

REACTOR CONTAINMENT BUILDING INTEGRATED LEAKAGE RATE TEST

**TYPES A, B, AND C
PERIODIC TEST**



FPL

**FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
UNIT 3**

**DOCKET No. 50-250
OPERATING LICENSE No. DPR-31**

MAY 1989



Prepared by

**STONE & WEBSTER ENGINEERING CORPORATION
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REFERENCES

1. 10CFR Part 50 , Appendix J, Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors, November 15, 1988.
2. Florida Power & Light Company, Turkey Point 3 Plant Operating Procedure 13100.1, Integrated Leakage Rate Test, and 13100.3, Unit 3 Valve Lineup for ILRT.
3. Florida Power & Light Company, Turkey Point 3 Plant Operating Procedure 13404.1, Local Leak Rate Tests.
4. ANSI N45.4, American National Standard, Leakage-Rate Testing of Containment Structures for Nuclear Reactors, March 16, 1972.
5. ANSI/ANS-56.8, Containment System Leakage Testing Requirements, January 20, 1987.¹
6. Bechtel Corporation's Testing Criteria for Integrated Leakage Rate Testing of Primary Containment Structures for Nuclear Power Plants, BN-TOP-1, Revision 1, November 1, 1972.

¹ This document used only as a guideline and any reference to said document in no way implies compliance.

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SECTION 1

1.0 PURPOSE

The purpose of this report is to present a description and analysis of the May 1989 Periodic Type A Primary Containment Integrated Leakage Rate Test (ILRT) and a summary of the Periodic Types B and C Local Leakage Rate Tests (LLRT) conducted since June 1985 at the Turkey Point Unit 3 plant. Turkey Point Unit 3 is operated by Florida Power & Light Company (FPL). Specific plant information and technical data is contained in Attachment 1A.

Stone & Webster Engineering Corporation (SWEC) provided engineering consultation services to Florida Power & Light Company during the performance of this test.

This report is submitted as required by 10CFR50, Appendix J, Paragraph V.B.

ATTACHMENT 1A
TEST DATA SUMMARY

A. Plant Information

Operator	Florida Power and Light Company
Plant	Turkey Point Plant - Unit 3
Location	Florida City, FL
Containment Type	PWR
Docket Number	50-250
Operating License No.	DPR-31
Date Test Completed	May 28, 1989

B. Technical Data

Containment Net Free Air Volume as Tested	1,550,000 cu. ft.
Design Pressure	59 psig
Calculated Peak Accident Pressure	49.9 psig
Containment Design Temperature	283 °F



SECTION 2

2.0 SUMMARY

2.1 TYPE A TEST

2.1.1 Test Summary

Pressurization for the ILRT began at approximately 2341 hours on May 26, 1989. A pressurization rate of about 6.8 psi per hour was realized initially and reduced to about 5.8 psi per hour in order to slow temperature rise. A temperature rise of about .6 °F per hour was achieved after initial increase of about 8 °F was seen during the first hour. Extensive investigations of all penetration areas were conducted throughout the pressurization with no significant leaks observed.

Containment pressurization was secured at approximately 0849 hours on May 27, 1989. The pressurization piping system was isolated and vented.

Pressure, temperature and relative humidity data were continuously recorded throughout the pressurization and throughout the remainder of the test period at 15 minute intervals. At 1645 hours on May 27, 1989, the procedural thermal stabilization criteria (Reference 2) was satisfied, however the relative humidity detectors were providing extremely unstable readings for about 10 more hours when they rather abruptly settled out. During the initial stages of this period, the leakage rate appeared excessive and extensive investigations for

leaks were conducted. The personnel air lock and the volume between the inner and outer purge supply valves was slowly pressurizing indicating a leakage past the inner barrier. At about 0200 on May 28, the relative humidity detectors appeared to settle out. At about the same time the two volumes which were pressurizing reached approximate test pressure. The mass trend flattened out and the leakage rate trend improved. After about an hour of relatively consistent data, final containment system stabilization was declared. The reduced duration test period started at 0400. Figure 1 shows the the slope of the mass

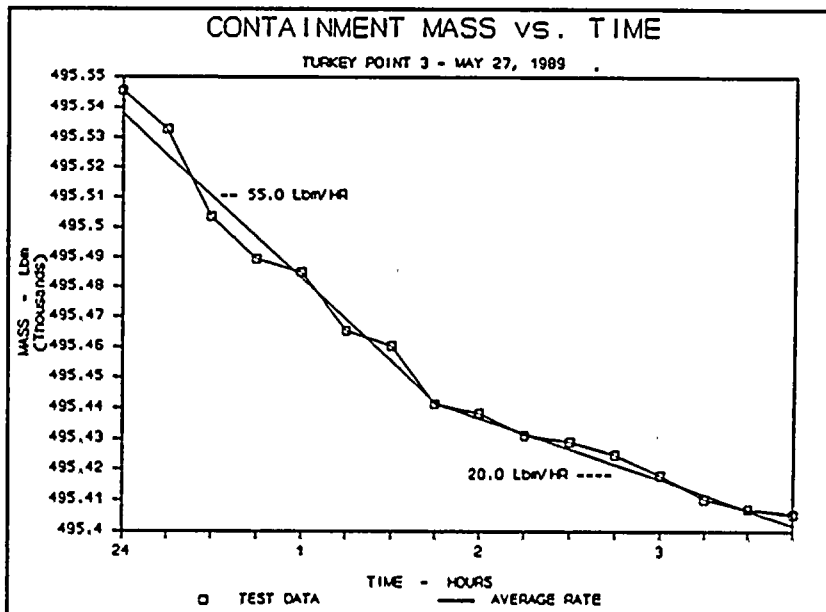


Figure 1 - Shift in mass trend at approximately 0200 hours.



trend for this period and clearly depicts the change of apparent mass loss from about 55 lbm/hr to about 20 lbm/hr. This type of phenomenon has been observed before on other tests due to the slow pressurization of supposedly sealed volumes. The apparent loss of mass appears to be a leak which stops when the volumes are fully pressurized. This, coupled with the unstable behavior of the humidity detectors resulted in the need for the extended stabilization period.

The Type A test was successfully completed after 8 hours at 1200 hours on May 28, 1989 with a Total Time Upper Confidence Limit (UCL-TT) of 0.126126 percent/day and a Mass Point Upper Confidence Limit (UCL-MP) of 0.062333 percent/day. After corrections for Type B & C penalties were made, both Total Time and Mass Point leakage rates were still well below the $0.75L_a$ acceptance criteria of 0.1875 percent/day.

The Superimposed Verification Test was started at 1300 hours on May 28, 1989 and was successfully completed at 1700 hours on May 28, 1989. The results of the verification test satisfied the requirements of the procedure (Reference 2).

2.2 LOCAL LEAKAGE RATE TESTS (Types B and C)

Local Leakage Rate Tests (LLRT) of containment isolation valves and other containment penetrations were conducted as required by the methods described in the plant operating procedure, Reference 3, for the Types B and C Tests.

Section 4 of this report summarizes the data for the LLRTs conducted since the June 1985 Type A test in accordance with Appendix J, 10CFR50, Paragraph V.B.

SECTION 3

3.0 TYPE A TEST

3.1 EDITED LOG OF EVENTS

This log was edited from information contained in the ILRT Test Director's Official Type A Log of Events, and from Reference 2.

May 26, 1989

- 1900 Completed final inspection of containment.
- 2320 Obtained permission from PSN to start pressurization.
- 2341 Commenced pressurization
- 2356 Pressurization rate ~7 psi/hr.

May 27, 1989

- 0100 Pressurization rate reduced to ~5.8 psi/hr.
- 0325 Performed general leak inspection

Purge Supply	0	PSIG
Purge Exhaust	0	PSIG
Charging	54	PSIG
Alt. RHR	19	PSIG
Personnel Hatch	1	PSIG

Inspected all drain lines in pipe & valve room. All sat.

- 0849 Compressors secured. Peak pressure 67.286 PSIA.
- 1045

Purge Supply	36	PSIG
Purge Exhaust	0	PSIG
- 1112

Personnel Hatch	19	PSIG
-----------------	----	------
- 1700 Met temperature stabilization criteria. Commenced Type A test.
- 1930

Purge Supply	46	PSIG
Purge Exhaust	0	PSIG
Charging	54	PSIG
Personnel Hatch	32	PSIG

May 27, 1989

2130	Purge Supply	46	PSIG
	Purge Exhaust	0	PSIG
	Charging	54	PSIG
	Alt. RHR	20	PSIG

May 28, 1989

0300 Purge supply equalized at ~50 PSIG.

Noticed change in trend of data.

0330 Suggested restart of test due to change in parameters.

0400 Test restarted.

0530 Personnel hatch 42 PSIG

1200 8 hour test completed.

1205 Started superimposed leak.

1300 Began 4 hour verification test.

1700 Completed verification test. Sat.

1715 Commenced depressurization.

May 29, 1989

0034 Completed depressurization (7 hours 19 minutes).

3.2 GENERAL TEST DESCRIPTION

3.2.1 Prerequisites

In accordance with Reference 2, the following is a listing of the pertinent prerequisites completed and documented prior to containment pressurization:

- a. Site meteorological data recorded during the performance of the ILRT (Attachment 3.2A)
- b. All required test instrumentation installed and calibrated within 6 months of the test.
- c. Primary containment ventilation system secured.
- d. Satisfactory inspection of the primary containment in accordance with Reference 2.
- e. Pressurization system lined-up and ready for operation.
- f. RCS temperature maintained stable prior to and during the performance of the ILRT.
- g. Data acquisition and analysis computer systems used for the test are operational.
- h. All required system valve lineups completed.
- i. Restricted plant access plan in effect.
- j. An Official Type A Log of Events established and maintained by the ILRT Test Director.
- k. All pressurized components and systems either removed from the containment or vented.
- l. All required Types B and C leakage rate testing completed or remaining LLRTs have been evaluated for impact on the test.
- m. Instrument Selection Guide (ISG) calculated.

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3.2.2 Equipment and Instrumentation

Pressurization of the primary containment was achieved by utilizing a temporary system consisting of 9 temporary air compressors manifolded with aftercoolers and refrigerant air dryers. In addition, a chiller was available to provide chilled water to the after coolers and the refrigerant air dryers. The system included adequate instrumentation and valving to maintain proper monitoring and control of the compressed air quality throughout the pressurization sequence. The total capacity of the pressurization system was approximately 11,000 standard cubic feet per minute (SCFM).

The various containment parameters required to calculate containment leakage during the test were monitored using instrumentation which consisted of 22 resistance temperature detectors, 9 relative humidity sensors, and 2 absolute pressure indicators. One(of 10 original) RHD had an apparent ground problem which was discovered before the test and was not used. To minimize potential volume weighting fraction problems during the test, an RHD was relocated from the 30 foot to the 126 foot elevation. Pertinent data for the test instrumentation is listed in Attachment 3.2B, and the general locations of the test instrumentation are shown in Attachments 3.2C through 3.2G. Elevations are approximate.

A rotameter was used to perform the superimposed leakage verification test.

Instrument Selection Guide (ISG)

Values used for instrument sensitivity and system error were conservatively chosen. Instrument accuracies are used in most cases even though instrument sensitivity is perhaps better by a factor of ten. If the ISG is less than 1/3 of the allowable (.25L_a), then the test can be performed in 8 hours.

<u>Sensor Type</u>	<u>No. of Sensors</u>	<u>Sensitivity Error</u>	<u>System Error</u>
Pressure	2	0.007 psi	0.00 psi
Temperature	22	0.10 °F	0.10 °F
Relative Hum. Sensors	9	0.30 °F	0.10 °F

Test Duration	8 hrs.
Test Pressure	64.6 psia
Test Temperature	70 °F = 530 °R
Test Dewpoint Temp.	65 °F

$$ISG = \pm \frac{2400}{t} \left[2 \left(\frac{EP}{P} \right)^2 + 2 \left(\frac{ET}{T} \right)^2 + 2 \left(\frac{EP_v}{P_v} \right)^2 \right]^{1/2}$$

$ISG \leq 0.25 L_a$ which equals 0.0625% per day since $L_a = 0.25\%$ per day

a. EP = error associated with absolute pressure instruments

$$EP = 0.007 / \sqrt{2}$$

$$EP = 0.0049$$

b. ET = error associated with temperature instruments

$$ET = 0.141421 / \sqrt{22}$$

$$ET = 0.0302$$

c. EP_v = error associated with vapor pressure instruments

$$EP_v = 0.005218 / \sqrt{9}$$

$$EP_v = 0.0017$$

Using values established in a,b and c above, calculate ISG.

$$ISG = \pm \frac{2400}{24} \left[2 \left(\frac{0.0049}{64.6} \right)^2 + 2 \left(\frac{0.0302}{530} \right)^2 + 2 \left(\frac{0.0017}{64.6} \right)^2 \right]^{1/2}$$

$ISG = \pm 0.013718$ which is less than 0.0625%/day (25% of L_a)

Minimum Test Duration $(0.013718/0.0625) 24 = 5.27$ Hours.

Therefore the test can be performed in 8 hours.

3.2.3 Data Acquisition System

A programmable, multichannel data logger was used to scan the data from the 22 resistance temperature detectors, the 9 relative humidity sensors and 1 of the 2 pressure sensors. Data readings were recorded every 15 minutes during pressurization and during the Leakage Rate and Verification tests. The other pressure sensor and the verification flow meter readings were recorded manually.

3.2.4 Data Resolution System

The recorded data was manually inputted to a dedicated computer system using Stone & Webster Engineering Corporation's (SWEC) ILRT analysis program for data reduction and leakage rate calculations. The following calculations used the instantaneous values of the ILRT sensors to determine both the Mass Point and Total Time Analysis Method leakage rates.

Absolute Method of Mass Point Analysis

The Absolute Method of Mass Point Analysis consists of calculating the air mass within the containment structure, over the test period using pressure, temperature, and dewpoint temperature observations made during the ILRT. The air mass is computed using the ideal gas law as follows:

$$M = \frac{144V(P-P_v)}{RT} \quad (\text{Eq. 1})$$

where:

- M = air mass, lbm
- P = total pressure, psia
- P_v = average vapor pressure, psia
- R = 53.35 ft-lbf/lbm°R (for air)
- T = average containment temperature, °R
- V = containment free volume, ft³

The leakage rate is then determined by plotting the air mass as a function of time, using a least-squares fit to determine the slope, $A = dM/dT$. The leakage rate is expressed as a percentage of the air mass lost in 24 hours or symbolically:

$$\text{Leakage Rate} = -2400 (A/B) \quad (\text{Eq. 2})$$

Where A is the slope of the least-squares curve and B is the y-intercept. The sign convention is such that the leakage out of the containment is positive, and the units are in percent/day.

A confidence interval is calculated using a Student's T distribution. The sum of the leakage rate and confidence interval is the Upper Confidence Limit - Mass Point (UCL-MP).

Absolute Method of Total Time Analysis

The Absolute Method of Total Time Analysis consists of calculating air lost from the containment, using pressure, temperature, and dewpoint temperature observations made during the ILRT.

The containment air mass is computed using Equation 1. The measured leakage rate at any time (t) is then determined by subtracting the mass at that time (Mt) from the initial mass (Mi) and dividing by the initial mass. The measured leakage rate is expressed as a percentage of containment mass lost in 24 hours or symbolically:

$$\text{Measured Leakage Rate} = 2400 \frac{(M_i - M_t)}{M_i(\Delta t)} \quad (\text{Eq. 3})$$

The sign convention is such that leakage out of the containment is positive, and the units are in percent/day.

The calculated leakage rate is then determined by plotting the measured leakage rate as a function of time and then performing a least-squares curve fit of the measured leakage rate values as follows:

$$\text{Calculated Leakage Rate} = A t + B \quad (\text{Eq. 4})$$

Where, A is the slope and B is the y-intercept of the least squares curve.

A confidence interval is calculated using the requirements of Bechtel Topical Report BN-TOP-1, Rev. 1.

The sum of the calculated leakage rate and the confidence interval is the Upper Confidence Limit - Total Time (UCL-TT).

ATTACHMENT 3.2A

SITE METEOROLOGY

<u>Date</u>	<u>Time</u>	<u>Barometric Pressure (mm HG)</u>	<u>Ambient Temperature (Deg F)</u>	<u>Wind Direction (Deg)</u>	<u>Wind Speed (Knots)</u>
May 26, 1989	0700	30.055	76	-	CALM
	1100	30.120	87	080	9
	1500	30.100	87	090	7
	1900	30.070	84	070	4
	2000	30.090	86	080	4
	2100	30.090	82	080	4
	2200	30.110	81	080	3
	2300	30.120	81	080	2
	2400	30.130	79	080	2
	0100	30.120	79	080	2
May 27, 1989	0200	30.100	78	-	CALM
	0300	30.090	75	-	CALM
	0400	30.080	75	-	CALM
	0500	30.070	74	-	CALM
	0600	30.085	73	-	CALM
	0700	30.100	73	-	CALM
	0800	30.115	78	-	CALM
	0900	30.140	82	300	2
	1000	30.150	84	010	2
	1100	30.145	84	060	1
	1200	30.130	86	060	7
	1300	30.130	87	090	5
	1400	30.085	87	070	5
	1500	30.090	88	060	7
	1600	30.070	87	080	8
	1700	30.045	87	090	8
	1800	30.050	86	080	6
	1900	30.060	85	070	6
	2000	30.070	84	080	5
	2100	30.090	82	080	3
	2200	30.100	81	090	2
	2300	30.110	81	070	2
	2400	30.100	80	080	3
May 28, 1989	0100	30.100	80	070	3
	0200	30.060	80	080	3
	0300	30.060	79	080	2
	0400	30.050	74	-	CALM
	0500	30.040	74	-	CALM
	0600	30.040	74	-	CALM
	0700	30.050	73	-	CALM
	0800	30.065	75	320	1
	0900	30.080	81	330	2
	1000	30.080	82	320	1
	1100	30.080	84	070	4
	1200	30.085	87	070	5
	1300	30.080	86	070	6
	1400	30.070	89	060	8
	1500	30.045	87	060	8
	1600	30.020	87	070	9

ATTACHMENT 3.2B

INSTRUMENTATION LIST

The following instruments were calibrated and functionally verified within 6 months prior to the performance of this test and in accordance with 10CFR50, Appendix J.

Instrument	Weight Fraction	Computer Point	Elevation	Range	Accuracy
A. Temperature					
T09	0.033000	C08	14	32-150°F	±0.5°F
T14	0.033000	C13	14	32-150°F	±0.5°F
T16	0.033000	C15	14	32-150°F	±0.5°F
T10	0.033000	C09	30	32-150°F	±0.5°F
T17	0.033000	C16	30	32-150°F	±0.5°F
T19	0.033000	C18	30	32-150°F	±0.5°F
T04	0.030000	C03	75	32-150°F	±0.5°F
T12	0.030000	C11	75	32-150°F	±0.5°F
T15	0.030000	C14	75	32-150°F	±0.5°F
T20	0.030000	C19	75	32-150°F	±0.5°F
T01	0.060334	C00	94	32-150°F	±0.5°F
T03	0.060333	C02	94	32-150°F	±0.5°F
T08	0.060333	C07	94	32-150°F	±0.5°F
T13	0.060333	C12	94	32-150°F	±0.5°F
T18	0.060334	C17	94	32-150°F	±0.5°F
T21	0.060333	C20	94	32-150°F	±0.5°F
T02	0.053334	C01	126	32-150°F	±0.5°F
T05	0.053333	C04	126	32-150°F	±0.5°F
T06	0.053333	C05	126	32-150°F	±0.5°F
T07	0.053334	C06	126	32-150°F	±0.5°F
T11	0.053333	C10	126	32-150°F	±0.5°F
T22	0.053333	C21	126	32-150°F	±0.5°F

ATTACHMENT 3.2B

INSTRUMENTATION LIST

Instrument	Weight Fraction	Computer Point	Elevation	Range	Accuracy	Associated RTD
B. Relative Humidity						
M1	0.0495	C42	14	0-100 %RH	±2.5%RH	T14
M2	0.0495	C47	14	0-100 %RH	±2.5%RH	T16
M3	0.0990	C43	30	0-100 %RH	±2.5%RH	T17
M4	0.1205	C44	75	0-100 %RH	±2.5%RH	T04
M5	0.1205	C49	75	0-100 %RH	±2.5%RH	T20
M6	0.1205	C45	94	0-100 %RH	±2.5%RH	T01
M7	0.1205	C46	94	0-100 %RH	±2.5%RH	T13
M8	0.1600	C40	126	0-100 %RH	±2.5%RH	T11
M9	0.1600	C41	126	0-100 %RH	±2.5%RH	T06

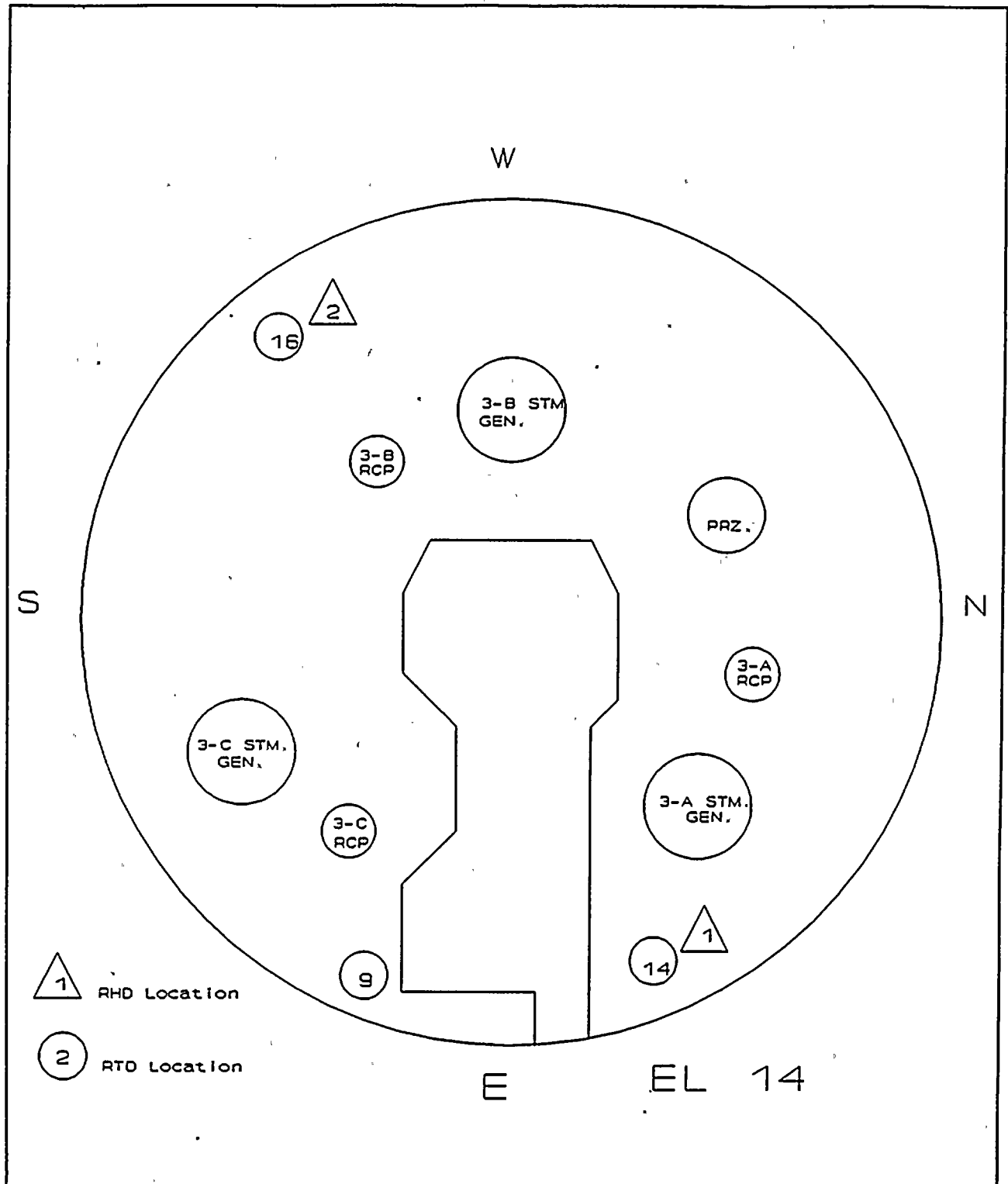
C. Pressure

P1	0.500000	C80	-	0-70psia	± 0.02% FS
P2	0.500000	Local	-	0-70psia	± 0.02% FS

D. Superimposed Leakage Verification Test Flow Instrument

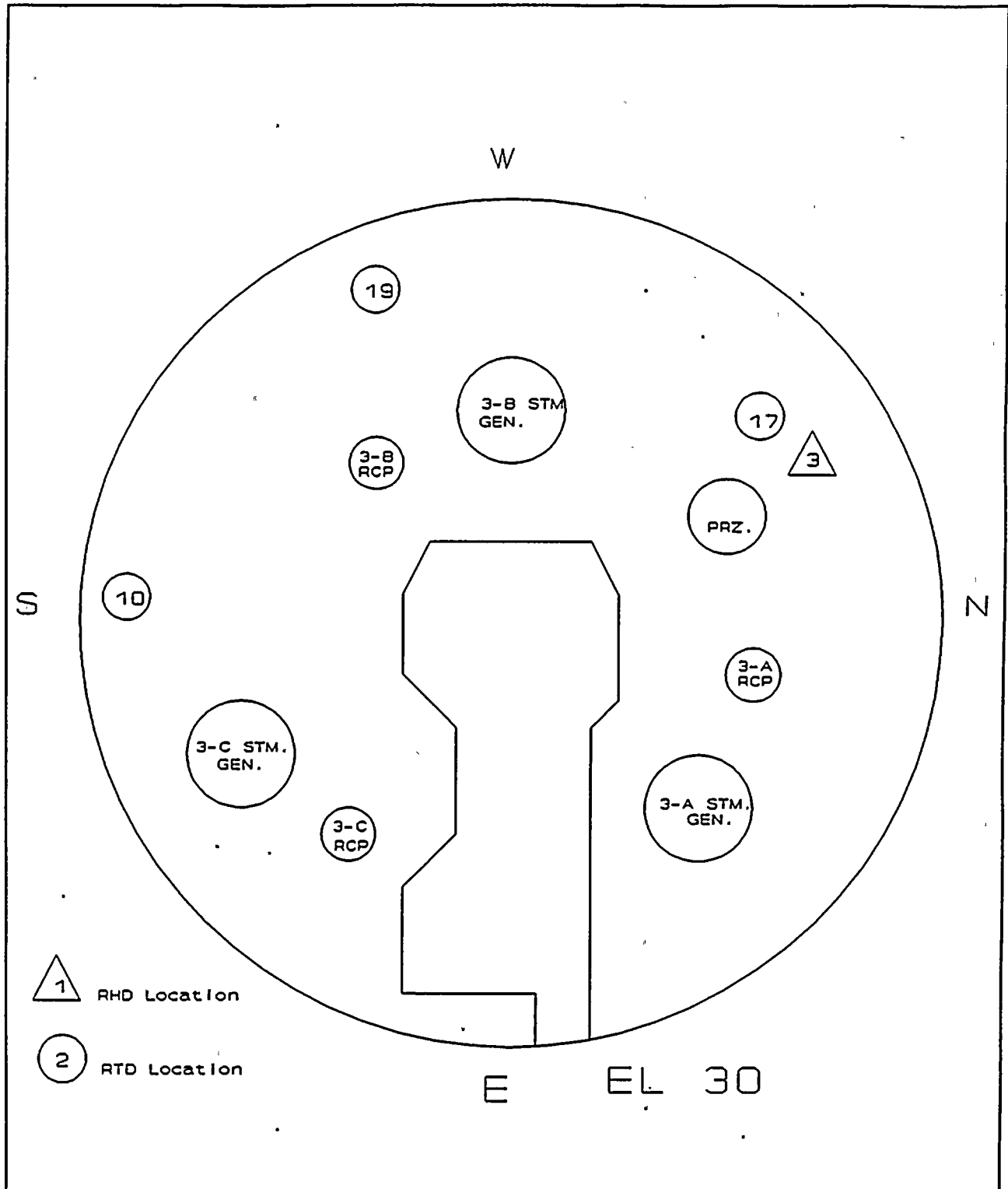
Rotameter -	Local	-	5-19scfm	±1.0%F.S.
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ATTACHMENT 3.2C



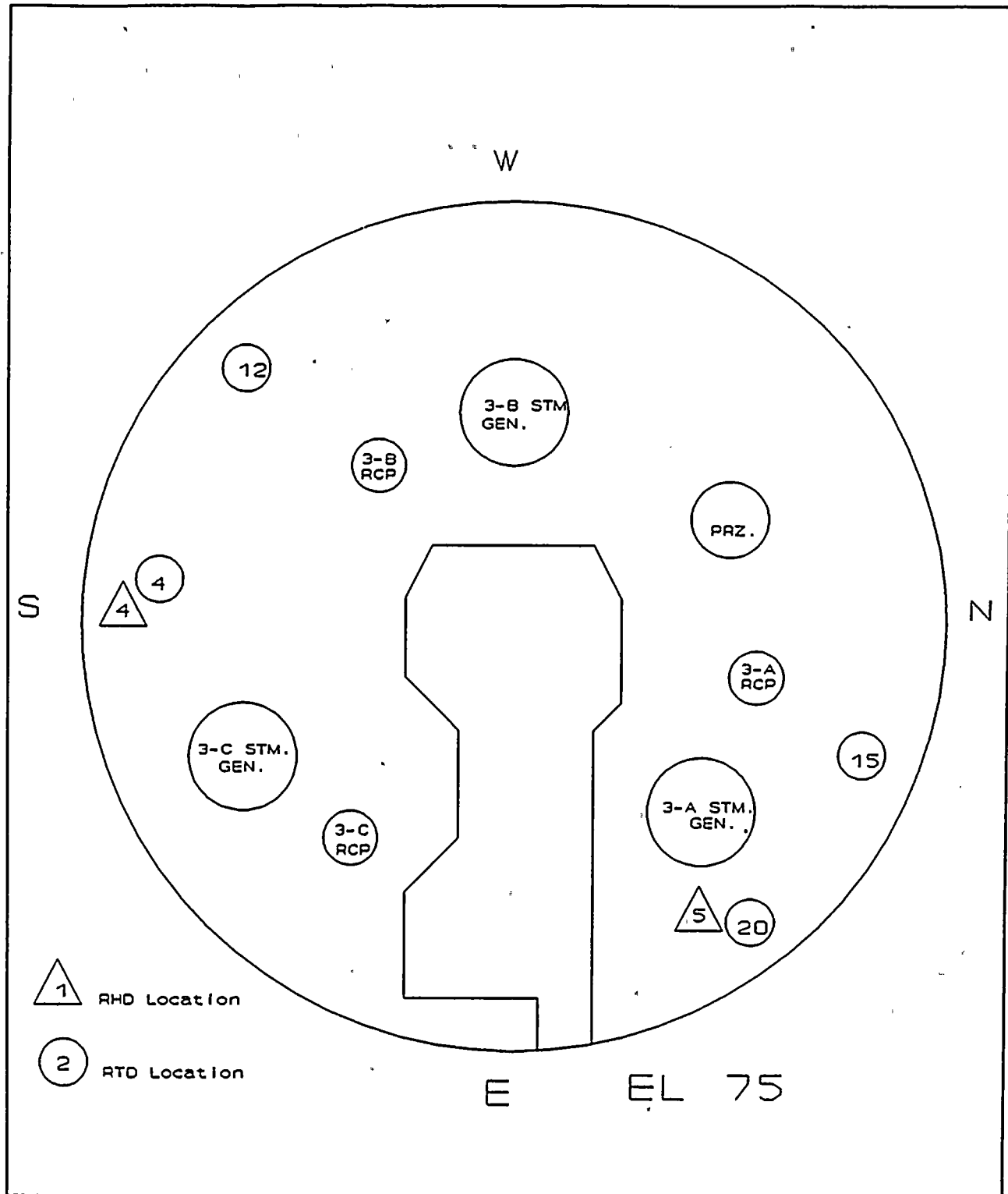
INSTRUMENT LOCATIONS AT ELEVATION 14 FT.

ATTACHMENT 3.2D



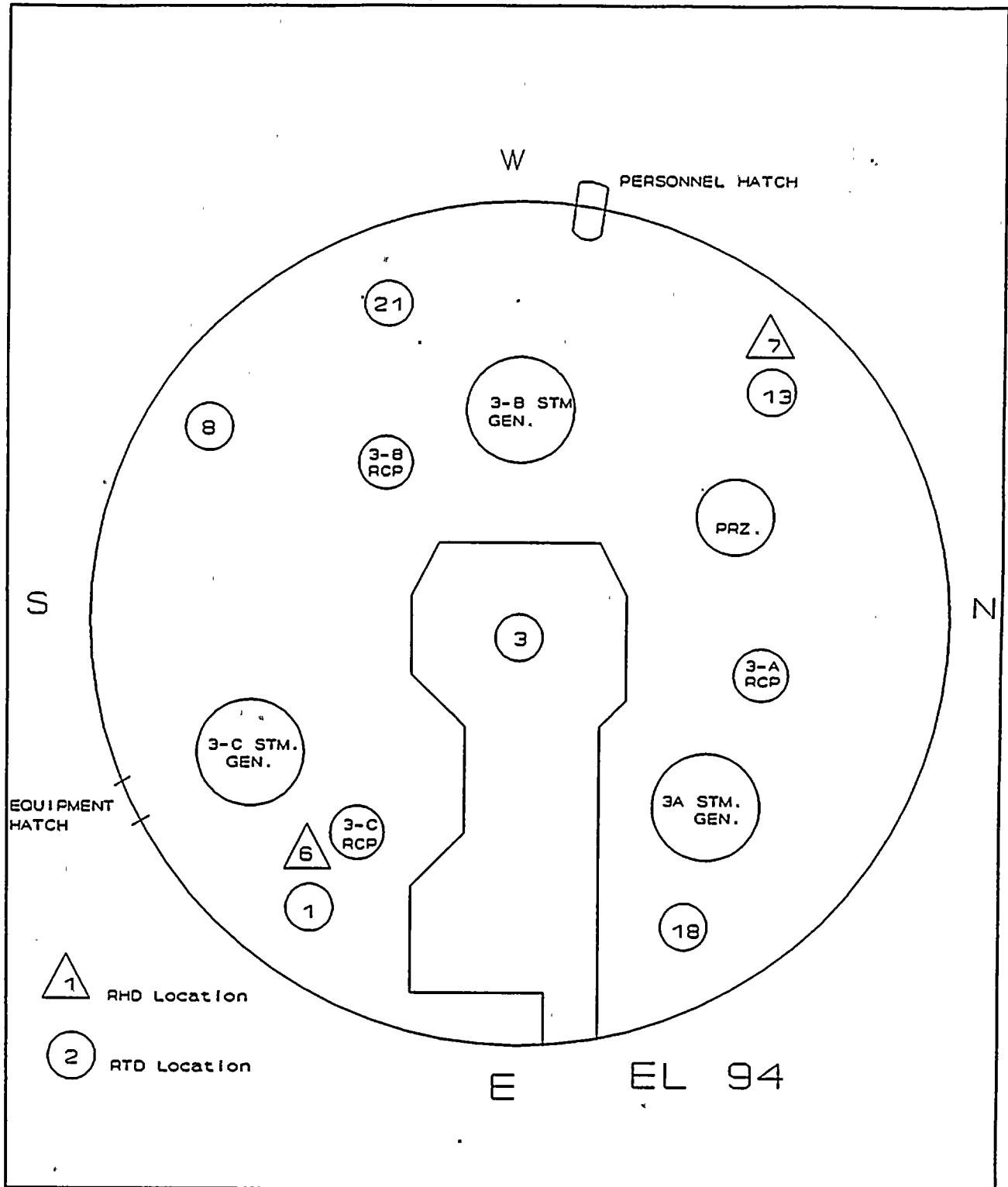
INSTRUMENTATION AT ELEVATION 30 FT.

ATTACHMENT 3.2E



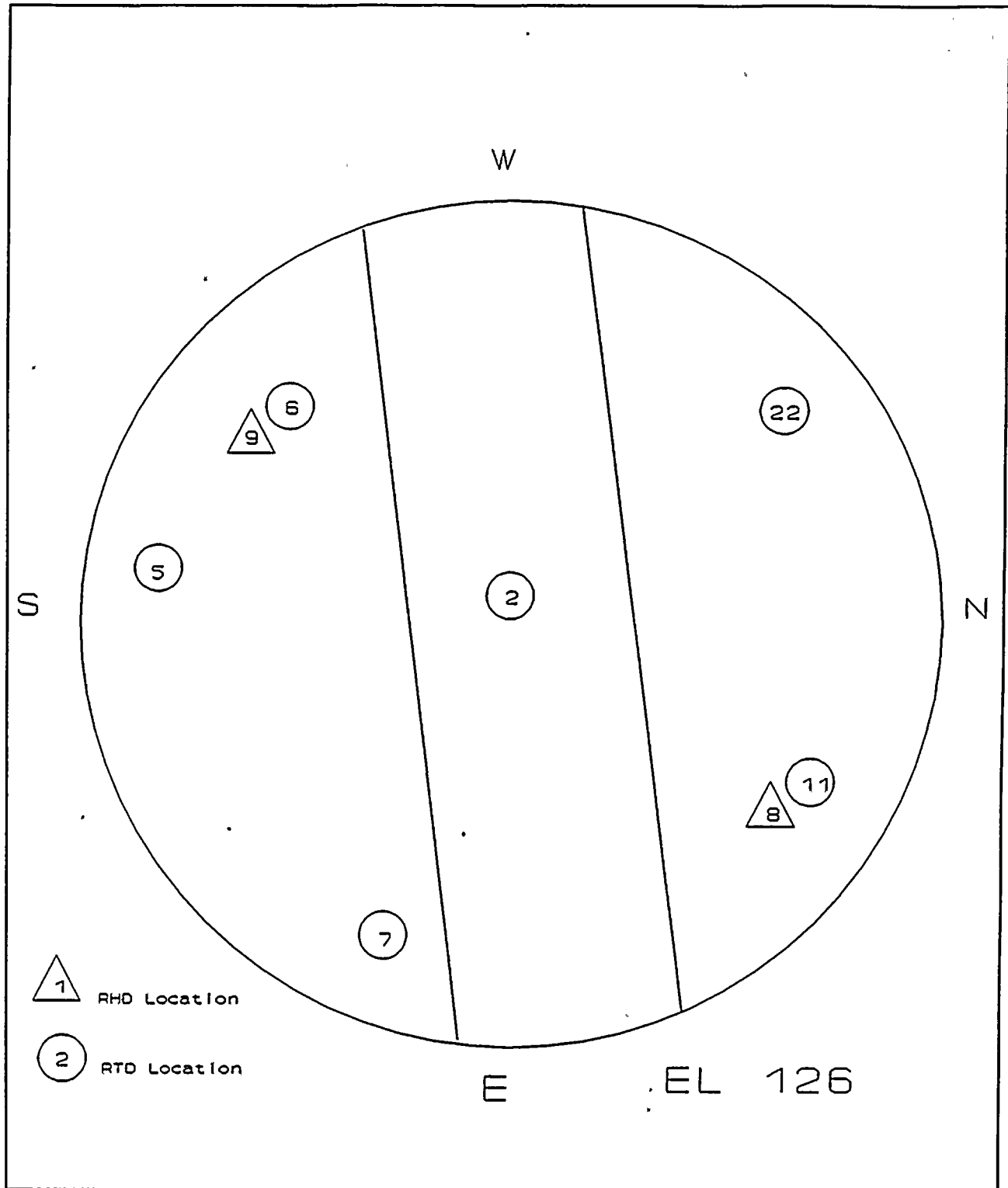
INSTRUMENTATION AT ELEVATION 75 FT.

ATTACHMENT 3.2F



INSTRUMENTATION AT ELEVATION 94 FT.

ATTACHMENT 3.2G



INSTRUMENTATION AT ELEVATION 126 FT.

3.3 TEST RESULTS

3.3.1 Presentation of Test Results

The test data for the May 1989 ILRT is based on an 8 hour test period starting at 0400 hours on May 28, 1989. The final test results were determined using SWEC's ILRT computer program. The Measured Input Data, Reduced Input Variables, Mass Point Analysis Test Results, Total Time Analysis Test Results, and representative graphs are contained in Attachments 3.3A through 3.3J.

Both the Mass Point and Total Time Analysis Test Results for the ILRT satisfied the procedural acceptance criteria.

The Type A Test instrumentation was verified by the Superimposed Leakage Verification Test Method. The Measured Input Data, Reduced Input Variables, Mass Point Analysis Test Results, Total Time Analysis Test Results, and representative graphs are contained in Attachments 3.3K through 3.3R.

Both the Mass Point and Total Time Analysis Test Results for the Superimposed Leakage Verification Test satisfied the procedural acceptance criteria.

3.3.2 ILRT Results

The 64.6 psia ILRT was conducted in accordance with Reference 2. The results for the ILRT and for the Supplemental Test are shown below.

3.3.2.1 ILRT Results - Mass Point Analysis

<u>Item</u>		<u>(Percent/Day)</u>
1.	L_{am} , Leakage Rate Calculated	0.059863
2.	UCL, Upper Confidence Level	0.002470
3.	UCL-MP, L_{am} plus UCL	0.062333
4.	Corrections for: (See Section 3.3.2.4)	
i.	Type B & C Penalties	0.002004
ii.	Water Levels	0.000000
iii.	Total Corrections (i. and ii.)	0.002004
5.	Total Reported Type A Leakage Rate (Items 3&4 iii.)	0.064337

Results were within the acceptable limit of $0.75 L_a$ or 0.1875 percent/day.

3.3.2.2 ILRT Results - Total Time Analysis

Item	(Percent/Day)
1. L_{am} , Leakage Rate Calculated	0.070267
2. UCL, Upper Confidence Level	0.055859
3. UCL-TT, L_{am} plus UCL	0.126126
4. Corrections for: (See Section 3.3.2.4)	
i. Type B & C Penalties	0.002004
ii. Water Levels	0.000000
iii. Total Corrections (i. and ii.)	0.002004
5. Total Reported Type A Leakage Rate (Items 3&4 iii.)	0.128130

Results were within the acceptable limit of $0.75 L_a$ or 0.1875 percent/day.

3.3.2.3 Supplemental Test Results

The Supplemental Verification Test was performed using the Superimposed Leakage Verification Test Method in accordance with Reference 2. The results for the Superimposed Leakage Verification Test are shown below.

1. The Superimposed Leakage Verification Test is acceptable provided L_c falls within the following range:

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

Where: L_{am} = Type A calculated leakage rate (computer)

$$(L_{am} - MP = 0.059863 \text{ \%/day})$$

$$(L_{am} - TT = 0.070267 \text{ \%/day})$$

L_o = Superimposed leakage rate (rotameter)

$$(L_o = 0.256757 \text{ \%/day})$$

L_a = Maximum allowable leakage rate

$$(L_a = 0.25 \text{ \%/day})$$

L_c = Composite leakage rate (computer)

$$(L_c - MP = 0.305493 \text{ \%/day})$$

$$(L_c - TT = 0.305557 \text{ \%/day})$$

a. Mass Point

$$(0.059863 + 0.256757 - 0.0625) \leq 0.305493 \leq (0.059863 + 0.256757 + 0.0625)$$

$$(0.254120) \leq 0.305493 \leq (0.379120)$$

b. Total Time

$$(0.070267 + 0.256757 - 0.0625) \leq 0.305557 \leq (0.070267 + 0.256757 + 0.0625)$$

$$(0.264524) \leq 0.305557 \leq (0.389524)$$

The Superimposed Leakage Verification Test met the requirements set forth in Reference 2.

3.3.2.4 Discussion of Total Time Analysis Anomalies

This test was performed in accordance with the provisions of BN-TOP-1 which uses the total time method of leakage calculation and a 95% 2-sided Student's T distribution confidence factor. It has been well known that the choice of the start point of the reduced duration test many times will greatly affect the leakage results. This test is a classic example of this phenomena. As it turned out, the test period was begun at a point where the very next (second) data set showed an apparent increase in mass. This has historically meant that the leakage rate and confidence factor will be higher than if the second mass point dropped and was again proven out here. The test data was recalculated shifting the start point only 15 minutes and both total time and mass point calculations were compared. As can be seen from the results shown below, the total time leakage value differs by about 20% whereas the mass point results are substantially unchanged. This demonstration calculation clearly points out the inherent danger of a test method which can provide such varying results luckiness (or unluckiness) of the random choice of a starting point.

START	0400	0415		
MP	.059863	.060223	+.000360	(.6)
CONF	.002470	.002605	+.000135	(5)
UCL	.062333	.062828	+.000495	(.8)
TT	.070267	.056578	-.013689	(19)
CONF	.055859	.030508	-.025351	(45)
UCL	.126126	.087086	-.039040	(31)

Based on the above analysis, the actual probable leak rate for Turkey Point 3 has been unduly inflated by the calculation method used (Total Time / 95% 2-sided confidence factor) by about 30%. Fortunately, the actual leak rate result here is so low that the elevated value should not adversely affect continuing leak rate calculations throughout the succeeding operating cycles, but it dramatically points out the urgent need for the approval of another reduced duration test method.

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3.3.2.5

Leakage Penalties Added to Type A Leakage

Penetration leakage to be added since these penetrations were isolated or could not be vented and drained during the Type A test. The leakage assigned is the recorded value for minimum pathway analysis.

i. Type B & C Penalties

<u>Pen.</u>	<u>Description</u>	<u>CCM</u>	<u>Percent/day</u>
10	RCDT and PRT Vent	34	
11	Alt LHSI to Loop	34	
15	Charging Line Check	34	
16	PACVS Stop, Post Acc.	34	
23	Cont. Sump to WHT	15	
24A	Seal Water to RCP "A"	130	
24B	Seal Water to RCP "B"	100	
24C	Seal Water to RCP "C"	34	
53	PACVS Stop, Post Acc.	175	
62A	Containment Press.	20	

Total 610

$$(610 \text{ CCM})(14.7+50)/14.7 = 2685 \text{ SCCM}$$

Total Type B & C Leakage 2685 SCCM

Total Type B & C Leakage 0.002004

ii. Water Level Corrections

<u>Description</u>	<u>Gallons</u>
Containment Sump	0
Pressurizer	0

Total Water Level Corrections 0 Gallons

Total Water Level Corrections 0.000000

iii. Total Corrections

Total Type A Corrections 0.002004
(i. and ii.)

ATTACHMENT 3.3A

Turkey Point Unit 3 - 1989 ILRT FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89 MEASURED INPUT DATA

05/28/89 04:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.954	91.562	91.946	92.980	91.997	92.821	94.534	94.522	93.072	94.461
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.595	94.312	94.250	94.286	94.134	94.384	94.578	94.475	94.212	94.120
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.728	93.968	70.217	68.412	68.662	64.104	65.172	65.793	65.155	67.675
D9/C-41	P1/MAN.	P2/MAN.							
64.644	66.060	66.063							

05/28/89 04:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.954	91.562	91.957	92.980	91.985	92.810	94.479	94.511	93.061	94.441
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.575	94.301	94.196	94.298	94.113	94.329	94.544	94.443	94.201	94.088
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.694	93.959	70.206	68.452	68.685	64.116	65.166	65.800	65.166	67.657
D9/C-41	P1/MAN.	P2/MAN.							
64.702	66.058	66.061							

05/28/89 04:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.966	91.562	91.957	92.992	91.985	92.810	94.479	94.502	93.061	94.418
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.563	94.278	94.207	94.264	94.082	94.329	94.544	94.421	94.180	94.065
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.662	93.936	70.182	68.486	68.696	64.149	65.154	65.811	65.194	67.656
D9/C-41	P1/MAN.	P2/MAN.							
64.736	66.056	66.059							

05/28/89 04:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.966	91.585	91.957	92.980	91.997	92.821	94.479	94.490	93.061	94.407
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.586	94.278	94.153	94.243	94.091	94.341	94.535	94.389	94.169	94.056
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.651	93.925	70.219	68.511	68.691	64.156	65.167	65.835	65.237	67.716
D9/C-41	P1/MAN.	P2/MAN.							
64.749	66.054	66.057							

ATTACHMENT 3.3A

Turkey Point Unit 3 - 1989 ILRT FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89 MEASURED INPUT DATA

05/28/89 05:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.966	91.585	91.957	92.992	91.997	92.821	94.447	94.468	93.061	94.375
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.532	94.257	94.164	94.243	94.070	94.309	94.501	94.389	94.180	94.034
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.640	93.893	70.240	68.551	68.715	64.150	65.189	65.823	65.271	67.628
D9/C-41	P1/MAN.	P2/MAN.							
64.760	66.052	66.055							

05/28/89 05:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.966	91.596	91.957	92.980	91.997	92.810	94.427	94.458	93.061	94.364
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.498	94.235	94.164	94.209	94.091	94.298	94.501	94.366	94.157	94.034
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.619	93.904	70.217	68.551	68.730	64.237	65.171	65.822	65.265	67.639
D9/C-41	P1/MAN.	P2/MAN.							
64.771	66.050	66.053							

05/28/89 05:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.966	91.596	91.969	92.992	91.997	92.821	94.427	94.436	93.061	94.353
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.520	94.223	94.153	94.200	94.036	94.275	94.481	94.378	94.126	94.002
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.596	93.870	70.206	68.575	68.738	64.180	65.167	65.823	65.294	67.617
D9/C-41	P1/MAN.	P2/MAN.							
64.818	66.049	66.052							

05/28/89 05:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.966	91.585	91.957	92.980	91.997	92.821	94.427	94.424	93.049	94.343
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.498	94.214	94.164	94.200	94.059	94.309	94.470	94.366	94.082	94.002
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.576	93.849	70.217	68.610	68.738	64.203	65.189	65.823	65.323	67.628
D9/C-41	P1/MAN.	P2/MAN.							
64.841	66.047	66.050							



ATTACHMENT 3.3A

Turkey Point Unit 3 - 1989 ILRT
FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89
MEASURED INPUT DATA

05/28/89 06:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.975	91.585	91.969	92.980	91.997	92.821	94.393	94.413	93.061	94.321
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.466	94.191	94.130	94.189	94.036	94.266	94.458	94.303	94.103	93.979
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.542	93.849	70.205	68.597	68.748	64.290	65.194	65.828	65.305	67.616
D9/C-41	P1/MAN.	P2/MAN.							
64.823	66.045	66.049							

05/28/89 06:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.975	91.617	91.969	92.980	92.008	92.810	94.372	94.413	93.049	94.298
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.443	94.180	94.098	94.146	94.027	94.243	94.447	94.323	94.071	93.968
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.542	93.849	70.206	68.610	68.743	64.272	65.212	65.857	65.334	67.617
D9/C-41	P1/MAN.	P2/MAN.							
64.858	66.043	66.046							

05/28/89 06:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.975	91.607	91.978	92.980	92.019	92.821	94.361	94.404	93.049	94.289
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.434	94.171	94.098	94.189	94.004	94.232	94.447	94.280	94.048	93.959
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.532	93.815	70.206	68.639	68.749	64.255	65.220	65.835	65.387	67.600
D9/C-41	P1/MAN.	P2/MAN.							
64.871	66.041	66.045							

05/28/89 06:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.975	91.617	91.969	92.980	91.997	92.821	94.361	94.381	93.049	94.278
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.400	94.171	94.109	94.123	94.004	94.220	94.426	94.291	94.048	93.947
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.521	93.804	70.208	68.628	68.744	64.285	65.220	65.870	65.365	67.606
D9/C-41	P1/MAN.	P2/MAN.							
64.883	66.039	66.043							

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ATTACHMENT 3.3A

Turkey Point Unit 3 - 1989 ILRT FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89 MEASURED INPUT DATA

05/28/89 07:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.975	91.607	91.978	92.980	92.019	92.821	94.338	94.370	93.027	94.266
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.411	94.137	94.066	94.102	93.973	94.211	94.415	94.269	94.028	93.968
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.466	93.795	70.172	68.645	68.726	64.261	65.208	65.892	65.387	67.611
D9/C-41	P1/MAN.	P2/MAN.							
64.900	66.038	66.042							

05/28/89 07:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.975	91.617	91.978	92.971	92.040	92.810	94.327	94.370	93.038	94.255
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.391	94.137	94.075	94.102	93.984	94.220	94.372	94.237	94.037	93.968
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.478	93.772	70.182	68.644	68.737	64.313	65.219	65.868	65.363	67.593
D9/C-41	P1/MAN.	P2/MAN.							
64.893	66.036	66.040							

05/28/89 07:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.986	91.628	91.969	92.971	92.019	92.821	94.306	94.349	93.027	94.235
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.379	94.116	94.066	94.068	93.984	94.220	94.361	94.214	94.028	93.959
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.455	93.749	70.170	68.660	68.729	64.363	65.240	65.856	65.391	67.585
D9/C-41	P1/MAN.	P2/MAN.							
64.961	66.034	66.038							

05/28/89 07:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.998	91.628	91.978	92.992	92.019	92.810	94.327	94.338	93.038	94.235
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.391	94.105	93.989	94.080	93.950	94.200	94.372	94.237	94.005	93.947
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.466	93.761	70.166	68.645	68.726	64.354	65.220	65.875	65.411	67.594
D9/C-41	P1/MAN.	P2/MAN.							
64.911	66.033	66.037							



ATTACHMENT 3.3A

Turkey Point Unit 3 - 1989 ILRT FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89 MEASURED INPUT DATA

05/28/89 08:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.986	91.639	91.978	92.980	92.019	92.821	94.295	94.338	93.038	94.212
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.345	94.094	94.044	94.068	93.961	94.157	94.361	94.205	93.993	93.893
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.444	93.740	70.160	68.668	68.715	64.308	65.243	65.892	65.405	67.588
D9/C-41	P1/MAN.	P2/MAN.							
64.923	66.031	66.035							

05/28/89 08:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.998	91.651	91.978	92.980	92.019	92.810	94.295	94.315	93.027	94.212
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.336	94.105	93.989	94.091	93.961	94.189	94.340	94.162	93.950	93.904
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.423	93.717	70.143	68.668	68.726	64.377	65.271	65.892	65.428	67.577
D9/C-41	P1/MAN.	P2/MAN.							
64.946	66.029	66.033							

05/28/89 08:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.998	91.660	91.989	92.980	92.019	92.810	94.274	94.306	93.038	94.212
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.325	94.082	93.989	94.091	93.930	94.157	94.340	94.171	93.950	93.870
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.423	93.729	70.125	68.650	68.708	64.388	65.212	65.903	65.422	67.594
D9/C-41	P1/MAN.	P2/MAN.							
64.963	66.028	66.031							

05/28/89 08:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
91.998	91.671	91.978	92.980	92.029	92.821	94.274	94.295	93.017	94.201
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.336	94.082	93.935	94.068	93.918	94.166	94.317	94.194	93.939	93.861
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.400	93.697	70.131	68.667	68.715	64.377	65.277	65.898	65.433	67.594
D9/C-41	P1/MAN.	P2/MAN.							
64.969	66.027	66.031							

ATTACHMENT 3.3A

Turkey Point Unit 3 - 1989 ILRT FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89 MEASURED INPUT DATA

05/28/89 09:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.009	91.671	92.001	92.992	92.029	92.810	94.240	94.284	93.027	94.169
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.293	94.062	93.978	94.025	93.907	94.166	94.295	94.162	93.930	93.850
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.400	93.663	70.125	68.661	68.707	64.393	65.282	65.914	65.438	67.563
D9/C-41	P1/MAN.	P2/MAN.							
64.962	66.025	66.029							

05/28/89 09:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.009	91.671	91.989	92.980	92.029	92.821	94.251	94.284	93.038	94.169
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.302	94.028	93.969	94.005	93.907	94.123	94.295	94.151	93.930	93.861
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.391	93.663	70.088	68.660	68.700	64.392	65.251	65.907	65.437	67.585
D9/C-41	P1/MAN.	P2/MAN.							
64.967	66.024	66.027							

05/28/89 09:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.018	91.671	92.001	92.992	92.040	92.821	94.251	94.263	93.027	94.158
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.282	94.039	93.926	93.994	93.918	94.123	94.263	94.128	93.895	93.861
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.368	93.642	70.078	68.644	68.690	64.382	65.288	65.920	65.474	67.570
D9/C-41	P1/MAN.	P2/MAN.							
64.980	66.023	66.026							

05/28/89 09:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.029	91.694	92.012	92.992	92.051	92.821	94.220	94.252	93.038	94.148
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.270	94.028	93.978	93.994	93.886	94.102	94.263	94.128	93.895	93.838
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.357	93.631	70.079	68.656	68.662	64.401	65.300	65.934	65.481	67.577
D9/C-41	P1/MAN.	P2/MAN.							
65.010	66.021	66.024							

ATTACHMENT 3.3A

Turkey Point Unit 3 - 1989 ILRT
FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89
MEASURED INPUT DATA

05/28/89 10:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.018	91.671	92.012	93.003	92.051	92.821	94.208	94.252	93.038	94.137
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.270	94.028	93.969	93.971	93.886	94.091	94.263	94.117	93.886	93.818
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.346	93.608	70.072	68.650	68.685	64.406	65.323	65.951	65.469	67.559
D9/C-41	P1/MAN.	P2/MAN.							
64.993	66.020	66.024							

05/28/89 10:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.029	91.694	92.001	92.992	92.063	92.883	94.220	94.240	93.027	94.126
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.247	94.007	93.946	93.962	93.841	94.112	94.252	94.108	93.895	93.795
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.336	93.619	70.049	68.649	68.667	64.423	65.276	65.933	65.474	67.546
D9/C-41	P1/MAN.	P2/MAN.							
65.004	66.019	66.022							

05/28/89 10:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.029	91.705	92.021	92.992	92.063	92.821	94.220	94.229	93.027	94.137
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.259	94.007	93.935	93.939	93.832	94.057	94.231	94.096	93.852	93.795
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.325	93.619	70.038	68.650	68.650	64.447	65.260	65.997	65.521	67.571
D9/C-41	P1/MAN.	P2/MAN.							
65.039	66.017	66.021							

05/28/89 10:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.029	91.705	92.021	92.992	92.063	92.810	94.208	94.218	93.027	94.103
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.259	93.996	93.915	93.939	93.864	94.025	94.208	94.085	93.863	93.773
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.302	93.608	70.037	68.638	68.661	64.440	65.311	65.927	65.514	67.552
D9/C-41	P1/MAN.	P2/MAN.							
65.021	66.017	66.020							

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ATTACHMENT 3.3A

Turkey Point Unit 3 - 1989 ILRT FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89 MEASURED INPUT DATA

05/28/89 11:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.041	91.694	92.012	93.003	92.063	92.842	94.185	94.209	93.027	94.103
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.216	93.985	93.915	93.951	93.832	94.068	94.208	94.074	93.895	93.764
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.314	93.588	70.002	68.650	68.616	64.504	65.283	65.985	65.521	67.571
D9/C-41 P1/MAN. P2/MAN.									
65.010	66.015	66.018							

05/28/89 11:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.041	91.714	92.032	92.992	92.063	92.833	94.197	94.209	93.017	94.103
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.216	93.964	93.872	93.962	93.821	94.005	94.188	94.065	93.852	93.784
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.291	93.588	69.979	68.633	68.616	64.458	65.306	65.962	65.526	67.576
D9/C-41 P1/MAN. P2/MAN.									
65.045	66.014	66.017							

05/28/89 11:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.052	91.714	92.021	92.992	92.063	92.833	94.176	94.197	93.027	94.094
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.184	93.953	93.849	93.951	93.809	94.005	94.188	94.074	93.875	93.773
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.282	93.576	69.984	68.608	68.632	64.521	65.288	65.973	65.520	67.557
D9/C-41 P1/MAN. P2/MAN.									
65.009	66.012	66.015							

05/28/89 11:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.052	91.705	92.032	92.992	92.072	92.833	94.131	94.186	93.017	94.071
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.193	93.964	93.872	93.907	93.809	94.014	94.177	94.065	93.863	93.741
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.282	93.576	69.979	68.621	68.615	64.475	65.305	65.967	65.543	67.570
D9/C-41 P1/MAN. P2/MAN.									
65.050	66.012	66.015							

ATTACHMENT 3.3A

Turkey Point Unit 3 - 1989 ILRT
FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89
MEASURED INPUT DATA

05/28/89 12:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.052	91.726	92.032	93.003	92.072	92.821	94.165	94.174	93.038	94.071
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.216	93.941	93.892	93.907	93.798	94.025	94.165	94.065	93.852	93.764
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.259	93.542	69.991	68.622	68.616	64.493	65.300	65.968	65.532	67.554
D9/C-41	P1/MAN.	P2/MAN.							
65.051	66.010	66.013							

ATTACHMENT 3.3B

Turkey Point Unit 3 - 1989 ILRT
FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89
REDUCED INPUT VARIABLES

Time (hh:mm)	Press. (PSIA)	V.P. (PSI)	Temp. (R)	Dewpoint (V)	Mass (LbM)
-----	-----	-----	-----	-----	-----
04:00	66.061	0.5206	553.501	0.521	495397.65
04:15	66.060	0.5204	553.480	0.520	495402.18
04:30	66.058	0.5203	553.468	0.520	495398.99
04:45	66.055	0.5204	553.463	0.520	495387.91
05:00	66.054	0.5202	553.449	0.520	495387.15
05:15	66.052	0.5200	553.439	0.520	495382.02
05:30	66.050	0.5198	553.427	0.520	495386.03
05:45	66.048	0.5197	553.422	0.520	495376.89
06:00	66.047	0.5195	553.405	0.520	495382.01
06:15	66.044	0.5194	553.394	0.519	495374.02
06:30	66.043	0.5194	553.387	0.519	495369.07
06:45	66.041	0.5192	553.377	0.519	495364.71
07:00	66.040	0.5189	553.363	0.519	495371.56
07:15	66.038	0.5189	553.359	0.519	495359.51
07:30	66.036	0.5188	553.347	0.519	495356.01
07:45	66.035	0.5188	553.343	0.519	495352.19
08:00	66.033	0.5185	553.330	0.519	495350.63
08:15	66.031	0.5185	553.322	0.519	495342.56
08:30	66.030	0.5184	553.316	0.518	495337.51
08:45	66.029	0.5184	553.307	0.518	495341.86
09:00	66.027	0.5181	553.296	0.518	495339.03
09:15	66.025	0.5180	553.290	0.518	495333.57
09:30	66.024	0.5179	553.280	0.518	495336.18
09:45	66.023	0.5179	553.277	0.518	495323.98
10:00	66.022	0.5177	553.269	0.518	495328.56
10:15	66.020	0.5176	553.263	0.518	495322.98
10:30	66.019	0.5177	553.252	0.518	495320.89
10:45	66.018	0.5175	553.244	0.517	495325.88
11:00	66.017	0.5175	553.243	0.518	495311.64
11:15	66.016	0.5174	553.232	0.517	495314.58
11:30	66.013	0.5173	553.225	0.517	495306.12
11:45	66.013	0.5171	553.220	0.517	495312.05
12:00	66.012	0.5172	553.220	0.517	495296.61

ATTACHMENT 3.3C

Turkey Point Unit 3 - 1989 ILRT
FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89
ABSOLUTE TEST METHOD, MASS POINT ANALYSIS TEST RESULTS

Time (hh:mm)	Mass (LbM)	Leakage (PCT./DAY)	Confidence (PCT./DAY)	UCL (PCT./DAY)
-----	-----	-----	-----	-----
04:00	495397.65	0.000000	0.000000	0.000000
04:15	495402.18	0.000000	0.000000	0.000000
04:30	495398.99	-0.012992	0.369098	0.356106
04:45	495387.91	0.062781	0.140675	0.203455
05:00	495387.15	0.068353	0.065436	0.133790
05:15	495382.02	0.074367	0.039485	0.113852
05:30	495386.03	0.060215	0.031105	0.091320
05:45	495376.89	0.064073	0.022773	0.086846
06:00	495382.01	0.054980	0.019867	0.074848
06:15	495374.02	0.055800	0.015581	0.071381
06:30	495369.07	0.058071	0.012769	0.070840
06:45	495364.71	0.060398	0.010783	0.071181
07:00	495371.56	0.055437	0.010392	0.065830
07:15	495359.51	0.057406	0.009062	0.066468
07:30	495356.01	0.058949	0.007955	0.066904
07:45	495352.19	0.060313	0.007057	0.067369
08:00	495350.63	0.060658	0.006204	0.066862
08:15	495342.56	0.062581	0.005822	0.068402
08:30	495337.51	0.064512	0.005539	0.070051
08:45	495341.86	0.063795	0.005020	0.068814
09:00	495339.03	0.063146	0.004574	0.067719
09:15	495333.57	0.063165	0.004146	0.067311
09:30	495336.18	0.061942	0.003967	0.065909
09:45	495323.98	0.062746	0.003714	0.066460
10:00	495328.56	0.061974	0.003495	0.065469
10:15	495322.98	0.061760	0.003227	0.064987
10:30	495320.89	0.061423	0.003001	0.064425
10:45	495325.88	0.059985	0.003122	0.063107
11:00	495311.64	0.060313	0.002921	0.063234
11:15	495314.58	0.059824	0.002764	0.062588
11:30	495306.12	0.060052	0.002593	0.062645
11:45	495312.05	0.059247	0.002553	0.061800
12:00	495296.61	0.059863	0.002470	0.062333

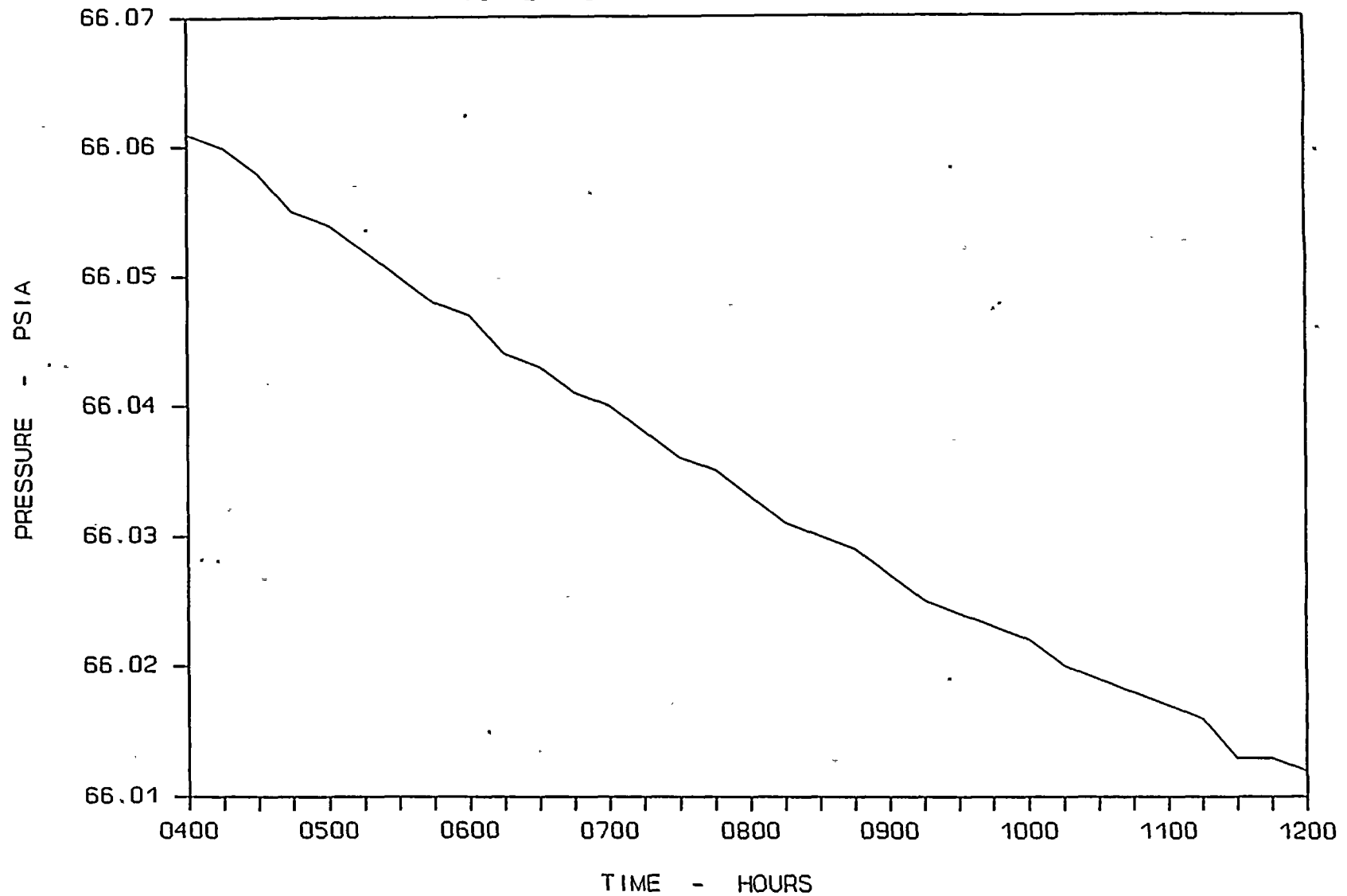
ATTACHMENT 3.3D

Turkey Point Unit 3 - 1989 ILRT
FROM 04:00 HOURS TO 12:00 HOURS ON 05/28/89
ABSOLUTE TEST METHOD, TOTAL TIME ANALYSIS TEST RESULTS

Time (hh:mm)	Mass (LbM)	Meas. Leak. (PCT./DAY)	Calc. Leak. (PCT./DAY)	Confidence (PCT./DAY)	UCL (PCT./DAY)
-----	-----	-----	-----	-----	-----
04:00	495397.65	0.000000	0.000000	0.000000	0.000000
04:15	495402.18	-0.087713	0.000000	0.000000	0.000000
04:30	495398.99	-0.012992	0.000000	0.000000	0.000000
04:45	495387.91	0.062898	0.062703	0.004619	0.067322
05:00	495387.15	0.050892	0.077027	0.169453	0.246480
05:15	495382.02	0.060574	0.086823	0.141529	0.228352
05:30	495386.03	0.037518	0.078161	0.145588	0.223749
05:45	495376.89	0.057482	0.081339	0.127323	0.208662
06:00	495382.01	0.037882	0.074363	0.122968	0.197331
06:15	495374.02	0.050881	0.074122	0.112987	0.187109
06:30	495369.07	0.055385	0.075098	0.104526	0.179624
06:45	495364.71	0.058034	0.076307	0.097647	0.173954
07:00	495371.56	0.042135	0.072238	0.094918	0.167155
07:15	495359.51	0.056855	0.072999	0.089853	0.162853
07:30	495356.01	0.057644	0.073614	0.085592	0.159206
07:45	495352.19	0.058735	0.074211	0.081909	0.156121
08:00	495350.63	0.056951	0.074152	0.078920	0.153071
08:15	495342.56	0.062802	0.075254	0.075878	0.151132
08:30	495337.51	0.064743	0.076456	0.073143	0.149599
08:45	495341.86	0.056904	0.075835	0.071316	0.147151
09:00	495339.03	0.056795	0.075220	0.069631	0.144851
09:15	495333.57	0.059130	0.075048	0.067905	0.142953
09:30	495336.18	0.054142	0.073995	0.066666	0.140660
09:45	495323.98	0.062067	0.074333	0.065002	0.139335
10:00	495328.56	0.055788	0.073594	0.063829	0.137423
10:15	495322.98	0.057876	0.073227	0.062587	0.135814
10:30	495320.89	0.057214	0.072772	0.061454	0.134226
10:45	495325.88	0.051510	0.071541	0.060700	0.132242
11:00	495311.64	0.059527	0.071513	0.059541	0.131054
11:15	495314.58	0.055509	0.070935	0.058622	0.129557
11:30	495306.12	0.059122	0.070855	0.057596	0.128452
11:45	495312.05	0.053512	0.070072	0.056856	0.126928
12:00	495296.61	0.061188	0.070267	0.055860	0.126126

CONTAINMENT PRESSURE vs. TIME

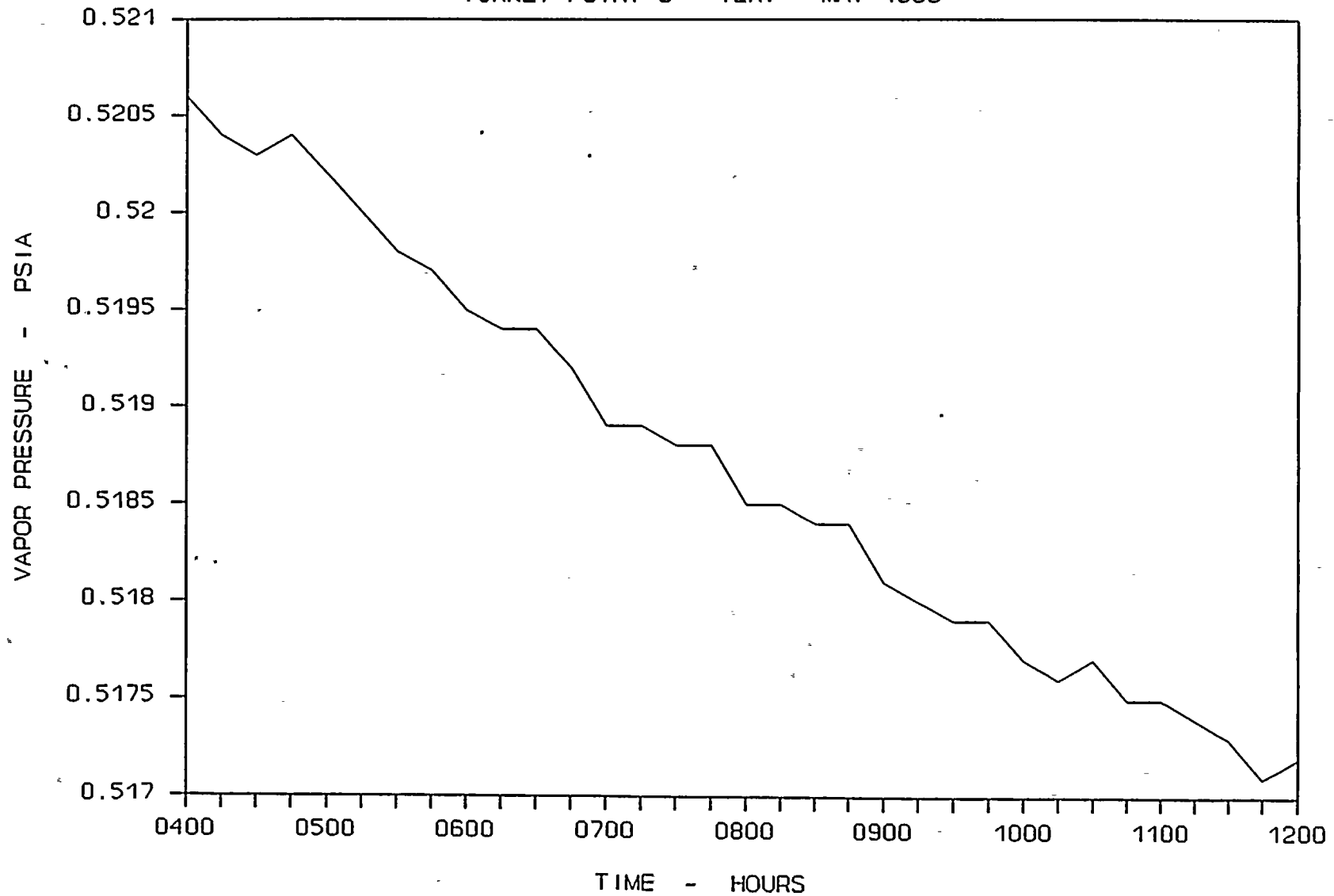
TURKEY POINT 3 - ILRT - MAY 1989



ATTACHMENT 3.3E
GRAPH 1

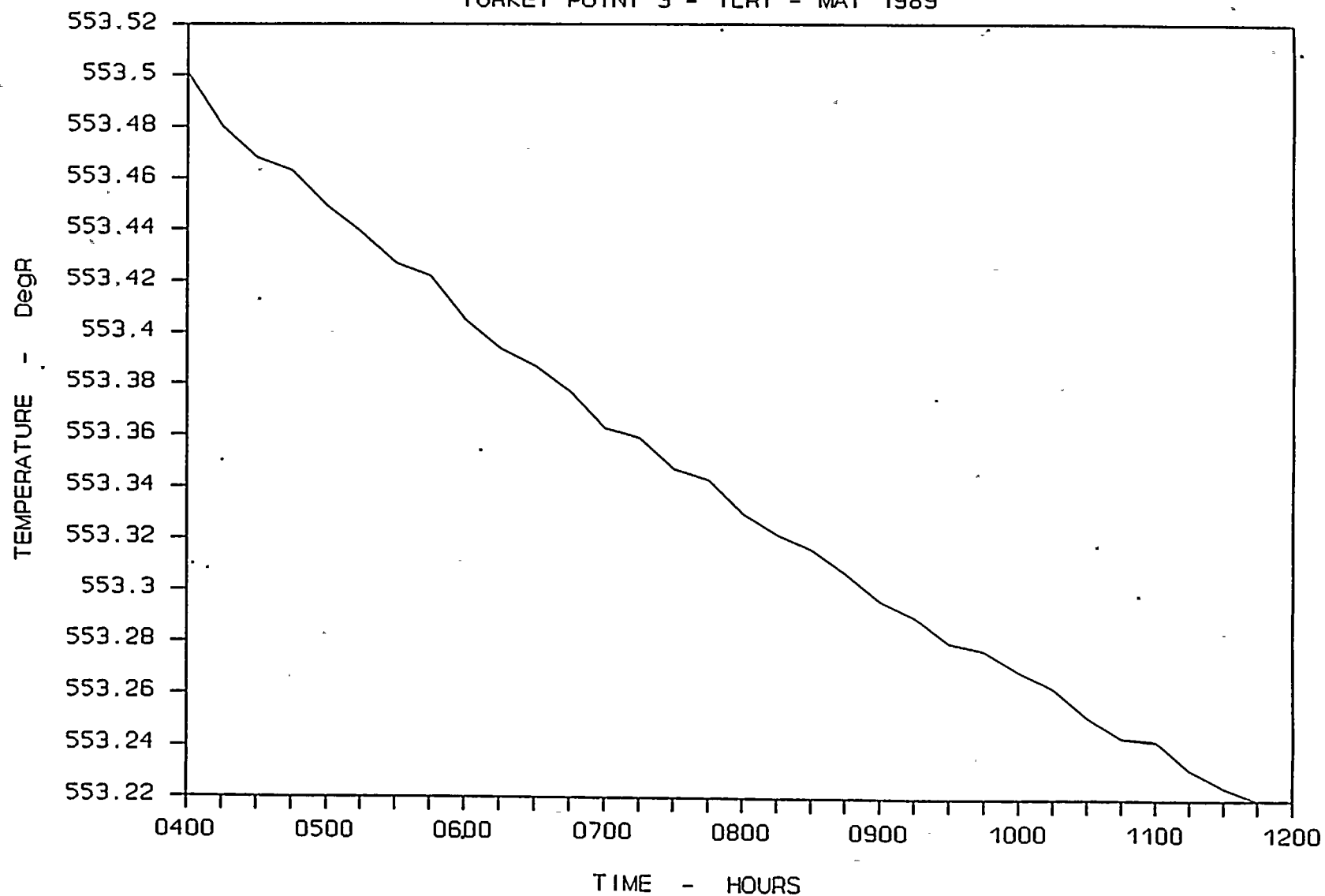
CONTAINMENT VAPOR PRESS. VS. TIME

TURKEY POINT 3 - ILRT - MAY 1989



CONTAINMENT TEMPERATURE vs. TIME

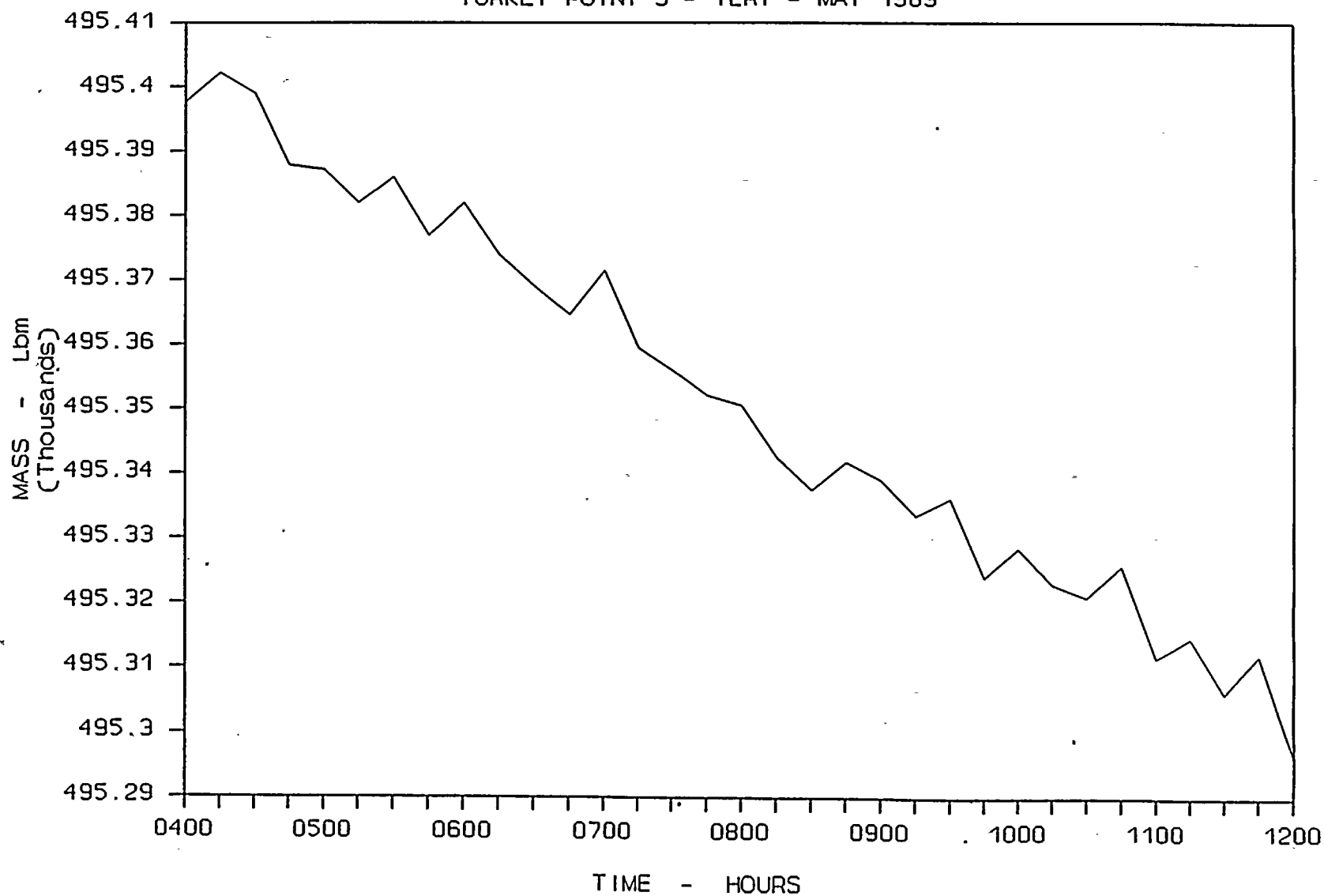
TURKEY POINT 3 - ILRT - MAY 1989



ATTACHMENT 3.3G
GRAPH 3

CONTAINMENT MASS vs. TIME

TURKEY POINT 3 - ILRT - MAY 1989

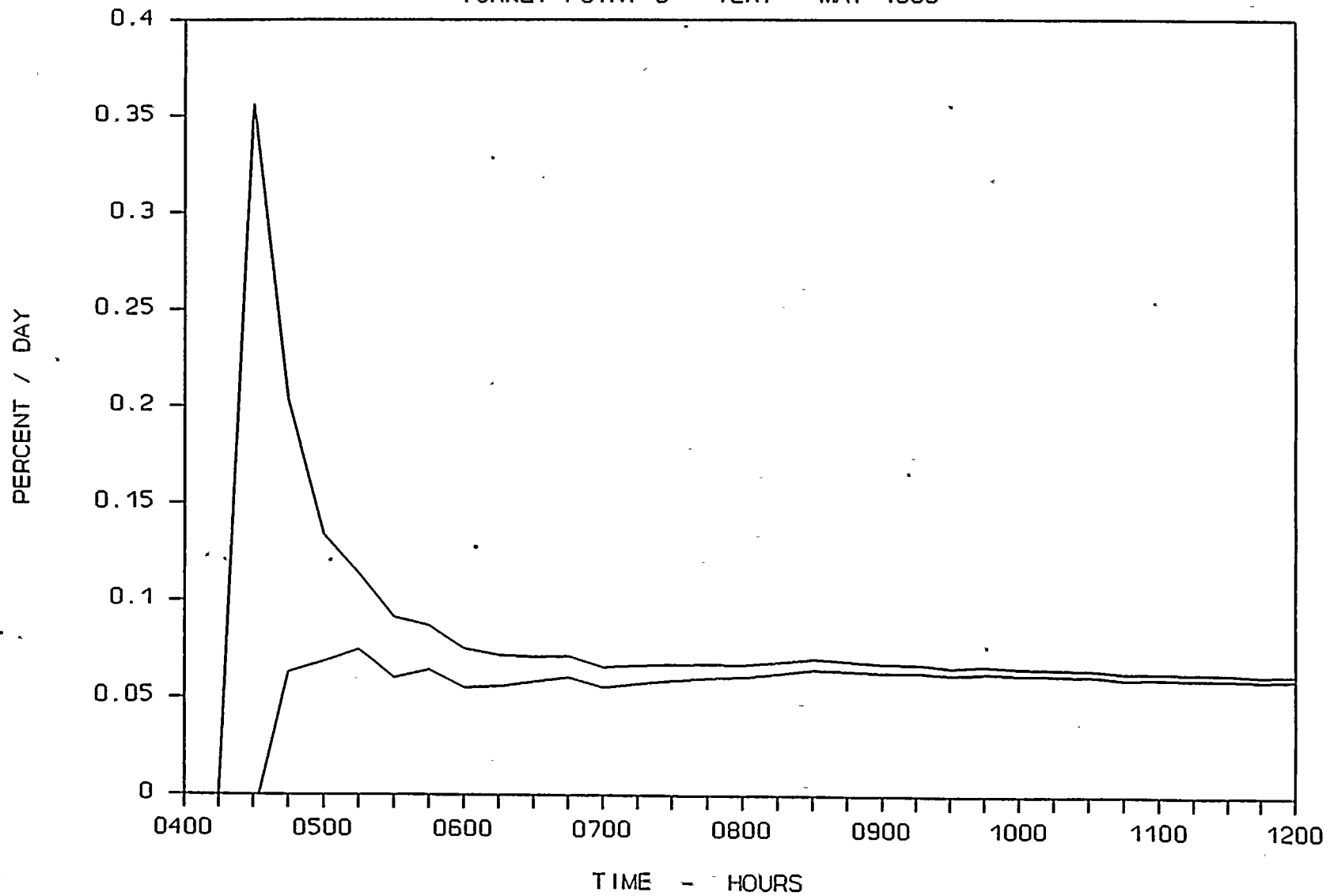


ATTACHMENT 33H
GRAPH 4



MASS POINT LEAKAGE AND UCL

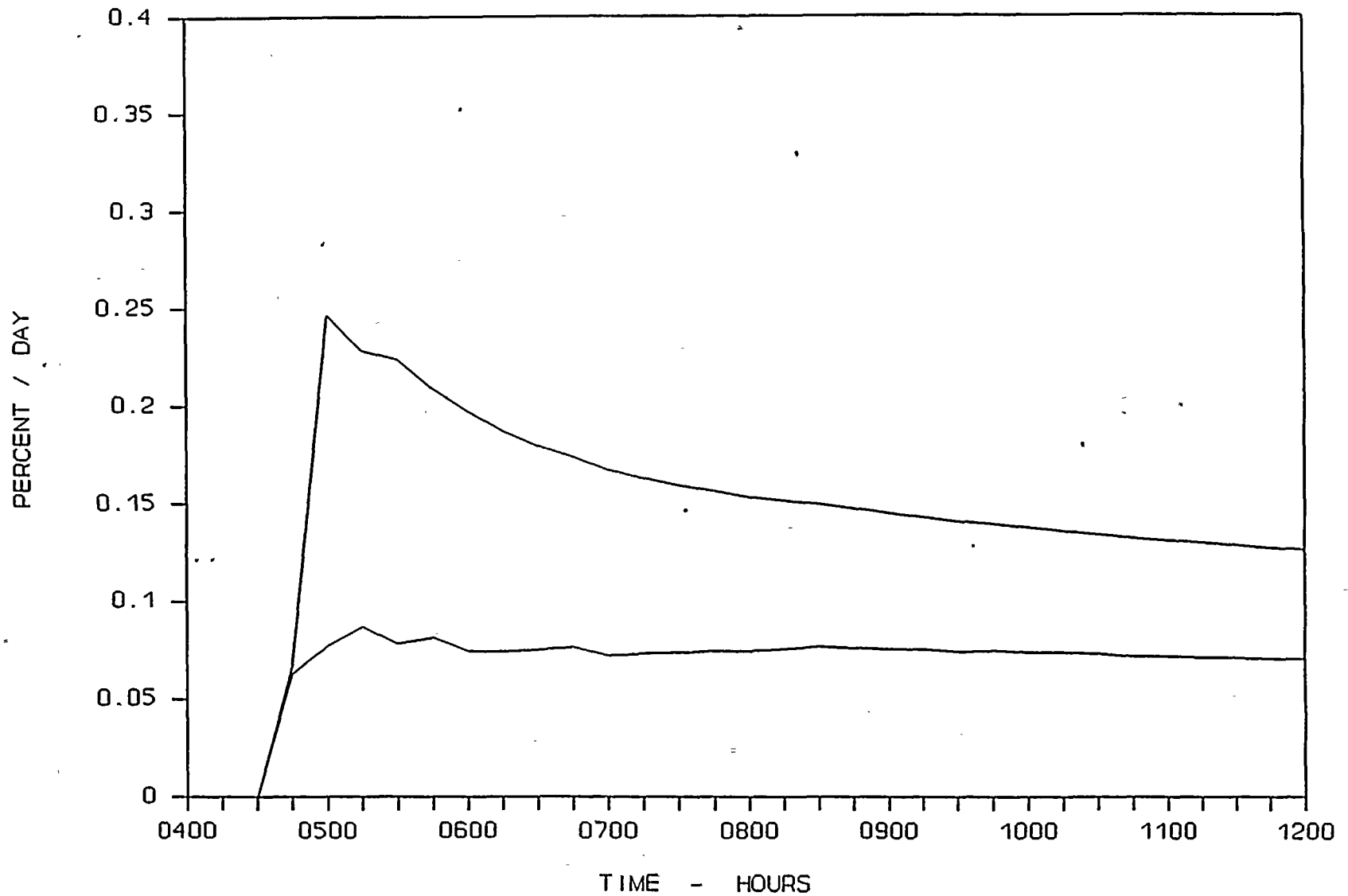
TURKEY POINT 3 - ILRT - MAY 1989



ATTACHMENT 3.31
GRAPH 5

TOTAL TIME LEAKAGE AND UCL

TURKEY POINT 3 - ILRT - MAY 1989



ATTACHMENT 3.3J
GRAPH 6

ATTACHMENT 3.3K

Turkey Point Unit 3 - 1989 ILRT FROM 13:00 HOURS TO 17:00 HOURS ON 05/28/89 MEASURED INPUT DATA VERIFICATION TEST

05/28/89 13:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.073	91.748	92.066	92.992	92.083	92.833	94.110	94.154	93.027	94.051
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.141	93.921	93.838	93.853	93.755	93.971	94.122	94.010	93.832	93.698
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.227	93.510	69.934	68.599	68.586	64.557	65.341	66.038	65.579	67.571
D9/C-41	P1/MAN.	P2/MAN.							
65.051	65.999	66.002							

05/28/89 13:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.073	91.737	92.066	92.992	92.094	92.833	94.078	94.143	93.027	94.028
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.141	93.921	93.774	93.853	93.789	93.994	94.111	94.010	93.832	93.675
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.216	93.522	69.951	68.597	68.580	64.551	65.376	65.997	65.585	67.552
D9/C-41	P1/MAN.	P2/MAN.							
65.056	65.996	65.999							

05/28/89 13:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.064	91.748	92.055	92.992	92.083	92.842	94.099	94.131	93.017	94.028
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.150	93.887	93.817	93.842	93.743	93.982	94.099	93.999	93.788	93.675
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.193	93.478	69.916	68.593	68.580	64.551	65.353	65.962	65.573	67.542
D9/C-41	P1/MAN.	P2/MAN.							
65.073	65.993	65.996							

05/28/89 13:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.064	91.757	92.076	93.003	92.083	92.833	94.088	94.120	93.027	94.017
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.118	93.898	93.774	93.842	93.743	93.960	94.111	93.987	93.820	93.675
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.193	93.478	69.907	68.584	68.550	64.567	65.321	65.989	65.582	67.550
D9/C-41	P1/MAN.	P2/MAN.							
65.060	65.990	65.993							

ATTACHMENT 3.3K

Turkey Point Unit 3 - 1989 ILRT FROM 13:00 HOURS TO 17:00 HOURS ON 05/28/89 MEASURED INPUT DATA VERIFICATION TEST

05/28/89 14:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.084	91.769	92.066	93.003	92.094	92.833	94.078	94.120	93.027	94.005
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.106	93.878	93.774	93.810	93.743	93.960	94.079	94.010	93.788	93.666
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.172	93.467	69.893	68.569	68.540	64.592	65.359	66.021	65.579	67.559
D9/C-41	P1/MAN.	P2/MAN.	65.062	65.987	65.991				

05/28/89 14:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.084	91.757	92.066	93.014	92.106	92.833	94.078	94.111	93.027	94.005
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.106	93.878	93.774	93.810	93.723	93.951	94.099	93.999	93.797	93.655
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.184	93.456	69.891	68.562	68.533	64.579	65.358	66.025	65.613	67.557
D9/C-41	P1/MAN.	P2/MAN.							
65.073	65.984	65.988							

05/28/89 14:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.084	91.769	92.076	93.014	92.106	92.821	94.067	94.111	93.038	93.996
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.118	93.855	93.806	93.830	93.755	93.939	94.090	93.999	93.765	93.643
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.172	93.444	69.845	68.562	68.528	64.521	65.404	66.077	65.607	67.546
D9/C-41	P1/MAN.	P2/MAN.							
65.078	65.982	65.985							

05/28/89 14:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.084	91.780	92.098	93.014	92.106	92.833	94.067	94.100	93.027	93.985
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.118	93.878	93.817	93.799	93.700	93.951	94.090	93.976	93.765	93.632
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.172	93.444	69.857	68.545	68.516	64.545	65.345	66.025	65.619	67.540
D9/C-41	P1/MAN.	P2/MAN.							
65.090	65.979	65.983							



ATTACHMENT 3.3K

Turkey Point Unit 3 - 1989 ILRT FROM 13:00 HOURS TO 17:00 HOURS ON 05/28/89 MEASURED INPUT DATA VERIFICATION TEST

05/28/89 15:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.096	91.769	92.087	93.014	92.106	92.842	94.056	94.100	93.038	93.996
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.118	93.866	93.806	93.810	93.723	93.928	94.079	93.967	93.754	93.643
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.161	93.456	69.874	68.551	68.516	64.556	65.322	66.013	65.624	67.523
D9/C-41	P1/MAN.	P2/MAN.							
65.107	65.976	65.980							

05/28/89 15:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.096	91.780	92.098	93.014	92.117	92.842	94.067	94.088	93.027	93.996
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.106	93.844	93.783	93.787	93.712	93.960	94.068	93.956	93.754	93.612
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.161	93.435	69.863	68.528	68.516	64.585	65.322	66.013	65.636	67.505
D9/C-41	P1/MAN.	P2/MAN.							
65.096	65.974	65.978							

05/28/89 15:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.107	91.791	92.087	93.014	92.117	92.853	94.024	94.077	93.038	93.974
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.118	93.855	93.740	93.767	93.700	93.928	94.068	93.956	93.743	93.612
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.150	93.435	69.823	68.534	68.488	64.574	65.393	66.025	65.637	67.529
D9/C-41	P1/MAN.	P2/MAN.							
65.103	65.971	65.975							

05/28/89 15:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.107	91.769	92.098	93.014	92.126	92.842	94.044	94.088	93.027	93.985
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.086	93.855	93.752	93.767	93.691	93.928	94.056	93.956	93.743	93.643
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.141	93.424	69.806	68.511	68.494	64.615	65.347	66.025	65.619	67.523
D9/C-41	P1/MAN.	P2/MAN.							
65.079	65.969	65.973							

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ATTACHMENT 3.3K

Turkey Point Unit 3 - 1989 ILRT FROM 13:00 HOURS TO 17:00 HOURS ON 05/28/89 MEASURED INPUT DATA VERIFICATION TEST

05/28/89 16:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.107	91.769	92.110	93.026	92.126	92.842	94.044	94.065	93.027	93.962
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.118	93.844	93.740	93.755	93.657	93.905	94.036	93.933	93.734	93.589
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.141	93.424	69.817	68.500	68.488	64.603	65.364	66.014	65.602	67.529
D9/C-41 P1/MAN. P2/MAN.									
65.092	65.967	65.970							

05/28/89 16:15

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.116	91.780	92.087	93.026	92.126	92.842	94.044	94.077	93.038	93.962
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.095	93.832	93.752	93.755	93.657	93.905	94.024	93.944	93.722	93.612
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.141	93.412	69.794	68.511	68.458	64.574	65.410	66.021	65.642	67.535
D9/C-41 P1/MAN. P2/MAN.									
65.109	65.964	65.967							

05/28/89 16:30

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.116	91.791	92.098	93.026	92.117	92.842	94.033	94.065	93.038	93.953
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.063	93.832	93.740	93.776	93.668	93.916	94.036	93.933	93.699	93.600
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.129	93.401	69.800	68.511	68.470	64.597	65.334	66.008	65.642	67.518
D9/C-41 P1/MAN. P2/MAN.									
65.115	65.961	65.964							

05/28/89 16:45

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.123	91.810	92.105	93.042	92.133	92.849	94.040	94.072	93.045	93.969
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.102	93.839	93.758	93.762	93.664	93.905	94.020	93.951	93.718	93.618
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.136	93.401	69.794	68.488	68.435	64.563	65.341	66.031	65.637	67.500
D9/C-41 P1/MAN. P2/MAN.									
65.120	65.959	65.962							



ATTACHMENT 3.3K

Turkey Point Unit 3 - 1989 ILRT FROM 13:00 HOURS TO 17:00 HOURS ON 05/28/89 MEASURED INPUT DATA VERIFICATION TEST

05/28/89 17:00

C-08	C-13	C-15	C-09	C-16	C-18	C-03	C-11	C-14	C-19
92.116	91.791	92.110	93.035	92.137	92.853	94.001	94.065	93.049	93.942
C-00	C-02	C-07	C-12	C-17	C-20	C-01	C-04	C-05	C-06
93.075	93.832	93.665	93.744	93.646	93.928	94.002	93.922	93.711	93.578
C-10	C-21	D1/C-42	D2/C-47	D3/C-43	D4/C-44	D5/C-49	D6/C-45	D7/C-46	D8/C-40
94.106	93.435	69.764	68.481	68.452	64.557	65.347	66.031	65.614	67.500
D9/C-41	P1/MAN.	P2/MAN.							
65.096	65.956	65.960							

ATTACHMENT 3.3L

Turkey Point Unit 3 - 1989 ILRT FROM 13:00 HOURS TO 17:00 HOURS ON 05/28/89 REDUCED INPUT VARIABLES VERIFICATION TEST

Time (hh:mm)	Press. (PSIA)	V.P. (PSI)	Temp. (R)	Dewpoint (V)	Mass (LbM)
-----	-----	-----	-----	-----	-----
13:00	66.000	0.5169	553.189	0.517	495243.79
13:15	65.998	0.5167	553.185	0.517	495225.94
13:30	65.994	0.5165	553.174	0.517	495214.44
13:45	65.992	0.5165	553.171	0.516	495194.66
14:00	65.989	0.5163	553.163	0.516	495183.94
14:15	65.986	0.5164	553.162	0.516	495161.67
14:30	65.983	0.5164	553.162	0.516	495143.61
14:45	65.981	0.5162	553.158	0.516	495129.00
15:00	65.978	0.5162	553.156	0.516	495108.07
15:15	65.976	0.5161	553.150	0.516	495099.16
15:30	65.973	0.5160	553.142	0.516	495084.05
15:45	65.971	0.5159	553.141	0.516	495070.77
16:00	65.969	0.5159	553.131	0.516	495060.83
16:15	65.965	0.5159	553.130	0.516	495039.10
16:30	65.963	0.5157	553.126	0.516	495021.26
16:45	65.960	0.5158	553.135	0.516	494997.85
17:00	65.958	0.5155	553.119	0.515	494996.00

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ATTACHMENT 3.3M

Turkey Point Unit 3 - 1989 ILRT
FROM 13:00 HOURS TO 17:00 HOURS ON 05/28/89
ABSOLUTE TEST METHOD, MASS POINT ANALYSIS TEST RESULTS
VERIFICATION TEST

Time (hh:mm)	Mass (LbM)	Leakage (PCT./DAY)	Confidence (PCT./DAY)	UCL (PCT./DAY)
13:00	495243.79	0.000000	0.000000	0.000000
13:15	495225.94	0.000000	0.000000	0.000000
13:30	495214.44	0.284426	0.303809	0.588235
13:45	495194.66	0.307991	0.061526	0.369517
14:00	495183.94	0.292661	0.035248	0.327909
14:15	495161.67	0.308130	0.028267	0.336397
14:30	495143.61	0.318154	0.022201	0.340355
14:45	495129.00	0.319429	0.016022	0.335451
15:00	495108.07	0.325770	0.013948	0.339718
15:15	495099.16	0.320653	0.012226	0.332878
15:30	495084.05	0.316599	0.010735	0.327334
15:45	495070.77	0.311980	0.010068	0.322048
16:00	495060.83	0.305262	0.010937	0.316199
16:15	495039.10	0.304348	0.009343	0.313690
16:30	495021.26	0.304792	0.008052	0.312844
16:45	494997.85	0.308376	0.007895	0.316272
17:00	494996.00	0.305493	0.007520	0.313013

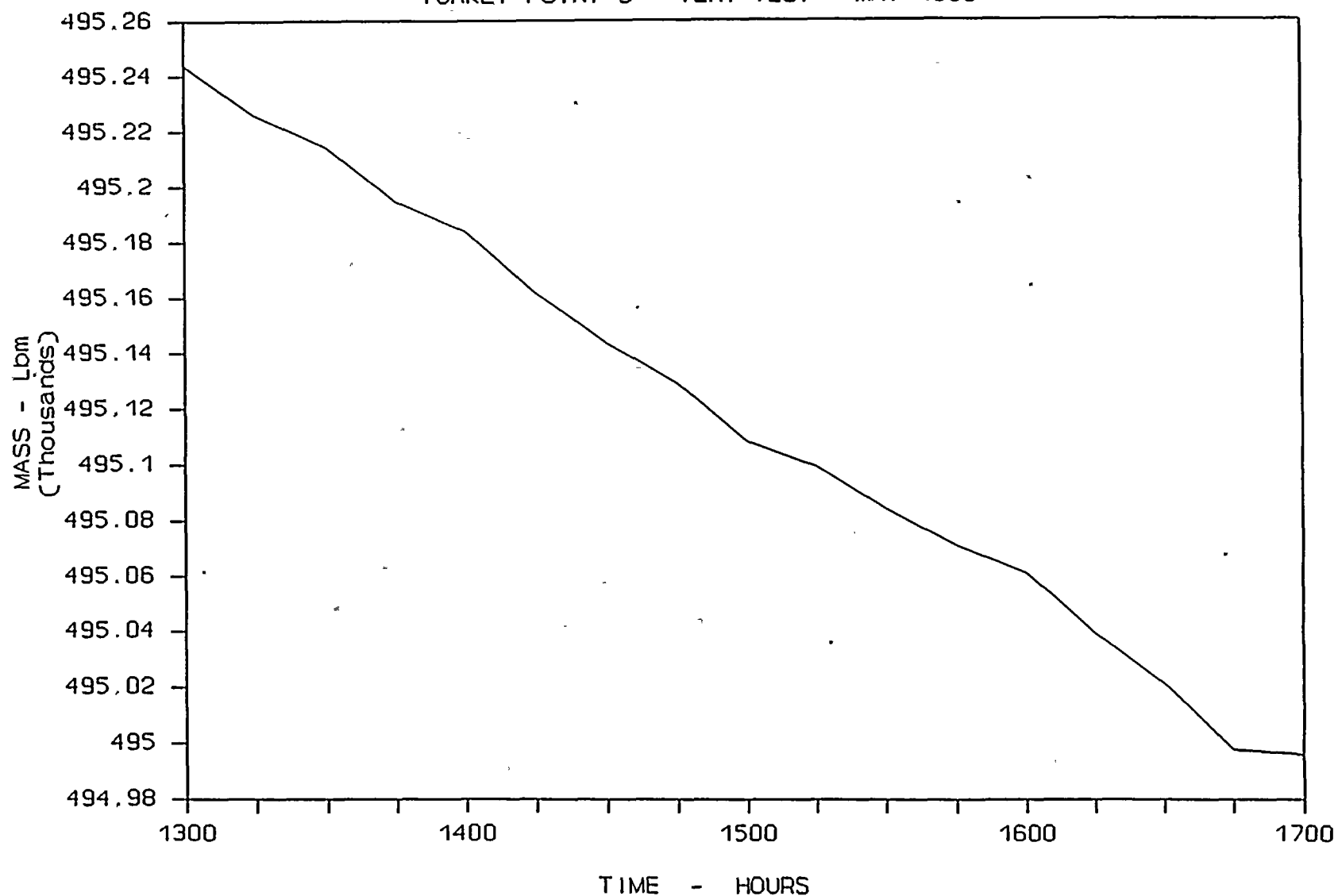
ATTACHMENT 3.3N

Turkey Point Unit 3 - 1989 ILRT
FROM 13:00 HOURS TO 17:00 HOURS ON 05/28/89
ABSOLUTE TEST METHOD, TOTAL TIME ANALYSIS TEST RESULTS
VERIFICATION TEST

Time (hh:mm)	Mass (LbM)	Meas. Leak. (PCT./DAY)	Calc. Leak. (PCT./DAY)	Confidence (PCT./DAY)	UCL (PCT./DAY)
13:00	495243.79	0.000000	0.000000	0.000000	0.000000
13:15	495225.94	0.345930	0.000000	0.000000	0.000000
13:30	495214.44	0.284426	0.000000	0.000000	0.000000
13:45	495194.66	0.317443	0.301689	0.373823	0.675513
14:00	495183.94	0.290026	0.289252	0.137122	0.426374
14:15	495161.67	0.318342	0.301318	0.105336	0.406654
14:30	495143.61	0.323639	0.310650	0.085401	0.396051
14:45	495129.00	0.317881	0.313439	0.070381	0.383820
15:00	495108.07	0.328851	0.319760	0.061997	0.381758
15:15	495099.16	0.311506	0.317343	0.055351	0.372694
15:30	495084.05	0.309642	0.315011	0.050343	0.365354
15:45	495070.77	0.304886	0.311826	0.046687	0.358513
16:00	495060.83	0.295549	0.306738	0.044553	0.351291
16:15	495039.10	0.305206	0.305578	0.041648	0.347226
16:30	495021.26	0.308111	0.305460	0.039268	0.344728
16:45	494997.85	0.317827	0.307740	0.037978	0.345718
17:00	494996.00	0.300200	0.305557	0.036342	0.341899

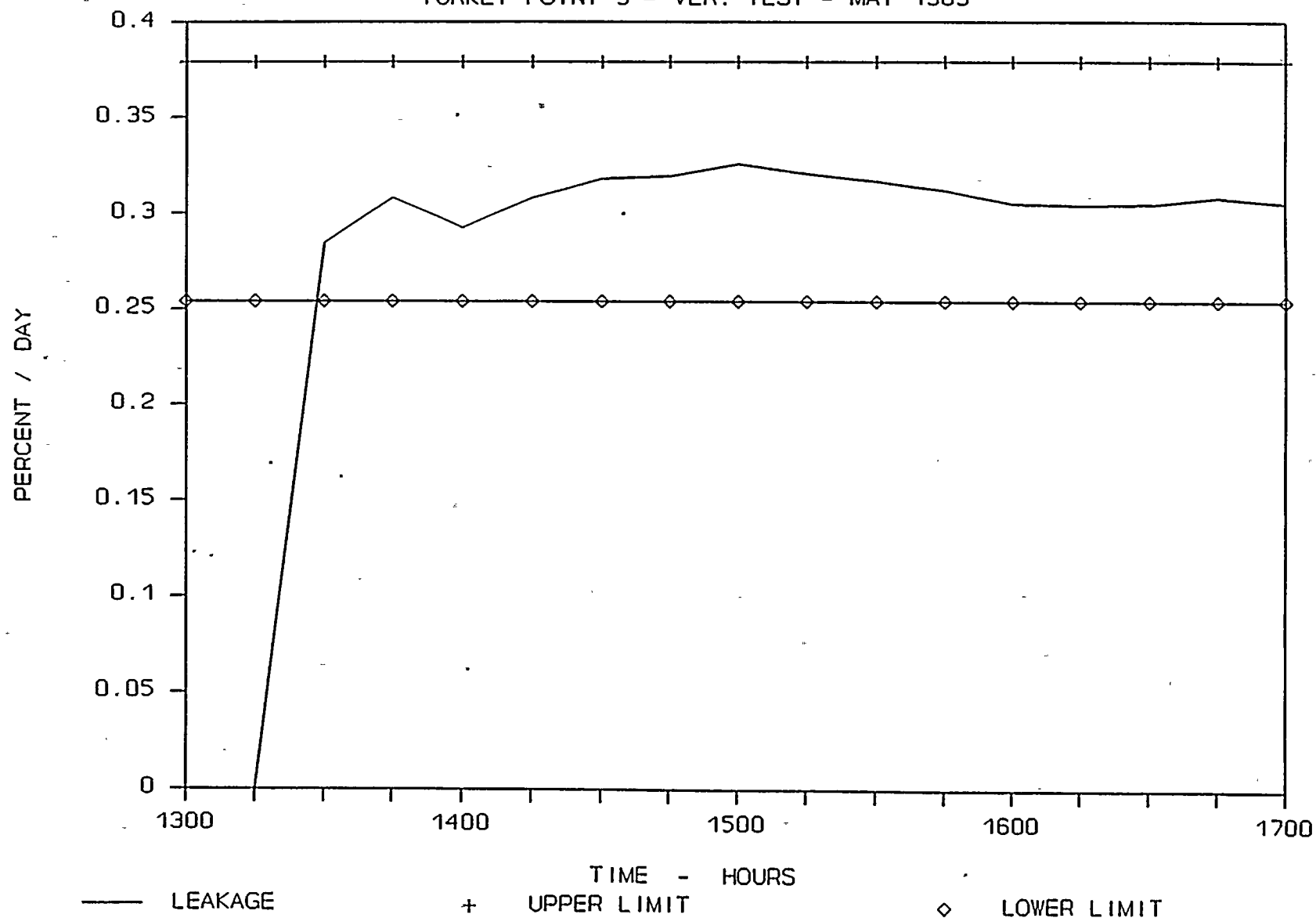
CONTAINMENT MASS vs. TIME

TURKEY POINT 3 - VER. TEST - MAY 1989



MASS POINT LEAKAGE

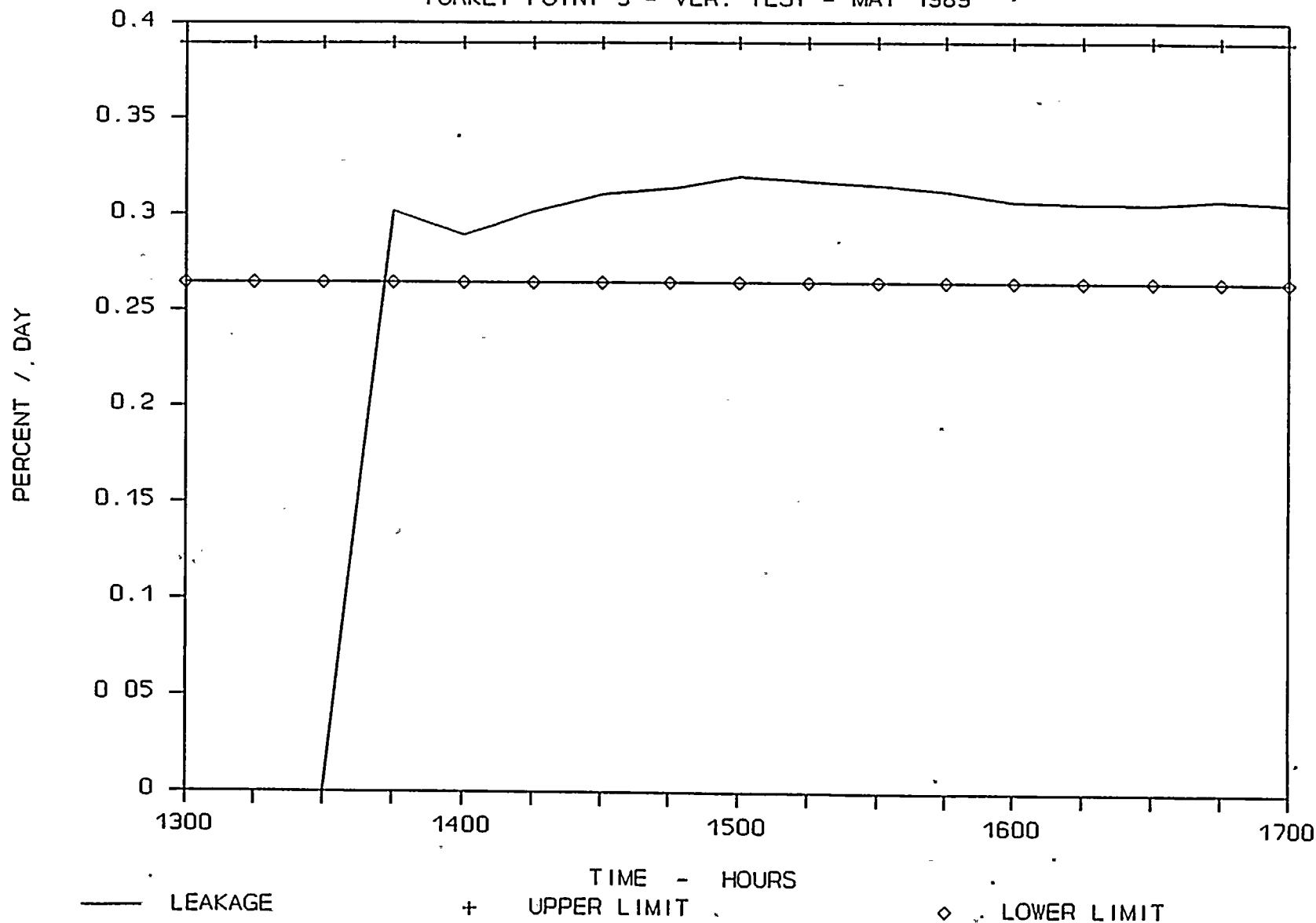
TURKEY POINT 3 - VER. TEST - MAY 1989





TOTAL TIME LEAKAGE vs. TIME

TURKEY POINT 3 - VER. TEST - MAY 1989



SECTION 4

4.0 LOCAL LEAKAGE RATE TESTS (TYPES B AND C)

Section 4 summarizes the results of the Local Leakage Rate Test (LLRT) data which have been obtained from periodic testing performed since the June 1985 Periodic Type A test. Maintenance data is provided for surveillance testing performed in 1987, 1988 and 1989. Each penetration's leakage rate was obtained from site reference material.

Attachment 4B contains an analysis of the containment penetrations that were repaired during the 1988/1989 Refueling Outage to assess the as found containment condition.

The acceptance criteria for Types B and C testing are in accordance with 10CFR50, Appendix J. The combined as left leakage rate for all penetrations and valves, subject to Types B and C tests in 1988 and 1989, were well below the acceptance criteria of less than $0.60L_a$.

The data contained in this section are summarized below:

<u>Attachment No.</u>	<u>Title</u>
4A	1987 & 1988/1989 Local Leakage Rate Test Data
4B	1988/1989 Local Leakage Rate Test Summary Analysis.

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ATTACHMENT 4A
1987, 1988 & 1989 LOCAL LEAKAGE RATE TEST DATA

<u>Pen No.</u>	<u>System Name</u>	<u>Test Type</u>	<u>Equipment/ Valves (Note 1)</u>	<u>As found leakage (CCM) / date</u>	<u>As left leakage (CCM) / date</u>	<u>Remarks</u>
5	PRT to Gas Analyzer	C	CV-516(OSC) SV-6385(OSC)	160/10-06-88 30/03-17-87 34/10-06-88 34/03-17-87	160/10-06-88 30/03-17-87 34/10-06-88 30/06-13-87	
6	Nitrogen to PRT	C	CK-518(ISC) STCK-519((ISC)	900/04-12-89 950/10-07-88 850/03-18-87 1500/04-13-89 1500/10-07-88 650/03-18-87	900/04-12-89 950/10-07-88 850/03-18-87 1500/04-13-89 750/10-19-88 650/03-18-87	Lapped seat & disc (1988)
7	Pri. Water to PRT and RCP Standpipes	C	CV-519A(OSC) CV-519B(ISC) CV-522A(ISC) CV-522B(ISC) CV-522C(ISC)	34/10-12-88 34/04-05-87 Combination	34/10-12-88 34/04-05-87 Combination	
8	Pressurizer Steam Samples	C	CV-951(ISC) CV-956A(OSC)	160/10-07-88 3400/03-19-87 34/10-07-88 130/03-19-87	34/11-08-88 30/06-29-87 34/10-07-88 130/03-19-87	Replaced & lapped seat & plug (1987 & 1988)
9	Pressurizer Liquid Samples	C	CV-953(ISC) CV-956B(OSC)	34/10-09-88 30/04-11-87 120/10-09-88 30/04-11-87	34/10-16-88 30/04-11-87 120/10-09-88 30/04-11-87	



ATTACHMENT 4A
1987, 1988 & 1989 LOCAL LEAKAGE RATE TEST DATA

<u>Pen No.</u>	<u>System Name</u>	<u>Test Type</u>	<u>Equipment/ Valves (Note 1)</u>	<u>As found leakage (CCM) / date</u>	<u>As left leakage (CCM) / date</u>	<u>Remarks</u>
10	RCDT and PRT Vent	C	CV-4658B(OSC)	34/10-13-88 30/04-08-87	34/10-13-88 30/04-08-87	PCV-1014 - Repaired controller & sensing line (1987)
			CV-4658A(OSC)	1250/10-14-88	1250/10-14-88	
			PCV-1014(OSC)	1500/04-13-87	1100/04-13-87	
				Combination	Combination	
			V-4656(OSC)	34/10-13-88	34/10-13-88	
11	Alternate LHSI to Loops	C	MOV-872(OSC)	34/10-10-88 30/04-05-87	34/10-10-88 30/04-05-87	
14	Letdown Orifice Stop	C	CV-200A(ISC)	10000/10-31-88	450/11-21-88	Replaced & lapped seat & plug (1988)
			CV-200B(ISC)	150/03-28-87	150/03-28-87	
			CV-200C(ISC)	Combination	Combination	
			CV-204(OSC)	34/10-31-88 100/11-08-87	34/10-31-88 100/11-08-87	
15	Charging to Regen. HX.	C	CK-312C(ISC)	34/10-27-88 5600/03-30-87	625/11-20-88 400/04-16-87	Replaced & lapped seat & disc (1988) Lapped seat & disc (1987)
			HCV-121(OSC)	34/10-27-88	34/11-20-88	
			V-333(OSC)	350/03-29-87 Combination	350/03-29-87 Combination	
16	PACVS Stop, Post Accident	C	HV-1(OSC)	34/10-06-88	34/10-06-88	Piping to PAHM- 002A replaced (1987).
			HV-2(OSC)	1040/03-21-87	30/07-08-87	
			PAHM-002A(OSC)	Combination	Combination	
17	SI Test Line	C	V-895V(OSC)	34/10-09-88 34/04-03-87	34/10-09-88 34/04-03-87	

ATTACHMENT 4A
1987, 1988 & 1989 LOCAL LEAKAGE RATE TEST DATA

<u>Pen No.</u>	<u>System Name</u>	<u>Test Type</u>	<u>Equipment/ Valves (Note 1)</u>	<u>As found leakage (CCM) / date</u>	<u>As left leakage (CCM) / date</u>	<u>Remarks</u>
19A	Containment Spray Header A	C	CK-890A(OSC)	34/10-06-88 130/03-16-87	34/10-06-88 130/03-16-87	
			MOV-880A(OSC)	34/10-06-88 130/03-19-87	34/10-06-88 130/03-19-87	
19B	Containment Spray Header B	C	CK-890B(OSC)	34/10-06-88 30/03-16-87	34/10-06-88 30/03-16-87	
			MOV-880B(OSC)	34/10-06-88 30/03-19-87	34/10-06-88 30/03-19-87	
20	A & B Hot Leg Sample	C	SV-6427A(ISC)	34/10-09-88 800/03-26-87	34/10-12-88 30/06-15-87	Replaced solenoid springs (1987)
			SV-6427B(ISC)	34/10-09-88 30/03-26-87	34/10-12-88 30/06-15-87	
			SV-6428(OSC)	390/10-12-88 220/03-26-87	390/10-12-88 125/06-16-87	Replaced solenoid springs (1987)
23	Containment Sump to WHT	C	CV-2821(OSC)	3000/04-11-89 120/10-18-88 100/07-11-87	15/06-16-89 120/10-18-88 100/07-11-87	Replaced valve internals (1988)
			CV-2822(OSC)	15/4-12-89 34/10-18-88 30/07-11-87	100/05-25-89 34/10-18-88 30/07-11-87	Adjusted packing of LLRT boundary valve (2821) (1988)
24A	Seal Water Injection to A RCP	C	CK-298A(ISC)	130/10-09-88 30/03-26-87	130/10-09-88 30/03-26-87	
24B	Seal Water Injection to B RCP	C	CK-298B(ISC)	100/10-09-88 30/03-26-87	100/10-09-88 30/03-26-87	
24C	Seal Water Injection to C RCP	C	CK-298C(ISC)	34/10-09-88 30/03-26-87	34/10-09-88 30/03-26-87	

ATTACHMENT 4A
1987, 1988 & 1989 LOCAL LEAKAGE RATE TEST DATA

<u>Pen No.</u>	<u>System Name</u>	<u>Test Type</u>	<u>Equipment/ Valves (Note 1)</u>	<u>As found leakage (CCM) / date</u>	<u>As left leakage (CCM) / date</u>	<u>Remarks</u>
25	RCP Seal Water Return	C	MOV-6386(ISC)	34/10-08-88 30/03-18-87	34/11-28-88 30/03-18-87	
			MOV-381(OSC)	34/10-08-88 34/03-17-87	34/10-08-88 34/03-17-87	
29	Instrument Air Supply	C	STCK-340A(ISC)	910/04-17-89 4200/10-14-88 975/04-11-87	910/04-17-89 900/10-16-88 975/04-11-87	Lapped seat & plug (1988)
			CK-336(ISC)	800/04-17-89 240/10-14-88 7000/04-11-87	800/04-17-89 240/10-14-88 310/05-18-87	Lapped seat & disk (1987)
30	Breathing Air	C	BA-201(ISC)	150/10-07-88 2500/04-01-87	150/10-07-88 375/05-16-87	Cleaned o-ring & seat (1987)
			CV-6165(OSC)	34/10-18-88 30/09-30-87	34/10-18-88 30/09-30-87	
31	RCDT to Gas Analyzer	C	CV-4659A(OSC) CV-4659B(OSC)	34/10-07-88 34/03-26-87 Combination	34/10-07-88 34/03-26-87 Combination	
32	Containment Air Sample Return	C	CK-11-003(ISC)	450/04-12-89 100/10-08-88 80000/03-31-87	450/04-12-89 100/10-08-88 200/04-22-87	Lapped seat & disk (1987)
			SV-2912(OSC)	130/10-08-88	130/10-08-88	
			PAHM-001A(OSC)	95/03-31-87 Combination	34/07-10-87 Combination	Piping to PAHM-001A replaced (1987)
			PAHM-001B(OSC)			
33	Containment Air Sample	C	SV-2911(OSC)	100/10-09-88 450/04-01-87	100/10-09-88 450/04-01-87	
			SV-2913(OSC)	340/10-09-88 30/04-01-87	340/10-09-88 30/04-01-87	



ATTACHMENT 4A
1987, 1988 & 1989 LOCAL LEAKAGE RATE TEST DATA

<u>Pen No.</u>	<u>System Name</u>	<u>Test Type</u>	<u>Equipment/ Valves (Note 1)</u>	<u>As found leakage (CCM) / date</u>	<u>As left leakage (CCM) / date</u>	<u>Remarks</u>
34	Service Air	C	CK-205(ISC) V-204(OSC) HV-17(OSC)	700/04-13-89 45/10-14-88 550/04-01-87 260/04-14-89 900/10-14-88 34/04-01-87 Combination	700/04-13-89 45/10-14-88 550/04-01-87 260/04-14-89 900/10-14-88 34/04-01-87 Combination	
35	Containment Purge Inlet	C	PV-2600(OSC) PV-2601(ISC)	1050/06-01-89 800/10-07-88 600/09-30-87 Combination	1050/06-01-89 800/10-07-88 600/09-30-87 Combination	
36	Containment Purge Outlet	C	PV-2602(OSC) PV-2603(ISC)	220/06-03-89 1100/10-08-88 925/11-10-87 Combination	220/06-03-89 550/10-17-88 925/11-10-87 Combination	No repairs (1988)
37	Spare	C	V-10-879(ISC)	34/10-08-88 30/03-31-87	34/10-08-88 30/03-31-87	V-10-879 was tested in 1987 as V-2023 of Pen. 61B
38	Electrical Canisters	B	Canisters	1274/10-12-88 468/04-06-87	408/10-28-88 468/04-06-87	Replaced bushings two 4KV pens. (B&C) (1988)
39	Fuel Transfer Tube Flange	B	O-Rings	34/10-16-88 190/06-25-87	34/10-16-88 190/06-25-87	
40	Equipment Hatch	B	O-Rings	34/12-16-88 34/12-16-88 30/10-22-87	15/05-26-88 34/12-16-88 30/10-22-87	

ATTACHMENT 4A
1987, 1988 & 1989 LOCAL LEAKAGE RATE TEST DATA

<u>Pen No.</u>	<u>System Name</u>	<u>Test Type</u>	<u>Equipment/ Valves (Note 1)</u>	<u>As found leakage (CCM) / date</u>	<u>As left leakage (CCM) / date</u>	<u>Remarks</u>
41	Personnel Hatch	B	O-Rings	2900/03-08-89 4800/09-19-88 4800/10-21-87	2900/03-08-89 4800/09-19-88 4800/10-21-87	
42	Nitrogen to Accumulators	C	STCK-945E(ISC) CV-855(OSC)	60/10-14-88 1300/03-27-87 34/10-14-88 1400/03-26-87	60/10-14-88 75/05-18-87 34/10-14-88 80/05-18-87	No repairs (1987) Overhauled valve Replaced valve plug, stem, lower cage & bonnet Repaired LLRT boundary valves (1987)
47	Primary Water to Wash Header	C	CK-10-567(OSC) V-10-582(ISC)	50/10-12-88 75/04-05-87 Combination	50/10-12-88 75/04-05-87 Combination	
49	Emergency Hatch	B	O-Rings	50/01-22-89 550/07-27-88 800/09-10-87	50/01-22-89 550/07-27-88 800/09-10-87	
52	RCDT Pump Discharge	C	CV-4668A(OSC) CV-4668B(OSC)	15/04-11-89 30/12-11-87 34/03-28-87 Combination	15/04-11-89 30/12-11-87 30/05-13-87 Combination	
53	PACVS	C	HV-3-3(OSC) HV-3-4(OSC) PAHM-002B(OSC)	350/10-27-88 550/04-03-87 Combination	350/10-27-88 30/07-08-87 Combination	Replaced piping to PAHM-002B (1987)

ATTACHMENT 4A
1987, 1988 & 1989 LOCAL LEAKAGE RATE TEST DATA

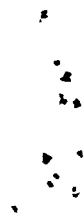
<u>Pen No.</u>	<u>System Name</u>	<u>Test Type</u>	<u>Equipment/ Valves (Note 1)</u>	<u>As found leakage (CCM) / date</u>	<u>As left leakage (CCM) / date</u>	<u>Remarks</u>
54A	Cont. Recirc. Sump to RHR A	C	MOV-860A(OSC) MOV-861A(OSC)	34/12-03-88 34/03-28-87 Combination	34/12-03-88 34/03-28-87 Combination	
54B	Cont. Recirc. Sump to RHR B	C	MOV-860B(OSC) MOV-861B(OSC)	34/12-04-88 34/03-27-87 Combination	34/12-04-88 34/03-27-87 Combination	
55	Accumulator Sample	C	CV-955C(ISC)	800/10-11-88 2800/03-26-87	40/10-26-88 30/06-03-87	Changed plug Lapped plug & disk (1987 & 1988) Changed plug Lapped plug & disk (1987) Changed plug Lapped plug & disk (1987 & 1988)
			CV-955D(ISC)	34/10-11-88 2800/03-26-87	34/10-20-88 30/06-03-87	
			CV-955E(ISC)	395/10-11-88 18000/03-26-87	34/10-26-88 30/06-03-87	
			CV-956D(OSC)	110/10-11-88 34/03-26-87	110/10-11-88 34/03-26-87	
61B	Spare	C	Cap V-2024(OSC)	34/10-08-88 30/03-31-87 Combination	34/10-08-88 30/03-31-87 Combination	
62A	Containment Pressurization	B	PS-2008(OSC) PS-2057(OSC) PT-6306B(OSC) PT-6425B(OSC)	40/10-12-88 34/04-29-87 Combination	40/10-12-88 34/04-29-87 Combination	
62B	Containment Pressurization	B	PS-2009(OSC) PS-2058(OSC)	34/10-13-88 34/04-29-87 Combination	34/10-13-88 34/04-29-87 Combination	

ATTACHMENT 4A
1987, 1988 & 1989 LOCAL LEAKAGE RATE TEST DATA

<u>Pen No.</u>	<u>System Name</u>	<u>Test Type</u>	<u>Equipment/ Valves (Note 1)</u>	<u>As found leakage (CCM) / date</u>	<u>As left leakage (CCM) / date</u>	<u>Remarks</u>
62C	Containment Pressurization	B	PS-2007(OSC) PS-2056(OSC) PT-6306A(OSC) PT-6425A(OSC)	34/10-11-88 34/04-29-87 Combination	34/10-11-88 34/04-29-87 Combination	
63	Instrument Air Bleed	C	CV-2819(ISC) CV-2826(OSC)	60/10-08-88 30/04-02-87 3200/04-13-89 1200/10-07-88 1200/04-06-87	60/10-08-88 30/04-02-87 15/04-17-89 1200/10-07-88 750/06-13-87	Cleaned & lapped seat & disk (1987 & 1988)
65A	ILRT Pressurization Pipe	B	Flanges	15/04-15-89 1800/10-08-88 30/07-15-87 Combination	15/04-15-89 34/12-14-88 30/07-15-87 Combination	Replaced flanges & gasket type (1989)
65B	ILRT Sensing Line	C B	V-2025(OSC) Flange(ISC)	15/04-15-89 34/10-09-88 280/04-04-87 Combination	15/04-15-89 34/10-09-88 30/04-04-87 Combination	V-2026 was not properly closed during the as-found test (1987)
65C	ILRT Leakage Flow	C B	V-2026(OSC) Flange(ISC)	15/04-15-89 34/10-09-88 280/04-04-87 Combination	15/04-15-89 34/10-09-88 30/04-04-87 Combination	V-2026 was not properly closed during the as-found test

NOTES:

1. (ISC) - Inside Containment
(OSC) - Outside Containment



ATTACHMENT 4B
1988-1989 LOCAL LEAKAGE RATE SUMMARY ANALYSIS

The as-found ILRT, by analysis, is used to show what the results of performing an ILRT at the beginning of the outage would have been, before any repairs or adjustments were made to the penetrations. The as-found LLRT, the repair, and the as-left LLRT for each boundary, or penetration, were reviewed. The net leakage contribution for each penetration was determined using the following leakage savings (LS) criteria:

1. A leakage rate add-on equivalent to the repair improvement is assigned to each penetration.
2. The net equivalent leakage for the penetration is the lowest of the inside or outside valve grouping (e.g., simulates minimum pathway leakage). The inside barrier may be inside the containment or the innermost barrier of the two barriers outside the containment. See Attachment 4A.
3. If a repair was not performed on a containment isolation valve, a zero leakage equivalent is assessed to the penetration.
4. The leakage equivalent assessed to a penetration may be reduced due to the safety-related service of the system associated with the penetration(s). Justification for this reduction will be provided with the analysis.
5. No leakage savings credit is taken if the as-left leakage rate is higher than the as-found leakage rate. Only those penetrations where repairs were made to CIVs are included in this attachment.
6. For series valves tested together (i.e. combination test), the penetration net equivalent leakage is half the difference between the as-found and the as-left leakage rates when both valves are repaired at the same time (prior to performing another test).
7. When the summation of the leakage equivalent and the leakage measured during a successful Type A test is greater than L_a , the penetration(s) with excessive leakage(s) shall be analyzed under a failure analysis program.
8. All measured leakage rate values are in CCM at 50 psig.

Based on the above criteria and the values tabulated on the next page, the net equivalent leakage of 0.018208 percent/day, when added to the results of this ILRT (0.128130 Total Time UCL plus corrections), indicates that the as-found ILRT test result, determined by analysis, (0.146338) is below the plant's maximum allowable leakage rate of 0.25 percent/day.

ATTACHMENT 4B

1988-1989 LOCAL LEAKAGE RATE SUMMARY ANALYSIS

<u>Pen- Num.</u>	<u>System</u>	<u>As found</u>	<u>As left</u>	<u>LS</u>	<u>Remarks</u>
6	Nitrogen to PRT	1500	1500	0	
8	Pressurizer Steam Samples	34	34	0	
10	RCDT and PRT Vent	1250	68	1182	
14	Letdown Orifice Stop	34	34	0	
15	Charging to Regen Hx	34	34	0	
23	Containment Sump to WHT	34	15	0	Lower sensitivity of test inst.
29	Instrument Air	240	800	0	(Criteria 5)
32	Containment Air Sample Suct.	100	130	0	(Criteria 5)
34	Service Air	45	260	0	(Criteria 5)
35	Containment Purge Inlet	400	525	0	(Criteria 5)
36	Containment Purge Exhaust	550	110	440	
40	Equipment Hatch	34	15	19	Lower sensitivity of test inst.
41	Personnel Hatch	4,800	2900	1900	
49	Emergency Hatch	550	50	500	
52	RCDT Pump Dish.	30	15	15	Lower sensitivity of test inst.
55	Accumulator Sample	620	102	518	
63	Instrument Air Bleed	60	15	45	
65A	ILRT Connection	900	15	885	
65B	ILRT Connection	34	15	19	Lower sensitivity of test inst.
65C	ILRT Connection	34	15	19	Lower sensitivity of test inst.

TOTAL : 5542 CCM

$$(5542 \text{ CCM})(14.696+50)/14.696 = 24397 \text{ SCCM} = 0.018208 \text{ percent/day}$$

NOTE: Criteria referred to in Remarks are those shown on previous page.

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