which were isolated during the conduct of testing. However, the test results appear acceptable since the difference between L_a and UCL is 0.01564%/day which is greater than $3.8\text{E}06$ SCCM. This is far more leakage than would be added since each electrical penetration is allowed only about 2 SCCM leakage.

PAGE: 1

1-CP-PT-75-02 REDUCED PRESSURE (24.05 PSIG)

TEMPERATURE STABILIZATION

REAL TIME: 0301.21.03.54.10

***** TIME ***** #PRESSURE* ***** PRESSURE CHANGE ***** **TEMP** ***** TEMPERATURE CHANGE *****

DATA SET	REAL	ELAPSED (HRS)	INTERVAL (MIN)	PRESSURE (PSIA)	4HR AVE (PSI/HR)	1HR AVE (PSI/HR)	4HR - 1HR (PSI/HR)	DRY BULB (DEG F)	4HR AVE (DF/HR)	1HR AVE (DF/HR)	4HR - 1HR (DF/HR)	CRITERIA (DF/HR)
1	01.20.18.00.54	000.000	00.000	025.245	000.000	000.000	000.000	064.967	000.000	000.00	000.00	< 000.500
2	01.20.18.24.10	000.250	15.000	025.247	000.000	000.000	000.000	064.996	000.000	000.00	000.00	< 000.500
3	01.20.18.39.10	000.500	15.000	025.251	000.000	000.000	000.000	065.007	000.000	000.00	000.00	< 000.500
4	01.20.18.54.17	000.750	15.000	025.263	000.000	000.000	000.000	065.260	000.000	000.00	000.00	< 000.500
5	01.20.19.09.17	001.000	15.000	025.271	000.000	000.026	000.000	065.427	000.000	000.46	000.00	< 000.500
6	01.20.19.24.17	001.250	15.000	025.334	000.000	000.007	000.000	065.533	000.000	000.54	000.00	< 000.500
7	01.20.19.39.18	001.500	15.000	026.337	000.000	001.006	000.000	068.120	000.000	003.12	000.00	< 000.500
8	01.20.19.54.17	001.750	15.000	027.250	000.000	001.987	000.000	069.063	000.000	003.80	000.00	< 000.500
9	01.20.20.09.17	002.000	15.000	028.131	000.000	002.860	000.000	069.565	000.000	004.14	000.00	< 000.500
10	01.20.20.24.10	002.250	15.000	028.990	000.000	003.656	000.000	069.813	000.000	004.28	000.00	< 000.500
11	01.20.20.39.17	002.500	15.000	029.877	000.000	003.539	000.000	070.104	000.000	001.90	000.00	< 000.500
12	01.20.20.54.17	002.750	15.000	030.794	000.000	003.543	000.000	070.411	000.000	001.35	000.00	< 000.500
13	01.20.21.09.17	003.000	15.000	031.717	000.000	003.506	000.000	070.627	000.000	001.06	000.00	< 000.500
14	01.20.21.24.18	003.250	15.000	032.650	000.000	003.660	000.000	070.823	000.000	001.01	000.00	< 000.500
15	01.20.21.39.10	003.500	15.000	033.571	000.000	003.695	000.000	070.966	000.000	000.86	000.00	< 000.500
16	01.20.21.54.17	003.750	15.000	034.503	000.000	003.709	000.000	071.090	000.000	000.68	000.00	< 000.500
17	01.20.22.09.17	004.000	15.000	035.430	002.546	003.713	-01.167	071.215	001.562	000.59	000.97	< 000.500
18	01.20.22.24.17	004.250	15.000	036.359	002.770	003.709	-00.931	071.333	001.504	000.51	001.07	< 000.500
19	01.20.22.39.18	004.500	15.000	037.202	003.000	003.711	-00.703	071.418	001.603	000.45	001.15	< 000.500
20	01.20.22.54.17	004.750	15.000	038.205	003.236	003.703	-00.467	071.490	001.557	000.40	001.16	< 000.500
21	01.20.23.09.17	005.000	15.000	039.133	003.465	003.703	-00.237	071.582	001.539	000.37	001.17	< 000.500
22	01.20.23.24.17	005.250	15.000	039.526	003.540	003.167	000.381	070.766	001.308	-00.57	001.88	< 000.500
23	01.20.23.39.17	005.500	15.000	039.425	003.272	002.143	001.129	069.227	000.275	-02.19	002.47	< 000.500
24	01.20.23.54.10	005.750	15.000	039.375	003.031	001.169	001.862	068.503	-00.140	-02.99	002.85	< 000.500
25	01.21.00.09.17	006.000	15.000	039.340	002.004	000.216	002.509	068.145	-00.355	-03.44	003.00	< 000.500
26	01.21.00.24.17	006.250	15.000	039.332	002.506	-00.194	002.779	067.938	-00.469	-02.83	002.36	< 000.500
27	01.21.00.39.17	006.500	15.000	039.320	002.361	-00.105	002.466	067.771	-00.503	-01.46	000.87	< 000.500
28	01.21.00.54.17	006.750	15.000	039.312	002.130	-00.062	002.192	067.627	-00.696	-00.88	000.18	< 000.500
29	01.21.01.09.18	007.000	15.000	039.304	001.897	-00.044	001.941	067.504	-00.781	-00.64	-00.14	< 000.500
30	01.21.01.24.17	007.250	15.000	039.298	001.662	-00.034	001.696	067.423	-00.850	-00.51	-00.34	< 000.500
31	01.21.01.39.17	007.500	15.000	039.292	001.430	-00.020	001.458	067.367	-00.900	-00.40	-00.50	< 000.500
32	01.21.01.54.17	007.750	15.000	039.280	001.196	-00.024	001.221	067.338	-00.938	-00.29	-00.65	< 000.500
33	01.21.02.09.18	008.000	15.000	039.286	000.964	-00.018	000.982	067.274	-00.905	-00.23	-00.76	< 000.500
34	01.21.02.24.18	008.250	15.000	039.282	000.731	-00.016	000.747	067.240	-01.023	-00.18	-00.84	< 000.500
35	01.21.02.39.17	008.500	15.000	039.280	000.499	-00.012	000.511	067.206	-01.053	-00.16	-00.89	< 000.500
36	01.21.02.54.17	008.750	15.000	039.278	000.268	-00.010	000.278	067.192	-01.075	-00.15	-00.93	< 000.500
37	01.21.03.09.17	009.000	15.000	039.276	000.036	-00.010	000.046	067.174	-01.102	-00.10	-01.00	< 000.500
38	01.21.03.24.17	009.250	15.000	039.276	-00.062	-00.006	-00.056	067.152	-00.903	-00.09	-00.02	< 000.500
39	01.21.03.39.17	009.500	15.000	039.274	-00.030	-00.006	-00.032	067.134	-00.523	-00.07	-00.45	< 000.500
40	01.21.03.54.10	009.750	15.000	039.274	-00.025	-00.004	-00.021	067.136	-00.342	-00.06	-00.29	< 000.500

APPENDIX A

APPENDIX A

1-CP-P1-75-02 REDUCED PRESSURE (24.05 PSIG) INTEGRATED LEAK RATE TEST

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REAL TIME 03.01.22.05.03.30

COMPUTED DATA

***** TIME *****										*** PRESSURE ***										*** TEMPERATURE **										*** LEAKAGE AND ERROR PARAMETERS ***																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
DATA SET	REAL		ELAPSED (HRS)	DURATION (HRS)	MIN	INTERVAL (MIN)	TOTAL (PSIA)	VAPOR (PSIA)	DRY BULB (DEG F)	WET BULB (DEG F)	AIR WEIGHT (LBS)	LEAKAGE RATE (%/DAY)	HCL (%/DAY)	LEAK (%/DAY)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1	01	21	04	05	15	00	00	0	0	67.143	51.040	0.00000	0.00000	0.00000	0.00000	504713	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	

REAL TIME 03,01:22:05:03:30

COMPUTED DATA

***** TIME ***** **** PRESSURE **** *** TEMPERATURE ** **** LEAKAGE AND ERROR PARAMETERS ****

DATA SET	REAL	ELAPSED (HRS)	MIN. DURATION (HRS)	INTERVAL (MIN)	TOTAL (PSIA)	VAPOR (PSIA)	DRY BULB (DEG F)	WET BULB (DEG F)	AIR WEIGHT (LBM)	LEAKAGE RATE (Z /DAY)	UCL (Z /DAY)	LSL (Z /DAY)
45	01:21:15:03:30	011:000	0.000	15.00	39.314	0.1073	67.674	51.375	504691	00303	02215	01648
46	01:21:15:10:30	011:250	0.000	15.00	39.314	0.1060	67.684	51.189	504699	00290	02110	01611
47	01:21:15:33:39	011:500	0.000	15.00	39.316	0.1972	67.720	52.779	504521	01057	02945	01576
48	01:21:15:40:30	011:750	0.000	15.00	39.316	0.1023	67.711	50.656	504753	00755	02506	01542
49	01:21:16:03:39	012:000	0.000	15.00	39.310	0.1046	67.731	50.990	504720	00590	02352	01510
50	01:21:16:10:30	012:250	0.000	15.00	39.310	0.1077	67.751	51.432	504660	00705	02399	01479
51	01:21:16:33:30	012:500	0.000	15.00	39.320	0.1924	67.756	52.114	504613	00980	02627	01450
52	01:21:16:40:39	012:750	0.000	15.00	39.320	0.1003	67.754	51.510	504677	00991	02574	01421
53	01:21:17:03:39	013:000	0.000	15.00	39.320	0.1961	67.750	52.627	504556	01417	02990	01394
54	01:21:17:10:30	013:250	0.000	15.00	39.320	0.1009	67.750	51.617	504663	01440	02954	01360
55	01:21:17:33:30	013:500	0.000	15.00	39.320	0.1973	67.780	52.780	504514	01934	03464	01342
56	01:21:17:40:30	013:750	0.000	15.00	39.320	0.1912	67.754	51.930	504633	02004	03400	01310
57	01:21:18:03:30	014:000	0.000	15.00	39.320	0.1057	67.762	51.155	504706	01046	03277	01294
58	01:21:18:10:39	014:250	0.000	15.00	39.310	0.1960	67.749	52.607	504538	02106	03604	01272
59	01:21:18:33:39	014:500	0.000	15.00	39.310	0.1903	67.713	51.006	504663	02141	03511	01250
60	01:21:18:40:30	014:750	0.000	15.00	39.316	0.1071	67.714	51.346	504679	02053	03379	01229
61	01:21:19:03:30	015:000	0.000	15.00	39.316	0.1001	67.694	51.499	504606	01952	03230	01200
62	01:21:19:10:39	015:250	0.000	15.00	39.316	0.1071	67.680	51.347	504700	01003	03055	01160
63	01:21:19:33:30	015:500	0.000	15.00	39.316	0.1067	67.699	51.300	504701	01600	03097	01169
64	01:21:19:40:30	015:750	0.000	15.00	39.316	0.1903	67.669	51.005	504601	01614	02995	01151
65	01:21:20:03:30	016:000	0.000	15.00	39.316	0.1941	67.603	52.346	504609	01717	02865	01133
66	01:21:20:10:39	016:250	0.000	15.00	39.316	0.1940	67.608	52.449	504592	01046	02965	01115
67	01:21:20:33:39	016:500	0.000	15.00	39.316	0.1079	67.690	51.462	504694	01741	02831	01090
68	01:21:20:40:30	016:750	0.000	15.00	39.316	0.1936	67.607	52.271	504613	01014	02074	01062
69	01:21:21:03:30	017:000	0.000	15.00	39.316	0.1060	67.705	51.195	504705	01690	02725	01066
70	01:21:21:10:30	017:250	0.000	15.00	39.316	0.1093	67.716	51.660	504644	01695	02701	01051
71	01:21:21:33:39	017:500	0.000	15.00	39.310	0.1950	67.703	52.500	504591	01799	02701	01036
72	01:21:21:40:39	017:750	0.000	15.00	39.310	0.1936	67.745	52.275	504577	01920	02601	01021
73	01:21:22:03:39	018:000	0.000	15.00	39.320	0.1037	67.764	50.853	504735	01741	02690	01007
74	01:21:22:10:30	018:250	0.000	15.00	39.322	0.1093	67.772	51.673	504671	01607	02612	00993
75	01:21:22:33:30	018:500	0.000	15.00	39.324	0.1002	67.800	51.507	504600	01606	02509	00979
76	01:21:22:40:39	018:750	0.000	15.00	39.324	0.1903	67.804	51.811	504651	01592	02471	00966
77	01:21:23:03:30	019:000	0.000	15.00	39.324	0.1930	67.807	52.196	504600	01649	02507	00954
78	01:21:23:10:39	019:250	0.000	15.00	39.324	0.1911	67.802	51.924	504642	01646	02462	00941
79	01:21:23:33:30	019:500	0.000	15.00	39.324	0.1974	67.797	52.006	504553	01700	02605	00922
80	01:21:23:40:30	019:750	0.000	15.00	39.324	0.1920	67.803	52.171	504615	01009	02613	00910
81	01:22:00:03:39	020:000	0.000	15.00	39.324	0.1902	67.776	52.911	504565	01900	02697	00906
82	01:22:00:10:39	020:250	0.000	15.00	39.324	0.1964	67.795	52.672	504569	01991	02765	00895
83	01:22:00:33:39	020:500	0.000	15.00	39.324	0.1949	67.702	52.464	504607	02014	02770	00884
84	01:22:00:40:30	020:750	0.000	15.00	39.324	0.1970	67.773	52.756	504505	02063	02802	00873
85	01:22:01:03:30	021:000	0.000	15.00	39.322	0.1937	67.766	52.291	504613	02070	02792	00863
86	01:22:01:10:39	021:250	0.000	15.00	39.320	0.1920	67.726	52.051	504652	02023	02730	00853
87	01:22:01:33:30	021:500	0.000	15.00	39.320	0.1967	67.731	52.713	504576	02076	02760	00843
88	01:22:01:40:30	021:750	0.000	15.00	39.310	0.1900	67.697	51.004	504672	02003	02602	00833
89	01:22:02:03:30	022:000	0.000	15.00	39.316	0.1092	67.671	51.656	504695	01905	02575	00824
90	01:22:02:10:30	022:250	0.000	15.00	39.314	0.1940	67.652	52.439	504603	01922	02570	00815
91	01:22:02:33:30	022:500	0.000	15.00	39.314	0.1921	67.666	52.072	504627	01909	02551	00805
92	01:22:02:40:39	022:750	0.000	15.00	39.314	0.1923	67.647	52.090	504646	01074	02502	00797
93	01:22:03:03:30	023:000	0.000	15.00	39.312	0.1929	67.629	52.174	504627	01061	02476	00780
94	01:22:03:10:39	023:250	0.000	15.00	39.312	0.1948	67.625	52.439	504603	01074	02475	00760
95	01:22:03:33:30	023:500	0.000	15.00	39.312	0.1973	67.606	52.709	504506	01903	02493	00771
96	01:22:03:40:39	023:750	0.000	15.00	39.312	0.1951	67.593	52.492	504633	01000	02457	00763
97	01:22:04:03:30	024:000	0.000	15.00	39.312	0.1936	67.610	52.290	504637	01052	02410	00755
98	01:22:04:10:39	024:250	0.000	15.00	39.312	0.2027	67.597	53.532	504514	01950	02512	00747
99	01:22:04:33:30	024:500	0.000	15.00	39.310	0.1920	67.605	52.166	504624	01931	02462	00740
100	01:22:04:40:30	024:750	0.000	15.00	39.310	0.1979	67.596	52.879	504550	01970	02519	00732
101	01:22:05:03:30	025:000	0.000	15.00	39.310	0.1996	67.579	53.102	504551	02026	02559	00725

APPENDIX A

1-CP-PT-75-02 REDUCED PRESSURE (24.05 PSIG) VERIFICATION LEAKAGE TEST

PAGE 420

REAL TIME 03,01:22.13.34.31

COMPUTED DATA

***** TIME *****											
DATA SET	REAL	ELAPSED (HRS)	INTERVAL (MIN)	DRY BURB (DEG F)	WET BURB (DEG F)	TOTAL (PSIA)	VAPOR (PSIA)	LO (%/DAY)	(LO+14-0.25) (%/DAY)	LC (%/DAY)	(LO+14-0.25) (%/DAY)
1	03 22 05 10 49	0 000	0 000	67 570	53 709	39 310	0 1096	0.0023	0.0242	0 0000	0.0317
2	03 22 05 34 31	2 500	15 000	67 575	52 552	39 310	0 1250	0.0043	0.0101	0 0000	0.0266
3	03 22 05 49 32	5 000	15 000	67 580	52 263	39 310	0 1335	0.0096	0.0154	0 0000	0.0269
4	03 22 06 04 32	7 500	15 000	67 577	53 463	39 310	0 1222	0.0242	0.0203	0 0000	0.0216
5	03 22 06 19 32	1 000	15 000	67 572	52 305	39 300	0 1239	0.0539	0.0390	0 0000	0.0533
6	03 22 06 34 32	1 250	15 000	67 563	52 200	39 306	0 1333	0.0595	0.0213	0 0000	0.0547
7	03 22 06 49 32	1 500	15 000	67 562	52 350	39 306	0 1342	0.0105	0.0363	0 0000	0.0369
8	03 22 07 04 31	1 750	15 000	67 551	53 453	39 306	0 1223	0.0216	0.0474	0 0000	0.0477
9	03 22 07 19 31	2 000	15 000	67 537	52 149	39 304	0 1227	0.0306	0.0637	0 0000	0.0637
10	03 22 07 34 31	2 250	15 000	67 535	52 916	39 304	0 1227	0.0370	0.0657	0 0000	0.0657
11	03 22 07 49 31	2 500	15 000	67 497	52 537	39 302	0 1255	0.0430	0.0696	0 0000	0.0696
12	03 22 08 04 31	2 750	15 000	67 519	53 796	39 302	0 1247	0.0470	0.0740	0 0000	0.0740
13	03 22 08 19 31	3 000	15 000	67 479	52 640	39 300	0 1265	0.0535	0.0793	0 0000	0.0793
14	03 22 08 34 31	3 250	15 000	67 471	52 683	39 300	0 1265	0.0575	0.0835	0 0000	0.0835
15	03 22 08 49 31	3 500	15 000	67 463	53 686	39 290	0 1094	0.0607	0.0875	0 0000	0.0875
16	03 22 09 04 31	3 750	15 000	67 463	52 443	39 298	0 1248	0.0636	0.0919	0 0000	0.0919
17	03 22 09 19 31	4 000	15 000	67 477	52 740	39 298	0 1240	0.0661	0.0940	0 0000	0.0940
18	03 22 09 34 31	4 250	15 000	67 472	53 103	39 298	0 1296	0.0661	0.0940	0 0000	0.0940
19	03 22 09 49 31	4 500	15 000	67 493	53 703	39 290	0 1240	0.0670	0.0940	0 0000	0.0940
20	03 22 10 04 31	4 750	15 000	67 500	52 757	39 300	0 1271	0.0720	0.0976	0 0000	0.0976
21	03 22 10 19 31	5 000	15 000	67 504	53 733	39 300	0 1242	0.0730	0.0976	0 0000	0.0976
22	03 22 10 34 31	5 250	15 000	67 509	52 628	39 302	0 1210	0.0750	0.0999	0 0000	0.0999
23	03 22 10 49 31	5 500	15 000	67 547	53 700	39 302	0 1240	0.0764	0.0999	0 0000	0.0999
24	03 22 11 04 31	5 750	15 000	67 549	53 303	39 302	0 1211	0.0775	0.0999	0 0000	0.0999
25	03 22 11 19 31	6 000	15 000	67 500	53 145	39 304	0 1299	0.0767	0.0946	0 0000	0.0946
26	03 22 11 34 31	6 250	15 000	67 400	52 923	39 306	0 1203	0.0799	0.0952	0 0000	0.0952
27	03 22 11 49 31	6 500	15 000	67 623	53 067	39 306	0 1293	0.0807	0.0966	0 0000	0.0966
28	03 22 12 04 31	6 750	15 000	67 674	53 529	39 308	0 1267	0.0816	0.0973	0 0000	0.0973
29	03 22 12 19 32	7 000	15 000	67 636	52 234	39 308	0 1253	0.0825	0.0983	0 0000	0.0983
30	03 22 12 34 31	7 250	15 000	67 664	52 369	39 308	0 1279	0.0834	0.0992	0 0000	0.0992
31	03 22 12 49 31	7 500	15 000	67 679	53 635	39 310	0 1235	0.0842	0.1001	0 0000	0.1001
32	03 22 13 04 31	7 750	15 000	67 692	53 117	39 310	0 1297	0.0853	0.1011	0 0000	0.1011
33	03 22 13 19 32	8 000	15 000	67 697	52 325	39 312	0 1239	0.0858	0.1011	0 0000	0.1011
34	03 22 13 34 31	8 250	15 000	67 740	52 968	39 312	0 1206	0.0864	0.1022	0 0000	0.1022

APPENDIX B

1-CP-PT-75-02 PEAK PRESSURE (40.1 PSIG)															TEMPERATURE STABILIZATION														
***** TIME *****															*****														
DATA SET	REAL	ELAPSED (HRS)	INTERVAL (MIN)	PRESSURE (PSIA)	4HR AVE (PSI/HR)	1HR AVE (PSI/HR)	4HR - 1HR (PSI/HR)	DRY BULB (DEG F)	*****	4HR AVE (DF/HR)	1HR AVE (DF/HR)	4HR - 1HR (DF/HR)	TEMPERATURE CHANGE	*****	CRITERIA (DF/HR)														
1	01:27:20.30	40	000.000	063.830	000.000	000.000	000.000	074.907	000.000	000.000	000.00	000.00	000.00	000.500	000.500														
2	01:27:20.45	43	000.250	063.755	000.000	000.000	000.000	074.336	000.000	000.000	000.00	000.00	000.00	000.500	000.500														
3	01:27:21.00	43	000.500	063.703	000.000	000.000	000.000	073.943	000.000	000.000	000.00	000.00	000.00	000.500	000.500														
4	01:27:21.15	43	000.750	063.669	000.000	000.000	000.000	073.665	000.000	000.000	000.00	000.00	000.00	000.500	000.500														
5	01:27:21.30	43	001.000	063.642	000.000	-00.107	000.000	073.464	000.000	000.000	-01.52	000.00	000.00	000.500	000.500														
6	01:27:21.45	43	001.250	063.620	000.000	-00.135	000.000	073.296	000.000	000.000	-01.04	000.00	000.00	000.500	000.500														
7	01:27:22.00	43	001.500	063.602	000.000	-00.101	000.000	073.170	000.000	000.000	-00.77	000.00	000.00	000.500	000.500														
8	01:27:22.15	43	001.750	063.580	000.000	-00.081	000.000	073.071	000.000	000.000	-00.59	000.00	000.00	000.500	000.500														
9	01:27:22.30	44	002.000	063.576	000.000	-00.067	000.000	072.957	000.000	000.000	-00.51	000.00	000.00	000.500	000.500														
10	01:27:22.45	44	002.250	063.566	000.000	-00.054	000.000	072.893	000.000	000.000	-00.40	000.00	000.00	000.500	000.500														
11	01:27:23.00	44	002.500	063.556	000.000	-00.046	000.000	072.837	000.000	000.000	-00.33	000.00	000.00	000.500	000.500														
12	01:27:23.15	43	002.750	063.548	000.000	-00.040	000.000	072.766	000.000	000.000	-00.31	000.00	000.00	000.500	000.500														
13	01:27:23.30	43	003.000	063.542	000.000	-00.034	000.000	072.753	000.000	000.000	-00.20	000.00	000.00	000.500	000.500														
14	01:27:23.45	44	003.250	063.536	000.000	-00.030	000.000	072.696	000.000	000.000	-00.20	000.00	000.00	000.500	000.500														
15	01:28:00.00	43	003.500	063.532	000.000	-00.024	000.000	072.665	000.000	000.000	-00.17	000.00	000.00	000.500	000.500														
16	01:28:00.15	43	003.750	063.527	000.000	-00.020	000.000	072.640	000.000	000.000	-00.12	000.00	000.00	000.500	000.500														
17	01:28:00.30	43	004.000	063.521	-00.077	-00.020	000.000	072.602	-00.596	-00.15	-00.15	-00.44	000.00	000.500	000.500														
18	01:28:00.45	44	004.250	063.517	-00.059	-00.010	000.000	072.565	-00.443	-00.13	-00.13	-00.31	000.00	000.500	000.500														
19	01:28:01.00	43	004.500	063.511	-00.048	-00.020	000.000	072.507	-00.359	-00.16	-00.16	-00.20	000.00	000.500	000.500														
20	01:28:01.15	44	004.750	063.507	-00.040	-00.020	000.000	072.453	-00.303	-00.20	-00.20	-00.11	000.00	000.500	000.500														
21	01:28:01.30	43	005.000	063.499	-00.036	-00.022	000.000	072.425	-00.260	-00.10	-00.10	-00.08	000.00	000.500	000.500														
22	01:28:01.45	44	005.250	063.495	-00.031	-00.022	000.000	072.406	-00.222	-00.16	-00.16	-00.06	000.00	000.500	000.500														
23	01:28:02.00	44	005.500	063.491	-00.028	-00.020	000.000	072.393	-00.194	-00.11	-00.11	-00.08	000.00	000.500	000.500														
24	01:28:02.15	43	005.750	063.489	-00.025	-00.018	000.000	072.372	-00.175	-00.08	-00.08	-00.07	000.00	000.500	000.500														
25	01:28:02.30	44	006.000	063.485	-00.023	-00.014	000.000	072.344	-00.153	-00.03	-00.03	-00.07	000.00	000.500	000.500														
26	01:28:02.45	44	006.250	063.481	-00.021	-00.014	000.000	072.318	-00.144	-00.09	-00.09	-00.06	000.00	000.500	000.500														
27	01:28:03.00	43	006.500	063.479	-00.019	-00.012	000.000	072.300	-00.132	-00.09	-00.09	-00.05	000.00	000.500	000.500														
28	01:28:03.15	44	006.750	063.475	-00.018	-00.014	000.000	072.280	-00.119	-00.03	-00.03	-00.04	000.00	000.500	000.500														
29	01:28:03.30	44	007.000	063.473	-00.017	-00.012	000.000	072.262	-00.118	-00.06	-00.06	-00.08	000.00	000.500	000.500														
30	01:28:03.45	43	007.250	063.471	-00.016	-00.010	000.000	072.294	-00.100	-00.02	-00.02	-00.08	000.00	000.500	000.500														
31	01:28:04.00	43	007.500	063.467	-00.016	-00.012	000.000	072.240	-00.104	-00.06	-00.06	-00.04	000.00	000.500	000.500														
32	01:28:04.15	43	007.750	063.465	-00.016	-00.010	000.000	072.238	-00.102	-00.05	-00.05	-00.05	000.00	000.500	000.500														
33	01:28:04.30	43	008.000	063.461	-00.015	-00.012	000.000	072.240	-00.090	-00.04	-00.04	-00.05	000.00	000.500	000.500														
34	01:28:04.45	43	008.250	063.459	-00.015	-00.012	000.000	072.215	-00.087	-00.01	-00.01	-00.01	000.00	000.500	000.500														

PAGE: 6B

REAL TIME: 001:28:04.45.43

REAL TIME: 63,01:29:05:09.07

COMPUTED DATA

***** TIME ***** **** PRESSURE **** *** TEMPERATURE ** **** LEAKAGE AND ERROR PARAMETERS ****

DATA SET	REAL	ELAPSED (HRS)	MIN. DURATION (HRS)	INTERVAL (MIN)	TOTAL (PSIA)	VAPOR (PSIA)	DRY BULB (DEG F)	WET BULB (DEG F)	AIR WEIGHT (LBM)	LEAKAGE RATE (Z /DAY)	UCL (Z /DAY)	ISG (Z /DAY)
1	01:20:04:53:56	000.000	8.000	0.00	63.457	0.2412	72.215	58.323	936615	0.00000	0.00000	0.00000
2	01:20:05:09:06	000.250	8.000	15.00	63.455	0.2394	72.186	58.114	936663	0.00000	0.00000	0.00000
3	01:20:05:24:06	000.500	8.000	15.00	63.453	0.2365	72.190	57.772	936669	-0.27649	0.3915	20821
4	01:20:05:39:07	000.750	8.000	15.00	63.451	0.2350	72.157	57.597	936721	-0.34021	-0.24822	19214
5	01:20:05:54:06	001.000	8.000	15.00	63.449	0.2349	72.181	57.500	936649	-0.12099	0.4017	14411
6	01:20:06:09:07	001.250	8.000	15.00	63.451	0.2363	72.211	57.751	936606	0.09994	1.6700	11520
7	01:20:06:24:06	001.500	8.000	15.00	63.449	0.2343	72.197	57.509	936631	0.3103	1.3903	09607
8	01:20:06:39:06	001.750	8.000	15.00	63.447	0.2316	72.166	57.195	936694	-0.01590	0.7129	00235
9	01:20:06:54:06	002.000	8.000	15.00	63.447	0.2359	72.155	57.704	936651	-0.00764	0.5066	07205
10	01:20:07:09:07	002.250	8.000	15.00	63.449	0.2334	72.206	57.406	936620	0.0007	0.6421	06405
11	01:20:07:24:06	002.500	8.000	15.00	63.447	0.2290	72.180	56.804	936693	-0.01139	0.3605	05764
12	01:20:07:39:06	002.750	8.000	15.00	63.447	0.2280	72.187	56.757	936712	-0.03050	0.1199	05240
13	01:20:07:54:06	003.000	8.000	15.00	63.445	0.2373	72.102	57.067	936552	0.01200	0.6502	04004
14	01:20:08:09:06	003.250	8.000	15.00	63.445	0.2343	72.202	57.519	936561	0.03690	0.0627	04434
15	01:20:08:24:06	003.500	8.000	15.00	63.447	0.2393	72.206	58.106	936510	0.06500	1.1421	04117
16	01:20:08:39:06	003.750	8.000	15.00	63.445	0.2360	72.201	57.806	936527	0.07031	1.2273	03043
17	01:20:08:54:06	004.000	8.000	15.00	63.445	0.2302	72.226	57.030	936500	0.07546	1.1453	03603
18	01:20:09:09:06	004.250	8.000	15.00	63.443	0.2364	72.211	57.763	936405	0.08910	1.2579	03391
19	01:20:09:24:07	004.500	8.000	15.00	63.443	0.2371	72.178	57.040	936533	0.08974	1.2244	03202
20	01:20:09:39:06	004.750	8.000	15.00	63.443	0.2296	72.244	56.953	936527	0.08901	1.1914	03034
21	01:20:09:54:06	005.000	8.000	15.00	63.445	0.2344	72.225	57.524	936520	0.08963	1.1600	02802
22	01:20:10:09:07	005.250	8.000	15.00	63.443	0.2380	72.235	57.940	936419	0.10061	1.2659	02745
23	01:20:10:24:06	005.500	8.000	15.00	63.443	0.2299	72.221	56.987	936564	0.09174	1.1674	02620
24	01:20:10:39:06	005.750	8.000	15.00	63.437	0.2345	72.190	57.539	936460	0.09465	1.1765	02506
25	01:20:10:54:07	006.000	8.000	15.00	63.431	0.2330	72.142	57.450	936465	0.09561	1.1676	02402
26	01:20:11:09:06	006.250	8.000	15.00	63.427	0.2325	72.090	57.305	936503	0.09221	1.1194	02306
27	01:20:11:24:06	006.500	8.000	15.00	63.423	0.2369	72.080	57.015	936395	0.07754	1.1641	02217
28	01:20:11:39:06	006.750	8.000	15.00	63.423	0.2400	72.080	58.100	936350	0.10454	1.2317	02135
29	01:20:11:54:07	007.000	8.000	15.00	63.421	0.2355	72.083	57.660	936395	0.10620	1.2360	02059
30	01:20:12:09:07	007.250	8.000	15.00	63.419	0.2291	72.052	56.887	936515	0.09907	1.1658	01988
31	01:20:12:24:06	007.500	8.000	15.00	63.417	0.2209	72.067	56.865	936461	0.09500	1.1250	01922
32	01:20:12:39:07	007.750	8.000	15.00	63.415	0.2339	72.039	57.461	936407	0.09507	1.1143	01860
33	01:20:12:54:07	008.000	8.000	15.00	63.415	0.2360	72.046	57.009	936351	0.09041	1.1320	01802
34	01:20:13:09:06	008.250	8.000	15.00	63.423	0.2399	72.123	58.173	936290	0.10320	1.1779	01747
35	01:20:13:24:07	008.500	8.000	15.00	63.431	0.2311	72.156	57.135	936401	0.09740	1.1215	01696
36	01:20:13:39:06	008.750	8.000	15.00	63.435	0.2364	72.196	57.764	936392	0.09620	1.1017	01647
37	01:20:13:54:06	009.000	8.000	15.00	63.441	0.2353	72.261	57.630	936303	0.09515	1.0030	01601
38	01:20:14:09:06	009.250	8.000	15.00	63.445	0.2366	72.309	57.789	936330	0.09572	1.0026	01558
39	01:20:14:24:06	009.500	8.000	15.00	63.447	0.2322	72.325	57.262	936406	0.09317	1.0528	01517
40	01:20:14:39:06	009.750	8.000	15.00	63.447	0.2320	72.345	57.340	936362	0.09220	1.0302	01470
41	01:20:14:54:06	010.000	8.000	15.00	63.447	0.2409	72.326	58.206	936275	0.09432	1.0545	01441
42	01:20:15:09:06	010.250	8.000	15.00	63.447	0.2310	72.334	57.120	936409	0.09121	1.0210	01406
43	01:20:15:24:06	010.500	8.000	15.00	63.451	0.2324	72.382	57.289	936363	0.08972	1.0027	01372
44	01:20:15:39:06	010.750	8.000	15.00	63.451	0.2355	72.375	57.654	936328	0.08922	0.9929	01341

REAL TIME 83,01:29:05:09.07

COMPUTED DATA

***** TIME ***** **** PRESSURE **** *** TEMPERATURE ** **** LEAKAGE AND ERROR PARAMETERS ****

DATA SET	REAL	ELAPSED (HRS)	MIN DURATION (HRS)	INTERVAL (MIN)	TOTAL (PSIA)	VAPOR (PSIA)	DRY BULB (DEG F)	WET BULB (DEG F)	AIR WEIGHT (LBM)	LEAKAGE RATE (Z /DAY)	UCL (Z /DAY)	ISC (Z /DAY)
45	01:20:15:54:06	011.000	0.000	15.00	63.449	0.2333	72.362	57.401	936354	.08777	.09740	.01310
46	01:20:16:09:06	011.250	0.000	15.00	63.453	0.2355	72.412	57.650	936295	.08794	.09723	.01201
47	01:20:16:24:06	011.500	0.000	15.00	63.451	0.2301	72.392	57.014	936370	.08550	.09473	.01253
48	01:20:16:39:07	011.750	0.000	15.00	63.451	0.2359	72.302	57.704	936311	.08504	.09302	.01226
49	01:20:16:54:07	012.000	0.000	15.00	63.453	0.2346	72.415	57.540	936301	.08460	.09303	.01201
50	01:20:17:09:07	012.250	0.000	15.00	63.455	0.2340	72.448	57.479	936203	.08446	.09255	.01176
51	01:20:17:24:07	012.500	0.000	15.00	63.457	0.2409	72.439	58.208	936225	.08540	.09331	.01153
52	01:20:17:39:06	012.750	0.000	15.00	63.457	0.2358	72.463	57.691	936260	.08543	.09296	.01130
53	01:20:17:54:06	013.000	0.000	15.00	63.459	0.2336	72.476	57.433	936290	.08439	.09169	.01100
54	01:20:18:09:06	013.250	0.000	15.00	63.459	0.2330	72.506	57.362	936254	.08419	.09122	.01080
55	01:20:18:24:06	013.500	0.000	15.00	63.461	0.2207	72.402	56.844	936390	.08113	.08848	.01067
56	01:20:18:39:06	013.750	0.000	15.00	63.459	0.2324	72.493	57.291	936207	.08024	.08737	.01048
57	01:20:18:54:06	014.000	0.000	15.00	63.463	0.2369	72.507	57.820	936256	.07985	.08674	.01029
58	01:20:19:09:07	014.250	0.000	15.00	63.463	0.2320	72.508	57.332	936315	.07832	.08512	.01011
59	01:20:19:24:06	014.500	0.000	15.00	63.463	0.2342	72.509	57.501	936292	.07719	.08304	.00994
60	01:20:19:39:06	014.750	0.000	15.00	63.463	0.2295	72.510	56.942	936346	.07514	.08185	.00977
61	01:20:19:54:07	015.000	0.000	15.00	63.465	0.2370	72.550	57.831	936195	.07562	.08212	.00961
62	01:20:20:09:07	015.250	0.000	15.00	63.469	0.2320	72.599	57.339	936243	.07519	.08149	.00944
63	01:20:20:24:06	015.500	0.000	15.00	63.469	0.2339	72.594	57.464	936237	.07477	.08080	.00930
64	01:20:20:39:06	015.750	0.000	15.00	63.469	0.2296	72.506	56.957	936314	.07315	.07926	.00915
65	01:20:20:54:06	016.000	0.000	15.00	63.469	0.2351	72.500	57.612	936242	.07260	.07854	.00901
66	01:20:21:09:06	016.250	0.000	15.00	63.469	0.2300	72.595	57.095	936201	.07145	.07731	.00887
67	01:20:21:24:06	016.500	0.000	15.00	63.471	0.2340	72.612	57.474	936233	.07096	.07667	.00873
68	01:20:21:39:07	016.750	0.000	15.00	63.475	0.2294	72.637	56.922	936317	.06932	.07506	.00860
69	01:20:21:54:06	017.000	0.000	15.00	63.477	0.2306	72.602	57.071	936249	.06860	.07422	.00848
70	01:20:22:09:06	017.250	0.000	15.00	63.477	0.2353	72.606	57.636	936173	.06879	.07425	.00835
71	01:20:22:24:06	017.500	0.000	15.00	63.477	0.2304	72.603	57.040	936251	.06795	.07331	.00823
72	01:20:22:39:07	017.750	0.000	15.00	63.477	0.2360	72.666	57.713	936197	.06773	.07295	.00812
73	01:20:22:54:06	018.000	0.000	15.00	63.475	0.2344	72.653	57.527	936214	.06727	.07236	.00800
74	01:20:23:09:07	018.250	0.000	15.00	63.477	0.2313	72.673	57.156	936255	.06631	.07134	.00789
75	01:20:23:24:06	018.500	0.000	15.00	63.477	0.2291	72.605	56.886	936267	.06523	.07023	.00779
76	01:20:23:39:06	018.750	0.000	15.00	63.477	0.2305	72.680	57.064	936241	.06444	.06936	.00760
77	01:20:23:54:07	019.000	0.000	15.00	63.479	0.2353	72.712	57.629	936150	.06449	.06929	.00750
78	01:29:00:09:07	019.250	0.000	15.00	63.481	0.2336	72.722	57.436	936194	.06412	.06881	.00740
79	01:29:00:24:07	019.500	0.000	15.00	63.481	0.2310	72.720	57.217	936224	.06342	.06803	.00739
80	01:29:00:39:06	019.750	0.000	15.00	63.481	0.2354	72.749	57.642	936120	.06370	.06820	.00730
81	01:29:00:54:07	020.000	0.000	15.00	63.485	0.2295	72.775	56.449	936201	.06241	.06697	.00720
82	01:29:01:09:06	020.250	0.000	15.00	63.487	0.2374	72.700	57.883	936126	.06256	.06700	.00711
83	01:29:01:24:06	020.500	0.000	15.00	63.487	0.2340	72.777	57.402	936101	.06216	.06651	.00703
84	01:29:01:39:07	020.750	0.000	15.00	63.487	0.2271	72.767	56.652	936300	.06071	.06517	.00694
85	01:29:01:54:06	021.000	0.000	15.00	63.487	0.2302	72.744	57.022	936296	.05934	.06380	.00686
86	01:29:02:09:06	021.250	0.000	15.00	63.487	0.2317	72.791	57.203	936192	.05808	.06334	.00678
87	01:29:02:24:07	021.500	0.000	15.00	63.491	0.2347	72.825	57.566	936146	.05877	.06312	.00670
88	01:29:02:39:07	021.750	0.000	15.00	63.491	0.2350	72.834	57.602	936125	.05879	.06304	.00662
89	01:29:02:54:06	022.000	0.000	15.00	63.491	0.2290	72.810	56.971	936231	.05794	.06210	.00655
90	01:29:03:09:06	022.250	0.000	15.00	63.491	0.2300	72.827	57.099	936200	.05735	.06152	.00640
91	01:29:03:24:06	022.500	0.000	15.00	63.493	0.2340	72.850	57.370	936120	.05720	.06136	.00640
92	01:29:03:39:06	022.750	0.000	15.00	63.495	0.2362	72.867	57.739	936109	.05731	.06130	.00633
93	01:29:03:54:07	023.000	0.000	15.00	63.495	0.2321	72.874	57.247	936160	.05694	.06086	.00626
94	01:29:04:09:06	023.250	0.000	15.00	63.495	0.2327	72.867	57.329	936162	.05654	.06040	.00620
95	01:29:04:24:06	023.500	0.000	15.00	63.495	0.2342	72.877	57.505	936122	.05640	.06018	.00613
96	01:29:04:39:07	023.750	0.000	15.00	63.499	0.2349	72.915	57.586	936105	.05635	.06005	.00607
97	01:29:04:54:06	024.000	0.000	15.00	63.501	0.2316	72.932	57.188	936153	.05595	.05959	.00600
98	01:29:05:09:07	024.250	0.000	15.00	63.501	0.2376	72.904	57.902	936114	.05579	.05936	.00594

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1-CP-PT-75-02 PEAK PRESSURE (48.1 PSIG)

VERIFICATION LEAKAGE TEST

REAL TIME: 03:01:29:13:39:05

COMPUTED DATA

***** TIME *****											
			*** TEMPERATURE **		*** PRESSURE ***		***** LEAKAGE AND CRITERIA *****				
DATA SET	REAL	ELAPSED (HRS)	INTERVAL (MIN)	DRY BULB (DEG F)	WET BULB (DEG F)	TOTAL (PSIA)	VAPOR (PSIA)	LO (Z /DAY)	(LO+LAM-0.25LA) (Z /DAY)	LC (Z /DAY)	(LO+LAM+0.25LA) (Z /DAY)
1	01:29:07:23:52	0.000	0.000	73.005	57.162	63.505	0.2313	.09613	.12692 (=	0.00000 (=	.17692
2	01:29:07:39:05	.250	15.000	73.009	57.369	63.505	0.2331	.09617	.12695 (=	0.00000 (=	.17695
3	01:29:07:54:05	.500	15.000	73.006	57.311	63.505	0.2326	.09620	.12699 (=	.10305 (=	.17699
4	01:29:08:09:06	.750	15.000	73.002	57.455	63.505	0.2330	.09620	.12699 (=	.00327 (=	.17699
5	01:29:08:24:05	1.000	15.000	73.025	56.829	63.505	0.2286	.09622	.12701 (=	-.01112 (=	.17701
6	01:29:08:39:05	1.250	15.000	73.051	57.431	63.507	0.2336	.09623	.12702 (=	.09464 (=	.17702
7	01:29:08:54:05	1.500	15.000	73.040	57.010	63.505	0.2301	.09622	.12701 (=	.07674 (=	.17701
8	01:29:09:09:05	1.750	15.000	73.042	57.043	63.505	0.2304	.09623	.12701 (=	.06908 (=	.17701
9	01:29:09:24:06	2.000	15.000	73.066	57.165	63.507	0.2314	.09625	.12704 (=	.07922 (=	.17704
10	01:29:09:39:06	2.250	15.000	73.005	57.999	63.507	0.2304	.09624	.12703 (=	.15703 (=	.17703
11	01:29:09:54:05	2.500	15.000	73.072	57.088	63.507	0.2307	.09625	.12703 (=	.12917 (=	.17703
12	01:29:10:09:05	2.750	15.000	73.080	57.916	63.507	0.2377	.09625	.12704 (=	.15417 (=	.17704
13	01:29:10:24:05	3.000	15.000	73.100	57.424	63.507	0.2335	.09627	.12706 (=	.15525 (=	.17706
14	01:29:10:39:06	3.250	15.000	73.127	57.574	63.509	0.2348	.09627	.12706 (=	.16245 (=	.17706
15	01:29:10:54:05	3.500	15.000	73.140	58.205	63.509	0.2402	.09627	.12706 (=	.18921 (=	.17706
16	01:29:11:09:05	3.750	15.000	73.115	57.873	63.509	0.2374	.09625	.12704 (=	.18331 (=	.17704
17	01:29:11:24:05	4.000	15.000	73.108	57.599	63.509	0.2350	.09626	.12704 (=	.16633 (=	.17704
18	01:29:11:39:06	4.250	15.000	73.130	57.745	63.509	0.2363	.09627	.12705 (=	.16191 (=	.17705
19	01:29:11:54:05	4.500	15.000	73.172	57.495	63.511	0.2341	.09627	.12706 (=	.15806 (=	.17706
20	01:29:12:09:06	4.750	15.000	73.178	58.252	63.511	0.2406	.09628	.12706 (=	.16050 (=	.17706
21	01:29:12:24:05	5.000	15.000	73.183	57.598	63.511	0.2350	.09630	.12709 (=	.16419 (=	.17709
22	01:29:12:39:06	5.250	15.000	73.186	57.586	63.511	0.2349	.09630	.12709 (=	.15952 (=	.17709
23	01:29:12:54:05	5.500	15.000	73.191	57.872	63.511	0.2373	.09632	.12710 (=	.15933 (=	.17710
24	01:29:13:09:05	5.750	15.000	73.214	57.419	63.511	0.2335	.09633	.12712 (=	.15528 (=	.17712
25	01:29:13:24:06	6.000	15.000	73.216	57.211	63.511	0.2318	.09634	.12713 (=	.14954 (=	.17713
26	01:29:13:39:05	6.250	15.000	73.216	57.656	63.511	0.2355	.09635	.12714 (=	.14821 (=	.17714

APPENDIX B

ORIGINAL
VOLUME FRACTIONS

VOLUME FRACTION FOR TE 1 = 13653
 VOLUME FRACTION FOR TE 2 = 25784
 VOLUME FRACTION FOR TE 3 = 37398
 VOLUME FRACTION FOR TE 4 = 38953
 VOLUME FRACTION FOR TE 5 = 43202
 VOLUME FRACTION FOR TE 6 = 15456
 VOLUME FRACTION FOR TE 7 = 36456
 VOLUME FRACTION FOR TE 8 = 45919
 VOLUME FRACTION FOR TE 9 = 19403
 VOLUME FRACTION FOR TE 10 = 16800
 VOLUME FRACTION FOR TE 11 = 28325
 VOLUME FRACTION FOR TE 12 = 19403
 VOLUME FRACTION FOR TE 13 = 19403
 VOLUME FRACTION FOR TE 14 = 24105
 VOLUME FRACTION FOR TE 15 = 19402
 VOLUME FRACTION FOR TE 16 = 15603
 VOLUME FRACTION FOR TE 17 = 42085
 VOLUME FRACTION FOR TE 18 = 48103
 VOLUME FRACTION FOR TE 19 = 80508
 VOLUME FRACTION FOR TE 20 = 55393
 VOLUME FRACTION FOR TE 21 = 58852
 VOLUME FRACTION FOR TE 22 = 48103
 VOLUME FRACTION FOR TE 23 = 110011
 VOLUME FRACTION FOR TE 24 = 19403
 VOLUME FRACTION FOR TE 25 = 19403
 VOLUME FRACTION FOR TE 26 = 16800
 VOLUME FRACTION FOR TE 27 = 19403
 VOLUME FRACTION FOR TE 28 = 207249
 VOLUME FRACTION FOR TE 29 = 211905
 VOLUME FRACTION FOR TE 30 = 211905
 VOLUME FRACTION FOR TE 31 = 206606
 VOLUME FRACTION FOR TE 32 = 178076
 VOLUME FRACTION FOR TE 33 = 178076
 VOLUME FRACTION FOR TE 34 = 178076
 VOLUME FRACTION FOR TE 35 = 178076
 VOLUME FRACTION FOR TE 36 = 91891
 VOLUME FRACTION FOR TE 37 = 73465
 VOLUME FRACTION FOR TE 38 = 73465
 VOLUME FRACTION FOR TE 39 = 14169
 VOLUME FRACTION FOR TE 40 = 14169
 VOLUME FRACTION FOR TE 41 = 91891
 VOLUME FRACTION FOR TE 42 = 73465
 VOLUME FRACTION FOR DE 1 = 13653
 VOLUME FRACTION FOR DE 2 = 63182
 VOLUME FRACTION FOR DE 3 = 82155
 VOLUME FRACTION FOR DE 4 = 28325
 VOLUME FRACTION FOR DE 5 = 82375
 VOLUME FRACTION FOR DE 6 = 86575
 VOLUME FRACTION FOR DE 7 = 91781
 VOLUME FRACTION FOR DE 8 = 315561
 VOLUME FRACTION FOR DE 9 = 15456
 VOLUME FRACTION FOR DE 10 = 1.657543E+6
 VOLUME FRACTION FOR DE 11 = 312286
 VOLUME FRACTION FOR DE 12 = 74795
 VOLUME FRACTION FOR DE 13 = 96206
 NT= 42 NPV= 13 NP= 1

REDISTRIBUTED
VOLUME FRACTIONS

VOLUME FRACTION FOR TE 1 = 13653
 VOLUME FRACTION FOR TE 2 = 25784
 VOLUME FRACTION FOR TE 3 = 37398
 VOLUME FRACTION FOR TE 4 = 38953
 VOLUME FRACTION FOR TE 5 = 43202
 VOLUME FRACTION FOR TE 6 = 15456
 VOLUME FRACTION FOR TE 7 = 36456
 VOLUME FRACTION FOR TE 8 = 45919
 VOLUME FRACTION FOR TE 9 = 19403
 VOLUME FRACTION FOR TE 10 = 16800
 VOLUME FRACTION FOR TE 11 = 28325
 VOLUME FRACTION FOR TE 12 = 19403
 VOLUME FRACTION FOR TE 13 = 19403
 VOLUME FRACTION FOR TE 14 = 24105
 VOLUME FRACTION FOR TE 15 = 19402
 VOLUME FRACTION FOR TE 16 = 15603
 VOLUME FRACTION FOR TE 17 = 42085
 VOLUME FRACTION FOR TE 18 = 48103
 VOLUME FRACTION FOR TE 19 = 80508
 VOLUME FRACTION FOR TE 20 = 55393
 VOLUME FRACTION FOR TE 21 = 58852
 VOLUME FRACTION FOR TE 22 = 48103
 VOLUME FRACTION FOR TE 23 = 110011
 VOLUME FRACTION FOR TE 24 = 19403
 VOLUME FRACTION FOR TE 25 = 19403
 VOLUME FRACTION FOR TE 26 = 16800
 VOLUME FRACTION FOR TE 27 = 19403
 VOLUME FRACTION FOR TE 28 = 207249
 VOLUME FRACTION FOR TE 29 = 211905
 VOLUME FRACTION FOR TE 30 = 211905
 VOLUME FRACTION FOR TE 31 = 206606
 VOLUME FRACTION FOR TE 32 = 178076
 VOLUME FRACTION FOR TE 33 = 178076
 VOLUME FRACTION FOR TE 34 = 178076
 VOLUME FRACTION FOR TE 35 = 178076
 VOLUME FRACTION FOR TE 36 = 91891
 VOLUME FRACTION FOR TE 37 = 73465
 VOLUME FRACTION FOR TE 38 = 73465
 VOLUME FRACTION FOR TE 39 = 14169
 VOLUME FRACTION FOR TE 40 = 14169
 VOLUME FRACTION FOR TE 41 = 91891
 VOLUME FRACTION FOR TE 42 = 73465
 VOLUME FRACTION FOR DE 1 = 13653
 VOLUME FRACTION FOR DE 2 = 63182
 VOLUME FRACTION FOR DE 3 = 82155
 VOLUME FRACTION FOR DE 4 = 28325
 VOLUME FRACTION FOR DE 5 = 82375
 VOLUME FRACTION FOR DE 6 = 86575
 VOLUME FRACTION FOR DE 7 = 91781
 VOLUME FRACTION FOR DE 8 = 647070
 VOLUME FRACTION FOR DE 9 = 15456
 VOLUME FRACTION FOR DE 10 = 331507
 VOLUME FRACTION FOR DE 11 = 643795
 VOLUME FRACTION FOR DE 12 = 406304
 VOLUME FRACTION FOR DE 13 = 427715
 NT= 42 NPV= 13 NP= 1

APPENDIX D

PENALTY LEAKAGE LIST

<u>Pentration</u>	<u>Service</u>	<u>Type C Leakage (SCCM)</u>
MV-12	Chilled Water Supply to Containment Coolers	80
MV-13	Chilled Water Return from Containment Coolers	500
MIII-30	ILRT Pressurization Pipe Penetration	20
MV-7	ILRT Pressure Sensing Penetration	10
E-49	Electrical	*
E-62	Electrical	2
E-68	Electrical	*

*To be determined after further evaluation

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ILRT AIR DRYER

Figure 2

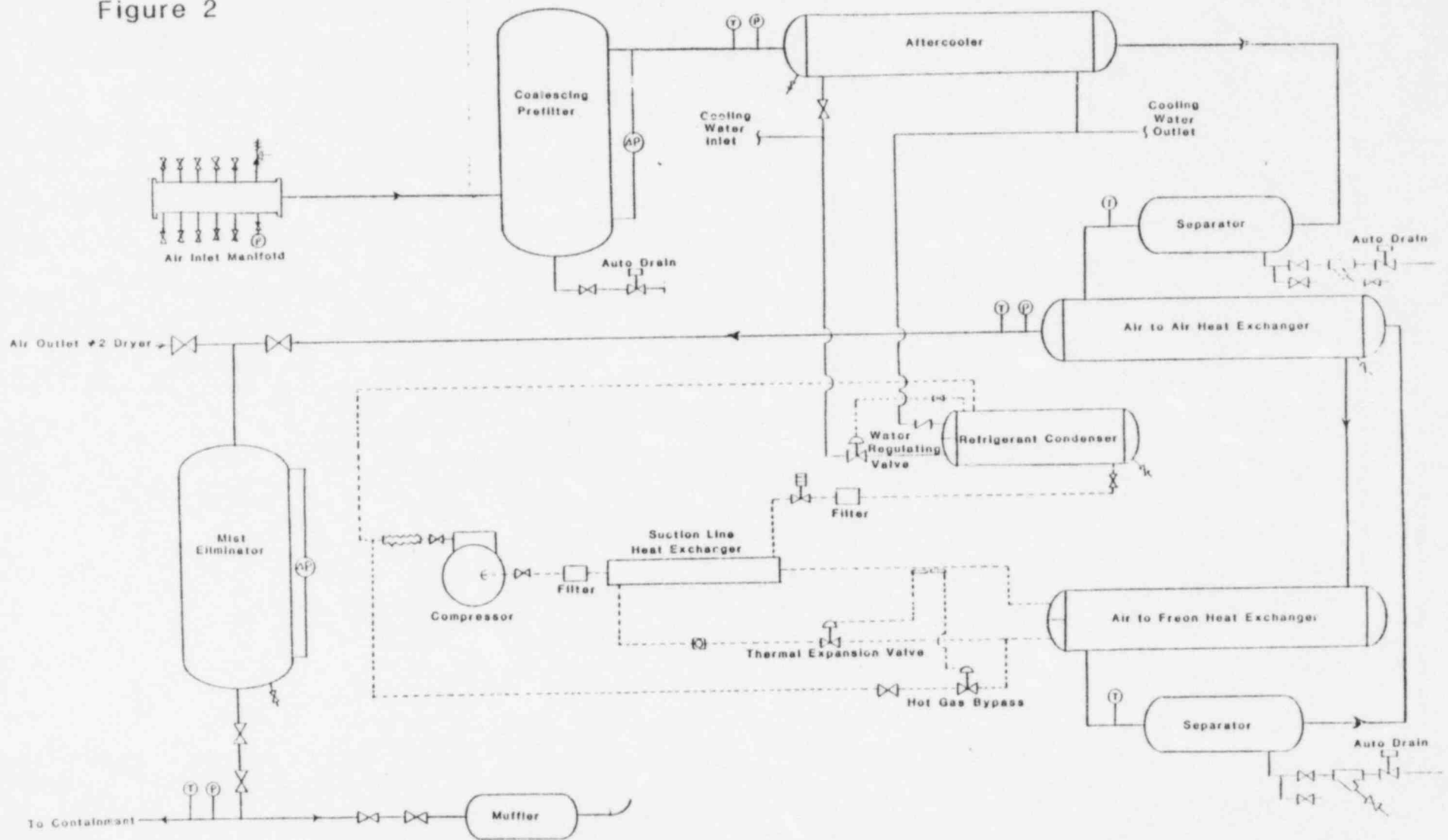
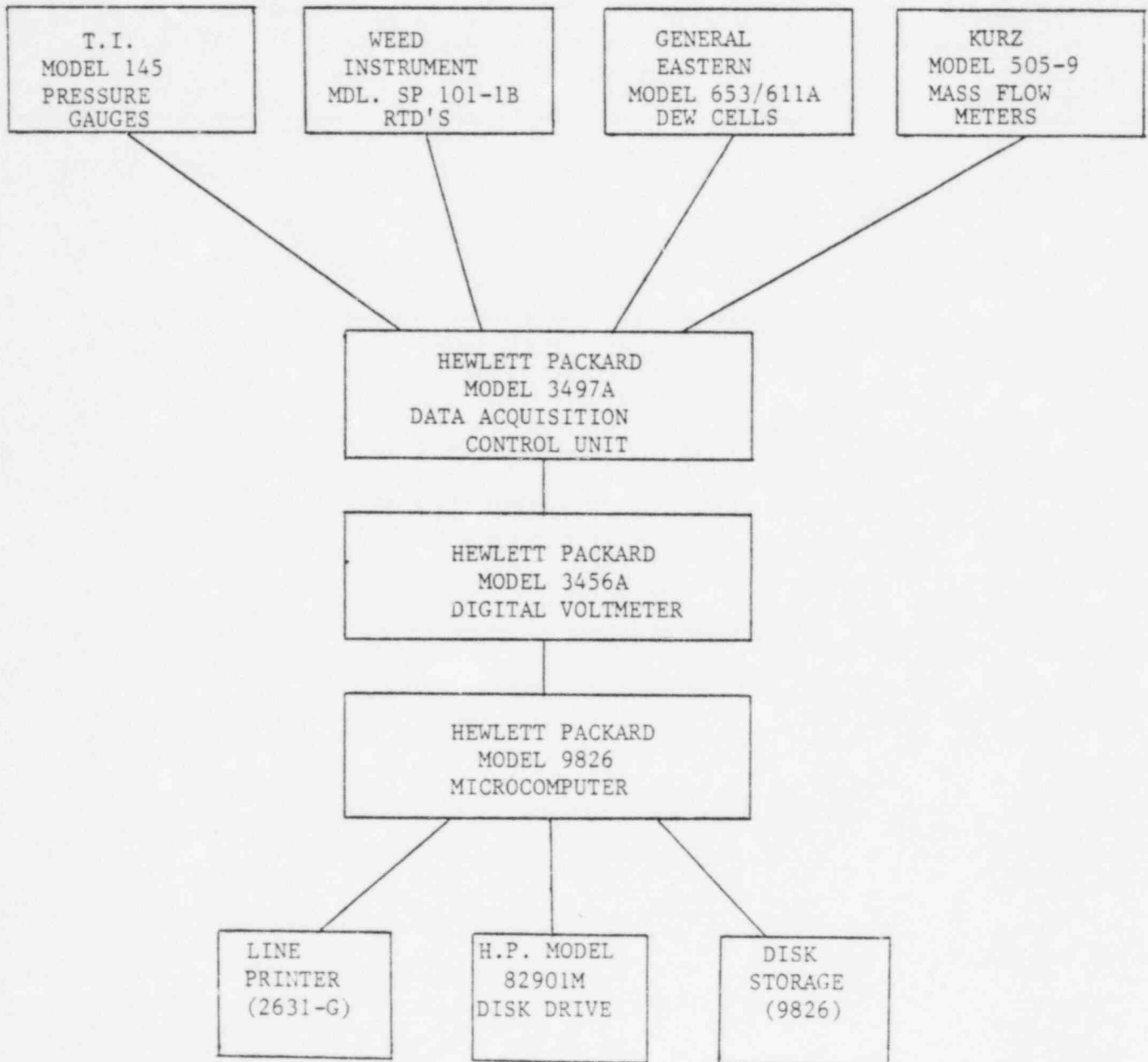
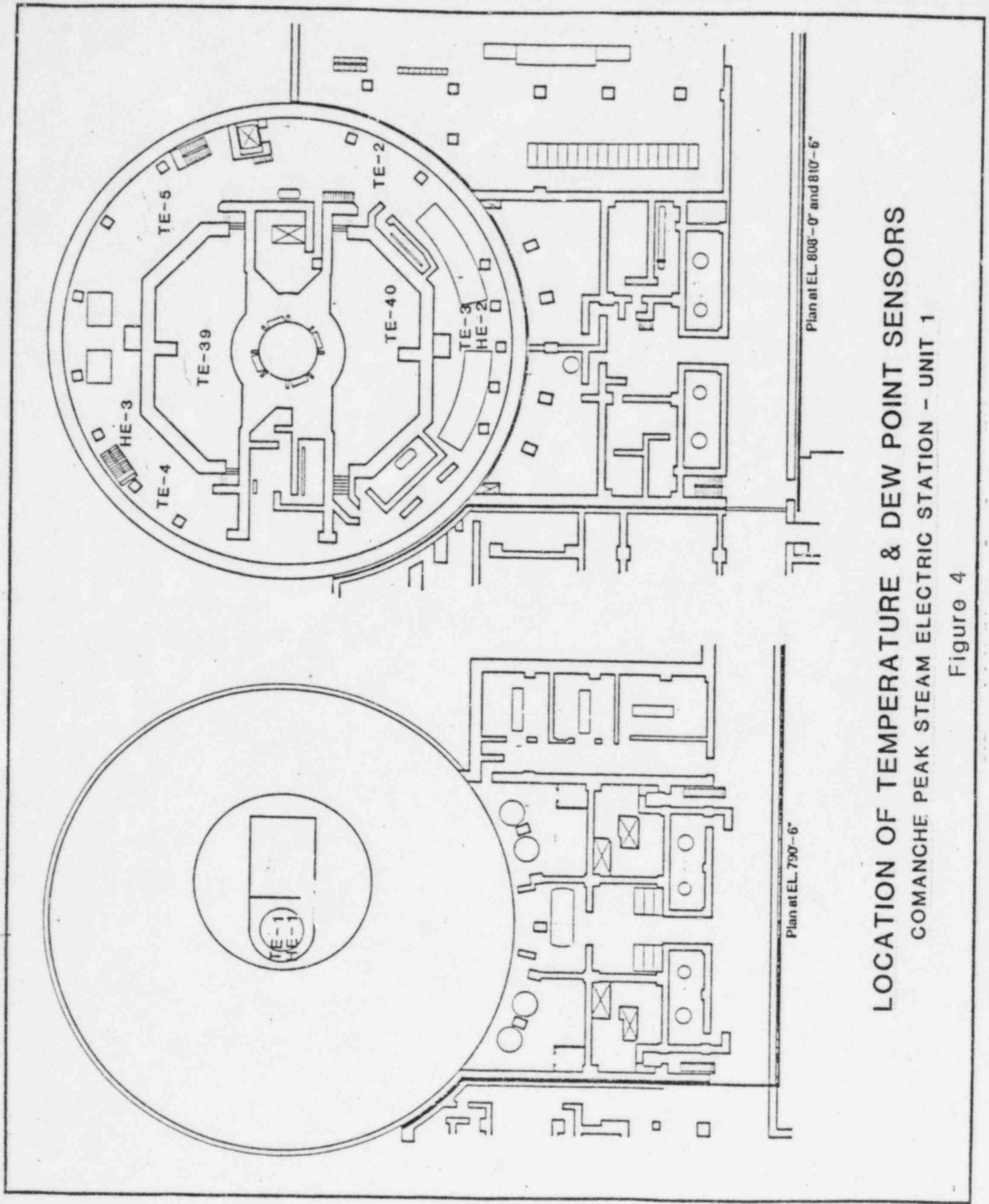


Figure 3

INTEGRATED LEAK RATE TEST

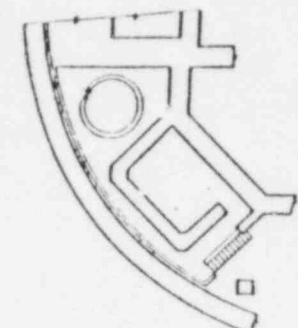
DATA ACQUISITION SYSTEM



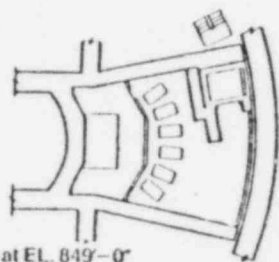


LOCATION OF TEMPERATURE & DEW POINT SENSORS
COMANCHE PEAK STEAM ELECTRIC STATION - UNIT 1

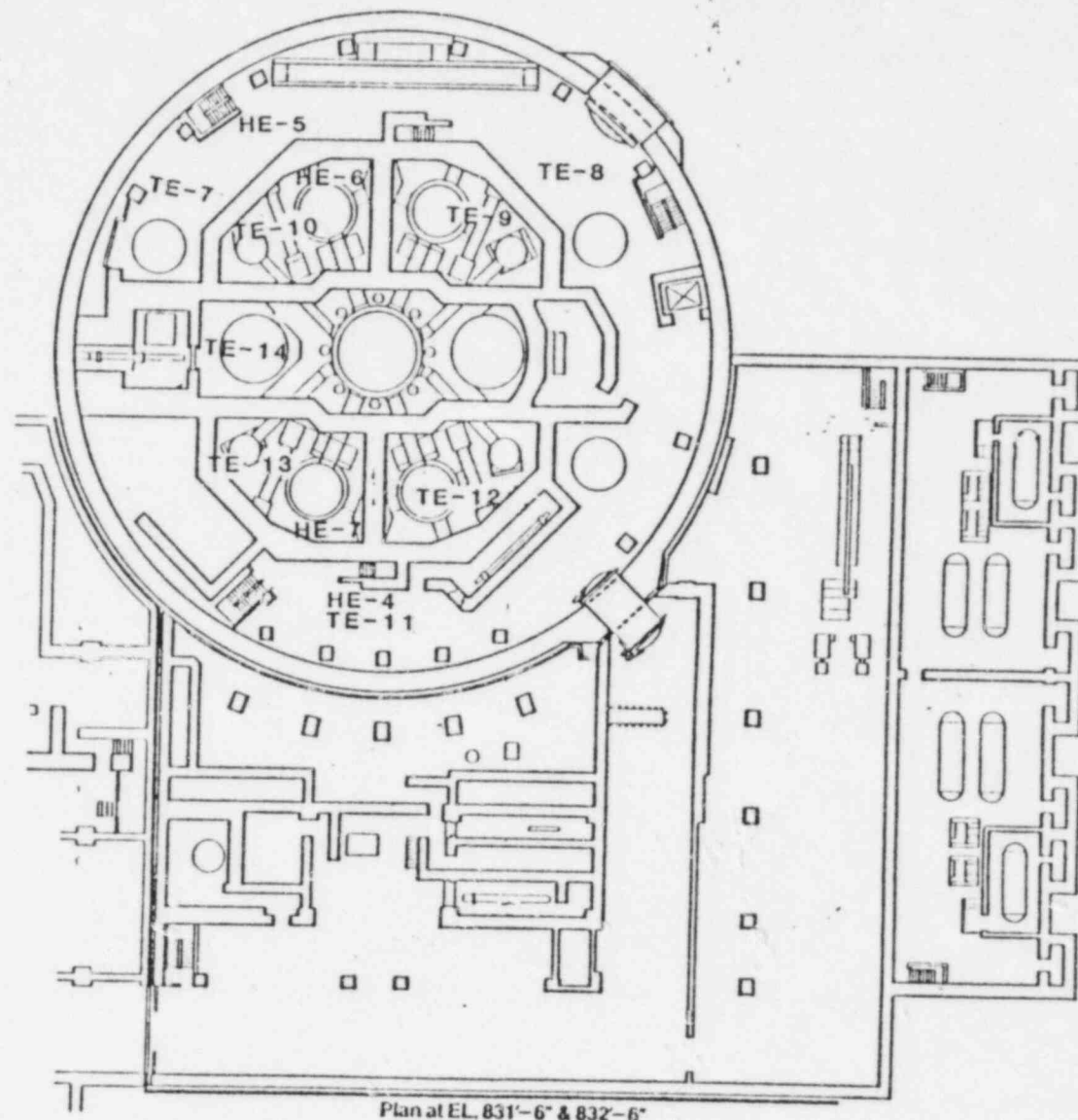
Figure 4



Partial Plan at EL. 842'-0"
(Containment Building Only)



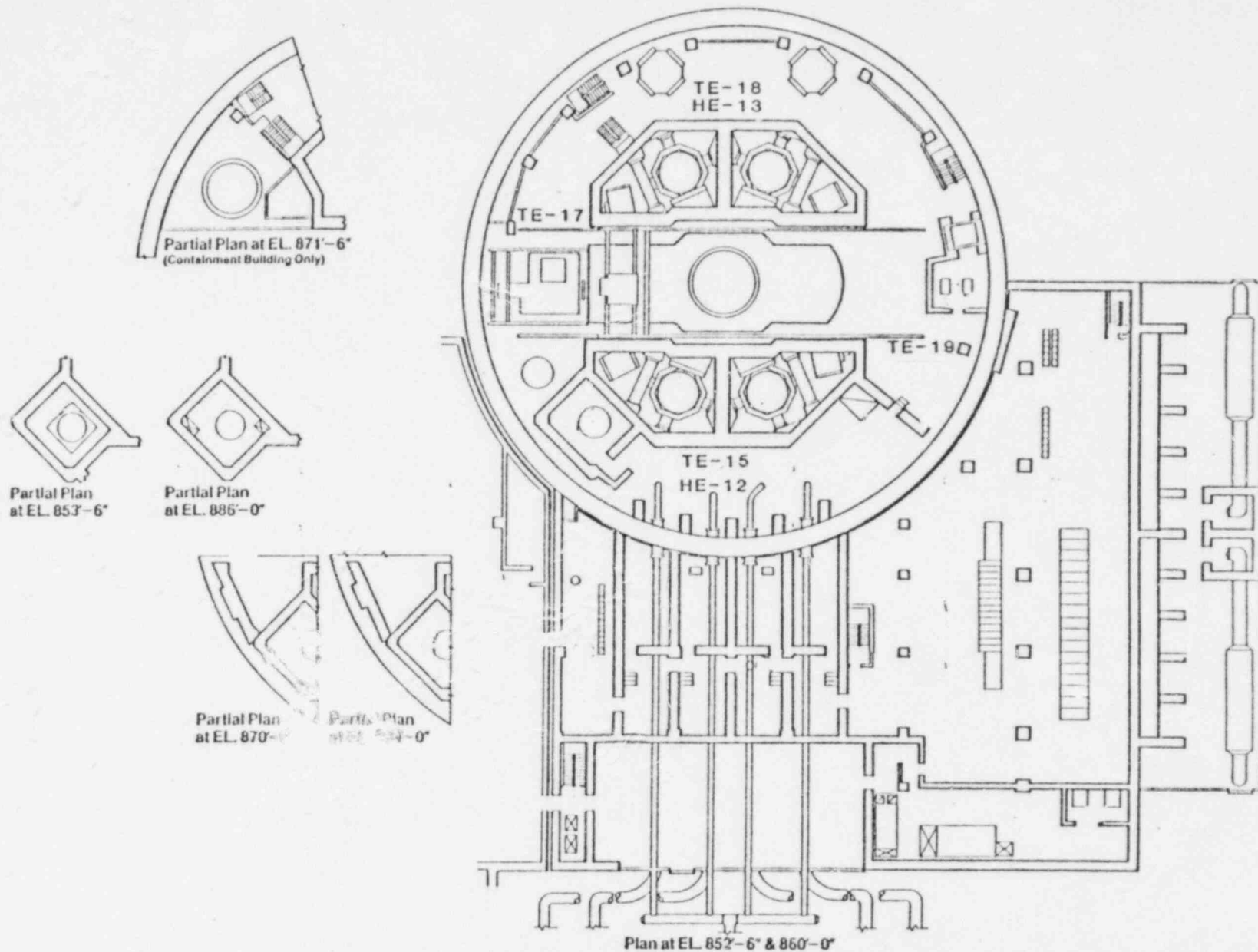
Partial Plan at EL. 849'-0"
(Containment Building Only)



Plan at EL. 831'-6" & 832'-6"

LOCATION OF TEMPERATURE & DEW POINT SENSORS COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1

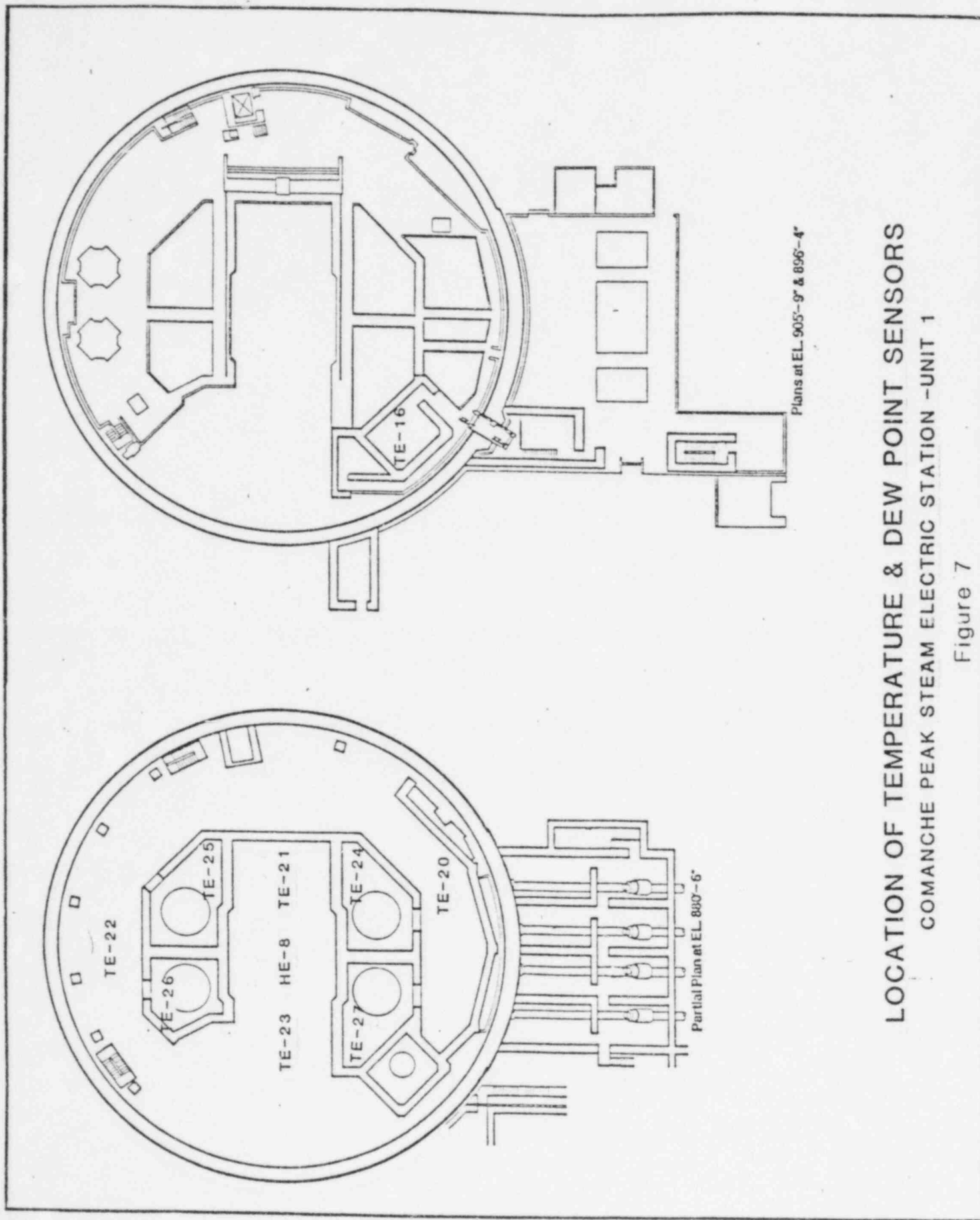
Figure 5



LOCATION OF TEMPERATURE & DEW POINT SENSORS

COMANCHE PEAK STEAM ELECTRIC STATION - UNIT 1

Figure 6

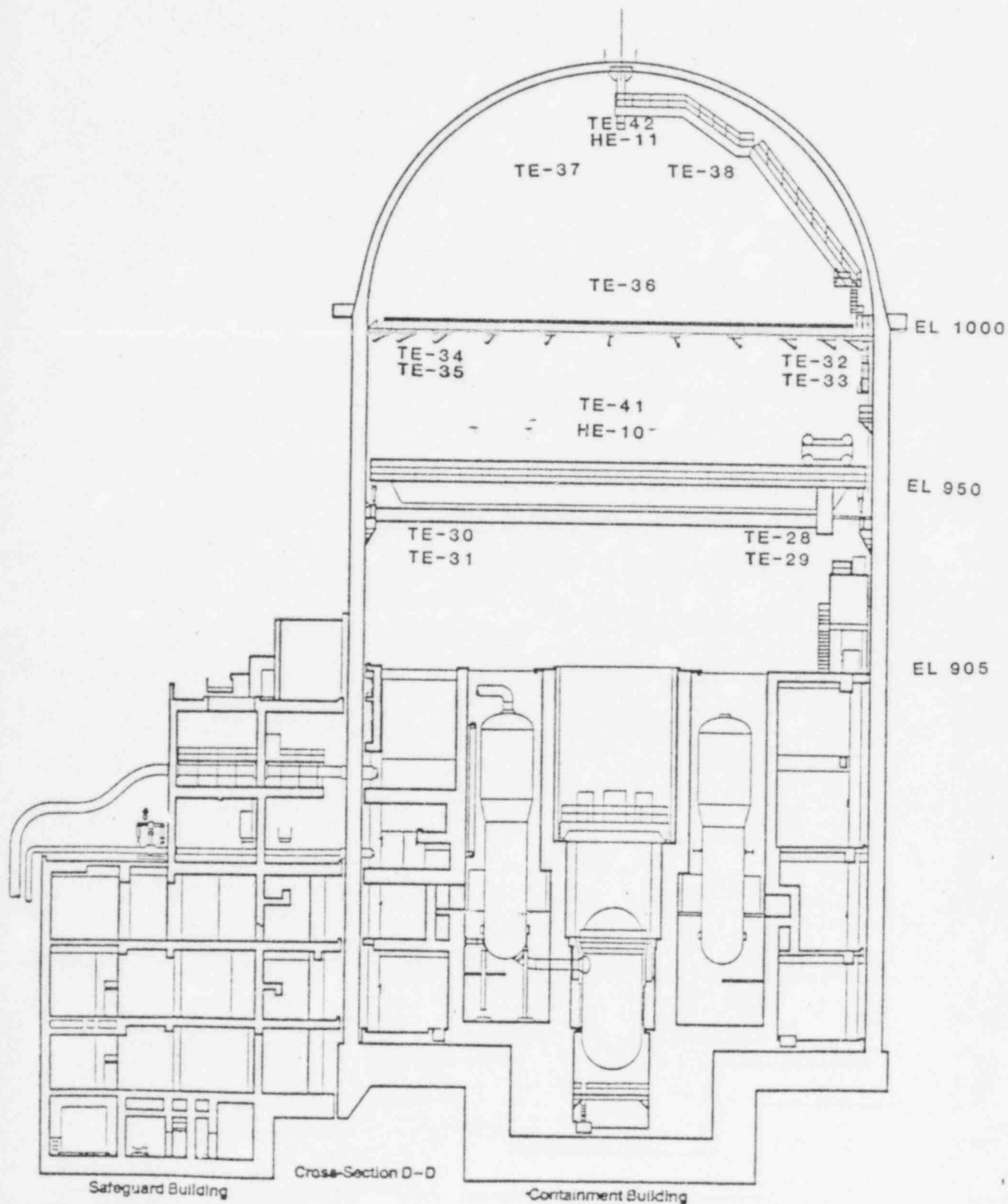


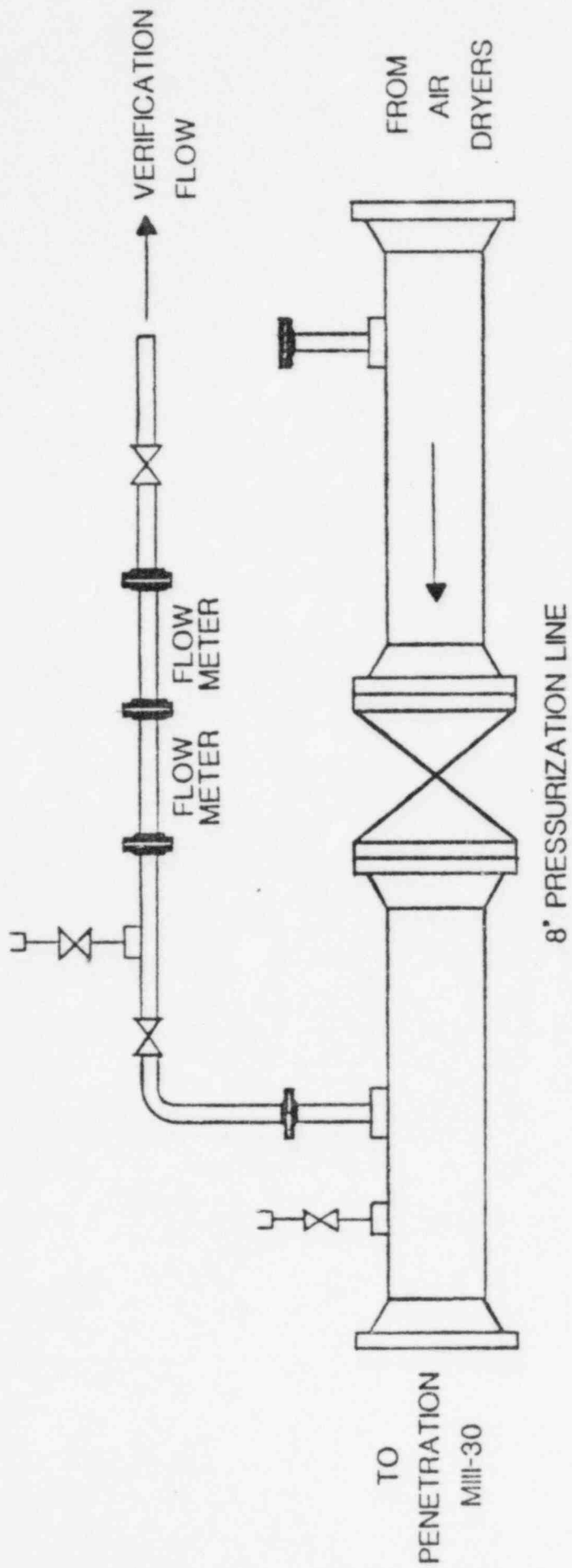
LOCATION OF TEMPERATURE & DEW POINT SENSORS
COMANCHE PEAK STEAM ELECTRIC STATION - UNIT 1

Figure 7

LOCATION OF TEMPERATURE & DEW POINT SENSORS COMANCHE PEAK STEAM ELECTRIC STATION

Figure 8





FLOW VERIFICATION TEST LINE

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1

Figure 9

FIGURE 10

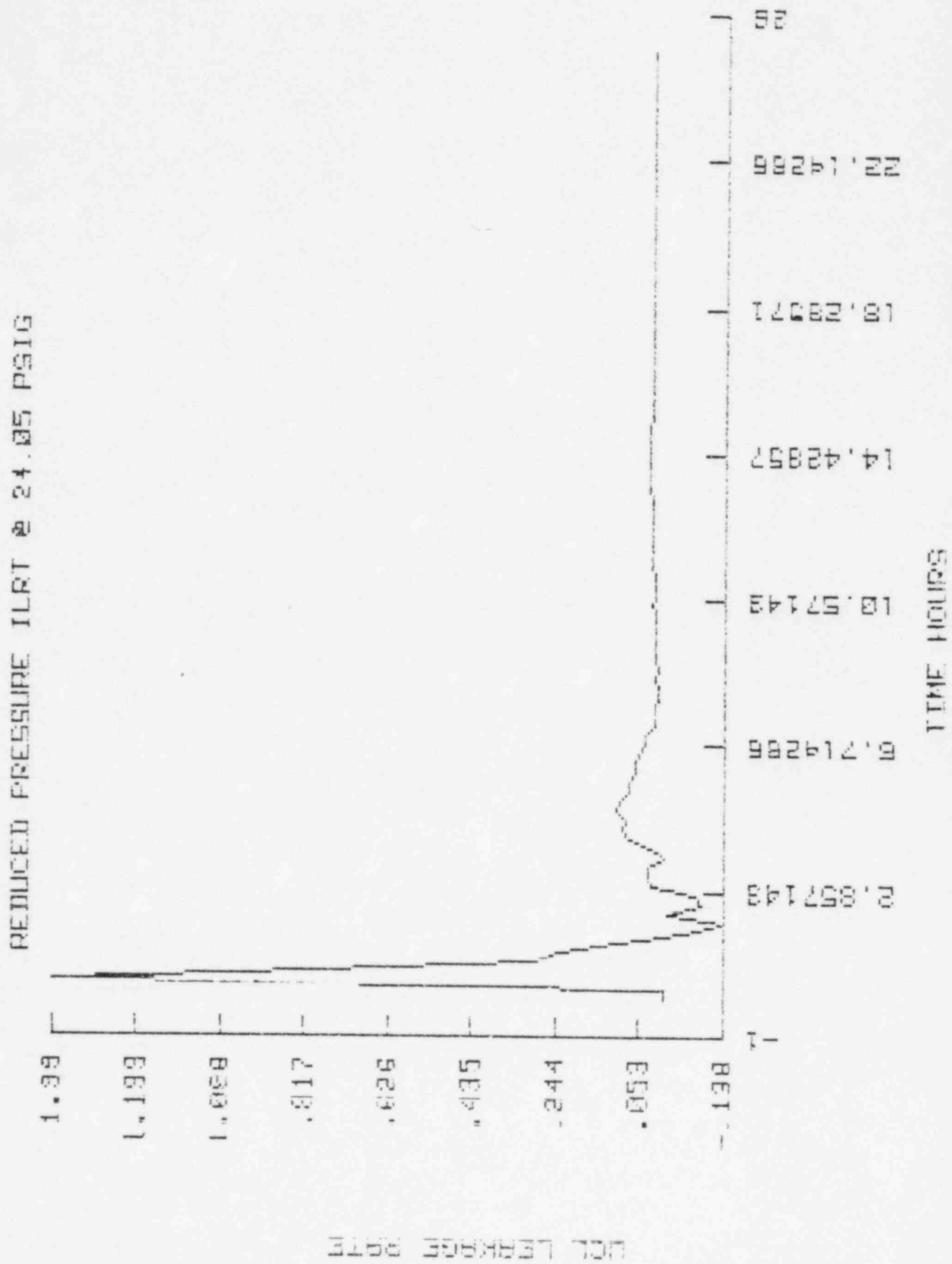


FIGURE 11

