

TMI DOCUMENTS

DOCUMENT NO:

TM-

0910

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METROPOLITAN EDISON COMPANY.

Supervisor, Document Control, NRC

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745 014

0910

RADIOLOGICAL REF. # ~~510~~ 67

This Radiological Reference changed to # 21

Investigator's Name: Collins

Source for this Radiological Reference:  
(RMS System Test - area monitors) - mine is  
all messed up

TM - 613

~~also TMA 0233 the same~~

0233 included in 613

RADIOLOGICAL REF. #



THREE MILE ISLAND UNIT II  
TWG

NUMBER TP 360/1C

MTX 123.4

RADIATION MONITORING SYSTEM EST-

CATEGORY A

AREA MONITORS

DRAFT Rev. 0

PREPARED: Cognizant Engineer William J. Fife Date 1/31/77

APPROVED: Lead Engineer James Porter Date 5/13/77

APPROVED: Technical Engineer all of Nelson Date 5/23/77

PRELIMINARY REVIEW MEETING: Date N.A. MINUTES OF MEETING NUMBER N.A.

TWG APPROVAL FOR PERFORMANCE:

GPU TWG Representative all of Nelson Date 6/9/77

Met-Ed TWG Representative J. M. Mudge Date 6-9-77

NSSS TWG Representative L. C. Rosen Date 6/9/77

A-E TWG Representative C. P. Brownwell Date 6/9/77

TEST RESULTS: Acceptable with the following test exceptions and deficiencies -  
E/D 1 thru 22

Technical Engineer Carl E. Gatto Date 3-16-78

TWG APPROVAL OF TEST RESULTS:

GPU TWG Representative Carl E. Gatto Date 3-22-78

Met-Ed TWG Representative J. F. Flybush Date 3-22-78

NSSS TWG Representative J. M. Mudge Date 3-22-78

A-E TWG Representative C. P. Brownwell Date 3-22-78

- ENCLOSURES:
1. Test Procedure Exception and Deficiency List
  2. Equipment and Data Measurement Point Descriptive Figures - Figures 1, 1A, 2, 2A, 3, 4, 4A, 5, 6, 7.
  3. Sliding link terminal block cross reference
  4. RMS Area Monitor Alarm Setpoint List
  5. RMS Record Channel Assignments

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TEST PROCEDURE EXCEPTION AND DEFICIENCY LIST

2

Rev. 1

ENCLOSURE 1 OF TP 360/1C

COVER PAGE

Area Monitors

The exception and deficiency consists of the following pages: 1, 2, 3, 4

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Signoff	Justified/Completed Date
1	E	4.1	Incomplete wire check out therefore 4.1 can not be signed off JAB 11/17/77	Wire checkouts completed by Met-Ed as individual instrument strings are energized. JAB 11/17/77	JAB	2/2/78
2	E	8.1 8.2	Not necessary to begin energizing strings which have be checked out and meet step requirements. JAB 11/17/77	Initials on data sheet will provide status of monitors which have been checked for completion on an individual basis. No labeling required. JAB 11/17/77	JAB	2/3/78
3	E	8.4 8.5	Not necessary to energize monitor to allow for proper burnin time of string prior to calibration JAB 11/17/77	Completed Encl. 4 as required for calibration. JAB 11/17/77	JAB	1/30/78
4	<del>E</del>	9.3.3 9.3.7 10.3 9.6.3 9.6.8 10.9.12	Audible alarm not functional alarm light works off same contact closure and alarm light functional. JAB 11/29/77	Since alarm light functional working off same contact when audible alarm energized will check on 9.6. energized audible alarm tower for each parameter closure. JAB 11/29/77	JAB	1/29/78
5	E	9.2.2 10.2	22 Volts does not go to local readout. JAB 12/31/77	Read 22 Volts at rear of Panel 12 readmeter. JAB 12/31/77	JAB	12/30/77
6	E	10.2 9.2.2	Voltage tolerances not IAW Manufacturers spec. JAB 12/31/77	Manufacturer spec see page 2-2 - 6.8 Vdc ± 0.5Vdc of full range +10Vdc ± 0.5Vdc 22 Vdc ± 3 Vdc. JAB 12/31/77	JAB	12/21/77
7	E	10.7.8	Type 5"/hr should be 0.5"hr JAB 12/31/77	0.5"hr is one of 5" recorder speeds. 5"hr does not exist. JAB 12/31/77	JAB	12/31/77

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ENCLOSURE 1 OF TP \_\_\_\_\_

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The exception and deficiency consists of the following pages: A,

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Justified/ Completed Signoff	Date
8	E D	9.2.2 Encl. 2 Fig. 3	Fig 3 of Enclosure 2 is incorrect. JAB 1/8/78	In order to ensure that the proper connection is made when taking readings refer to Victoria Tech. Manual for correct location of terminal point described. JAB 1/8/78	JAB	1/30/78
9	E	9.4.4 7.4.9	R534R54 should not be adjusted unless replaced in accord with Vico. JAB 1/26/78	Adjust R37 to vary - adjust high alarm setpoints	JAB	1/26/78
10	E	Encl. 4	R.B. Evac. Alarm not off HP-2205, 210, 205 JAB 1/26/78	Design deletion by B+R JAB 1/26/78	JAB	1/26/78
11	E	9.9.3	No projected reading 1/27/78	Done to establish baseline data	JAB	1/27/78
12	E	9.11.3	This is not a wall mounted device. JAB 1/27/78	Detector located in pit on top of elevator shaft. Detector should just be replaced in pit. JAB 1/27/78	JAB	1/27/78
13	D	9.11.5 9.7.9 10.13	Scale only goes to 10 <sup>4</sup> on recorder. JAB 1/27/78	Victoria to supply updated scale .1 to 10 <sup>4</sup> and .1 to 10 <sup>7</sup> for HP recorder. JAB. Submitted Work Request 2761	JAB	3/16/78

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360/11  
Page 2.

Justified/  
Completed

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Signoff	Date
14	D	9.4 15 16	Alert Alarm light and High Alarm light not operable in control Room. JAB 1/29/78	Issued GAO PR2657 to correct problem with alarm light  Completed.	JAB	2/1/78
15	E	10.7	Data shut Title incorrect. JAB 1/29/78	Title should be for recorder not specific channel. Data Sheet for HP-UR-1902 should show W.R. 214 for 10.7.3.	JAB	1/30/78
16	E	9.9.9 9.9.3	Should be no acceptance criteria for Unit HFCR and no expected readings. JAB 1/30/78	Since this data is taken for baseline only and no calibration adjustments are made there is no expected reading and therefore there should be no acceptance criteria on readings.	JAB	1/20/78
17	E	9.9.9	Recorder accuracy as compared to 10.9.3 incorrect. JAB 1/30/78	The recorder as compared to meter is much more accurate. However the accuracy in readings shall be $\pm 1\%$ of reading not $\pm 1\%$ percent of reading since one is reading a log scale. Based on calibration scale $9\%$ of reading would have been sufficient.	JAB	1/20/78
18	E	9.9.9 for 215 209 210	Recorder accuracy as compared to 10.9.3 incorrect. JAB 1/30/78	These three monitors are field located with CR recording. To perform this step requires two people reading log scale to provide data. While taking data individual recorder output of rate meter was read in order to provide more accurate data. Based on two individuals reading log scale accuracy should be approx. $\pm 20\%$ . See E-20	JAB	1/20/78
19	D	7.3.3 9.3.7 10.3 9.6.3 9.6.8 10.2.2	Control Room audible alarm volume extremely low and recording equipment alarm not been fully alerted at this time. JAB 1/31/78	Issued PR 2606 to correct volume problem. Audible alarm pulled due to high horn contact closing. Submitted Work Request 2762	JAB	3/1/78

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Justified/  
Completed

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Signoff	Date										
<del>E</del> 20	<del>21</del> E	E-18	<p>In order to support justification of E-18 a voltage signal was injected into the log input of retainer. Reads were taken on the local meter (retainer) remote meter and record for comparison. Note: 1. method record inputs reversed similarity from log pump circuit.</p> <p>JTB 2/2/78</p>	<p>Electronic cable data sheets added to those data sheets present in 9.9.9 for justification to support justification of E-18.</p>	JTB	2/2/78										
21	E	9.9.9	<p>The stated accuracy of the records is 2% based on a linear scale. When transposed to a log scale within a range of 0.1 m/sec to 10<sup>3</sup> m/sec the acceptable accuracy is 30% of the log scale.</p> <p>JTB 2/2/78</p>	<p>Compare expected readings to a range of 0.1 to 10<sup>3</sup> for 0.1 to 10<sup>3</sup> m/sec sine records scale is not complete and find this within tolerance.</p> <table border="1"> <tr> <td>0.1 to 10<sup>3</sup> m/sec</td> <td>Transposed</td> </tr> <tr> <td>recorder position</td> <td>reading</td> </tr> <tr> <td>17 closed</td> <td>32</td> </tr> <tr> <td>40 inter.</td> <td>570</td> </tr> <tr> <td>55 open</td> <td>3400</td> </tr> </table>	0.1 to 10 <sup>3</sup> m/sec	Transposed	recorder position	reading	17 closed	32	40 inter.	570	55 open	3400	JTB	2/5/78
0.1 to 10 <sup>3</sup> m/sec	Transposed															
recorder position	reading															
17 closed	32															
40 inter.	570															
55 open	3400															
22	E		<p>Reorient Orientation</p> <p>JTB 2/2/78</p>	<p>corrected per S&amp;L drawing</p>	JTB	3/5/78										

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ENCLOSURE 1 OF TP \_\_\_\_\_

COVER PAGE

The exception and deficiency consists of the following pages: 1

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Signoff	Justified/Completed Date
8	E JTB	9.2.2 Encl. 2 Fig. 3	Fig 3 of Enclosure 2 is incorrect. JTB 1/8/78	In order to ensure that the proper connection is made when taking readings refer to Vietnam Tech. Manual for correct location of terminal point described. JTB 1/8/78	JTB	1/30/78
9	E	9.4.4 7.4.7	R53 & R54 should not be originated unless replaced in record with Vico. JTB 1/26/78	Adjustment R37 to vary about high column setpoints	JTB	1/26/78
10	E	Encl. 4	R.B. Elec. Alarm not off R53, R205, 210, 215. JTB 1/26/78	Design deletion by B+R JTB 1/26/78	JTB	1/26/78
11	E	9.9.3	No projected reading 1/27/78	Done to establish baseline data.	JTB	1/27/78
12	E	9.11.3	This is not a well mounted device. JTB 1/27/78	Detector located in Pig on top of elevator shaft. Detector should just be replaced in place. JTB 1/27/78	JTB	1/27/78
13	D	9.11.5 9.7.7 10.13	Scale only goes to 10 <sup>4</sup> on recorder. JTB 1/27/78	Vietnam to supply updated scale .1 to 10 <sup>4</sup> and .1 to 10 <sup>7</sup> for HP recorder. JTB. Submitted Work Request 2761	JTB	3/1/78

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745 021 360/11

ENCLOSURE 1 OF TP 360/1C

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The exception and deficiency consists of the following pages: 1, 2, 3, 4

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Signoff	Date
1	E	4.1	Incomplete wire checkoff therefore 4.1 can not be signed off JTB 11/17/77	Wire checkoffs completed by Mel-Ed as individual instrument strings are energized. JTB 11/17/77	JTB	2/2/78
2	E	8.1 8.2	Not necessary to begin energizing strings which have be checked out and meet step requirements. JTB 11/17/77	Initials on data sheet will provide status of monitors which have been checked for completion on an individual basis. No labeling required. JTB 11/17/77	JTB	2/2/78
3	E	8.4 9.5	Not necessary to energize monitor to allow for proper burnin time of string prior to calibration JTB 11/17/77	Completed End. 4 as required for calibration. JTB 11/17/77	JTB	1/20/78
4	E	9.3.3 9.3.7 10.3 9.6.3 9.6.5 10.4 9.1.2	Audible alarm not functional alarm light works ok same contact closure and alarm light functional. JTB 11/21/77	Since alarm light functional working off same contact when audible alarm energized will check per 7.4. energized audible alarm verify hour for each parameter closed. JTB 11/21/77	JTB	1/27/78
5	E	9.2.2 10.2	+22 Volts does not go to local readout. JTB 12/3/77	Read 22 Volts at rear of Panel 12 readometer. JTB 12/3/77	JTB	12/3/77
6	E	10.2 9.2.2	Voltage tolerances not IAW Manufacturers spec. JTB 12/1/77	Manufacturer specs see page 2-2 - 6.5 Vdc ± 0.5 Vdc of tub. Man +10 Vdc ± 0.5 Vdc 22 Vdc ± 3 Vdc. JTB 12/31/77	JTB	12/1/77
7	E	10.7.8	Type 5" hr should be 0.5" hr JTB 12/1/77	12.5" hr is one of 5" recorder spools. 5" hr does not exist. JTB 12/3/77	JTB	12/11/77

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SUBSEQUENT PAGES

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Sign	
14	E	9.4.15 16	Alert Alarm light and High Alarm light not operable in control room. JTB 1/27/78	Issued GPU PR2607 to correct problem with alarm light. Completed.	JTB	4/1/78
15	E	10.7	Data Sheet Title incorrect. JTB 1/25/78	Title should be for recorder not specific channel. Data Sheet for HPWR-1402 should show W.P.R. 214 for 10.7.5	JTB	1/30/78
16	E	9.9.9 9.9.3	Should be no acceptance criteria for Unit FCK and no expected readings. JTB 1/30/78	Since this data is taken for baseline only and no calibration adjustments are made there is no expected reading and therefore there should be no acceptance criteria on readings.	JTB	1/30/78
17	E	9.9.9	Recorder accuracy as compared to 10.9.3 incorrect. JTB 1/30/78	The recorder as compared to meter is much more accurate. However the accuracy in readings should be 15% of reading not 1% percent of reading since one is reading a log scale. Based on a linear scale 4% of reading would have been sufficient.	JTB	1/30/78
18	E	9.9.9 for 215 209 210	Recorder accuracy as compared to 10.9.3 incorrect. JTB 1/30/78	These three monitors are field located with CR recording. To perform this step required two people reading log scale to provide data. While taking data will print recorder output of rate meter was read in order to provide more accurate data. Based on two individuals reading log scale accuracy should be improved to 30%. See E-23	JTB	1/30/78
19	D	9.3.3 9.3.7 10.3.3 9.6.5 10.1.2	Control Room ambient alarm volume extremely low and receiving announcements regarding alarm due to monitoring which does not have been fully calibrated. Submitted Work Request 2702	Issued PR 2606 to correct volume problem. Available. Alarm is audible due to high beam contrast warning.	JTB	3/1/78

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SUBSEQUENT PAGES

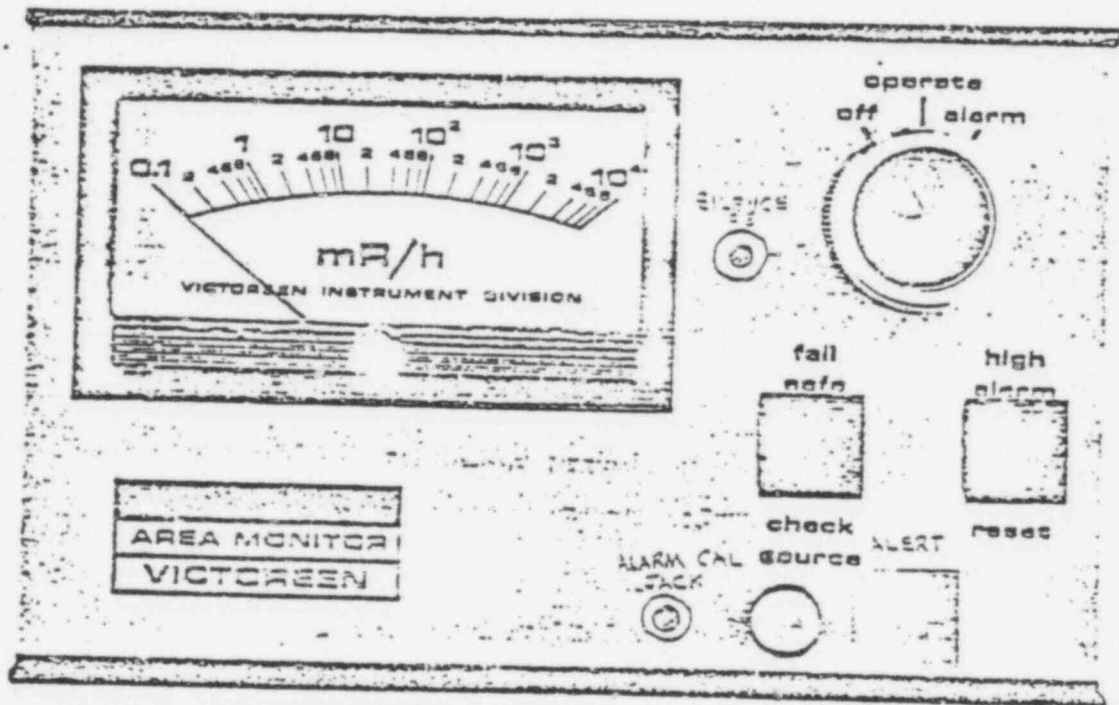
Justified/  
Completed

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Signoff	Date
20	E	E-18	<p>In order to support justification of E-18 a voltage signal was injected into the log input of rotation. Reads were taken on the local meter (automatic) remote meter and record by agent unobserved. Note well-matched record inputs received simultaneously from log pump circuit.</p> <p>JFB 2/2/78</p>	<p>Electronic cable data sheets added to these data sheets present in 9.9 for each rotation to support justification of E-18.</p>	JFB	2/2/78
21	E	9.9.9	<p>The stated accuracy of the records is 2% based on a linear scale. When transferred to a log scale with a range of 0.1 m/sec to 80 m/sec the acceptable accuracy is 30% of the log scale.</p> <p>JFB 2/2/78</p>	<p>Comparison expected readings to a range of 0.1 to 10<sup>6</sup> for 0.1 to 80 m/sec same recorder scale is not complete and found this within tolerance.</p> <p>0.1 m/sec 2k Transposed recorder position 0.1 to 10<sup>6</sup> comb. ing</p> <p>17 closed 22 40 inter. 570 55 open 3900</p> <p>corrected per 154 L drawing</p>	JFB	2/2/78
22	E		<p>Incorrect Orientation</p> <p>JFB 2/2/78</p>		JFB	2/2/78

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FIGURE 1 857-2 READOUT MODULE



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RM UNIT II  
TP 360/1C  
Enclosure 2  
Page 1 of 10

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.7.3	Recorder Channel for HP-R-201 prints dot on zero line	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	+ one minor - div.	JHR METED	1-1-78
10.7.5	Recorder channel for HP-R-201 prints dot on Fs line	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	+ one minor - div.	JHR METED	1-1-78
10.7.6	Proper Print wheel alignment	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Clear dot & channel No.	JHR METED	1-1-78
10.7.8	Chart speed in the 5"/hr. position E-7	5"	N/A	JHR METED	1-1-78
10.7.8.1	1"/hr. position	1"	N/A	JHR METED	1-1-78
10.7.8.2	2"/hr. position	1 <sup>63</sup> / <sub>64</sub> "	N/A	JHR METED	1-1-78
10.7.8.3	4"/hr. position	3 <sup>15</sup> / <sub>16</sub> "	N/A	JHR METED	1-1-78
10.7.8.4	8"/hr. position	7 <sup>31</sup> / <sub>32</sub> "	N/A	JHR METED	1-2-78
10.7.9	All remaining recorder channels operate properly	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METED	1/23/78

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16.3

TM-0333

THREE MILE ISLAND UNIT II  
TWG

NUMBER TP 360/1C

MTX 123.4

183

RADIATION MONITORING SYSTEM TEST-

CATEGORY A

AREA MONITORS

DRAFT Rev. 0

PREPARED: Cognizant Engineer William J. F. L. Date 1/31/77

APPROVED: Lead Engineer V. J. ... Date 5/13/77

APPROVED: Technical Engineer W. J. ... Date 5/23/77

PRELIMINARY REVIEW MEETING: Date N.A. MINUTES OF MEETING NUMBER N.A.

TWG APPROVAL FOR PERFORMANCE:

GPU TWG Representative W. J. ... Date 6/9/77

Met-Ed TWG Representative J. H. ... Date 6-9-77

NSSS TWG Representative L. C. ... Date 6/9/77

A-E TWG Representative H. P. ... Date 6/9/77

TEST RESULTS: Acceptable with the following test exceptions and deficiencies -  
E/D 1 com 22

Technical Engineer Carl E. Gatto Date 3-16-78

TWG APPROVAL OF TEST RESULTS:

GPU TWG Representative Carl E. Gatto Date 3-22-78

Met-Ed TWG Representative J. H. ... Date 3-22-78

NSSS TWG Representative L. C. ... Date 3-22-78

A-E TWG Representative H. P. ... Date 3-22-78

- ENCLOSURES:
1. Test Procedure Exception and Deficiency List
  2. Equipment and Data Measurement Point Descriptive Figures - Figures 1, 1A, 2, 2A, 3, 4, 4A, 5, 6, 7.
  3. Sliding link terminal block cross-reference
  4. RMS Area Monitor Alarm Setpoint List
  5. RMS Record Channel Assignments

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TABLE OF EFFECTIVE PAGES

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1	0	23	0	45	0
2	0	24	0	46	0
3	0	25	0	47	0
4	0	26	0	48	0
5	0	27	0	49	0
6	0	28	0	50	0
7	0	29	0	51	0
8	0	30	0	52	0
9	0	31	0	53	0
10	0	32	0	54	0
11	0	33	0	55	0
12	0	34	0	56	0
13	0	35	0	57	0
14	0	36	0	58	0
15	0	37	0	59	0
16	0	38	0	60	0
17	0	39	0	61	0
18	0	40	0	62	0
19	0	41	0	63	0
20	0	42	0	64	0
21	0	43	0	65	0
22	0	44	0		

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TRI UNIT II  
TP 360/LC

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1.0 PURPOSE

1.1 Calibration

1.1.1 Verify calibration of the detectors and log rate meters are in accordance with the manufacturers calibration data.

1.1.2 Verify power supply and ratemeter voltages.

1.1.3 Set and verify setpoints and alarms.

1.1.4 Verify calibration of the RMS area monitor recorders.

1.2 Functional Testing of each channel and verify the proper operation of:

1.2.1 Local and control panel operation, indication, and alarm status.

1.2.2 Annunciator status.

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2.0 REFERENCES

2.1 Drawings

*JB* 2.1.1 Victoreen Dwg. No. 904924 Rev. C Area Radiation Monitor  
Wiring Diagram.

*JB* 2.1.2 Victoreen Dwg. No. 904550 Rev. <sup>15</sup>D, Elementary Diagram.

2.2 Vendor Manuals

2.2.1 B&R RMS Specification 2555-65 Amendment 7.

2.2.2 Victoreen Radiation Monitoring System Instruction  
Manuals.

2.2.3 Victoreen Instruction Manual for the 848-8 Field  
Calibrator with Adaptor for 855 series detectors.

2.2.4 Esterline Angus Instruction Manual for Model E1124E  
Multipoint Recorders.

2.3 FSAR Section 12.1 Amendment 56.

2.4 Metropolitan Edison Co. operating procedure number OP-2105-1.12 -  
Radiation Monitoring System Setpoint - Rev. 2.

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3.0 TIME REQUIRED

3.1 1 Shift - 3 Weeks, 2 Men.

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TP 360/1C  
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4.0 PREREQUISITES

4.1 Tests

4.1.1 TP 250/2 - Electrical Test - MTX 123.1.

E-1  
Signature John A. Burnham Date 2/2/74

4.2 Construction Completion Status

4.2.1 Mat-Ed has accepted the system for preoperational testing.

Signature John A. Burnham Date 11/12/73

4.3 Environmental Conditions

4.3.1 No special environmental conditions are required.

Signature John A. Burnham Date 11/12/73

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TP 360/1C  
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Page 4

705 032

5.0 TEST EQUIPMENT

5.1 MTE #6 - Digital Voltmeter (Fluke Model 8100A or Equivalent)

5.2 MTE #254 - Field Calibrator Kit Model 848-8 With Adaptor for  
857-2 Detectors. (Unit 1 FCK and Unit 2 FCK).

5.3 MTE #6H - MV Source Digitec Calibrator or Equivalent.

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TP 360/1C  
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745-033

6.0 LIMITATIONS AND PRECAUTIONS

6.1 Exercise Care in Handling Detectors to Prevent Damage To:

Preamplifier Electronics

Detector Cable

Detector Cable Connectors

6.2 Exercise Care in Handling the Field Calibrator Kit (FCK).

Source exposure must be minimized by familiarizing ones self with the operation of the FCK.

With the source in the open position, there is no beam shielding in the front hemisphere of the calibrator. Check the warning decal on the top of the case for radiation levels. Whenever the FCK is not in the closed position, take all readings as quickly as possible to minimize personnel exposure in the area of the FCK. However, the radiation given off by the FCK may cause an indication or alarm on other nearby monitoring channels. This, as well as possible personnel exposure, should be kept in mind when performing this test procedure.

6.3 Exercise care when working at the terminal blocks as 600 VDC is present.

6.4 Ground link on voltmeter must not be closed while taking readings for Section 9.2.1.

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TP 360/1C  
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7.0 PLANT STATUS

7.1 This procedure does not include any special requirements or conditions related to plant status.

Signature John A. Brumma Date 11/2/77

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TMI UNIT II  
TP 360/1C  
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8.0 PREREQUISITE SYSTEM CONDITIONS

E-2

8.1 All gamma radiation detectors and remote alarm units must be in their proper location. Complete data sheet no.1 in the following manner:

8.1.1 Fill in the serial no. for each detector and remote alarm listed on data sheet #1.

8.1.2 Check the appropriate column on data sheet 1 for correct location of detectors.

8.1.3 Check the appropriate column on data sheet no. 1 for correct detector orientation. The larger end of the detector should be facing downward.

8.1 - Data Sheet 1 - Completed

Signature J. A. Brunna Date 3/12/78

E-2

8.2 At this time Met-Ed personnel should use labeling tape to label (eg. HP-R-201) on all components of each monitor channel listed on data sheet No. 1.

Signature J. A. Brunna Date 3/8/78

8.3 All readout module function switches are in the OFF position. (See Enclosure 2 - Fig. 1).

Signature J. A. Brunna Date 11/17/77

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745 036

8.0 PREREQUISITE SYSTEM CONDITIONS (Cont'd.)

8.4 The control room annunciator system must be operational for the RMS alarms.

Signature John A. Brummer Date 3/9/78

8.5 Insure breaker 22 at Panel 2-12R is energized.

Signature John A. Brummer Date 11/17/77

8.6 Using reference 2.4 fill in the required setpoints on Enclosure 4.

Signature John A. Brummer Date 1/30/78

E-3  
D-19

E-3

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745 037

9.0 TEST METHOD

9.1 Functional Testing (General)

9.1.1 The purpose of this part of the test procedure is to verify that the input voltage to the readout modules is within tolerance and to verify that the output voltages from the readout modules are within specifications. In addition, the power fail alarm system including the contact to the control room annunciator is tested.

9.1.2 All area gamma radiation readout modules and recorders are mounted in the control room on vertical panel 12. Apply power to all readout modules (channels HP-R-201 through HP-R-3240) by rotating each function selector switch from the "OFF" position to the "Operate" position. Refer to Enclosure 2 Fig. 1 for the location of this switch. Open the front of each recorder (HP-UR-1901 and HP-UR-1902) turn the power switch to the "ON" position and place the chart speed switch in the .5"/Hr. position.

Date the chart paper and identify the purpose of the test on the chart.

9.1.3 Allow the equipment to stabilize for a period of time not less than fifteen (15) minutes before proceeding with the test procedure.

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745-038

9.0 TEST METHOD. (Cont'd.)

9.1.4 Obtain twenty one (21) copies of data sheet No.2 and fillout the following for each channel.

Readout Module Model # \_\_\_\_\_

Readout Module Serial # \_\_\_\_\_

Section 9.1 Accomplished Sat.  Unsat. \_\_\_\_\_

Signature John A. Brunner Date 3/9/78

9.2 Voltage Checks

9.2.1 Using a digital voltmeter on the AC range, measure and record in Section 10.2.1 of data sheet No. 2 the AC input voltage to each readout module. Twenty one (21) identical data sheets are required. Refer to Enclosure 2 - Figures 2 and 2A for the proper hookup to measure this voltage.

CAUTION: THE JUMPER BETWEEN THE NEGATIVE INPUT TERMINAL AND THE GROUND TERMINAL ON THE VOLTMETER MUST NOT BE CONNECTED FOR THIS TEST.

9.2.1.1 Repeat section 9.2.1 until all (21) modules have been checked.

<sup>g19</sup>(HP-R-201) Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 3/17

(HP-R-202) Section 9.2.1 Accomplished Sat. \_\_\_\_\_ Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 3/17

<sup>g19</sup>(HP-R-204) Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 1/8/78

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POOR ORIGINAL

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TP 360/1C  
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745 039



9.0 TEST METHOD (Cont'd.)

HP-R-205 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 3/8/78

HP-R-206 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 2/8/78

*HP* HP-R-207 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 1/5/78

HP-R-209 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 1/26/78

HP-R-210 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 1/26/78

HP-R-211 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 2/8/78

HP-R-212 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 2/8/78

HP-R-213 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 2/8/78

*HP* HP-R-214 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 1/19/78

*HP* HP-R-215 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 1/19/78

HP-R-218 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 2/8/78

HP-R-231 Section 9.2.1 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 3/8/78

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POOR ORIGINAL

TMI UNIT II  
TP 360/1C  
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745 040

9.0 TEST METHOD (Cont'd.)

HP-R-232 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/10/78

HP-R-233 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

HP-R-234 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

HP-R-3236 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

HP-R-3238 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

HP-R-3240 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

9.2.2 Place the digital voltmeter on the DC range using the voltmeter, measure and record in section 10.2.2 of data sheet No. 2 the power supply voltages generated by each readout module. These voltages are to be measured at the remote alarm unit (for all channels, except HP-R-201, 209, 210, 214, and 215) which do not have alarm units. To measure the voltages at the remote alarm unit, open the front of the unit and connect the voltmeter leads as shown in Enclosure 2 - Fig. No. 3. The ground lead can remain on TB1-2.



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745 C41

9.0 TEST METHOD (Cont'd.)

9.2.2.1 Repeat section 9.2.2 until all (16) modules have been checked.

(HP-R-202) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date 1/30/78

(HP-R-204) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date 3/8/78

(HP-R-205) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date 4/5/78

(HP-R-206) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date 3/5/78

(HP-R-207) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date 1/5/78

(HP-R-211) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date 3/8/78

(HP-R-212) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date 3/8/78

(HP-R-213) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date 2/8/78

(HP-R-218) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date 2/8/78

(HP-R-231) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Burner Date \_\_\_\_\_

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TMI UNIT II  
TP 360/1C  
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745 042

9.0 TEST METHOD (Cont'd.)

(HP-R-232) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

(HP-R-233) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

<sup>4</sup>  
(HP-R-236) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

(HP-R-3236) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 3/7/78

(HP-R-3238) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 3/19/78

(HP-R-3240) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 3/18/78

9.2.3 For the excepted channels listed in Section 9.2.2 the voltages are measured at the rear panel of the readout module in the control room. Refer to Enclosure 2 Fig. 2 for the proper hookup to measure these voltages. On module HP-R-201 measure the +22 VDC, +10 VDC, and the 600 VDC. Then pullout the module and measure the -6.8 VDC on the circuit board test point. (See Enclosure 2-Fig. 4). Record the readings in Section 10.2.3 of data sheet No. 2 .

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TP 360/1C  
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705 043

9.0 TLST METHOD (Cont'd.)

9.2.3.1 Repeat section 9.2.3 for HP-R-209, 210 and 215.

(HP-R-201) Section 9.2.3 Accomplished Sat.  Unsat.

547  
773

Signature John A. Brummer Date 1/8/78

(HP-R-209) Section 9.2.3 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 1/26/78

(HP-R-210) Section 9.2.3 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 1/26/78

1300 (HP-R-215) Section 9.2.3 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 1/27/78

9.2.4 For channel HP-R-214 the voltages are measured at the rear of the readout module (see Enclosure 2-Fig. 2A). Measure the +20 VDC, and the +14 VDC. Record the data on data sheet No. 2A (10.2.2).

Section 9.2.4 Accomplished Sat.  Unsat.

1400 Signature John A. Brummer Date 1/27/78

9.3 Power Fail Alarm System

The power fail alarm system for area gamma radiation channels HP-R-201 through HP-R-3240 is tested by interrupting the electrical circuit which provides +10 volt power to the detectors (+14 volt power for HP-R-214). This is accomplished by unscrewing the shorting screw on the sliding link terminal blocks sufficiently to break the electrical circuit. These terminal blocks for each radiation

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745 044

9.0 TEST METHOD (Cont'd.)

9.3 (cont'd.)

channel are located in the main control room within panel 12 and are listed for cross reference in Enclosure 3.

9.3.1 Break the electrical circuit for channel HP-R-201 by unscrewing the appropriate screw listed in Enclosure 3.

9.3.2 Verify that the green "fail" lamp is extinguished on the appropriate readout module on vertical panel 12 in the control room. Record results on data sheet No. 2 (10.3.2).

*D  
cont'd.*  
9.3.3 Also verify that the main annunciator is armed with the audible alarm sounding and the annunciator window "RMS System Trouble" located on Panel 12 is flashing. Record the results on data sheet No. 2 (10.3.3).

9.3.4 Depress the annunciator "acknowledge" pushbutton. The annunciator light window should stop flashing and the audible alarm is silenced. Record the results on data sheet No. 2 (10.3.4).

9.3.5 Return the screw mentioned in step 9.3.1 above to its normal position. (Contacts together)

9.3.6 Verify that the fail lamp is now illuminated on the

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9.0 TEST METHOD (Cont'd.)

9.3.6 (cont'd.)

appropriate readout module on vertical Panel 12. Record the results on Data Sheet 2 (10.3.6).

9.3.7 Verify the main annunciator is flashing and the audible alarm is sounding. Depress the annunciator acknowledge pushbutton and verify the alarm is cleared. Record the results on data sheet 2 (10.3.7).

9.3.8 Repeat section 9.3 for the remaining (20) readout modules.

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(HP-R-201) Section 9.3 Accomplished Sat.  Unsat.

Signature John A. Brunner Date 1/21/78

DA

(HP-R-202) Section 9.3 Accomplished Sat.  Unsat.

Signature John A. Brunner Date 1/18/78

(HP-R-204) Section 9.3 Accomplished Sat.  Unsat.

Signature John A. Brunner Date 3/18/78

(HP-R-205) Section 9.3 Accomplished Sat.  Unsat.

Signature John A. Brunner Date 2/18/78

(HP-R-206) Section 9.3 Accomplished Sat.  Unsat.

Signature John A. Brunner Date 3/18/78

D-4

(HP-R-207) Section 9.3 Accomplished Sat.  Unsat.

Signature John A. Brunner Date 1/30/78

(HP-R-209) Section 9.3 Accomplished Sat.  Unsat.

Signature John A. Brunner Date 1/25/78

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745 046



9.0 TEST METHOD (Cont'd.)

- (HP-R-210) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78
- (HP-R-211) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-212) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-213) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-214) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/27/78
- D-4 (HP-R-215) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/27/78
- (HP-R-218) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78
- (HP-R-231) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78
- E-4  
D-4 (HP-R-232) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- D-4 (HP-R-233) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-234) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- TV (HP-R-3236) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

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745 047



9.0 TEST METHOD (Cont'd.)

(HP-R-3238) Section 9.3 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 2/9/58

(HP-R-3240) Section 9.3 Accomplished Sat.  Unsat.

Signature John A. Brummer Date 3/2/58

9.4 Calibration of Alarm Functions (alert) (for all channels except HP-R-214).

NOTE 1: For ease of performance steps 9.4, 9.5 and 9.6 should be performed as a single evolution and in sequence on each monitor. These steps may have to be repeated until all three (9.4, 9.5 and 9.6) are within tolerances.

2: All potentiometers except R-53 are located on the small vertical board and are accessible from the top see Enclosure 2 see Fig. 4A.

9.4.1 With A.C. Power disconnected from readout HP-R-201 place the alert alarm in the automatic reset mode by removing one end of <sup>(X T X)</sup> Jumper A, and one end of Jumper B (See Enclosure 2 Fig. 4).

9.4.2 Disconnect the signal input from the detector. This can be done by opening the sliding link of the customer interface terminal board and terminal number corresponding to the readout to be calibrated. Table 1 (9.4.2).

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745 048

9.0 TEST METHOD (Cont'd.)

9.4.3 Set the alarm setpoint potentiometer (R37) to the extreme clockwise position.

E-7

9.4.4  
Peter  
step

Set the alarm meter calibration potentiometer (R53) to the approximate mechanical center.

9.4.5 Adjust the readout module front panel meter mechanical zero to the first left hand graduation on the meter scale.

9.4.6 Plug the external adjustable (0-30 volt) power supply into the calibration input jack on the readout module front panel. The positive lead should be to the tip and the negative lead to the barrel of the connection jack.

9.4.7 Connect power to the readout and turn the function switch to operate.

9.4.8 Adjust the external power supply so the readout front panel meter reads exactly on the first left hand graduation on the scale.

E-9

9.4.9 Adjust the alarm calibration low end potentiometer <sup>R37</sup> ~~(R34)~~ on small board until:

The amber alert alarm light on the readout module just energizes.

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TP 360/1C  
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745 049

9.0 TEST METHOD (Cont'd.)

9.4.10 Lower, then vary the external power supply and observe that the alarm energizes at exactly the first graduation on the readout front panel meter scale. Repeat steps 9.4.8, 9.4.9 and 9.4.10 if necessary until proper zeroing is obtained. Record the results on data sheet No. 3 (10.4.10).

9.4.11 Set the alarm setpoint potentiometer (R37) to the extreme counter-clockwise position, and adjust the external power supply to exactly full scale on the readout front panel meter.

9.4.12 Adjust the alarm setpoint (R37) until the amber light just energizes.

9.4.13 Lower, then vary the external power supply and observe that the alert alarm energizes at exactly fullscale on the readout front panel meter. Repeat steps 9.4.11, 9.4.12 and 9.4.13 if necessary until the proper alarm action results. Enter results on Data Sheet No. 3(10.4.13).

9.4.14 Lower the external power supply to below the alarm setpoint and observe that the amber alert alarm light de-energizes. Record the results on data sheet No. 3(10.4.14).

9.4.15 Rotate the function switch to alarm and hold against the

*E-9 Delete step*  
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745 050

9.0 TEST METHOD (Cont'd.)

9.4.15 (cont'd.)

spring return while depressing the amber button on the readout front panel. While holding these adjust alarm meter potentiometer (R33) so that the readout front panel meter reads exactly full scale.

9.4.16 Unplug the external power supply from the readout calibration jack.

9.4.17 Rotate the function switch to alarm and hold, while depressing the amber button on the front panel and adjust (R37) to the setpoint specified in Enclosure 4. Record the results on Data Sheet No. 3 (10.4.17).

NOTE: Checks for 9.4 will be signed off at the completion of section 9.6 when 9.4, 9.5 and 9.6 are complete.

9.5 Calibration of Alarm Functions (High)

NOTE: Potentiometers referred to relating to high alarm cal. are on the mother board and are accessed from the side. See Enclosure 2 Fig. 4.

9.5.1 Set the alarm setpoint potentiometer (R37) to the extreme clockwise position, and set the alarm meter calibration potentiometer (R53) to the approximate mechanical zero.

E-9

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POOR ORIGINAL

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TP 360/IC  
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745 051

9.0 TEST METHOD (Cont'd.)

9.5.2 If necessary, adjust the readout module front panel meter mechanical zero to the first left hand graduation on the meter scale. (This will require reperformance of 9.4).

9.5.3 Plug the external power supply into the calibration input jack on the readout module front panel. Positive goes to the tip and negative goes to the barrel of the jack.

9.5.4 Adjust the external power supply so the readout front panel meter reads exactly on the first left hand graduation on the scale.

9.5.5 Adjust the calibration low end potentiometer (R54) until the red high alarm light on the readout front panel just energizes. The high alarm relay should deenergize when the red light comes on.

*E-9  
Delete  
step*

9.5.6 Lower, then vary the external power supply and observe that the alarm energizes at exactly the first graduation on the readout front panel meter scale. Repeat steps 9.5.4, 9.5.5 and 9.5.6 until proper zeroing is accomplished. Record the results on data sheet No. 3(10.5.6).

9.5.7 Set the alarm setpoint potentiometer (R37) to the extreme counter-clockwise position. Adjust the external power supply to exactly full scale on the readout front panel meter.

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TP 360/1C  
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745 052

9.0 TEST METHOD (Cont'd.)

9.5.8 Adjust the alarm setpoint (R37) until the red high alarm light just energizes.

9.5.9 Lower, then vary the external power supply and observe that the high alarm energizes at exactly full scale on the readout front panel meter. Repeat steps 9.5.6 thru 9.5.9 until the proper alarm action occurs. Record the results on data sheet 3 (10.5.9).

9.5.10 Lower the external power supply to below the alarm setpoint and observe that the red high alarm light de-energizes. Record the results on data sheet No. 3 (10.5.10).

9.5.11 Rotate the function switch to alarm and hold against the spring return while depressing the red button on the readout front panel and adjust the alarm meter potentiometer (R53) so that the readout front panel meter reads exactly fullscale. Then, unplug the external power supply from the readout calibration jack.

9.5.12 Rotate the function switch to alarm and hold against the spring return while depressing the red button on the readout front panel. Adjust the alarm setpoint potentiometer (R37) to the setpoint specified in Enclosure 4. Record the results on data sheet No. 3 (10.5.12).

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TP 360/1C  
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745 053

9.0 TEST METHOD (Cont'd.)

9.5.13 Replace the jumpers A & B removed in section 9.4.1 for this monitor.

NOTE: Checks for 9.5 will be signed off at the completion of section 9.6 when 9.4, 9.5 and 9.6 are complete.

9.6 Audible alarm and annunciator actuation

9.6.1 Depress the silence pushbutton on the front panel of the readout module being tested and reset the control room annunciator.

9.6.2 Plug the external power supply into the alarm cal. jack on the front panel and slowly increase the voltage until the amber alert light energizes.

D-4  
9.6.3 Verify that the control room RMS alarm is sounding and the control room annunciator marked 'RMS system trouble' is flashing. The remote alarm for that channel (if applicable) is sounding. Record the results on data sheet No. 3 (10.6.3).

9.6.4 Pushing the acknowledge pushbutton on Panel 12 will silence the control room audible alarm and the annunciator window will stop flashing and remain lit. Record the results on data sheet No. 3 (10.6.4).

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TP 360/1C  
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745 054

9.0 TEST METHOD (Cont'd.)

9.6.5 Pushing the silence pushbutton on the front of the readout module being tested should silence the remote audible alarm for the channel under test. Record the results on data sheet No. 3 (10.6.5).

9.6.6 Increase the external power supply until the high alarm light is energized. Also verify that the control room annunciator marked "RMS System Trouble" is flashing, and the remote audible alarm (if applicable) is sounding. Record the results on data sheet No. 3 (10.6.6).

9.6.7 Lower the external power supply to zero and unplug it from the readout module.

9.6.8 Push the acknowledge pushbutton and the silence pushbutton and verify that the RMS audible alarm (Panel 12), and the remote audible alarm are silenced, and the control room RMS annunciator "RMS System Trouble" clears. Record the results on data sheet No. 3 (10.6.8).

DA  
Section 9.6 Accomplished Sat.  Unsat.

Signature J. A. Brumma Date 1/30/78

9.6.9 Repeat sections 9.4, 9.5 and 9.6 for the remaining (19) readout modules.

HP-R-202 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.

Signature J. A. Brumma Date 2/8/78

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TP 360/1C  
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765 055



9.0 TEST METHOD D (Cont'd.)

HP-R-204 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/28/78

HP-R-205 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-206 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-207 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-209 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78

HP-R-210 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78

HP-R-211 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

HP-R-212 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

HP-R-213 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

**D-A** HP-R-215 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-218 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-231 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/5/78

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9.0 TEST METHOD (Cont'd.)

DA HP-R-232 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

DA HP-R-233 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
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HP-R-234 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-3236 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/5/78

HP-R-3238 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/5/78

HP-R-3240 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

9.7 Recorder Calibration (HP-UR-1901, HP-UR-1902)

- 9.7.1 Turn the function selector switch for readout module HP-R-201 to "OFF".
- 9.7.2 Verify proper zero alignment for recorder HP-UR-1901 by lifting the lead at TB-1 marked recorder and touching to GND on TB1 on readout module HP-R-201.
- 9.7.3 Verify that the recorder channel corresponding to the shorted output from the readout module will print the dot on the zero line of the readout chart. See Enclosure 5

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9.0 TEST METHOD (Cont'd.)

9.7.3 (cont'd.)

for readout channel No. vs. recorder channel cross ref.  
Record the results on data sheet No. 4 (10.7.3).

9.7.4 Remove recorder output lead from GND inject a 10 MV  
(full scale) signal between GND on TB1 and the wire  
lifted from rec.

9.7.5 Verify that the recorder channel corresponding to the  
readout module with the simulated full scale signal is  
printing at the full scale line on the chart paper. See  
Enclosure 5 for readout channel No. vs. recorder channel  
No. cross reference. Record the results on data sheet 4  
(10.7.5) and replace wire removed in 9.7.2.

9.7.6 Verify proper print wheel alignment by inspecting the  
chart paper for a clear printed dot with a legible  
channel No. just beside the dot. Record the results on  
data sheet No. 4 (10.7.6).

9.7.7 Verify proper recorder chart speed for the 5 speed  
positions available. Place the speed selector on the  
front of the recorder in the .5 inch/hr. position.

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9.0 TEST METHOD (Cont'd.)

9.7.8 Verify chart speed by measuring the travel in inches of a specific dot within a 1 hr. period. Record the results on data sheet No. 4 (10.7.8).

Section 9.7.8 Accomplished Sat.  Unsat. \_\_\_\_\_

Signature John A. Brummer Date 1/30/78

9.7.8.1 With the chart speed switch in the 1 inch/hour position repeat step 9.7.8 and record the results on data sheet No. 4 (10.7.8.1).

Section 9.7.8.1 Accomplished Sat.  Unsat. \_\_\_\_\_

Signature John A. Brummer Date 1/30/78

9.7.8.2 With the chart speed switch in the 2 inch/hour position repeat step 9.7.8 and record the results on data sheet No. 4 (10.7.8.2).

Section 9.7.8.2 Accomplished Sat.  Unsat. \_\_\_\_\_

Signature John A. Brummer Date 1/30/78

9.7.8.3 With the chart speed switch in the 4 inch/hour position repeat step 9.7.8 and record the results on data sheet No. 4 (10.7.8.3).

Section 9.7.8.3 Accomplished Sat.  Unsat. \_\_\_\_\_

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9.0 TEST METHOD (Cont'd.)

9.7.8.4 With the chart speed switch in the 8 inch/hr. position repeat step 9.7.8 and record the results on data sheet No.4 (10.7.8.4).

Section 9.7.8.4 Accomplished Sat.  Unsat.

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9.7.9 If any of the functions tested in section 9.7 do not function properly refer to the manufacturers manuals (Ref. 2.2.4) for adjustments.

E-15

9.7.10 Repeat steps 9.7.1 thru 9.7.6 for the remaining (20) readout modules.

HP-R-1902

NOTE: On module HP-R-214 the jumper (9.7.2) goes between GND and 10 MV on TBL. The wire on 10 MV is removed in section 9.7.4.

Section 9.7.10 Accomplished Sat.  Unsat.

Signature John A. Brumma Date 1/30/78

9.8 Background Radiation Reading

9.8.1 On Module HP-R-201 place the readout module function selector switch in the 'operate' position.

9.8.2 Read the radiation reading from the scale on the meter face and enter this information on data sheet No. 5 (10.8.2).

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9.0 TEST METHOD (Cont'd.)

9.8.3 Read the background radiation for the channel from the recorder print chart by observing the dot with a number corresponding to the channel being tested. See Enclosure 5-Table 3. Record this reading on data sheet No. 5 (10.8.3).

9.8.4 Repeat steps 9.8.1 thru 9.8.3 for the remaining (19) readout modules. (All except HP-R-214).

Section 9.8 Accomplished Sat.  Unst. \_\_\_\_\_

Signature John P. Byrum Date 3/8/78

CAUTION: WHEN TAKING BACKGROUND RADIATION READINGS, THE VICTOREEN FILED CALIBRATION KIT (FCK) MUST BE CLOSED AND AT LEAST TWENTY-FIVE (25) FEET FROM THE NEAREST DETECTOR.

9.9 Calibration of Detectors

9.9.1 Remove the detector for channel HP-R-201 from its wall mounting bracket.

9.9.2 Insert the detector into the Unit #2 Victoreen Field Calibrator Kit using the GM adaptor. Refer to Enclosure 2-Figures 5 and 6 for a description of the FCK and the mounting arrangement for the detector in the FCK.

9.9.3 Record in section 10.9.3 of data sheet No. 5 the radiation intensity produced by the FCK in each of its three positions; closed, intermediate, and open. Obtain this information

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9.0 TEST METHOD (Cont'd.)

9.9.3 (cont'd.)

from the decay chart which accompanies, or is attached to the FCK. Place this information in section 10.9.3 on all the channel data sheets No. 5.

NOTES: Source exposure must be minimized by familiarizing one's self with the operation of the FCK.

With the source in the open position, there is no beam shielding in the front hemisphere of the calibrator. Check the warning decal on the top of the case for radiation levels. Whenever the FCK is not in the closed position, take all readings as quick as possible so as to minimize personnel exposure in the area of the FCK. However, the radiation given off by the FCK may cause an indication or alarm on other nearby monitoring channels. This, as well as possible personnel exposure, should be kept in mind when performing this test procedure.

9.9.4 Record in section 10.9.4 of data sheet No. 5 the radiation readings on the readout module meter and corresponding recorder channel. The source knob must be in the closed position (full clockwise direction). Insert the key fully into the lock. Do not turn the key at this time.

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9.0 TEST METHOD (Cont'd.)

9.9.5 Slowly rotate the source knob on the FCK in a counterclockwise direction until it stops. This is the intermediate position. Record the radiation readings on the readout module meter face and corresponding recorder channel in section 10.9.5 of data sheet No. 5.

9.9.6 Now rotate the key fully clockwise and then rotate the source knob in the counterclockwise direction to the final stop position. This is the open position. Record the readings on the readout module meter and corresponding recorder channel in section 10.9.6 of data sheet No. 5.

9.9.7 Rotate the source knob on the FCK in the clockwise direction until the closed position is reached. Remove the key from the FCK at this time.

9.9.8 Replace the detector in its mounting.

9.9.9 On data sheet No. 5 calculate the net radiation reading by subtracting the background radiation reading from section 10.8.2 from each of the appropriate readings in sections 10.9.4, 10.9.5, and 10.9.6. Enter the results in section 10.9.9.

NOTE: When determining the net radiation, disregard the background radiation level if it is less than 5% of the measured radiation level in either the closed, intermediate or open positions.

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9.0 TEST METHOD (Cont'd.)

9.9.10 Obtain the Unit 1 FCK (MTE #254) and using the GM adaptor repeat steps 9.9.1 thru 9.9.9 to obtain baseline data with that FCK. Record this data on data sheet 5A for all detectors. Step 9.9.3 data for this calibrator will also be recorded on data sheet no. 5A.

9.9.11 Repeat steps 9.9.1 thru 9.9.10 for the remaining (19) detectors. (All except HP-R-214).

Section 9.9 Accomplished Sat.  Unsat.

Signature John H. Dymore Date 3/8/78

9.10 Test of internal check source.

9.10.1 Insure the FCK is at least 25 ft. from the detector under test.

9.10.2 Verify that the readout module selector switch is in the 'operate' position.

9.10.3 Activate the check source by depressing the green push-button. Record the value from the readout module meter on data sheet No. 5 Section 10.10.3. This reading should be higher than the background reading obtained in 10.8.2.

9.10.4 Repeat steps 9.10.1 thru 9.10.3 for the remaining (19) modules. (All except HP-R-214).

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9.0 TEST METHOD (Cont'd.)

(HP-R-201) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-202) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-204) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-205) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

(HP-R-206) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

(HP-R-207) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

(HP-R-209) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/26/78

(HP-R-210) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/26/78

(HP-R-211) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/2/78

(HP-P-212) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

(HP-R-213) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

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CHANNEL	ELECTION OR REDDITE ALARM	RADIATION METER		MODEL NO.	SERIAL NO.	LOCATION OF DETECTORS OR REMOTE UNITS		CORRECT LOCATION		CORRECT ORIENTATION		
		YES	NO			BUILDING	FLOOR LEVEL (ft)	DESCRIPTION	YES	NO	YES	NO
		HP-R-201	DET			N.A.	N.A.	857-2	35	Control & Service	331.5	South Wall
HP-R-202	DET	N.A.	N.A.	857-2	329	Control & Service	305	North Wall - Near BOP Computer	Yes	No	Yes	No
HP-R-202	RA	x		858-3	N/A	Control & Service	305	Near Detector	Yes	No	Yes	No
HP-R-203	DET	N.A.	N.A.	857-2	358	Auxiliary	280.5	Southeast Corner near RB Emerg. Bat. Pmp IC	Yes	No	Yes	No
HP-R-204	RA	x		858-3	N/A	Auxiliary	280.5	Near Detector	Yes	No	Yes	No
HP-R-205	DET	N.A.	N.A.	857-2	367	Auxiliary	280.5	Adjacent Southside of Evaporator Ctrl. Pal.	Yes	No	Yes	No
HP-R-205	RA	x		858-3	N/A	Auxiliary	280.5	Near Detector	Yes	No	Yes	No
HP-R-206	DET	N.A.	N.A.	857-2	377	Auxiliary	305	Adjacent Gas Analyzer	Yes	No	Yes	No
HP-R-206	RA	x		858-3	N/A	Auxiliary	305	Near Detector	Yes	No	Yes	No
HP-R-207	DET	N.A.	N.A.	857-2	337	Auxiliary	305	South wall - adjacent Int. Clg. pumps	Yes	No	Yes	No
HP-R-207	RA	x		858-3	N/A	Auxiliary	305	Near Detector	Yes	No	Yes	No
HP-R-209	DET	N.A.	N.A.	857-2	32987	Rx. Bldg.	347.5	Fuel Handling Bridge North	Yes	No	Yes	No
HP-R-210	DET	N.A.	N.A.	857-2	328	Rx. Bldg.	347.5	Fuel Handling Bridge South	Yes	No	Yes	No
HP-R-211	DET	N.A.	N.A.	857-2	357	Rx. Bldg.	312	Southeast Quadrant Near Personnel Air Lock	Yes	No	Yes	No
HP-R-211	RA	x		858-1 858-2	N/A	Rx. Bldg.	312	Near Detector	Yes	No	Yes	No

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Data Sheet No. 1  
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Signature

*John A. Bumsner* Date 3/5/76

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CHANNEL	DETECTOR OR REMOTE ALARM	RADIATION METER		MODEL NO.	SERIAL NO.	LOCATION OF DETECTORS OR REMOTE UNITS		CORRECT LOCATION		CORRECT ORIENTATION		
		YES	NO			BUILDING	FLOOR LEVEL (Ft)	DESCRIPTION	YES	NO	YES	NO
HP-R-236	DET	R.A.		857-2	236	Control & Serv.	280.5	Just opposite sewage ejection tank	Yes		Yes	5/5/72
HP-R-236	R.A.	X		857-3	N/A	Control & Serv.	280.5	Near Detector	Yes		Yes	1/1/74
HP-R-3236	DET	N.A.		857-2	357	Auxiliary	328	Adjacent West Side Rm Bldg. purple air exh. unit A	Yes		Yes	1/1/74
HP-R-3236	R.A.	X		858-1 858-3	N/A	Auxiliary	328	Next column West by entrance	Yes		Yes	1/1/74
HP-R-3238	DET	N.A.		857-2	303	Auxiliary	328	Between Aux. Bldg. Exhaust Units	Yes		Yes	1/1/74
HP-R-3238	R.A.	X		858-1 858-3	N/A	Auxiliary	328	by Entrances	Yes		Yes	1/1/74
HP-R-3240	DET	N.A.		857-2	322	Auxiliary	328	Between Fuel Handling Bldg. Exhaust Units	Yes		Yes	1/1/75
HP-R-3240	R.A.	X		858-1 858-3	4/p	Auxiliary	328	Near Entrance by Unit A	Yes		Yes	1/1/75

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Date 1/1/78

Signature John A. Burman

Data Sheet No.  
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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>117.2</u> VAC	117 $\begin{smallmatrix} +15 \\ -13 \end{smallmatrix}$ VAC	<i>[Signature]</i>	12/28/77
10.2.2	Power Supply Voltages	<u>22.5</u> VDC	22 $\begin{smallmatrix} +5 +3 \\ -5 -3 \end{smallmatrix}$ VDC	<i>[Signature]</i>	12/28/77
		<u>10.1</u> VDC	10 $\begin{smallmatrix} +0.1 \\ -0.1 \\ -0.2 \end{smallmatrix}$ VDC	<i>[Signature]</i>	12/28/77
		<u>600.8</u> VDC	600 $\begin{smallmatrix} +16 \\ -16 \end{smallmatrix}$ VDC	<i>[Signature]</i>	12/28/77
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{smallmatrix} +0.5 \\ -0.5 \end{smallmatrix}$ VDC	<i>[Signature]</i>	12/28/77
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>✓</u> Yes <u>      </u> No	Yes	<i>[Signature]</i>	12/28/77
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>✓</u> Yes <u>      </u> No	Yes	<i>[Signature]</i>	12/28/77
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>✓</u> Yes <u>      </u> No	Yes	<i>[Signature]</i>	12/28/77
10.3.6	Green Fail Indicator Comes On	<u>✓</u> Yes <u>      </u> No	Yes	<i>[Signature]</i>	12/28/77
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>✓</u> Yes <u>      </u> No	Yes	<i>[Signature]</i>	12/28/77
	Alarms Cleared	<u>✓</u> Yes <u>      </u> No	Yes	<i>[Signature]</i>	12/28/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JLR</i> <i>MET ED</i>	12/31/77
10.4.13	Alert Full Scale	Energize at full scale <i>yes</i>	Yes	<i>JLR</i> <i>MET ED</i>	12/31/77
10.4.14	Alert Alarm Reset	Amber Light Out <i>yes</i>	Yes	<i>JLR</i> <i>MET ED</i>	12/31/77
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>0.5</u>	+0 -1 Minor Scale Division	<i>JLR</i> <i>MET ED</i>	12/31/77
10.5.6	High Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JLR</i> <i>MET ED</i>	12/31/77
10.5.9	High Alarm Full Scale	Energize at full scale <i>yes</i>	Yes	<i>JLR</i> <i>MET ED</i>	12/31/77
10.5.10	High Alarm Reset	Red Light Out <i>yes</i>	Yes	<i>JLR</i> <i>MET ED</i>	12/31/77
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1.4</u>	+0 -1 Minor Scale Division	<i>JLR</i> <i>MET ED</i>	12/31/77
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JLR</i> <i>MET ED</i>	12/31/77
	RMS Audible Alarm Sounding  D-9	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JLR</i> <i>MET ED</i>	1/31/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	Remote Audible Alarm is sounding (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JHR METCO	12/31/77
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JHR METCO	12/31/77
10.6.6	High Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JHR METCO	12/31/77
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB / Met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB / Met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB / Met-Ed	1/29/78
	Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB / Met-Ed	1/29/78
10.9.4	Measured Radiation Closed	Meter: $\frac{55}{x10^{-4}}$ mR/h Recorder: <u>55</u>	N/A	JAB / Met-Ed	1/29/78
10.9.5	Intermediate	Meter: $\frac{3.8}{x10^{-2}}$ mR/h Recorder: <u>3.6</u>	N/A	JAB / Met-Ed	1/29/78
10.9.6	Open	Meter: $\frac{1.7}{x10^{-3}}$ mR/h Recorder: <u>1.7</u>	N/A	JAB / Met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter: $\frac{55}{x10^{-6}}$ mR/h Recorder: <u>55</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / Met-Ed	1/29/78
	Intermediate	Meter: $\frac{3.8}{x10^{-2}}$ mR/h Recorder: <u>3.6</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / Met-Ed	1/29/78
	Open	Meter: $\frac{1.7}{x10^{-3}}$ mR/h Recorder: <u>1.7</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / Met-Ed	1/29/78
10.10.3	Check Source Reading	$\frac{4.5}{x10^{-1}}$ mR/h	Greater than reading obtained in step 10.8.2	JAB / Met-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB Mut-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB Mut-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed		N/A		
	Intermediate Open		N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> 70 $\times 10^{-6}$ mr/h <u>Recorder</u> 70	N/A	JAB Mut-Ed	1/29/78
10.9.5	Intermediate	<u>Meter</u> 4.2 $\times 10^{-2}$ mr/h <u>Recorder</u> 4.2	N/A	JAB Mut-Ed	1/29/78
10.9.6	Open	<u>Meter</u> 2 $\times 10^{-3}$ mr/h <u>Recorder</u> 1.9	N/A	JAB Mut-Ed	1/29/78
10.9.9	Net Radiation Closed	<u>Meter</u> 70 $\times 10^{-6}$ mr/h <u>Recorder</u> 70	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Mut-Ed	1/29/78
	Intermediate	<u>Meter</u> 4.2 $\times 10^{-2}$ mr/h <u>Recorder</u> 4.2	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Mut-Ed	1/29/78
	Open	<u>Meter</u> 2 $\times 10^{-3}$ mr/h <u>Recorder</u> 1.9	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Mut-Ed	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>8.2</u> VAC	117 $\pm 15$ VAC	Met Ed JL/FC	12/28/77
10.2.2	Power Supply Voltages	<u>17.6</u> VDC	22 $\pm 3.3$ VDC	Met Ed JL/FC	12/28/77
		<u>10.5</u> VDC	10 $\pm 0.1$ VDC	Met Ed JL/FC	12/28/77
		<u>17.3</u> VDC	600 $\pm 16$ VDC	Met Ed JL/FC	12/28/77
10.2.3	Test Point Voltage	<u>-6.3</u> VDC	-6.8 $\pm 0.5$ VDC	Met Ed JL/FC	12/28/77
10.3.2	Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	Met Ed JL/FC	12/28/77
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	Met Ed JL/FC	12/28/77
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	Met Ed JL/FC	12/28/77
10.3.6	Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	Met Ed JL/FC	12/28/77
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	Met Ed JL/FC	12/28/77
	Alarms Cleared	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	Met Ed JL/FC	12/28/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>M. S. J.</i>	12-27-77
10.4.13	Alert Full Scale	Energize at full scale <i>yes</i>	Yes	<i>E. A. H.</i> <i>M. T. C.</i>	12-29-77
10.4.14	Alert Alarm Reset	Amber Light Out <i>yes</i>	Yes	<i>E. A. H.</i> <i>M. T. C.</i>	12-29-77
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>0.5</u>	+0 -1 Minor Scale Division	<i>E. A. H.</i>	12-29-77
10.5.6	High Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>J. A. B.</i> <i>M. T. C.</i>	12/29/77
10.5.9	High Alarm Full Scale	Energize at full scale <i>yes</i>	Yes	<i>J. A. B.</i> <i>M. T. C.</i>	12/29/77
10.5.10	High Alarm Reset	Red Light Out <i>yes</i>	Yes	<i>J. A. B.</i> <i>M. T. C.</i>	12/29/77
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>3.0</u>	+0 -1 Minor Scale Division	<i>J. A. B.</i> <i>M. T. C.</i>	12/29/77
10.6.3	Alert Alarm Light ON	Yes _____ No _____	Yes	<i>M. T. C.</i>	12/29/77
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	<i>M. T. C.</i>	12/29/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	JW MIE	1/25/75
	Remote Audible Alarm is sounding (if applicable)	Yes _____ No _____ N/A _____	Yes N/A	JW MIE	1/25/75
10.6.4	RMS Audible Alarm Reset	Yes _____ No _____	Yes	JW MIE	1/25/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes _____ No _____	Yes	JW MIE	1/25/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A _____	Yes N/A	JW MIE	1/25/75
10.6.6	High Alarm Light ON	Yes _____ No _____	Yes	JW MIE	1/25/75
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	JW MIE	1/25/75
	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	JW MIE	1/25/75
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A _____	Yes N/A	JW MIE	1/25/75
10.6.8	All Alarms Clear	Yes _____ No _____	Yes	JW MIE	1/25/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	AB Mut-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	AB Mut-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	53	N/A	AB Mut-Ed	1/29/78
	Intermediate Open	382 1920	N/A N/A	AB Mut-Ed AB Mut-Ed	1/29/78 1/29/78
10.9.4	Measured Radiation Meter Recorder	<u>55</u> $\times 10^{-6}$ mr/h <u>52</u>	N/A	AB Mut-Ed	1/29/78
10.9.5	Intermediate Meter Recorder	<u>3.7</u> <sup>2</sup> $\times 10^{-3}$ mr/h <u>3.6</u>	N/A	AB Mut-Ed AB Mut-Ed	1/29/78 1/29/78
10.9.6	Open Meter Recorder	<u>2</u> <sup>3</sup> $\times 10^{-3}$ mr/h <u>1.8</u>	N/A	AB Mut-Ed	1/29/78
10.9.9	Net Radiation E-17 Meter Recorder	<u>55</u> <sup>2</sup> $\times 10^{-6}$ mr/h <u>52</u>	+ 20% of 10.9.3 + 4% of 10.9.3	AB Mut-Ed	1/29/78
	Intermediate E-17 Meter Recorder	<u>3.9</u> <sup>2</sup> $\times 10^{-3}$ mr/h <u>3.6</u>	+ 20% of 10.9.3 + 4% of 10.9.3	AB Mut-Ed	1/29/78
	Open E-17 Meter Recorder	<u>2</u> <sup>3</sup> $\times 10^{-3}$ mr/h <u>1.8</u>	+ 20% of 10.9.3 + 4% of 10.9.3	AB Mut-Ed	1/29/78
10.10.3	Check Source Reading	<u>6</u> $\times 10^{-6}$ mr/h	Greater than reading obtained in step 10.8.2	AB Mut-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB Met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB Met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed <i>E-16</i>		N/A		
	Intermediate Open <i>E-16</i>		N/A N/A		
10.9.4	Measured Radiation Closed	Meter <u>5.0</u> $\times 10^{-2}$ mr/h Recorder <u>4.5</u>	N/A	JAB Met-Ed	1/29/78
10.9.5	Intermediate	Meter <u>2.6</u> $\times 10^{-2}$ mr/h Recorder <u>3.2</u>	N/A	JAB Met-Ed	1/29/78
10.9.6	Open	Meter <u>2</u> $\times 10^{-3}$ mr/h Recorder <u>1.8</u>	N/A	JAB Met-Ed	1/29/78
10.9.9	Net Radiation Closed <i>E-16</i>	Meter <u>5.0</u> $\times 10^{-1}$ mr/h Recorder <u>4.5</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Intermediate <i>E-16</i>	Meter <u>5.6</u> $\times 10^{-2}$ mr/h Recorder <u>3.6</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Open <i>E-16</i>	Meter <u>2</u> $\times 10^{-3}$ mr/h Recorder <u>1.8</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>119.4</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	<u>[Signature]</u> M.E. ED	1/30/78
10.2.2	Power Supply Voltages	<u>22</u> VDC	22 $\begin{matrix} +5 +3 \\ -5 -3 \end{matrix}$ VDC	<u>[Signature]</u>	1/31/78
		<u>10</u> VDC	10 $\begin{matrix} +0.2 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	<u>[Signature]</u>	1/30/78
		<u>600</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	<u>[Signature]</u>	1/30/78
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	<u>[Signature]</u>	1/30/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	<u>[Signature]</u>	1/30/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>[Signature]</u>	1/30/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	<u>[Signature]</u>	1/30/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	<u>[Signature]</u>	1/30/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>[Signature]</u>	1/30/78
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	<u>[Signature]</u>	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JSS MIE		1/20/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	JSS MIE		1/20/75
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JSS MIE		1/20/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	JSS MIE		1/20/75
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JSS MIE		1/20/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JSS MIE		1/20/75
10.5.10	High Alarm Reset	Red Light Out	Yes	JSS MIE		1/20/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	JSS MIE		1/20/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSS MIE		1/20/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSS MIE		1/20/75

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Step no.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>  /  </u> No <u>      </u>	Yes	<u>  /  </u> <u>  /  </u>	<u>1/25/75</u>
	Remote Audible Alarm is sounding (if applicable)	Yes <u>      </u> No <u>      </u> N/A <u>      </u>	Yes N/A	<u>  /  </u> <u>  /  </u>	<u>1/25/75</u>
10.6.4	RMS Audible Alarm Reset	Yes <u>  /  </u> No <u>      </u>	Yes	<u>  /  </u> <u>  /  </u>	<u>1/25/75</u>
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>  /  </u> No <u>      </u>	Yes	<u>  /  </u> <u>  /  </u>	<u>1/25/75</u>
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>      </u> No <u>      </u> N/A <u>      </u>	Yes N/A	<u>  /  </u> <u>  /  </u>	<u>1/25/75</u>
10.6.6	High Alarm Light ON	Yes <u>      </u> No <u>      </u>	Yes	<u>  /  </u> <u>  /  </u>	<u>1/25/75</u>
	RMS Audible Alarm Sounding	Yes <u>      </u> No <u>      </u>	Yes	<u>  /  </u> <u>  /  </u>	<u>1/25/75</u>
	'RMS System Trouble' Annunciator Flashing	Yes <u>      </u> No <u>      </u>	Yes	<u>  /  </u> <u>  /  </u>	<u>1/25/75</u>
	Remote Audible Alarm Sounding if applicable	Yes <u>      </u> No <u>      </u> N/A <u>      </u>	Yes N/A	<u>  /  </u> <u>  /  </u>	
10.6.8	All Alarms Clear	Yes <u>      </u> No <u>      </u>	Yes	<u>  /  </u> <u>  /  </u>	

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB	met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB	met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB	met-Ed	1/29/78
	Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB	met-Ed	1/29/78
10.9.4	Measured Radiation Closed	Meter 5.0 x10 <sup>-1</sup> mr/h Recorder 5.2	N/A	JAB	met-Ed	1/29/78
10.9.5	Intermediate	Meter 3.7 x10 <sup>-2</sup> mr/h Recorder 3.9	N/A	JAB	met-Ed	1/29/78
10.9.6	Open	Meter 1.9 x10 <sup>-3</sup> mr/h Recorder 2.0	N/A	JAB	met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter 5.0 x10 <sup>-1</sup> mr/h E-17 Recorder 5.2	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/29/78
	Intermediate	Meter 5.7 x10 <sup>-1</sup> mr/h E-17 Recorder 3.7	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/29/78
	Open	Meter 1.9 x10 <sup>-3</sup> mr/h E-17 Recorder 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/29/78
10.10.3	Check Source Reading	4.0 x10 <sup>0</sup> mr/h	Greater than reading obtained in step 10.8.2	JAB	met-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed E-14		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> 6.0 <sup>1</sup> x10 <sup>-2</sup> mr/h <u>Recorder</u> 2.0	N/A	JAB met-Ed	1/29/78
10.9.5	Intermediate	<u>Meter</u> 4.0 <sup>2</sup> x10 <sup>-2</sup> mr/h <u>Recorder</u> 4.5	N/A	JAB met-Ed	1/29/78
10.9.6	Open	<u>Meter</u> 2.0 <sup>3</sup> x10 <sup>-2</sup> mr/h <u>Recorder</u> 2.1	N/A	JAB met-Ed	1/29/78
10.9.9	Net Radiation Closed E-16	<u>Meter</u> 6.0 <sup>1</sup> x10 <sup>-2</sup> mr/h <u>Recorder</u> 7.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-Ed	1/29/78
	Intermediate E-16	<u>Meter</u> 4.0 <sup>2</sup> x10 <sup>-2</sup> mr/h <u>Recorder</u> 4.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-Ed	1/29/78
	Open E-16	<u>Meter</u> 2.0 <sup>3</sup> x10 <sup>-2</sup> mr/h <u>Recorder</u> 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-Ed	1/29/78

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Step no.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>117.6</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
10.2.2	Power Supply Voltages	<u>21.0</u> VDC	22 $\begin{matrix} +5.3 \\ -5.3 \end{matrix}$ VDC	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
		<u>19.5</u> VDC	10 $\begin{matrix} +0.5 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
		<u>517</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
10.2.3	Test Point Voltage	<u>6.8</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	<u>JSI</u> <u>III-E</u>	<u>1/21/78</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JH ME	11/178
10.4.13	Alert Full Scale	Energize at full scale	Yes	JH ME	11/178
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JH ME	11/178
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	JH ME	11/178
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JH ME	11/178
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JH ME	11/178
10.5.10	High Alarm Reset	Red Light Out	Yes	JH ME	11/178
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	JH ME	11/178
10.6.3	Alert Alarm Light ON	Yes _____ No _____	Yes	JH ME	11/178
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	JH ME	11/178

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	JSI 116188	1/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>✓</u> _____ No _____ N/A _____	Yes N/A	JSI 111E	1/31/75
10.6.4	RMS Audible Alarm Reset	Yes <u>✓</u> _____ No _____	Yes	JSI 111E	1/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes _____ No _____	Yes	JSI 111E	1/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A _____	Yes N/A	JSI 111E	1/31/75
10.6.6	High Alarm Light ON	Yes _____ No _____	Yes	JSI 111E	1/31/75
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	JSI 111E	1/31/75
	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	JSI 111E	1/31/75
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A _____	Yes N/A	JSI 111E	1/31/75
10.6.8	All Alarms Clear	Yes _____ No _____	Yes	JSI 111E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)		N/A	ME	15/78
10.8.3	Background Radiation Reading (Recorder)		N/A	ME	15/78
10.9.3	Radiation Input produced by FCK closed	52	N/A	ME	15/78
	Intermediate Open	380 1730	N/A N/A	ME	15/78
10.9.4	Measured Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> N/A	ME	15/78
10.9.5	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> N/A	ME	15/78
10.9.6	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> N/A	ME	15/78
10.9.9	Net Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	ME	15/78
	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	ME	15/78
	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	ME	15/78
10.10.3	Check Source Reading	<u>x10 mr/h</u>	Greater than reading obtained in step 10.8.2	ME	15/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	0.2	N/A	[Signature]	7/5/75
10.8.3	Background Radiation Reading (Recorder)	0.2	N/A	[Signature]	7/5/75
10.9.3	Radiation Input produced by FCK closed	E-16	N/A		
	Intermediate Open	E-16	N/A N/A		
10.9.4	Measured Radiation	Meter	N/A		7/5/75
	Closed	Recorder			
10.9.5	Intermediate	Meter	N/A		7/5/75
		Recorder			
10.9.6	Open	Meter	N/A		7/5/75
		Recorder			
10.9.9	Net Radiation	Meter	+ 20% of 10.9.3		7/5/75
	Closed	Recorder			
	Intermediate	Meter	+ 20% of 10.9.3		7/5/75
		Recorder			
	Open	Meter	+ 20% of 10.9.3		7/5/75
		Recorder			

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>116</u> VAC	117 $\pm 15$ VAC	JSS 111-E	1/31/75
10.2.2	Power Supply Voltages	<u>21.5</u> VDC	22 $\pm 5$ VDC	JSS 111-E	1/31/75
		<u>10.2</u> VDC	10 $\pm 0.1$ VDC	JSS 111-E	1/31/75
		<u>600</u> VDC	600 $\pm 16$ VDC	JSS 111-E	1/31/75
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\pm 0.5$ VDC	JSS 111-E	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>    </u> Yes <u>    </u> No	Yes	JSS 111-E	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>    </u> Yes <u>    </u> No	Yes	JSS 111-E	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>    </u> Yes <u>    </u> No	Yes	JSS 111-E	1/31/75
10.3.6	Green Fail Indicator Comes On	<u>    </u> Yes <u>    </u> No	Yes	JSS 111-E	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>    </u> Yes <u>    </u> No	Yes	JSS 111-E	1/31/75
	Alarms Cleared	<u>    </u> Yes <u>    </u> No	Yes	JSS 111-E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	TME	1/31/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	TME	1/31/75
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	TME	1/31/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>17.0</u>	+0 -1 Minor Scale Division	TME	1/31/75
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	TME	1/31/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	TME	1/31/75
10.5.10	High Alarm Reset	Red Light Out	Yes	TME	1/31/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>22.0</u>	+0 -1 Minor Scale Division	TME	1/31/75
10.6.3	Alert Alarm Light ON	Yes _____ No _____	Yes	TME	1/31/75
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	TME	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/11/75	11/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JSI	11/11/75	11/31/75
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/11/75	11/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/11/75	11/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JSI	11/11/75	11/31/75
10.6.6	High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/11/75	11/31/75
	RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/11/75	11/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/11/75	11/31/75
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JSI	11/11/75	11/31/75
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/11/75	11/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	3	N/A			3/5/75
10.8.3	Background Radiation Reading (Recorder)		N/A			3/5/75
10.9.3	Radiation Input produced by FCK closed	5.0 mR/h	N/A			3/5/75
	Intermediate	5.5	N/A			3/5/75
	Open	1720	N/A			3/5/75
10.9.4	Measured Radiation Closed	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u>	N/A			3/5/75
10.9.5	Intermediate	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u>	N/A			3/5/75
10.9.6	Open	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u>	N/A			3/5/75
10.9.9	Net Radiation Closed	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u> E-17	+ 20% of 10.9.3 + 4% of 10.9.3			3/5/75
	Intermediate	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u> E-17	+ 20% of 10.9.3 + 4% of 10.9.3			3/5/75
	Open	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u> E-17	+ 20% of 10.9.3 + 4% of 10.9.3			3/5/75
10.10.3	Check Source Reading	3 x10 mr/h	Greater than reading obtained in step 10.8.2			3/5/75

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	<i>0.00</i>	N/A	<i>11.13.01</i>	<i>3/5/75</i>
10.8.3	Background Radiation Reading (Recorder)	<i>0.00</i>	N/A	<i>11.13.01</i>	<i>3/5/75</i>
10.9.3	Radiation Input produced by FCK closed	<i>1 1/6</i>	N/A		
	Intermediate Open	<i>1 1/6</i>	N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> N/A	<i>11.13.01</i>	<i>3/5/75</i>
10.9.5	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> N/A	<i>11.13.01</i>	<i>3/5/75</i>
10.9.6	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> N/A	<i>11.13.01</i>	<i>3/5/75</i>
10.9.9	Net Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	<i>11.13.01</i>	<i>3/5/75</i>
	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	<i>11.13.01</i>	<i>3/5/75</i>
	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	<i>11.13.01</i>	<i>3/5/75</i>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>118.76</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	<u>JFC</u> MET ED.	1-1-78
10.2.2	Power Supply Voltages	<u>19.47</u> VDC	22 $\begin{matrix} +5+3 \\ -3-3 \end{matrix}$ VDC	<u>JFC</u> MET ED.	1-3-78
		<u>10.076</u> VDC	10 $\begin{matrix} +0.0 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	<u>JFC</u> MET ED.	1-3-78
		<u>595.3</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	<u>JFC</u> MET ED.	1-3-78
10.2.3	Test Point Voltage	<u>-6.86</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	<u>JFC</u> MET ED.	1-3-78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> No	Yes	<u>JFC</u> MET ED.	1-3-78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	<u>JFC</u> MET ED.	1-3-78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> No	Yes	<u>JFC</u> MET ED.	1-3-78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> No	Yes	<u>JFC</u> MET ED.	1-3-78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	<u>JAB</u> met-Ed	1/30/78
	Alarms Cleared	<u>Yes</u> No	Yes	<u>JAB</u> met-Ed	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>Cal</i> <i>MET ED</i>	1/3/78
10.4.13	Alert Full Scale	Energize at full scale <i>yes</i>	Yes	<i>Cal</i> <i>MET ED</i>	1/3/78
10.4.14	Alert Alarm Reset	Amber Light Out <i>yes</i>	Yes	<i>Cal</i> <i>MET ED</i>	1/3/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <i>Per</i> <u>1.0</u> 1/3/78 <i>Cal</i>	+0 -1 Minor Scale Division	<i>Cal</i> <i>MET ED</i>	1/3/78
10.5.6	High Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>Cal</i> <i>MET ED</i>	1/2/78
10.5.9	High Alarm Full Scale	Energize at full scale <i>yes</i>	Yes	<i>Cal</i> <i>MET ED</i>	1/3/78
10.5.10	High Alarm Reset	Red Light Out <i>yes</i>	Yes	<i>Cal</i> <i>MET ED</i>	1/3/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	<i>Cal</i> <i>MET ED</i>	1/3/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>Cal</i> <i>MET ED</i>	1/3/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>DA</i>	Yes	<i>Cal</i> <i>MET ED</i>	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	HR MET EO	1-3-78
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	HR MET EO	1-3-78
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	HR MET EO	1-3-78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	HR MET EO	1-3-78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A		
10.6.6	High Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	HR MET EO	1-3-78
	RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes		
	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	HR MET EO	1-3-78
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A		
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	HR MET EO	1-3-78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	<i>2.0 mR/hr</i>	N/A	<i>JH</i> III I	<i>4/1/78</i>
10.8.3	Background Radiation Reading (Recorder)	<i>2.0 mR/hr</i>	N/A	<i>JH</i> III I	<i>4/1/78</i>
10.9.3	Radiation Input produced by FCK closed	<i>5.2</i>	N/A	<i>JH</i> III I	<i>4/1/78</i>
	Intermediate Open	<i>5.50</i> <i>197.5</i>	N/A N/A	<i>JH</i> III I	<i>4/1/78</i>
10.9.4	Measured Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> N/A	<i>JH</i> III I	<i>4/1/78</i>
10.9.5	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> N/A	<i>JH</i> III I	<i>4/1/78</i>
10.9.6	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> N/A	<i>JH</i> III I	<i>4/1/78</i>
10.9.9	Net Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	<i>JH</i> III I	<i>4/1/78</i>
	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	<i>JH</i> III I	<i>4/1/78</i>
	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	<i>JH</i> III I	<i>4/1/78</i>
10.10.3	Check Source Reading	<u>x10 mr/h</u>	Greater than reading obtained in step 10.8.2	<i>JH</i> III I	<i>4/1/78</i>

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	<i>adump</i>	N/A	<i>[Signature]</i> 111-1	3/5/15
10.8.3	Background Radiation Reading (Recorder)	<i>adump</i>	N/A	<i>[Signature]</i> 111-1	3/5/15
10.9.3	Radiation Input produced by FCK closed <i>E-16</i>		N/A	<i>[Signature]</i> 111-1	3/5/15
	Intermediate Open <i>E-16</i>		N/A N/A	<i>[Signature]</i> 111-1	3/5/15
10.9.4	Measured Radiation Closed <u>Meter</u> <u>Recorder</u>	<u>                    </u> x10 <sup>-</sup> mr/h	N/A	<i>[Signature]</i> 111-1	3/5/15
10.9.5	Intermediate <u>Meter</u> <u>Recorder</u>	<u>                    </u> x10 <sup>-</sup> mr/h	N/A	<i>[Signature]</i> 111-1	3/5/15
10.9.6	Open <u>Meter</u> <u>Recorder</u>	<u>                    </u> x10 <sup>-</sup> mr/h	N/A	<i>[Signature]</i> 111-1	3/5/15
10.9.9	Net Radiation Closed <i>E-16</i> <u>Meter</u> <u>Recorder</u>	<u>                    </u> x10 <sup>-</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	<i>[Signature]</i> 111-1	3/5/15
	Intermediate <i>E-16</i> <u>Meter</u> <u>Recorder</u>	<u>                    </u> x10 <sup>-</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	<i>[Signature]</i> 111-1	3/5/15
	Open <i>E-16</i> <u>Meter</u> <u>Recorder</u>	<u>                    </u> x10 <sup>-</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	<i>[Signature]</i> 111-1	3/5/15

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>116.05</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JH noted	1/20/78
10.2.2	Power Supply Voltages	<del>19.6</del> VDC E-5 E-6	22 $\begin{matrix} +3 \\ -3 \end{matrix}$ VDC	JH noted	1/20/78
		<u>10.05</u> VDC E-6	10 $\begin{matrix} +0.2 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JH noted	1/20/78
		<del>599</del> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JH noted	1/20/78
10.2.3	Test Point Voltage	<del>6.593</del> VDC -6.593	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JH noted	1/20/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> Yes No	Yes	JH noted	1/20/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> Yes No	Yes	JH noted	1/20/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> Yes No	Yes	JH noted	1/20/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> Yes No	Yes	JH noted	1/20/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> Yes No	Yes	JH noted	1/20/78
	Alarms Cleared	<u>Yes</u> Yes No	Yes	JH noted	1/20/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/25/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/25/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW MET ED	1/25/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>100</u>	+0 -1 Minor Scale Division	TJW MET ED	1/25/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/25/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/25/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW MET ED	1/25/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1000</u>	+0 -1 Minor Scale Division	TJW MET ED	1/25/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	TJW MET ED	1/26/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	TJW MET ED	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	ft noted	1/26/75
	Remote Audible Alarm is sounding (if applicable)	Yes _____ No _____ N/A _____	Yes N/A	ft noted	1/26/75
10.6.4	RMS Audible Alarm Reset	Yes <u>✓</u> No _____	Yes	ft noted	1/26/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes _____ No _____	Yes	ft noted	1/26/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A _____	Yes N/A	ft noted	1/26/75
10.6.6	High Alarm Light ON	Yes <u>✓</u> No _____	Yes	ft noted	1/26/75
	RMS Audible Alarm Sounding	Yes <u>✓</u> No _____	Yes	ft noted	1/26/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	ft noted	1/26/75
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A <u>ft</u>	Yes N/A	ft noted	1/26/75
10.6.3	All Alarms Clear	Yes <u>✓</u> No _____	Yes	ft noted	1/26/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.12	N/A	JAB Met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	1	N/A	JAB Met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 m/h	N/A	JAB Met-Ed	1/29/78
	Intermediate Open	362 1920	N/A N/A	JAB Met-Ed JAB Met-Ed	1/29/78 1/29/78
10.9.4	Measured Radiation Closed	Meter: 50 Recorder: 52 27.1 m/h	N/A	JAB Met-Ed	1/29/78
10.9.5	Intermediate	Meter: 350 Recorder: 360 35.7 m/h	N/A	JAB Met-Ed	1/29/78
10.9.6	Open	Meter: 1700 Recorder: 1700 42.6 m/h	N/A	JAB Met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter: 49.88 Recorder: 51.88	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed JAB Met-Ed	1/29/78 1/29/78
	Intermediate	Meter: 1699.88 Recorder: 1699.88	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Open	Meter: 1879.88 Recorder: 1699.88	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
10.10.3	Check Source Reading	1.6 x10 mr/h	Greater than reading obtained in step 10.8.2	JAB Met-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10.8.2	Background Radiation Reading (Meter)	.25	N/A	JH3	Met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.25	N/A	JH3	Met Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed <i>E-16</i>		N/A			
	Intermediate Open <i>E-16</i>		N/A N/A			
10.9.4	Measured Radiation Meter Recorder Closed	<u>60</u> x10 <sup>-mr/h</sup> <u>72</u> 27.3mV	N/A	JH3	Met-Ed	1/29/78
10.9.5	Intermediate Meter Recorder	<u>400</u> x10 <sup>-mr/h</sup> <u>950</u> 36.2mV	N/A	JH3	Met-Ed	1/29/78
10.9.6	Open Meter Recorder	<u>2000</u> x10 <sup>-mr/h</sup> <u>2000</u> 93.0mV	N/A	JH3	Met-Ed	1/29/78
10.9.9	Net Radiation Meter Recorder Closed <i>E-16</i>	<u>57.75</u> x10 <sup>-mr/h</sup> <u>71.75</u>	± 20% of 10.9.3 ± 4% of 10.9.3	JH3	Met-Ed	1/30/78
	Intermediate Meter Recorder <i>E-16</i>	<u>379.25</u> x10 <sup>-mr/h</sup> <u>447.25</u>	± 20% of 10.9.3 ± 4% of 10.9.3	JH3	Met-Ed	1/30/78
	Open Meter Recorder <i>E-16</i>	<u>1799.75</u> x10 <sup>-mr/h</sup> <u>1997.75</u>	± 20% of 10.9.3 ± 4% of 10.9.3	JH3	Met-Ed	1/30/78

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TMI UNIT \_\_\_\_\_  
 INST. CAL. DATA SHEET

MTX \_\_\_\_\_

SYSTEM \_\_\_\_\_  
 LOCATION \_\_\_\_\_  
 TOLERANCE \_\_\_\_\_ ENG. UNIT  
 OR  
 % OF SPAN  
 MAX. ERROR OF % OF SPAN \_\_\_\_\_  
 OR  
 MAX. ERROR ENG. UNITS \_\_\_\_\_  
 STATIC PRESSURE ERROR \_\_\_\_\_

INST. NO. \_\_\_\_\_  
 SERIAL NO. \_\_\_\_\_  
 MODEL OR TYPE \_\_\_\_\_  
 FUNCTION \_\_\_\_\_  
 RANGE \_\_\_\_\_  
 OUTPUT \_\_\_\_\_  
 ACTION \_\_\_\_\_

REFERENCE DATA

**POOR ORIGINAL**

SPECIAL DATA

CALIB.	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										

REMARKS:

TEST EQUIPMENT USED

EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 JIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_

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MACHINERY HISTORY ENTRY: DATE \_\_\_\_\_ INITIALS \_\_\_\_\_  
 PERFORMED BY \_\_\_\_\_ DATE 2/2/75 APPROVED BY J.B. Brown DATE 2/2/75  
 745 103

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>116.3</u> VAC	117 $\pm 15$ VAC	JH noted	1/26/78
10.2.2	Power Supply Voltages	<u>19.65</u> VDC	22 $\pm 0.43$ VDC	JH noted	1/26/78
	<b>POOR ORIGINAL</b>	<u>12.215</u> VDC	10 $\pm 0.1$ VDC	JH noted	1/26/78
		<u>527.5</u> VDC	600 $\pm 16$ VDC	JH noted	1/26/78
10.2.3	Test Point Voltage	<u>-6.87</u> VDC	-6.8 $\pm 0.5$ VDC	JH noted	1/26/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> No	Yes	JH noted	1/26/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	JH noted	1/26/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> No	Yes	JH noted	1/26/78
10.3.6	Green Fail Indicator Come On	<u>Yes</u> No	Yes	JH noted	1/26/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	JH noted	1/26/78
	Alarms Cleared	<u>Yes</u> No	Yes	JH noted	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW MCTED	1/25/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW MCTED	1/25/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW MCTED	1/25/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>100</u>	+0 -1 Minor Scale Division	TJW MCTED	1/25/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW MCTED	1/25/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW MCTED	1/25/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW MCTED	1/25/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1000</u>	+0 -1 Minor Scale Division	TJW MCTED	1/25/78
				B	
10.6.3	Alert Alarm Light ON	Yes <u>Yes</u> No _____	Yes	JH MCTED	1/26/78
	RMS Audible Alarm Sounding	Yes <u>Yes</u> No _____	Yes	JH MCTED	1/26/78

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Step no.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	JH noted	1/26/78
	Remote Audible Alarm is sounding (if applicable)	Yes _____ No _____ N/A <u>✓</u>	Yes N/A	JH noted	1/26/78
10.6.4	RMS Audible Alarm Reset	Yes <u>✓</u> No _____	Yes	JH noted	1/26/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>✓</u> No _____	Yes	JH noted	1/26/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A <u>✓</u>	Yes N/A	JH noted	1/26/78
10.6.6	High Alarm Light ON	Yes <u>✓</u> No _____	Yes	JH noted	1/26/78
	RMS Audible Alarm Sounding	Yes <u>✓</u> No _____	Yes	JH noted	1/26/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	JH noted	1/26/78
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A <u>✓</u>	Yes N/A	JH noted	1/26/78
10.6.8	All Alarms Clear	Yes <u>✓</u> No _____	Yes	JH noted	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.12 28 mr/hr	N/A	JAB Met Ed	1/24/78
10.8.3	Background Radiation Reading (Recorder)	.1 mr/hr	N/A	JAB Met Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mr/hr	N/A	JAB Met Ed	1/29/78
	Intermediate Open	382 mr/hr 1920 mr/hr	N/A N/A	JAB Met Ed JAB Met Ed	1/29/78 1/29/78
10.9.4	Measured Radiation Closed	Meter Recorder	N/A	JAB Met Ed	1/29/78
		55 x10 <sup>-3</sup> mr/h 40 27.2 mR			
10.9.5	Intermediate	Meter Recorder	N/A	JAB Met Ed	1/29/78
		358 x10 <sup>-3</sup> mr/h 300 36.2 mR			
10.9.6	Open	Meter Recorder	N/A	JAB Met Ed	1/29/78
		1700 x10 <sup>-3</sup> mr/h 1000 43.1 mR			
10.9.9	Net Radiation Closed	Meter Recorder	+ 20% of 10.9. + 4% of 10.9.3	JAB Met Ed	1/29/78
		5488 x10 <sup>-3</sup> mr/h 3988			
	Intermediate	Meter Recorder	+ 20% of 10.9. + 4% of 10.9.3	JAB Met Ed	1/29/78
		389.88 x10 <sup>-3</sup> mr/h 299.88			
	Open	Meter Recorder	+ 20% of 10.9. + 4% of 10.9.3	JAB Met Ed	1/29/78
		1697.88 x10 <sup>-3</sup> mr/h 1999.88			
10.10.3	Check Source Reading	1.5 x10 mr/l	Greater than reading obtained in step 10.8.2	JAB	1/24/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.25	N/A	JAB Met-Ed	1/24/78
10.8.3	Background Radiation Reading (Recorder)		N/A		
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Meter Closed Recorder	<u>60</u> x10 <sup>-3</sup> mr/h <u>60</u> 24.8 m	N/A	JAB Met-Ed	1/24/78
10.9.5	Intermediate Meter Recorder	<u>350</u> x10 <sup>-3</sup> mr/h <u>300</u> 36.6 m	N/A	JAB Met-Ed	1/29/78
10.9.6	Open Meter Recorder	<u>1800</u> x10 <sup>-3</sup> mr/h <u>1500</u> 43.6 m	N/A	JAB Met-Ed	1/29/78
10.9.9	Net Radiation Closed E-16 Recorder	<u>57.75</u> x10 <sup>-3</sup> mr/h <u>57.75</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/26/78
	Intermediate E-16 Recorder	<u>349.75</u> x10 <sup>-3</sup> mr/h <u>299.75</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Open E-16 Recorder	<u>1799.75</u> x10 <sup>-3</sup> mr/h <u>1499.75</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/30/78

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TMI UNIT \_\_\_\_\_  
 INST. CAL. DATA SHEET

MTX 173

SYSTEM DOMS  
 LOCATION East Wharfedale Bridge  
 TOLERANCE \_\_\_\_\_ ENG. UNIT  
 OR  
 % OF SPAN  
 MAX. ERROR OF % OF SPAN \_\_\_\_\_  
 OR  
 MAX. ERROR ENG. UNITS \_\_\_\_\_  
 STATIC PRESSURE ERROR \_\_\_\_\_

INST. NO. 170-200  
 SERIAL NO. \_\_\_\_\_  
 MODEL OR TYPE \_\_\_\_\_  
 FUNCTION \_\_\_\_\_  
 RANGE \_\_\_\_\_  
 OUTPUT \_\_\_\_\_  
 ACTION \_\_\_\_\_

REFERENCE DATA

SPECIAL DATA

**POOR ORIGINAL**

CALIB.	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										

REMARKS:

TEST EQUIPMENT USED

EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 JIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_

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MACHINERY HISTORY ENTRY: DATE \_\_\_\_\_ INITIALS \_\_\_\_\_  
 PERFORMED BY \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY [Signature] DATE 2/2/11



Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>115</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JHJ M.E.E.	1/31/75
10.2.2	Power Supply Voltages	<u>21.5</u> VDC	22 $\begin{matrix} +5+3 \\ -5-3 \end{matrix}$ VDC	JHJ M.E.	1/31/75
		<u>19.5</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JHJ M.E.	1/31/75
		<u>1.23</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JHJ M.E.	1/31/75
10.2.3	Test Point Voltage	<u>-6.56</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JHJ M.E.	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes,	JHJ M.E.	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JHJ M.E.	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JHJ M.E.	1/31/75
10.3.6	Green Fail Indicator Comes On	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JHJ M.E.	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JHJ M.E.	1/31/75
	Alarms Cleared	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JHJ M.E.	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JHE	1/21/15
10.4.13	Alert Full Scale	Energize at full scale.	Yes	JHE	1/21/15
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JHE	1/21/15
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>250</u>	+0 -1 Minor Scale Division	JHE	1/21/15
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JHE	1/21/15
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JHE	1/21/15
10.5.10	High Alarm Reset	Red Light Out	Yes	JHE	1/21/15
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>500</u>	+0 -1 Minor Scale Division	JHE	1/21/15
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHE	1/21/15
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHE	1/21/15

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH 1111	
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH 1111	
10.6.4	RMS Audible Alarm Reset	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH 1111	
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH 1111	
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH 1111	
10.6.6	High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH 1111	
	RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH 1111	
	'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH 1111	
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH 1111	
10.6.8	All Alarms Clear	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH 1111	

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**POOR ORIGINAL**

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
8.2	Background Radiation Reading (Meter)	0.1500 r/hr	N/A	JW Mated	2/3/78
8.3	Background Radiation Reading (Recorder)	0.1500 r/hr	N/A	JW Mated	2/3/78
9.3	Radiation Input produced by FCK closed	52 mr/hr	N/A	JW Mated	2/3/78
	Intermediate Open	302 mr/hr 1020 mr/hr	N/A N/A	JW Mated	2/3/78
9.4	Measured Radiation Closed	Meter Recorder	$\frac{5.2}{10} \times 10^{-2}$ mr/hr N/A	JW Mated	2/3/78
9.5	Intermediate	Meter Recorder	$\frac{1.0}{10} \times 10^{-2}$ mr/hr N/A	JW Mated	2/3/78
9.6	Open	Meter Recorder	$\frac{1.0}{10} \times 10^{-2}$ mr/hr N/A	JW Mated	2/3/78
9.9	Net Radiation Closed	Meter Recorder	$\frac{1.0}{10} \times 10^{-2}$ mr/hr N/A	JW Mated	2/3/78
	Intermediate	Meter Recorder	$\frac{1.0}{10} \times 10^{-2}$ mr/hr N/A	JW Mated	2/3/78
	Open	Meter Recorder	$\frac{1.0}{10} \times 10^{-2}$ mr/hr N/A	JW Mated	2/3/78
10.10.3	Check Source Reading	$\frac{3}{10} \times 10^{-2}$ mr/hr	Greater than reading obtained in step 10.3.2	JW Mated	2/3/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials - Org.	Date
10.8.2	Background Radiation Reading (Meter)	0.15 mr/h	N/A	LLI Mated	2/3/75
10.8.3	Background Radiation Reading (Recorder)	0.15 mr/h	N/A	LLI Mated	2/3/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed Meter Recorder	$x10^{-3}$ mr/h	N/A	LLI Mated	2/3/75
10.9.5	Intermediate Meter Recorder	$x10^{-3}$ mr/h	N/A	LLI Mated	2/3/75
10.9.6	Open Meter Recorder	$x10^{-3}$ mr/h	N/A	LLI Mated	2/3/75
10.9.9	Net Radiation Closed E-16 Meter Recorder	$x10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	LLI Mated	2/3/75
	Intermediate E-16 Meter Recorder	$x10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	LLI Mated	2/3/75
	Open E-16 Meter Recorder	$x10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	LLI Mated	2/3/75
10.3	Check Source Reading	$x10$ mr/h	Greater than reading obtained in step 10.8.2	N/A	N/A

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>110</u> VAC	117 $\begin{smallmatrix} +15 \\ -15 \end{smallmatrix}$ VAC	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
10.2.2	Power Supply Voltages	<u>21.8</u> VDC	22 $\begin{smallmatrix} +5+3 \\ -5-3 \end{smallmatrix}$ VDC	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
		<u>10.32</u> VDC	10 $\begin{smallmatrix} +0.1 \\ -0.1 \\ -0.5 \end{smallmatrix}$ VDC	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
		<u>600</u> VDC	600 $\begin{smallmatrix} +16 \\ -16 \end{smallmatrix}$ VDC	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{smallmatrix} +0.5 \\ -0.5 \end{smallmatrix}$ VDC	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>JSS</u> <u>III</u>	<u>1/31/75</u>
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	<u>JSS</u> <u>III</u>	<u>1/31/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JH MII	2/1/73
10.4.13	Alert Full Scale	Energize at full scale	Yes	JH MII	2/1/73
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JH MII	2/1/73
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>5.0</u>	+0 -1 Minor Scale Division	JH MII	2/1/73
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JH MII	2/1/73
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JH MII	2/1/73
10.5.10	High Alarm Reset	Red Light Out	Yes	JH MII	2/1/73
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>5.0</u>	+0 -1 Minor Scale Division	JH MII	2/1/73
10.6.3	Alert Alarm Light ON	Yes _____ No _____	Yes	JH MII	2/1/73
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No _____	Yes	JH MII	2/1/73

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ep o.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
3	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/2/78
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH ME	1/2/78
6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/2/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/2/78
6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH ME	1/2/78
6.6	High Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/2/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/2/78
	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/2/78
	Remote Audible Alarm Sounding if applicable	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH ME	1/2/78
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/2/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
			Org.		
Background Radiation Reading (Meter)		N/A	JSS III L		3/5/75
Background Radiation Reading (Recorder)		N/A	JSS III L		3/5/75
Radiation Input produced by FCK closed	52	N/A	JSS III L		3/5/75
Intermediate Open		N/A N/A	JSS III L		3/5/75
9.4 Measured Radiation Closed	Meter	$\times 10^{-6}$ mr/h	N/A	JSS III L	3/5/75
	Recorder				
9.5 Intermediate	Meter	$\times 10^{-6}$ mr/h	N/A	JSS III L	3/5/75
	Recorder				
9.6 Open	Meter	$\times 10^{-6}$ mr/h	N/A	JSS III L	3/5/75
	Recorder				
9.9.9 Net Radiation Closed	Meter	$\times 10^{-6}$ mr/h	+ 20% of 10.9.3	JSS III L	3/5/75
	E-17 Recorder		+ 4% of 10.9.3		
Intermediate	Meter	$\times 10^{-6}$ mr/h	+ 20% of 10.9.3	JSS III L	3/5/75
	E-17 Recorder		+ 4% of 10.9.3		
Open	Meter	$\times 10^{-6}$ mr/h	+ 20% of 10.9.3	JSS III L	3/5/75
	E-17 Recorder		+ 4% of 10.9.3		
10.10.3 Check Source Reading		$\times 10^{-6}$ mr/h	Greater than reading obtained in step 10.8.2	JSS III L	3/5/75

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9.10 (Unit 1 FCK)

Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
Background Radiation Reading (Meter)	.2	N/A	JSS III-E		3/5/75
Background Radiation Reading (Recorder)	.1	N/A	JSS III-E		3/5/75
Radiation Input produced by FCK closed	F 16	N/A	JSS		
Intermediate Open	F 16	N/A N/A			
9.4 Measured Radiation Closed	Meter	$\times 10^{-6}$ mr/h	N/A	JSS III-E	3/5/75
	Recorder				
9.5 Intermediate	Meter	$\times 10^{-6}$ mr/h	N/A	JSS III-E	3/5/75
	Recorder				
0.9.6 Open	Meter	$\times 10^{-6}$ mr/h	N/A	JSS III-E	3/5/75
	Recorder				
0.9.9 Net Radiation Closed	Meter	$\times 10^{-6}$ mr/h	+ 20% of 10.9.3	JSS	3/5/75
	Recorder		+ 4% of 10.9.3	III-E	
Intermediate	Meter	$\times 10^{-6}$ mr/h	+ 20% of 10.9.3	JSS	3/5/75
	Recorder		+ 4% of 10.9.3	III-E	
Open	Meter	$\times 10^{-6}$ mr/h	+ 20% of 10.9.3	JSS	3/5/75
	Recorder		+ 4% of 10.9.3	III-E	

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
			Org.		
AC Input Voltage Check	119 VAC	117 $\pm 15$ VAC			1/31/75
Power Supply Voltages	22 VDC	22 $\pm 3$ VDC			1/31/75
	10 VDC	10 $\pm 0.1$ VDC			1/31/75
	600 VDC	600 $\pm 16$ VDC			1/31/75
3 Test Point Voltage	-6.8 VDC	-6.8 $\pm 0.5$ VDC			1/31/75
.2 Green Fail Indicator Lamp Goes Out.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes			1/31/75
3.3 Main RMS Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes			1/31/75
3.4 Audible Alarm Cleared Light Window Stops Flashing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes			1/31/75
1.3.6 Green Fail Indicator Comes On	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes			1/31/75
0.3.7 Main Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes			1/31/75
Alarms Cleared	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes			1/31/75

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
Alert Alarm Zero	Energize at 1st graduation	Yes	JM	ME	1/28
Alert Full Scale	Energize at full scale	Yes	JM	ME	1/28
Alert Alarm Reset	Amber Light Out	Yes	JM	ME	1/28
7 Setpoint Value from Table 2 adjusted	Value <u>75.0</u>	+0 -1 Minor Scale Division	JM	ME	1/28
6 High Alarm Zero	Energize at 1st graduation	Yes	JM	ME	1/28
9 High Alarm Full Scale	Energize at full scale	Yes	JM	ME	1/28
10 High Alarm Reset	Red Light Out	Yes	JM	ME	1/28
5.12 Setpoint Value from Table 2 adjusted	Value <u>75.0</u>	+0 -1 Minor Scale Division	JM	ME	1/28
0.6.3 Alert Alarm Light ON	Yes _____ No _____	Yes	JM	ME	1/28
RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No _____	Yes	JM	ME	1/28

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
d.) 'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/1/75	3/1/75
Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JSI	11/1/75	1/31/75
.4 RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/1/75	1/31/75
'RMS System Trouble' Annunciator Stops Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/1/75	1/31/75
6.5 Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JSI	11/1/75	1/31/75
.6.6 High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/1/75	1/31/75
RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/1/75	1/31/75
'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/1/75	1/31/75
Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JSI	11/1/75	1/31/75
10.6.8 All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	11/1/75	1/31/75

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P No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
2	Background Radiation Reading (Meter)	0.3mr/h	N/A			
3.3	Background Radiation Reading (Recorder)	0.3mr/h	N/A			
9.3	Radiation Input produced by FCK closed		N/A			
	Intermediate Open	392 113 1920	N/A N/A			
9.4	Measured Radiation Closed	Meter Recorder $\times 10^{-2}$ mr/h	N/A			
9.5	Intermediate	Meter Recorder $\times 10^{-2}$ mr/h	N/A			
10.9.6	Open	Meter Recorder $\times 10^{-2}$ mr/h	N/A			
10.9.9	Net Radiation Closed	Meter Recorder $\times 10^{-2}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3			
	Intermediate	Meter Recorder $\times 10^{-2}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3			
	Open	Meter Recorder $\times 10^{-2}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3			
10.10.3	Check Source Reading	$\times 10^{-2}$ mr/h	Greater than reading obtained in step 10.8.2			

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Unit 1 E-16

Description of Data Required	Data	Acceptance Criteria	Initials Ors.	Date
Background Radiation Reading (Meter)	2.00 μR/h	N/A	JH Mated Ed	2/3/78
Background Radiation Reading (Recorder)	2.00 μR/h	N/A	JH Mated Ed	2/3/78
Radiation Input produced by FCK closed	E-16	N/A		
Intermediate Open	E-16	N/A		
9.4 Measured Radiation	Meter Recorder	$\frac{2.5}{2.5} \times 10^{-2}$ mr/h N/A	JH Mated Ed	2/3/78
9.5 Intermediate	Meter Recorder	$\frac{2.5}{2.5} \times 10^{-2}$ mr/h N/A	JH Mated Ed	2/3/78
9.6 Open	Meter Recorder	$\frac{2.0}{2.5} \times 10^{-2}$ mr/h N/A	JH Mated Ed	2/3/78
0.9.9 Net Radiation	Meter Recorder	$\frac{2.0}{2.5} \times 10^{-2}$ mr/h + 20% of 10.9.3 + 4% of 10.9.3	JH Mated Ed	2/3/78
Intermediate	Meter Recorder	$\frac{2.0}{2.5} \times 10^{-2}$ mr/h + 20% of 10.9.3 + 4% of 10.9.3	JH Mated Ed	2/3/78
Open	Meter Recorder	$\frac{2.0}{2.5} \times 10^{-2}$ mr/h + 20% of 10.9.3 + 4% of 10.9.3	JH Mated Ed	2/3/78
10.10.3 Check Source Reading		$\times 10^{-2}$ mr/h Greater than reading obtained in step 10.8.1	N/A	N/A

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				_____	Org.	
2.1	AC Input Voltage Check	<u>117</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC			1/27/52
2.2	Power Supply Voltages	<u>11.5</u> VDC	22 $\begin{matrix} +5.3 \\ -5.3 \end{matrix}$ VDC			1/27/52
		<u>10.1</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC			1/27/52
		<u>575.1</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC			1/27/52
0.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC			1/27/52
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes			1/27/52
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes			1/27/52
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes			1/27/52
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes			1/27/52
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes			1/27/52
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes			1/27/52

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ID	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10	Alert Alarm Zero	Energize at 1st graduation	Yes 100	TJW	Let ID	1/21/78
10.13	Alert Full Scale	Energize at full scale	Yes 100	TJW	Let ID	1/21/78
10.14	Alert Alarm Reset	Amber Light Out	Yes 100	TJW	Let ID	1/21/78
10.17	Setpoint Value from Table 2 adjusted	Value <u>100</u>	+0 -1 Minor Scale Division	TJW	Let ID	1/21/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes			
10.5.9	High Alarm Full Scale	Energize at full scale	Yes			
10.5.10	High Alarm Reset	Red Light Out	Yes			
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>100</u>	+0 -1 Minor Scale Division			
10.6.3	Alert Alarm Light ON		Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	JAB	1/21/78	1/30/78
	RMS Audible Alarm Sounding		Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	JAB	1/21/78	1/30/78

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P No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
3	'RMS System Trouble' Annunciator Flashing	Yes <u>Yes</u> No _____	Yes	TJW	MEF ED	1/27/78
	Remote Audible Alarm is sounding (if applicable) <b>D-4</b>	Yes <u>Yes</u> No _____ N/A <u>X</u>	Yes N/A	TJW	MEF ED	1/27/78
3.4	RMS Audible Alarm Reset	Yes <u>Yes</u> No _____	Yes	TJW	MEF ED	1/27/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>Yes</u> No _____	Yes	TJW	MEF ED	1/27/78
3.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A <u>X</u>	Yes N/A	TJW	MEF ED	1/27/78
3.6.6	High Alarm Light ON	Yes <u>Yes</u> No _____	Yes	TJW	MEF ED	1/27/78
	RMS Audible Alarm Sounding <b>D-4</b>	Yes _____ No <u>NO</u>	Yes	TJW	MEF ED	1/27/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>Yes</u> No _____	Yes	TJW	MEF ED	1/27/78
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A <u>X</u>	Yes N/A	TJW	MEF ED	1/27/78
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	TJW	MEF ED	1/27/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
2 Background Radiation Reading (Meter)	.28 mr/hr	N/A	JAB	Met-El	1/24/78
3 Background Radiation Reading (Recorder)	.3 mr/hr	N/A	JAB	Met-El	1/24/78
10.3 Radiation Input produced by FCK closed	52 mr/hr	N/A	JAB	Met-El	1/24/78
Intermediate Open	382 mr/hr	N/A	JAB	Met-El	1/24/78
	1920 mr/hr	N/A			
10.9.4 Measured Radiation Closed	Meter $\frac{50}{x10^0}$ mr/h	N/A	JAB	Met-El	1/24/78
	Recorder 50				
10.9.5 Intermediate	Meter $\frac{380}{x10^0}$ mr/h	N/A	JAB	Met-El	1/24/78
	Recorder 500				
10.9.6 Open	Meter $\frac{2000}{x10^0}$ mr/h	N/A	JAB	Met-El	1/24/78
	Recorder 2000				
10.9.9 Net Radiation Closed	Meter $\frac{17.88}{x10^0}$ mr/h	+ 20% of 10.9.3	JAB	Met-El	1/24/78
	E-18 Recorder $\frac{47.85}{x10^0}$ mr/h	+ 4% of 10.9.3			
Intermediate	Meter $\frac{377.25}{x10^0}$ mr/h	+ 20% of 10.9.3	JAB	Met-El	1/24/78
	E-18 Recorder $\frac{499.85}{x10^0}$ mr/h	+ 4% of 10.9.3			
Open	Meter $\frac{1992.85}{x10^0}$ mr/h	+ 20% of 10.9.3	JAB	Met-El	1/24/78
	E-18 Recorder $\frac{2777.85}{x10^0}$ mr/h	+ 4% of 10.9.3			
10.10.3 Check Source Reading	$\frac{4}{x10^0}$ mr/h	Greater than reading obtained in step 10.8.2	JAB	Met-El	1/24/78

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9.9.10) (Unit 1 FCK)		Data	Acceptance Criteria	Initials Org.	Date
2	Background Radiation Reading (Meter)	.12 - 1/2	N/A	JAB Met-Ed	1/24/78
3	Background Radiation Reading (Recorder)	.1	N/A	JAB Met-Ed	1/24/78
9.3	Radiation Input produced by FCK closed E-14		N/A		
	Intermediate Open E-16		N/A N/A		
9.4	Measured Radiation Meter	<u>65</u> x10 <sup>-3</sup> mr/h	N/A	JAB Met-Ed	1/24/78
	Closed Recorder	<u>70</u>			
10.9.5	Intermediate Meter	<u>520</u> x10 <sup>-3</sup> mr/h	N/A	JAB Met-Ed	1/24/78
	Recorder	<u>600</u>			
10.9.6	Open Meter	<u>2200</u> x10 <sup>-3</sup> mr/h	N/A	JAB Met-Ed	1/24/78
	Recorder	<u>3000</u>			
10.9.9	Net Radiation Closed E-16 Meter	<u>69.88</u> x10 <sup>-3</sup> mr/h	+ 20% of 10.9.3	JAB Met-Ed	1/30/78
	Recorder	<u>69.88</u>	+ 4% of 10.9.3		
	Intermediate E-16 Meter	<u>499.88</u> x10 <sup>-3</sup> mr/h	+ 20% of 10.9.3	JAB Met-Ed	1/30/78
	Recorder	<u>579.88</u>	+ 4% of 10.9.3		
	Open E-16 Meter	<u>2499.88</u> x10 <sup>-3</sup> mr/h	+ 20% of 10.9.3	JAB Met-Ed	1/30/78
	Recorder	<u>2279.88</u>	+ 4% of 10.9.3		

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TMI UNIT \_\_\_\_\_  
 INST. CAL. DATA SHEET

MTX \_\_\_\_\_

ON 11/11/11 Handling  
 RANGE \_\_\_\_\_ ENG. UNIT OR % OF SPAN \_\_\_\_\_  
 ERROR OF % OF SPAN \_\_\_\_\_  
 OR  
 ERROR ENG. UNITS \_\_\_\_\_  
 IC PRESSURE ERROR \_\_\_\_\_

INST. NO. \_\_\_\_\_  
 SERIAL NO. \_\_\_\_\_  
 MODEL OR TYPE \_\_\_\_\_  
 FUNCTION \_\_\_\_\_  
 RANGE \_\_\_\_\_  
 OUTPUT \_\_\_\_\_  
 ACTION \_\_\_\_\_

REFERENCE DATA \_\_\_\_\_

SPECIAL DATA \_\_\_\_\_

**POOR ORIGINAL**

CALIB.	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										

REMARKS: \_\_\_\_\_

EQUIP. Flare Duff TEST EQUIPMENT USED \_\_\_\_\_  
 SER. NO. 170710 LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_

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MACHINERY HISTORY ENTRY:

PERFORMED BY [Signature] DATE 2/2/11

APPROVED BY [Signature] INITIALS \_\_\_\_\_

DATE 2/2/11

PG. \_\_\_\_\_

TMI 79 12

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
2.1	AC Input Voltage Check	<u>117.8</u> VAC	117 $\pm 15$ VAC	<u>ME</u>		<u>1/31/75</u>
2.2	Power Supply Voltages	<u>110</u> VDC	22 $\pm 5$ VDC -5	<u>ME</u>		<u>1/31/75</u>
		<u>110</u> VDC	10 $\pm 0.1$ VDC -0.1 0.5	<u>ME</u>		<u>1/31/75</u>
		<u>110</u> VDC	600 $\pm 16$ VDC -16	<u>ME</u>		<u>1/31/75</u>
0.2.3	Test Point Voltage	<u>6.8</u> VDC	-6.8 $\pm 0.5$ VDC -0.5	<u>ME</u>		<u>1/31/75</u>
10.3.2	Green Fail Indicator Lamp Goes Out.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>ME</u>		<u>1/31/75</u>
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>ME</u>		<u>1/31/75</u>
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>ME</u>		<u>1/31/75</u>
10.3.6	Green Fail Indicator Comes On	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>ME</u>		<u>1/31/75</u>
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>ME</u>		<u>1/31/75</u>
	Alarms Cleared	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>ME</u>		<u>1/31/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JH JH		1/31/75
4.13	Alert Full Scale	Energize at full scale	Yes	JH JH		1/31/75
4.14	Alert Alarm Reset	Amber Light Out	Yes	JH JH		1/31/75
4.17	Setpoint Value from Table 2 adjusted	Value	+0 -1 Minor Scale Division	JH JH		1/31/75
5.6	High Alarm Zero	Energize at 1st graduation	Yes	JH JH		1/31/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JH JH		1/31/75
10.5.10	High Alarm Reset	Red Light Out	Yes	JH JH		1/31/75
10.5.12	Setpoint Value from Table 2 adjusted	Value	+0 -1 Minor Scale Division	JH JH		1/31/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH JH		1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH JH		1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JII III	3/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JII III	3/31/75
6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JII III	3/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JII III	3/31/75
6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JII III	3/31/75
6.6	High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JII III	3/31/75
	RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JII III	3/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JII III	3/31/75
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JII III	3/31/75
6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JII III	3/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
8.2	Background Radiation Reading (Meter)	0.2	N/A	[Signature]	3/17/78
8.3	Background Radiation Reading (Recorder)	0.2	N/A	[Signature]	3/17/78
9.3	Radiation Input produced by FCK closed	50	N/A	[Signature]	3/17/78
	Intermediate Open	50	N/A N/A	[Signature]	3/17/78
10.9.4	Measured Radiation Closed	<u>Meter</u> <u>Recorder</u> x10 <sup>-6</sup> mr/h	N/A	[Signature]	3/17/78
10.9.5	Intermediate	<u>Meter</u> <u>Recorder</u> x10 <sup>-6</sup> mr/h	N/A	[Signature]	3/17/78
10.9.6	Open	<u>Meter</u> <u>Recorder</u> x10 <sup>-6</sup> mr/h	N/A	[Signature]	3/17/78
10.9.9	Net Radiation Closed	<u>Meter</u> <u>Recorder</u> x10 <sup>-6</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	[Signature]	3/17/78
	Intermediate	<u>Meter</u> <u>Recorder</u> x10 <sup>-6</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	[Signature]	3/17/78
	Open	<u>Meter</u> <u>Recorder</u> x10 <sup>-6</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	[Signature]	3/17/78
10.10.3	Check Source Reading	x10 <sup>-6</sup> mr/h	Greater than reading obtained in step 10.3.2	[Signature]	3/17/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
8.2	Background Radiation Reading (Meter)		N/A			3/5/75
8.3	Background Radiation Reading (Recorder)		N/A			3/5/75
9.3	Radiation Input produced by FCK closed E-16		N/A			
	Intermediate Open E-16		N/A			
10.9.4	Measured Radiation Closed Meter Recorder	$\times 10^{-6}$ mr/h	N/A			3/5/75
10.9.5	Intermediate Meter Recorder	$\times 10^{-6}$ mr/h	N/A			3/5/75
10.9.6	Open Meter Recorder	$\times 10^{-6}$ mr/h	N/A			3/5/75
10.9.9	Net Radiation Closed E-16 Meter Recorder	$\times 10^{-6}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3			3/5/75
	Intermediate E-16 Meter Recorder	$\times 10^{-6}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3			3/5/75
	Open E-16 Meter Recorder	$\times 10^{-6}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3			3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>115</u> VAC	117 $\pm 15$ VAC	JH M.E.	1/31/75
10.2.2	Power Supply Voltages	<u>22.5</u> VDC	22 $\pm 0.3$ VDC	JH M.E.	1/31/75
		<u>10.0</u> VDC	10 $\pm 0.1$ VDC	JH M.E.	1/31/75
		<u>600</u> VDC	600 $\pm 16$ VDC	JH M.E.	1/31/75
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\pm 0.5$ VDC	JH M.E.	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>    </u> Yes <u>    </u> No	Yes	JH M.E.	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>    </u> Yes <u>    </u> No	Yes	JH M.E.	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>    </u> Yes <u>    </u> No	Yes	JH M.E.	1/31/75
10.3.6	Green Fail Indicator Comes On	<u>    </u> Yes <u>    </u> No	Yes	JH M.E.	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>    </u> Yes <u>    </u> No	Yes	JH M.E.	1/31/75
	Alarms Cleared	<u>    </u> Yes <u>    </u> No	Yes	JH M.E.	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JH MIL	1/14/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	JH MIL	1/14/75
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JH MIL	1/14/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>200</u>	+0 -1 Minor Scale Division	JH MIL	1/14/75
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JH MIL	1/14/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JH MIL	1/14/75
10.5.10	High Alarm Reset	Red Light Out	Yes	JH MIL	1/14/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1000</u>	+0 -1 Minor Scale Division	JH MIL	1/15/75
10.6.3	Alert Alarm Light ON	Yes _____ No _____	Yes	JH MIL	1/15/75
	RMS Audible Alarm Sounding <i>D JH</i>	Yes <input checked="" type="checkbox"/> No _____	Yes	JH MIL	1/15/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u> / <u>  </u>	11/30/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>  </u> No <u>  </u> N/A <u>  </u>	Yes N/A	<u>  </u> / <u>  </u>	11/30/75
10.6.4	RMS Audible Alarm Reset	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u> / <u>  </u>	11/30/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u> / <u>  </u>	11/30/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>  </u> No <u>  </u> N/A <u>  </u>	Yes N/A	<u>  </u> / <u>  </u>	11/30/75
10.6.6	High Alarm Light ON	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u> / <u>  </u>	11/30/75
	RMS Audible Alarm Sounding	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u> / <u>  </u>	11/30/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u> / <u>  </u>	11/30/75
	Remote Audible Alarm Sounding if applicable	Yes <u>  </u> No <u>  </u> N/A <u>  </u>	Yes N/A	<u>  </u> / <u>  </u>	11/30/75
10.6.8	All Alarms Clear	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u> / <u>  </u>	11/30/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.4	N/A	JDS / III.1	3/2/75
10.8.3	Background Radiation Reading (Recorder)	.4	N/A	JDS / III.1	3/5/75
10.9.3	Radiation Input produced by FCK closed	52	N/A	JDS / III.1	3/5/75
	Intermediate Open	552 1920	N/A N/A	JDS / III.1	3/5/75
10.9.4	Measured Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> N/A	JDS / III.1	3/5/75
10.9.5	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> N/A	JDS / III.1	3/5/75
10.9.6	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> N/A	JDS / III.1	3/5/75
10.9.9	Net Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	JDS / III.1	3/5/75
	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	JDS / III.1	3/5/75
	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3	JDS / III.1	3/5/75
10.10.3	Check Source Reading	<u>x10<sup>-</sup>mr/h</u>	Greater than reading obtained in step 10.8.2	JDS / III.1	3/5/75

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)		N/A		
10.8.3	Background Radiation Reading (Recorder)		N/A		
10.9.3	Radiation Input produced by FCK closed		N/A		
	Intermediate Open		N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> N/A		
10.9.5	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> N/A		
10.9.6	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> N/A		
10.9.9	Net Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3		
	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3		
	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-</sup>mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3		

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>116.5</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	T... NOT S...	1/20/74
10.2.2	Power Supply Voltages	<u>10.2</u> VDC	22 $\begin{matrix} +3+3 \\ -5-3 \end{matrix}$ VDC	T... NOT S...	1/20/74
		<u>11.1</u> VDC	10 $\begin{matrix} +5+1 \\ -0.1 \\ -0.1 \end{matrix}$ VDC	T... NOT S...	1/20/74
		<u>276.4</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	T... NOT S...	1/20/74
10.2.3	Test Point Voltage	<u>-6.5</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	T... NOT S...	1/20/74
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	T... NOT S...	1/20/74
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>X</u> No	Yes	T... NOT S...	1/20/74
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	T... NOT S...	1/20/74
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	T... NOT S...	1/20/74
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>X</u> No	Yes	T... NOT S...	1/20/74
	Alarms Cleared	<u>X</u> Yes <u>No</u>	Yes	T... NOT S...	1/20/74

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
4.10	Alert Alarm Zero	Energize at 1st graduation	Yes <input checked="" type="checkbox"/>	TJW MTR ED	1/24/78
4.13	Alert Full Scale	Energize at full scale	Yes <input checked="" type="checkbox"/>	TJW MTR ED	1/24/78
4.14	Alert Alarm Reset	Amber Light Out	Yes <input checked="" type="checkbox"/>	TJW MTR ED	1/24/78
4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	TJW MTR ED	1/24/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes <input checked="" type="checkbox"/>	TJW MTR ED	1/24/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes <input checked="" type="checkbox"/>	TJW MTR ED	1/24/78
10.5.10	High Alarm Reset	Red Light Out	Yes <input checked="" type="checkbox"/>	TJW MTR ED	1/24/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	TJW MTR ED	1/24/78
10.6.3	Alert Alarm Light ON	Yes _____ No _____	Yes	TJW MTR ED	1/24/78
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	TJW MTR ED	1/24/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
6.3	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	TJW WET SD	1/20/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>✓</u> No _____ N/A _____	Yes N/A	TJW WET SD	1-20/75
10.6.4	RMS Audible Alarm Reset	Yes <u>✓</u> No _____	Yes	TJW WET SD	1/20/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>✓</u> No _____	Yes	TJW WET SD	1-20/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>✓</u> No _____ N/A _____	Yes N/A	TJW WET SD	1/20/75
10.6.6	High Alarm Light ON	Yes <u>✓</u> No _____	Yes	TJW WET SD	1-20/75
	RMS Audible Alarm Sounding	Yes <u>✓</u> No _____	Yes N/A	TJW WET SD	1-20/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	TJW WET SD	1-20/75
	Remote Audible Alarm Sounding if applicable	Yes <u>✓</u> No <u>✓</u> N/A _____	Yes N/A	TJW WET SD	1-20/75
10.6.8	All Alarms Clear	Yes <u>✓</u> No _____	Yes	TJW WET SD	1-20/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB / Met-El	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB / Met-El	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB / Met-El	1/29/78
	Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB / Met-El	1/29/78
10.9.4	Measured Radiation Closed	Meter: $\frac{3.0}{x10^2}$ mr/h Recorder: 5.5	N/A	JAB / Met-El	1/29/78
10.9.5	Intermediate	Meter: $\frac{3.8}{x10^{-1}}$ mr/h Recorder: 90	N/A	JAB / Met-El	1/29/78
10.9.6	Open	Meter: $\frac{1.7}{x10^3}$ mr/h Recorder: 2.0	N/A	JAB / Met-El	1/29/78
10.9.9	Net Radiation Closed	Meter: $\frac{5.0}{x10^1}$ mr/h E-17 Recorder: 5.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / Met-El	1/29/78
	Intermediate	Meter: $\frac{7.8}{x10^{-2}}$ mr/h E-17 Recorder: 4.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / Met-El	1/30/78
	Open	Meter: $\frac{1.9}{x10^3}$ mr/h E-17 Recorder: 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / Met-El	1/29/78
10.10.3	Check Source Reading	$\frac{9.0}{x10^1}$ mr/h	Greater than reading obtained in step-10.8.2	JAB / Met-El	1/29/78

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(9.9.10) (Unit 1 FCX)		Data	Acceptance Criteria	Initials Org.	Date
3.2	Background Radiation Reading (Meter)	.2 mr/hr	N/A	JAB Met-Ed	1/29/78
8.3	Background Radiation Reading (Recorder)	.2 m <sup>c</sup> /hr	N/A	JAB Met-Ed	1/29/78
9.3	Radiation Input produced by FCX closed	E-16	N/A		
	Intermediate Open	E-16	N/A N/A		
10.9.4	Measured Radiation Closed	Meter <u>6.0</u> Recorder <u>6.0</u>	N/A	JAB Met-Ed	1/29/78
10.9.5	Intermediate	Meter <u>9.0</u> Recorder <u>4.8</u>	N/A	JAB Met-Ed	1/29/78
10.9.6	Open	Meter <u>2.0</u> Recorder <u>2.1</u>	N/A	JAB Met-Ed	1/29/78
10.9.9	Net Radiation Closed	E-16 Meter <u>6.0</u> Recorder <u>6.0</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Intermediate	E-16 Meter <u>4.0</u> Recorder <u>4.3</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Open	E-16 Meter <u>2.0</u> Recorder <u>2.1</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
			TSW	Org.	
1 AC Input Voltage Check	<u>116.2</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	TSW	MET ED	1/29/78
.2 Power Supply Voltages	<u>19.09</u> VDC	22 $\begin{matrix} +5.3 \\ -5.3 \end{matrix}$ VDC	TSW	MET ED	1/29/78
	<u>10.09</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	TSW	MET ED	1/29/78
	<u>597.2</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	TSW	MET ED	1/29/78
.2.3 Test Point Voltage	<u>-6.75</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	TSW	MET ED	1/29/78
10.3.2 Green Fail Indicator Lamp Goes Out.	<u>Yes</u> No	Yes	TSW	MET ED	1/29/78
10.3.3 Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No X LIGHT BUT NO AUDIBLE	Yes	TSW	MET ED	1/29/78
10.3.4 Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> Yes No	Yes	TSW	MET ED	1/29/78
10.3.6 Green Fail Indicator Comes On	<u>Yes</u> Yes No	Yes	TSW	MET ED	1/29/78
10.3.7 Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No X light but no audible	Yes	TSW	MET ED	1/29/78
Alarms Cleared	<u>X</u> Yes No	Yes	TSW	MET ED	1/29/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
			Org.		
0 Alert Alarm Zero	Energize at 1st graduation	Yes YES	TW	MET CD	1/29/78
13 Alert Full Scale	Energize at full scale	Yes YES	TW	MET CD	1/29/78
14 Alert Alarm Reset	Amber Light Out	Yes YES	TW	MET CD	1/29/78
17 Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	TW	MET CD	1/29/78
5.6 High Alarm Zero	Energize at 1st graduation	Yes YES	TW	MET CD	1/29/78
5.9 High Alarm Full Scale	Energize at full scale	Yes YES	TW	MET CD	1/29/78
0.5.10 High Alarm Reset	Red Light Out	Yes YES	TW	MET CD	1/29/78
10.5.12 Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	TW	MET CD	1/29/78
10.6.3 Alert Alarm Light ON		Yes <u>YES</u> No _____	Yes	TW MET CD	1/29/78
RMS Audible Alarm Sounding		Yes _____ No <u>X</u> LIGHT BUT NO AUDIBLE	Yes	TW MET CD	1/29/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
3 d.) 'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW	MET ED	1/29/78
Remote Audible Alarm is sounding (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW	MET ED	1/29/78
4 RMS Audible Alarm Reset	Yes <u>YES</u> No _____	Yes	TJW	MET ED	1/29/78
'RMS System Trouble' Annunciator Stops Flashing	Yes <u>YES</u> No _____	Yes	TJW	MET ED	1/29/78
5 Remote Audible Alarm Silenced (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW	MET ED	1/29/78
5.6 High Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJW	MET ED	1/29/78
RMS Audible Alarm Sounding	Yes _____ No <u>X</u>	Yes	TJW	MET ED	1/29/78
'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW	MET ED	1/29/78
Remote Audible Alarm Sounding if applicable	Yes <u>YES</u> No <u>NO</u> N/A _____	Yes N/A	TJW	MET ED	1/29/78
5.6.8 All Alarms Clear	Yes <u>✓</u> No _____	Yes	TJW	MET ED	2/1/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB	Mut-EL	1/30/78
Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB	Mut-EL	1/30/78
Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB	Mut-EL	1/30/78
Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB	Mut-EL	1/30/78
9.4 Measured Radiation Closed	Meter <u>5.0</u>	N/A	JAB	Mut-EL	1/30/78
	Recorder <u>5.5</u>				
0.9.5 Intermediate	Meter <u>3.8 2</u>	N/A	JAB	Mut-EL	1/30/78
	Recorder <u>4.0</u>				
10.9.6 Open	Meter <u>1.8 3</u>	N/A	JAB	Mut-EL	1/30/78
	Recorder <u>2.0</u>				
10.9.9 Net Radiation Closed	Meter <u>5.0 1</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Mut-EL	1/30/78
	Recorder <u>5.5</u>				
Intermediate	Meter <u>3.8 2</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Mut-EL	1/30/78
	Recorder <u>4.0</u>				
Open	Meter <u>1.8 3</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Mut-EL	1/30/78
	Recorder <u>2.0</u>				
10.10.3 Check Source Reading	<u>5</u> x10 <sup>0</sup> mR/h	Greater than reading obtained in step 10.8.2	JAB	Mut-EL	1/30/78

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9.9.10) (Unit 1 FCK)		Data	Acceptance Criteria	Initials Org.	Date
2	Background Radiation Reading (Meter)	2 mR/hr	N/A	J.B. Mit-Ed	1/30/78
3	Background Radiation Reading (Recorder)	2 mR/hr	N/A	J.B. Mit-Ed	1/30/78
9.3	Radiation Input produced by FCK closed		N/A		
	Intermediate Open		N/A N/A		
9.4	Measured Radiation Closed	Meter: $\frac{6.0}{10} \times 10^{-3}$ mr/h Recorder: 6.8	N/A	J.B. Mit-Ed	1/30/78
10.9.5	Intermediate	Meter: $\frac{4.0}{4.8} \times 10^{-3}$ mr/h Recorder:	N/A	J.B. Mit-Ed	1/30/78
10.9.6	Open	Meter: $\frac{2.0}{2.2} \times 10^{-3}$ mr/h Recorder:	N/A	J.B. Mit-Ed	1/30/78
10.9.9	Net Radiation Closed	Meter: $\frac{6.0}{6.3} \times 10^{-3}$ mr/h Recorder:	+ 20% of 10.9.3 + 4% of 10.9.3	J.B. Mit-Ed	1/30/78
	Intermediate	Meter: $\frac{4.0}{4.2} \times 10^{-3}$ mr/h Recorder:	+ 20% of 10.9.3 + 4% of 10.9.3	J.B. Mit-Ed	1/30/78
	Open	Meter: $\frac{2.0}{2.2} \times 10^{-3}$ mr/h Recorder:	+ 20% of 10.9.3 + 4% of 10.9.3	J.B. Mit-Ed	1/30/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
			TJW	Org.	
1 AC Input Voltage Check	<u>116.1</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	TJW	MET ED	1/29/78
2 Power Supply Voltages <i>E-5</i> <i>E-4</i>	<u>20.17</u> VDC	22 $\begin{matrix} +3 \\ -3 \end{matrix}$ VDC	TJW	MET ED	1/29/78
	<u>10.11</u> VDC	10 $\begin{matrix} +0.2 \\ -0.1 \\ -0.2 \end{matrix}$ VDC	TJW	MET ED	1/29/78
	<u>594.2</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	TJW	MET ED	1/29/78
2.3 Test Point Voltage	<u>6.66</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	TJW	MET ED	1/29/78
10.3.2 Green Fail Indicator Lamp Goes Out.	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	MET ED	1/29/78
10.3.3 Main RMS Annunciator Flashing and Audible Alarm Sounding <i>D-4</i>	<u>Yes</u> Yes <u>No</u> No	Yes FLASHING OUT NO HORN	TJW	MET ED	1/29/78
10.3.4 Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	MET ED	1/29/78
10.3.6 Green Fail Indicator Comes On	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	MET ED	1/29/78
10.3.7 Main Annunciator Flashing and Audible Alarm Sounding <i>D-4</i>	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	MET ED	1/29/78
Alarms Cleared	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	MET ED	1/29/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
0 Alert Alarm Zero	Energize at 1st graduation	Yes YES	<del>TSW</del> MET ED		1/29/78
13 Alert Full Scale	Energize at full scale	Yes YES	TSW MET ED		1/29/78
14 Alert Alarm Reset	Amber Light Out	Yes YES	TSW MET ED		1/29/78
17 Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	TSW MET ED		1/29/78
5.6 High Alarm Zero	Energize at 1st graduation	Yes YES	TSW MET ED		1/29/78
5.9 High Alarm Full Scale	Energize at full scale	Yes YES	TSW MET ED		1/29/78
5.10 High Alarm Reset	Red Light Out	Yes YES	TSW MET ED		1/29/78
10.5.12 Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	TSW MET ED		1/29/78
10.6.3 Alert Alarm Light ON		Yes <u>YES</u> No _____	TSW MET ED		1/29/78
RMS Audible Alarm Sounding		Yes _____ No <u>X</u>	TSW MET ED		1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
3	'RMS System Trouble' Annunciator Flashing	Yes <u>CS</u> No _____	Yes	TJW MET ED	1/29/78
	Remote Audible Alarm is sounding (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/29/78
6.4	RMS Audible Alarm Reset	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/29/78
10.6.6	High Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	RMS Audible Alarm Sounding	Yes <u>✓</u> No <u>NO</u>	Yes	TJW MET ED	1/29/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	Remote Audible Alarm Sounding if applicable	Yes <u>YES</u> No <u>NO</u> N/A _____	Yes N/A	TJW MET ED	1/29/78
10.6.8	All Alarms Clear	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78

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ID	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB	Met-CE	1/30/78
8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB	Met-EL	1/30/78
9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB	Met-EL	1/30/78
	Intermediate Open	382 mR/hr 1720 mR/hr	N/A N/A	JAB	Met-EL	1/30/78
10.9.4	Measured Radiation Closed	Meter: $\frac{5.0}{x10^{-1}}$ mr/h Recorder: 5.5	N/A	JAB	Met-EL	1/30/78
10.9.5	Intermediate	Meter: $\frac{3.8}{x10^{-2}}$ mr/h Recorder: 3.8	N/A	JAB	Met-EL	1/30/78
10.9.6	Open	Meter: $\frac{2.0}{x10^{-3}}$ mr/h Recorder: 2.0	N/A	JAB	Met-EL	1/30/78
10.9.9	Net Radiation Closed	Meter: $\frac{5.0}{x10^{-1}}$ mr/h Recorder: 5.5 E-17 Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-EL	1/30/78
	Intermediate	Meter: $\frac{3.8}{x10^{-2}}$ mr/h Recorder: 3.8 E-17 Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-EL	1/30/78
	Open	Meter: $\frac{2.0}{x10^{-3}}$ mr/h Recorder: 2.0 E-17 Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-EL	1/30/78
10.10.3	Check Source Reading	$\frac{7}{x10^{-6}}$ mr/h	Greater than reading obtained in step 10.8.2	JAB	Met-EL	1/30/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JH Met-EL	1/30/78
8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JH Met-EL	1/30/78
9.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed Meter Recorder	$\frac{6.0}{x10^{-1}}$ 6.5	N/A	JH Met-EL	1/30/78
10.9.5	Intermediate Meter Recorder	$\frac{4.0}{x10^{-2}}$ 4.0	N/A	JH Met-EL	1/30/78
10.9.6	Open Meter Recorder	$\frac{2.1}{x10^{-3}}$ 2.1	N/A	JH Met-EL	1/30/78
10.9.9	Net Radiation Closed Meter Recorder E-16	$\frac{6.0}{x10^{-1}}$ 6.5	+ 20% of 10.9.3 + 4% of 10.9.3	JH Met-EL	1/30/78
	Intermediate Meter Recorder E-16	$\frac{4.0}{x10^{-2}}$ 4.0	+ 20% of 10.9.3 + 4% of 10.9.3	JH Met-EL	1/30/78
	Open Meter Recorder E-16	$\frac{2.1}{x10^{-3}}$ 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JH Met-EL	1/30/78

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ep o.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
1.1	AC Input Voltage Check	<del>118</del> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC			1/24/71
2.2	Power Supply Voltages	<del>22</del> VDC	22 $\begin{matrix} +5 +3 \\ -5 -3 \end{matrix}$ VDC			1/24/71
		<del>10</del> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \\ +0.5 \end{matrix}$ VDC			1/24/71
		<del>600</del> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC			1/24/71
0.2.3	Test Point Voltage	<del>-6.8</del> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC			1/24/71
10.3.2	Green Fail Indicator Lamp Goes Out.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Yes			1/24/71
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input type="checkbox"/> No	Yes			1/24/71
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input type="checkbox"/> Yes <input type="checkbox"/> No	Yes			1/24/71
10.3.6	Green Fail Indicator Comes On	<input type="checkbox"/> Yes <input type="checkbox"/> No	Yes			1/24/71
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input type="checkbox"/> No	Yes			1/24/71
	Alarms Cleared	<input type="checkbox"/> Yes <input type="checkbox"/> No	Yes			1/24/71

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ep o.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10	Alert Alarm Zero	Energize at 1st graduation	Yes			1/20/78
4.13	Alert Full Scale	Energize at full scale	Yes			1/20/78
4.14	Alert Alarm Reset	Amber Light Out	Yes			1/20/78
4.17	Setpoint Value from Table 2 adjusted	Value	+0 -1 Minor Scale Division			1/20/78
0.5.6	High Alarm Zero	Energize at 1st graduation	Yes			1/20/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes			1/20/78
10.5.10	High Alarm Reset	Red Light Out	Yes			1/20/78
10.5.12	Setpoint Value from Table 2 adjusted	Value	+0 -1 Minor Scale Division			1/20/78
10.6.3	Alert Alarm Light ON		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes		3/15/78
	RMS Audible Alarm Sounding		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes		3/15/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	<u>11/7</u>	<u>1/1/75</u>
	Remote Audible Alarm is sounding (if applicable)	Yes _____ No _____ N/A _____	Yes N/A	<u>11/7</u>	<u>1/1/75</u>
10.6.4	RMS Audible Alarm Reset	Yes _____ No _____	Yes	<u>11/7</u>	<u>1/1/75</u>
	'RMS System Trouble' Annunciator Stops Flashing	Yes _____ No _____	Yes	<u>11/7</u>	<u>1/1/75</u>
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A _____	Yes N/A	<u>11/7</u>	<u>1/1/75</u>
10.6.6	High Alarm Light ON	Yes _____ No _____	Yes	<u>11/7</u>	<u>1/1/75</u>
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	<u>11/7</u>	<u>1/1/75</u>
	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	<u>11/7</u>	<u>1/1/75</u>
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A _____	Yes N/A	<u>11/7</u>	<u>1/1/75</u>
10.6.8	All Alarms Clear	Yes _____ No _____	Yes	<u>11/7</u>	<u>1/1/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10.8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB	met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB	met-Ed	1/29/78
10.9.3	Radiation Input produced by FCX closed	52 mR/hr	N/A	JAB	met-Ed	1/29/78
	Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB	met-Ed	1/29/78
10.9.4	Measured Radiation Closed	Meter: $\frac{5.5}{x10^{-1}}$ mr/h Recorder: <u>5.0</u>	N/A	JAB	met-Ed	1/29/78
10.9.5	Intermediate	Meter: $\frac{3.9}{x10^{-2}}$ mr/h Recorder: <u>3.5</u>	N/A	JAB	met-Ed	1/29/78
10.9.6	Open	Meter: $\frac{2.0}{x10^{-3}}$ mr/h Recorder: <u>1.7</u>	N/A	JAB	met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter: $\frac{5.5}{x10^{-1}}$ mr/h E-17 Recorder: <u>5.0</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/29/78
	Intermediate	Meter: $\frac{3.9}{x10^{-2}}$ mr/h E-17 Recorder: <u>3.5</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/30/78
	Open	Meter: $\frac{2.0}{x10^{-3}}$ mr/h E-17 Recorder: <u>1.7</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/29/78
10.10.3	Check Source Reading	$\frac{6}{x10^{-1}}$ mr/h	Greater than reading obtained in step 10.8.2	JAB	met-Ed	1/29/78

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(9.9.10) - (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10.8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB	met-ED	1/30/78
10.8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB	met-ED	1/24/78
10.9.3	Radiation Input produced by FCK closed E-16		N/A			
	Intermediate Open E-16		N/A N/A			
10.9.4	Measured Radiation Closed Meter Recorder	$\frac{1.0}{x10^{-1}}$ mr/h 2.0	N/A	JAB	met-ED	1/30/78
10.9.5	Intermediate Meter Recorder	$\frac{4.5}{x10^{-2}}$ mr/h 4.5	N/A	JAB	met-ED	1/24/78
10.9.6	Open Meter Recorder	$\frac{2.5}{x10^{-3}}$ mr/h 2.1	N/A	JAB	met-ED	1/24/78
10.9.9	Net Radiation Closed Meter Recorder E-16	$\frac{2.0}{x10^{-1}}$ mr/h 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-ED	1/30/78
	Intermediate Meter Recorder E-16	$\frac{4.5}{x10^{-2}}$ mr/h 4.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-ED	1/30/78
	Open Meter Recorder E-16	$\frac{2.5}{x10^{-3}}$ mr/h 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-ED	1/30/78

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Readout Module No. 856-2  
 Readout Serial No. 363  
 Channel No. (HP-R- 3234)

DATA SHEET NO. 2  
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ep o.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
2.1	AC Input Voltage Check	<u>118</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	<u>///</u>	<u>///</u>	<u>2/2/75</u>
2.2	Power Supply Voltages	<u>11.4</u> VDC	22 $\begin{matrix} +5-3 \\ -5-3 \end{matrix}$ VDC	<u>///</u>	<u>///</u>	<u>2/2/75</u>
		<u>12.7</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	<u>///</u>	<u>///</u>	<u>2/2/75</u>
		<u>11.4</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	<u>///</u>	<u>///</u>	<u>2/2/75</u>
0.2.3	Test Point Voltage	<u>11.4</u> -VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	<u>///</u>	<u>///</u>	<u>2/2/75</u>
0.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	<u>///</u>	<u>///</u>	<u>2/2/75</u>
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>///</u>	<u>///</u>	<u>2/2/75</u>
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	<u>///</u>	<u>///</u>	<u>2/2/75</u>
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	<u>///</u>	<u>///</u>	<u>2/2/75</u>
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>///</u>	<u>///</u>	<u>2/2/75</u>
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	<u>///</u>	<u>///</u>	<u>2/2/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.10	Alert Alarm Zero	Energize at 1st graduation	Yes	<i>JSI</i>	<i>III-E</i>	2/1/75
4.13	Alert Full Scale	Energize at full scale	Yes	<i>JSI</i>	<i>III-E</i>	2/1/75
4.14	Alert Alarm Reset	Amber Light Out	Yes	<i>JSI</i>	<i>III-E</i>	2/1/75
4.17	Setpoint Value from Table 2 adjusted	Value	+0 -1 Minor Scale Division	<i>JSI</i>	<i>III-E</i>	2/1/75
0.5.6	High Alarm Zero	Energize at 1st graduation	Yes	<i>JSI</i>	<i>III-E</i>	2/1/75
0.5.9	High Alarm Full Scale	Energize at full scale	Yes	<i>JSI</i>	<i>III-E</i>	2/1/75
10.5.10	High Alarm Reset	Red Light Out	Yes	<i>JSI</i>	<i>III-E</i>	2/1/75
10.5.12	Setpoint Value from Table 2 adjusted	Value	+0 -1 Minor Scale Division	<i>JSI</i>	<i>III-E</i>	2/1/75
10.6.3	Alert Alarm Light ON	Yes _____ No _____	Yes	<i>JSI</i>	<i>III-E</i>	2/1/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No _____	Yes	<i>JSI</i>	<i>III-E</i>	2/1/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
6.3 nt'd.	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/1/75
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JH MIE		1/1/75
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/1/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/1/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JH MIE		1/1/75
10.6.6	High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/1/75
	RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/1/75
	'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/1/75
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH MIE		1/1/75
10.6.8	All Alarms Clear	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/1/75

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No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
2	Background Radiation Reading (Meter)	0.2 mr/hr	N/A		Noted	2/3/75
3	Background Radiation Reading (Recorder)	0.2 mr/hr	N/A		Noted	2/3/75
3	Radiation Input produced by FCC closed	0.2 mr/hr	N/A		Noted	2/3/75
	Intermediate Open	0.2 mr/hr 1920 0.2 mr/hr	N/A N/A		Noted	2/3/75
9.4	Measured Radiation Closed	Meter Recorder $\times 10^{-2}$ mr/hr	N/A		Noted	2/3/75
9.5	Intermediate	Meter Recorder $\times 10^{-2}$ mr/hr	N/A		Noted	2/3/75
9.6	Open	Meter Recorder $\times 10^{-2}$ mr/hr	N/A		Noted	2/3/75
9.9	Net Radiation Closed	Meter Recorder $\times 10^{-2}$ mr/hr	+ 20% of 10.9.3 + 4% of 10.9.3		Noted	2/3/75
	Intermediate	Meter Recorder $\times 10^{-2}$ mr/hr	+ 20% of 10.9.3 + 4% of 10.9.3		Noted	2/3/75
	Open	Meter Recorder $\times 10^{-2}$ mr/hr	+ 20% of 10.9.3 + 4% of 10.9.3		Noted	2/3/75
10.10.3	Greek Source Reading	$\times 10^{-2}$ mr/hr	Greater than reading obtained in top 10.3.3		Noted	2/3/75

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Description of Data Required	Data	Acceptance Criteria	Initial Ver.	Date
2 Background Radiation Reading (Meter)	0.2mr/hr	N/A	Mut Ed	2/3/75
3 Background Radiation Reading (Recorder)	0.2mr/hr	N/A	Mut Ed	2/3/75
3 Radiation Input produced by FCK closed	E-16	N/A		
Intermediate Open	E-16	N/A		
9.4 Measured Radiation Closed	Meter Recorder $\times 10^{-2}$ mr/hr	N/A	Mut Ed	2/3/75
9.5 Intermediate	Meter Recorder $\times 10^{-2}$ mr/hr	N/A	Mut Ed	2/3/75
9.6 Open	Meter Recorder $\times 10^{-2}$ mr/hr	N/A	Mut Ed	2/3/75
9.9 Net Radiation Closed	Meter Recorder $\times 10^{-2}$ mr/hr	+ 20% of 10.9.3 + 4% of 10.9.3	Mut Ed	2/3/75
Intermediate	Meter Recorder $\times 10^{-2}$ mr/hr	+ 20% of 10.9.3 + 4% of 10.9.3	Mut Ed	2/3/75
Open	Meter Recorder $\times 10^{-2}$ mr/hr	+ 20% of 10.9.3 + 4% of 10.9.3	Mut Ed	2/3/75
10.10.3 Check Source Reading	$\times 10$ mr/hr	Greater than reading obtained in step 10.8.2	N/A	1.1

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>117</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	<u>JH</u> <u>III</u>	
10.2.2	Power Supply Voltages	<u>22</u> VDC	22 $\begin{matrix} +5 \\ -5 \end{matrix}$ VDC	<u>JH</u> <u>III</u>	
		<u>10</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \end{matrix}$ VDC	<u>JH</u> <u>III</u>	
		<u>600</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	<u>JH</u> <u>III</u>	
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	<u>JH</u> <u>III</u>	
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>    </u> Yes <u>    </u> No	Yes	<u>JH</u> <u>III</u>	
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>    </u> Yes <u>    </u> No	Yes	<u>JH</u> <u>III</u>	
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>    </u> Yes <u>    </u> No	Yes	<u>JH</u> <u>III</u>	
10.3.6	Green Fail Indicator Comes On	<u>    </u> Yes <u>    </u> No	Yes	<u>JH</u> <u>III</u>	
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>    </u> Yes <u>    </u> No	Yes	<u>JH</u> <u>III</u>	
	Alarms Cleared	<u>    </u> Yes <u>    </u> No	Yes	<u>JH</u> <u>III</u>	

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JJ	III	2/17/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	JJ	III	2/17/75
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JJ	III	2/17/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>    </u>	+0 -1 Minor Scale Division	JJ	III	2/17/75
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JJ	III	2/17/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JJ	III	2/17/75
10.5.10	High Alarm Reset	Red Light Out	Yes	JJ	III	2/17/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>    </u>	+0 -1 Minor Scale Division	JJ	III	2/17/75
10.6.3	Alert Alarm Light ON	Yes <u>    </u> No <u>    </u>	Yes	JJ	III	2/17/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <u>    </u>	Yes	JJ	III	2/17/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u>	<u>  </u>	<u>  /  /  </u>
	Remote Audible Alarm is sounding (if applicable)	Yes <u>  </u> No <u>  </u> N/A <u>  </u>	Yes N/A	<u>  </u>	<u>  </u>	<u>  /  /  </u>
10.6.4	RMS Audible Alarm Reset	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u>	<u>  </u>	<u>  /  /  </u>
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u>	<u>  </u>	<u>  /  /  </u>
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>  </u> No <u>  </u> N/A <u>  </u>	Yes N/A	<u>  </u>	<u>  </u>	<u>  /  /  </u>
10.6.6	High Alarm Light ON	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u>	<u>  </u>	<u>  /  /  </u>
	RMS Audible Alarm Sounding	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u>	<u>  </u>	<u>  /  /  </u>
	'RMS System Trouble' Annunciator Flashing	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u>	<u>  </u>	<u>  /  /  </u>
	Remote Audible Alarm Sounding if applicable	Yes <u>  </u> No <u>  </u> N/A <u>  </u>	Yes N/A	<u>  </u>	<u>  </u>	<u>  /  /  </u>
10.6.8	All Alarms Clear	Yes <u>  </u> No <u>  </u>	Yes	<u>  </u>	<u>  </u>	<u>  /  /  </u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Oru	Date	
8.2	Background Radiation Reading (Meter)	0.1 mR/hr	N/A	[Signature]	2/3/78	
8.3	Background Radiation Reading (Recorder)	0.1 mR/hr	N/A	[Signature]	2/3/78	
9.3	Radiation Input produced by FCX closed	5.2 mR/hr	N/A	[Signature]	2/3/78	
	Intermediate Open	330 mR/M 1927 mR/hr	N/A N/A	[Signature]	2/3/78	
9.4	Measured Radiation Closed	Meter Recorder	$\times 10^{-2}$ mR/hr 5.5	N/A	[Signature]	2/3/78
9.5	Intermediate	Meter Recorder	$\times 10^{-2}$ mR/hr 4.0	N/A	[Signature]	2/3/78
9.6	Open	Meter Recorder	$\times 10^{-2}$ mR/hr 1.0	N/A	[Signature]	2/3/78
9.9	Net Radiation Closed	Meter Recorder	$\times 10^{-2}$ mR/hr 5.5	+ 20% of 10.9.3 - 4% of 10.9.3	[Signature]	2/3/78
	Intermediate	Meter Recorder	$\times 10^{-2}$ mR/hr 5.0	+ 20% of 10.9.3 - 4% of 10.9.3	[Signature]	2/3/78
	Open	Meter Recorder	$\times 10^{-2}$ mR/hr 5.0	+ 20% of 10.9.3 - 4% of 10.9.3	[Signature]	2/3/78
10.10.3	Check Source Reading	$\times 10^{-2}$ mR/hr	greater than ending	[Signature]	2/3/78	

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*UNIT I CK*

Step No.	Description of Data Required	Data	Accept. Criteria	Initials - Org	Date
10.8.2	Background Radiation Reading (Meter)	<i>0.100 r/hr</i>	N/A	<i>JSS</i> <i>Met Est</i>	<i>2/3/75</i>
10.8.3	Background Radiation Reading (Recorder)	<i>0.100 r/hr</i>	N/A	<i>JSS</i> <i>Met Est</i>	<i>2/3/75</i>
10.9.3	Radiation Input produced by FCK closed	<i>E-16</i>	N/A		
	Intermediate Open	<i>E-16</i>	N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> <i>2.5</i> $\times 10^{-2}$ mr/hr <u>Recorder</u> <i>2.0</i>	N/A	<i>JSS</i> <i>Met Est</i>	<i>2/3/75</i>
10.9.5	Intermediate	<u>Meter</u> <i>2.0</i> $\times 10^{-2}$ mr/hr <u>Recorder</u> <i>2.5</i>	N/A	<i>JSS</i> <i>Met Est</i>	<i>2/3/75</i>
10.9.6	Open	<u>Meter</u> <i>2.0</i> $\times 10^{-2}$ mr/hr <u>Recorder</u> <i>2.1</i>	N/A	<i>JSS</i> <i>Met Est</i>	<i>2/3/75</i>
10.9.9	Net Radiation Closed	<u>Meter</u> <i>2.5</i> $\times 10^{-2}$ mr/hr <u>Recorder</u> <i>2.0</i>	+ 20% of 10.9.3 + 4% of 10.9.3	<i>JSS</i> <i>Met Est</i>	<i>2/3/75</i>
	Intermediate	<u>Meter</u> <i>2.5</i> $\times 10^{-2}$ mr/hr <u>Recorder</u> <i>2.0</i>	+ 20% of 10.9.3 + 4% of 10.9.3	<i>JSS</i> <i>Met Est</i>	<i>2/3/75</i>
	Open	<u>Meter</u> <i>2.0</i> $\times 10^{-2}$ mr/hr <u>Recorder</u> <i>2.1</i>	+ 20% of 10.9.3 + 4% of 10.9.3	<i>JSS</i> <i>Met Est</i>	<i>2/3/75</i>
10.10.3	Check Source Reading	$\bar{x} \pm 10$ mr/hr	Greater than reading obtained in step 10.9.2	<i>N/A</i>	<i>N/A</i>

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No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
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7.3	Recorder Channel for HP-R- <sup>215</sup> 201 prints dot on zero line	Yes <input checked="" type="checkbox"/> No _____	+ one minor - div.	JFB	Met. Ed.	1/30/78
7.5	Recorder channel for HP-R- <sup>215</sup> 201 prints dot on Fs line	Yes <input checked="" type="checkbox"/> No _____	+ one minor - div.	JFB	Met. Ed.	1/30/78
7.6	Proper Print wheel alignment	Yes <input checked="" type="checkbox"/> No _____	Clear dot & channel No.	JFB	Met. Ed.	1/30/78
7.8	Chart speed in the 5"/hr. position E-7	.5"/hr	N/A	TJW	Met. Ed.	1/27/78
7.8.1	1"/hr. position	.9"/hr	N/A	TJW	Met. Ed.	1/29/78
7.8.2	2"/hr. position	1 7/8"/hr	N/A	TJW	Met. Ed.	1/29/78
7.8.3	4"/hr. position	4 1/4"/hr	N/A	JFB	Met. Ed.	1/31/78
7.8.4	8"/hr. position	8"/hr	N/A	TJW	Met. Ed.	1/29/78
7.9	All remaining recorder channels operate properly	Yes <input checked="" type="checkbox"/> No _____	Yes	JFB	Met. Ed.	1/30/78

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11.0 ACCEPTANCE CRITERIA

11.1 Acceptance criteria will be found on the data sheets in Section 10.

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READOUT MODULE, MODEL 856-2 REAR VIEW

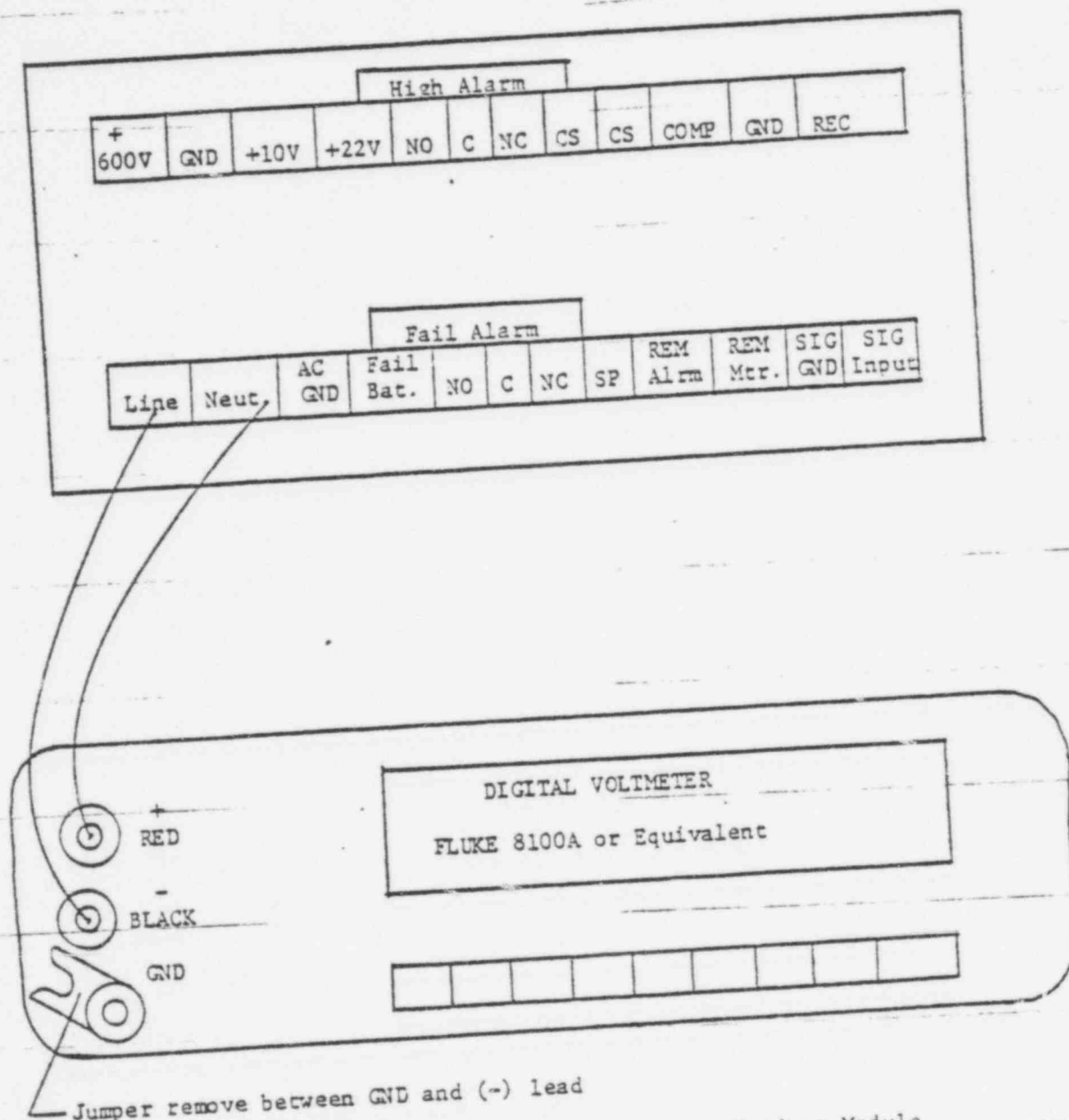


Figure 2 Diagram, A.C. Voltage Measurement on the Readout Module

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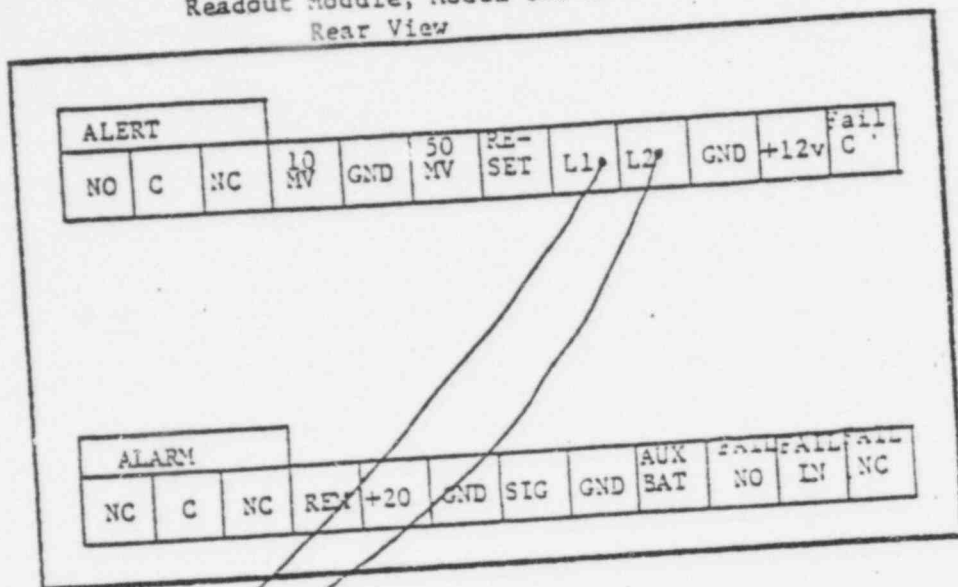
TMI UNIT II  
 TP 360/1C  
 Enclosure 2  
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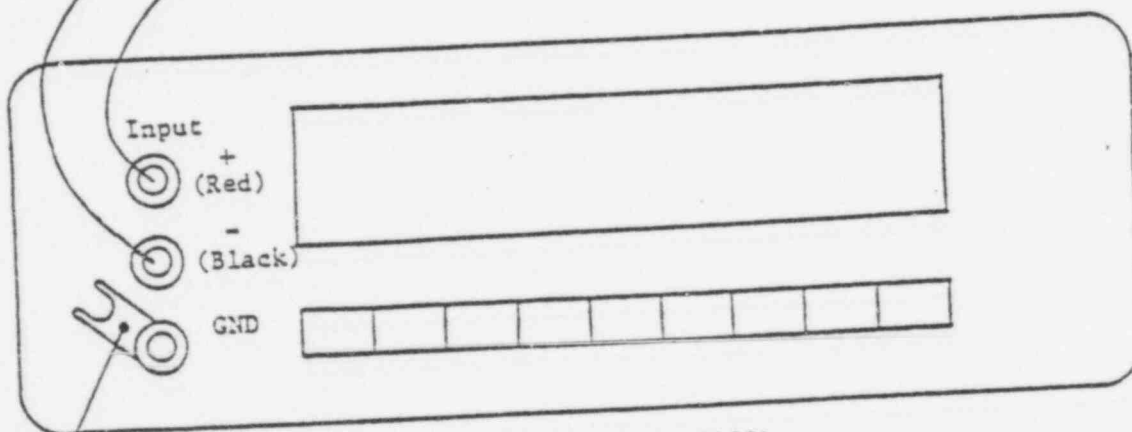
(HP-R-214)

Readout Module, Model 846-1  
Rear View



Black lead

Red lead



Digital Voltmeter - Fluke, Model 8100A

Jumper Remove between GND and (-) lead.

FIGURE NO. 2A: Diagram, A.C. Voltage Measurement on the Readout Module

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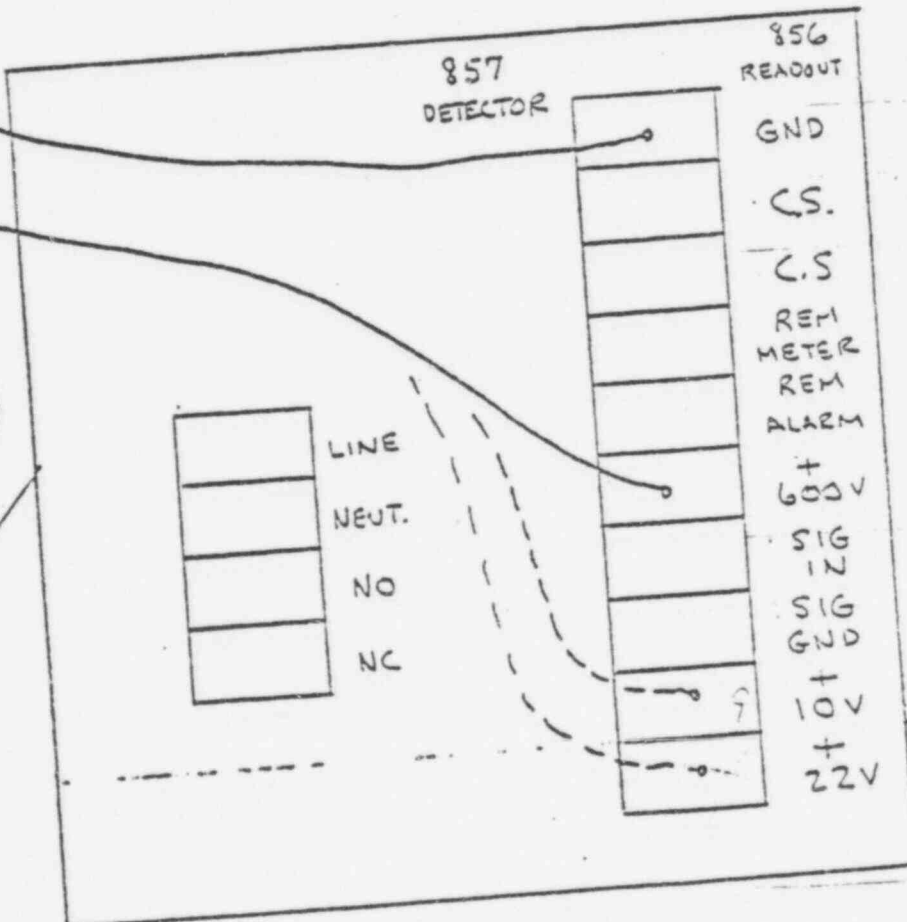
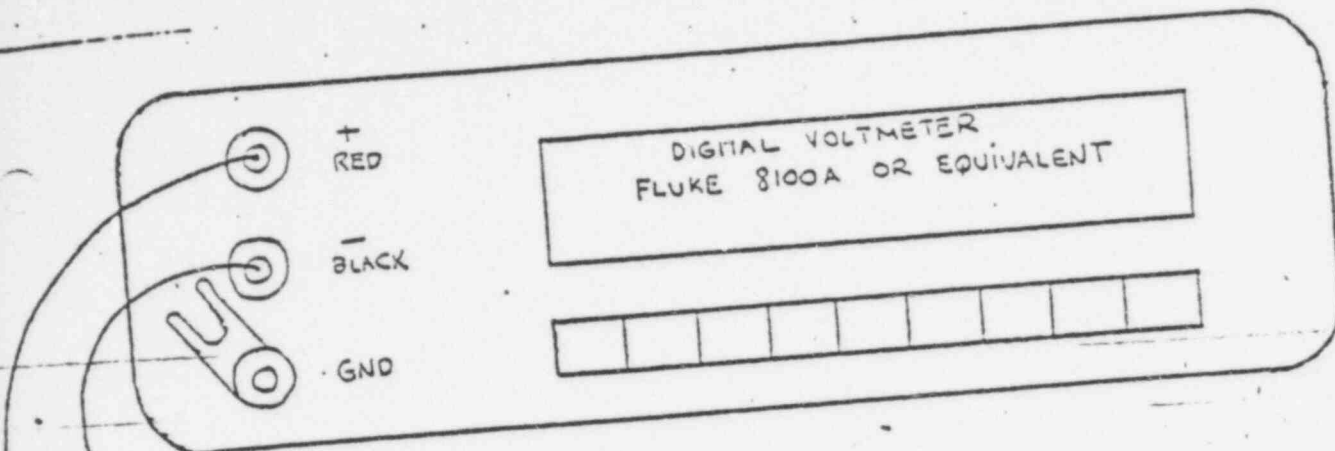


FIGURE NO. 3 POWER SUPPLY VOLTAGE MEASUREMENTS ON THE REMOTE ALARM UNIT

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 TP 360/1C  
 Enclosure 2  
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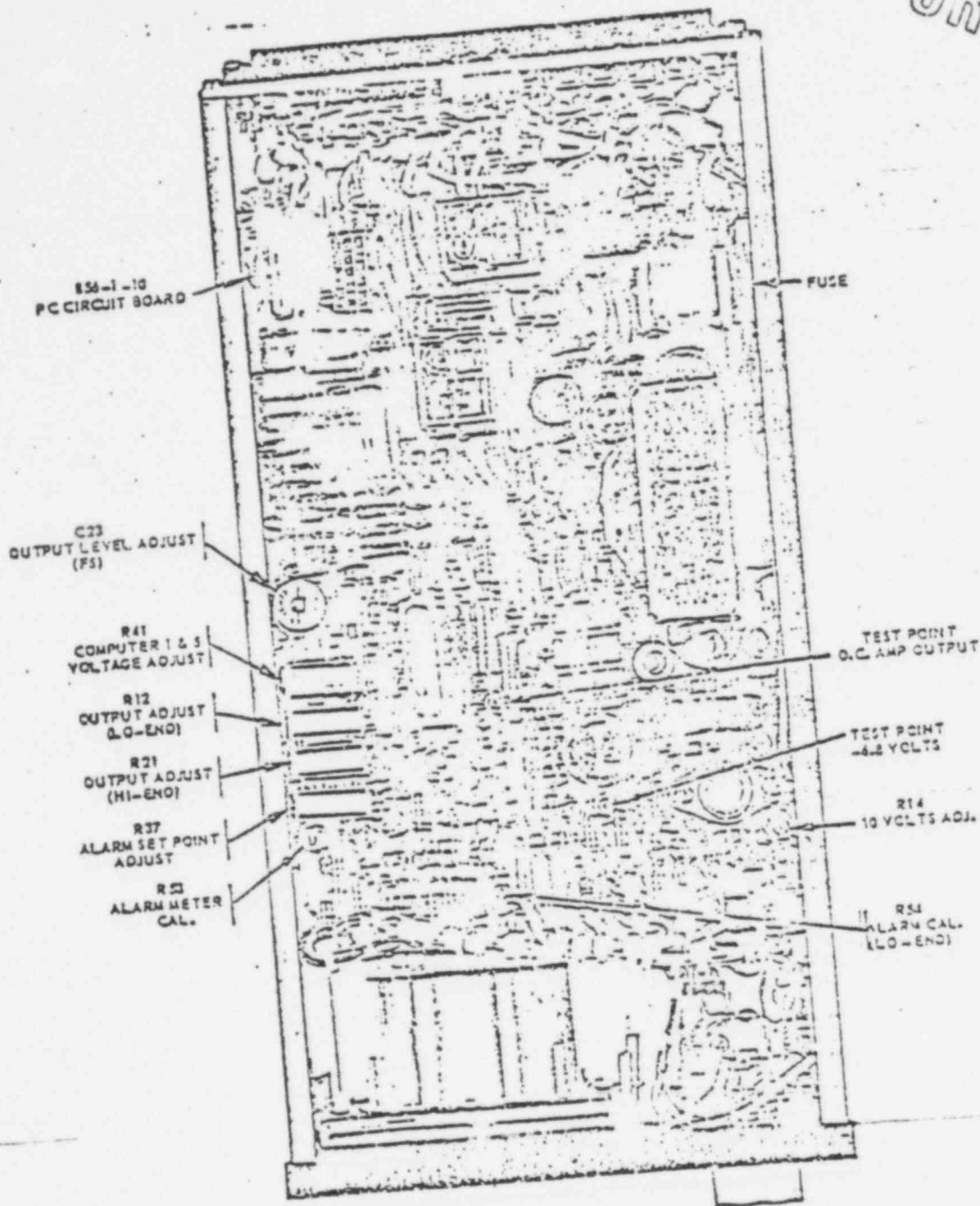


Figure 4. Interior View of Readout Module

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VERY POOR  
ORIGINAL

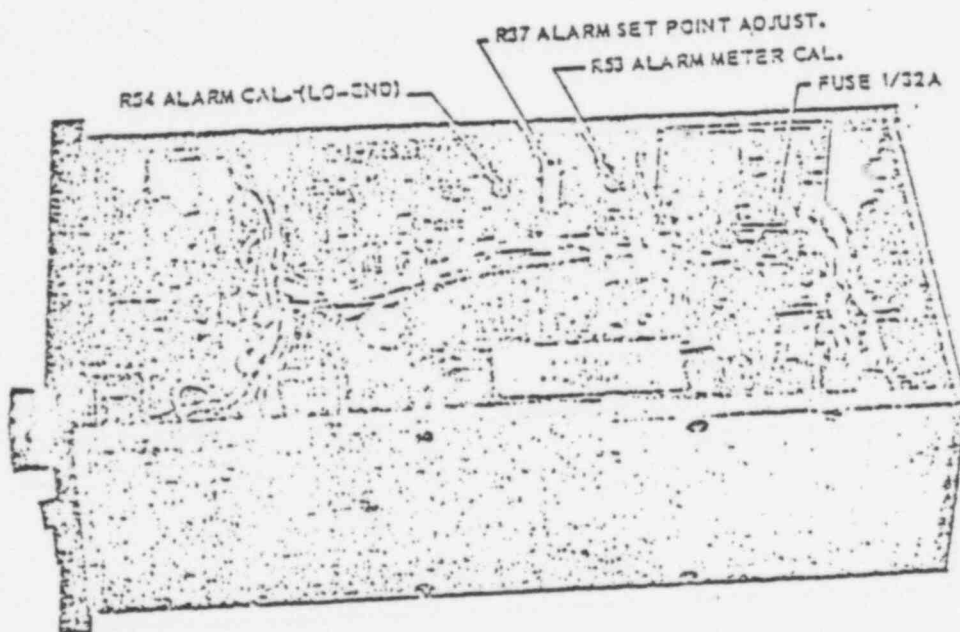
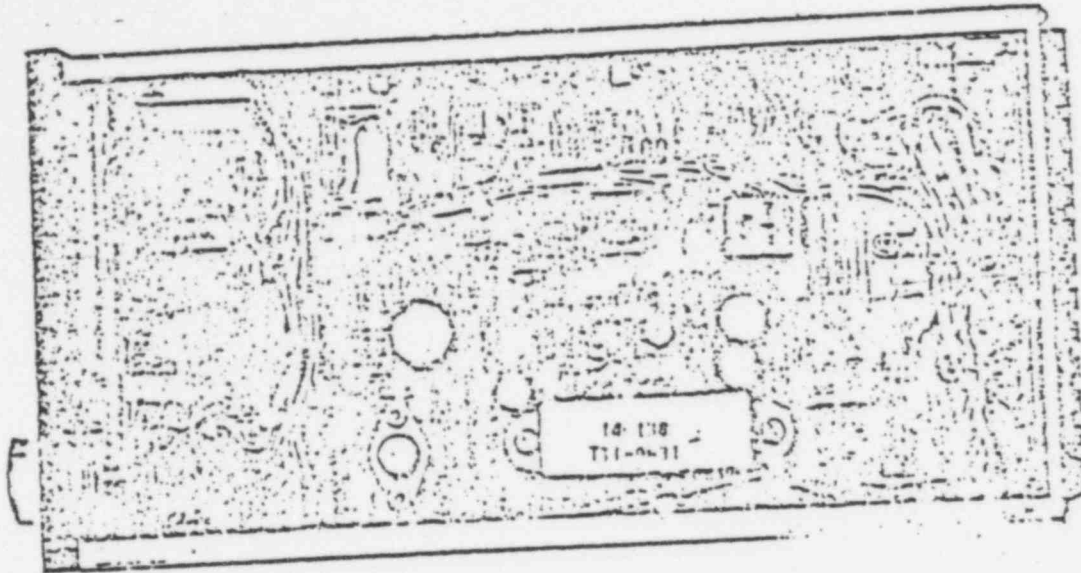


Figure 4A: Interior Views of Readout Module

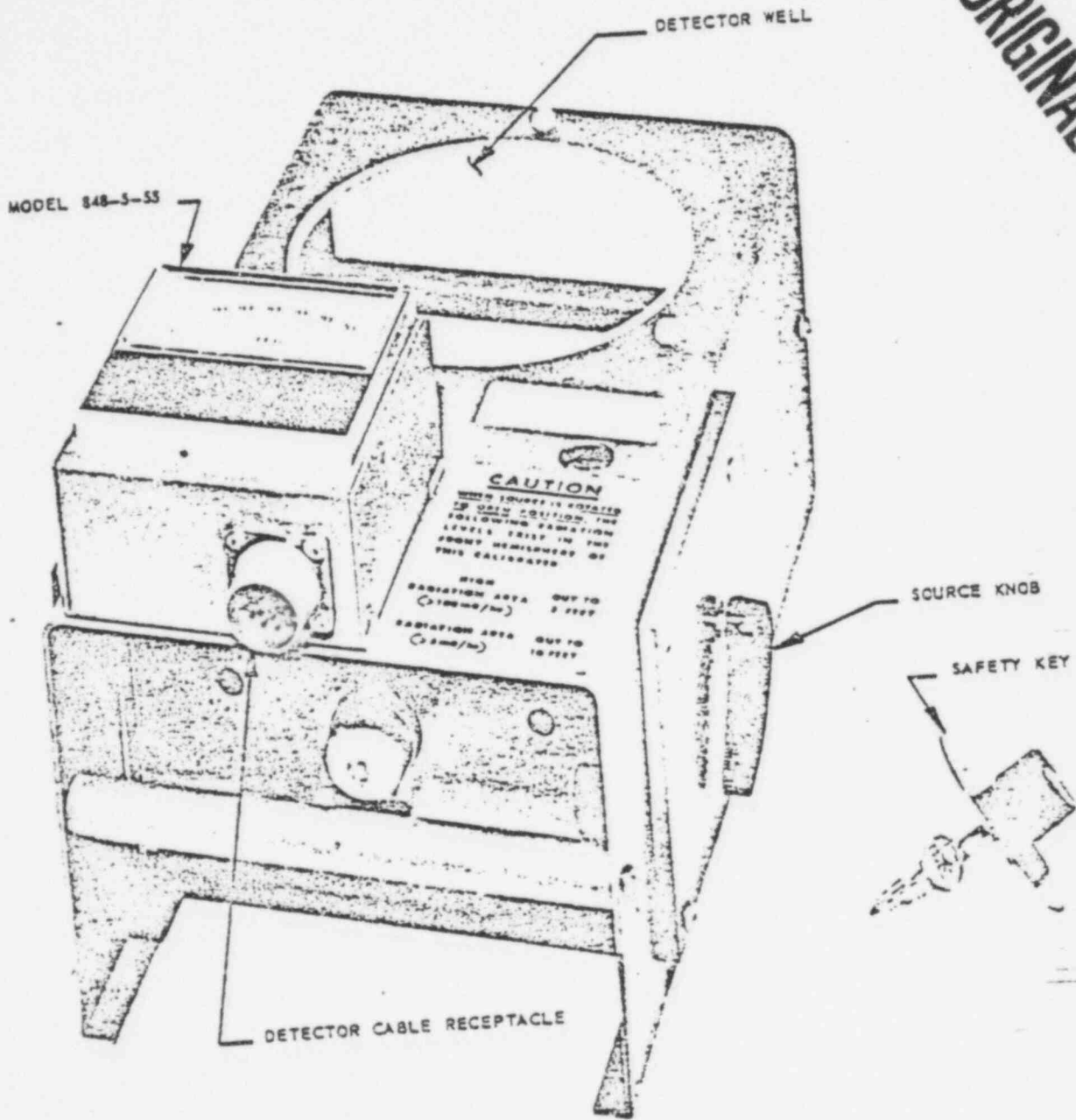
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~~745 176~~

POOR ORIGINAL



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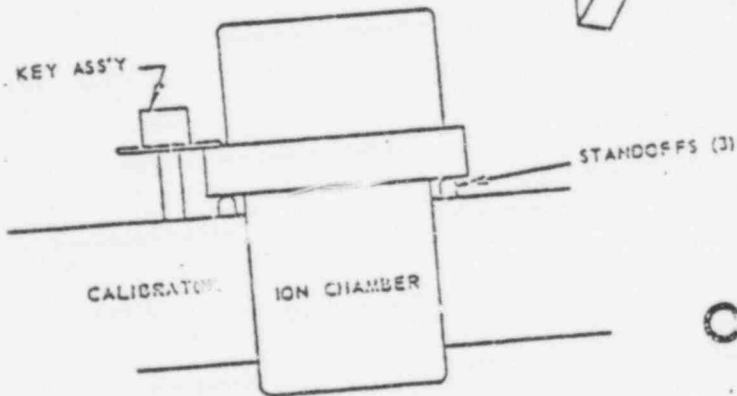
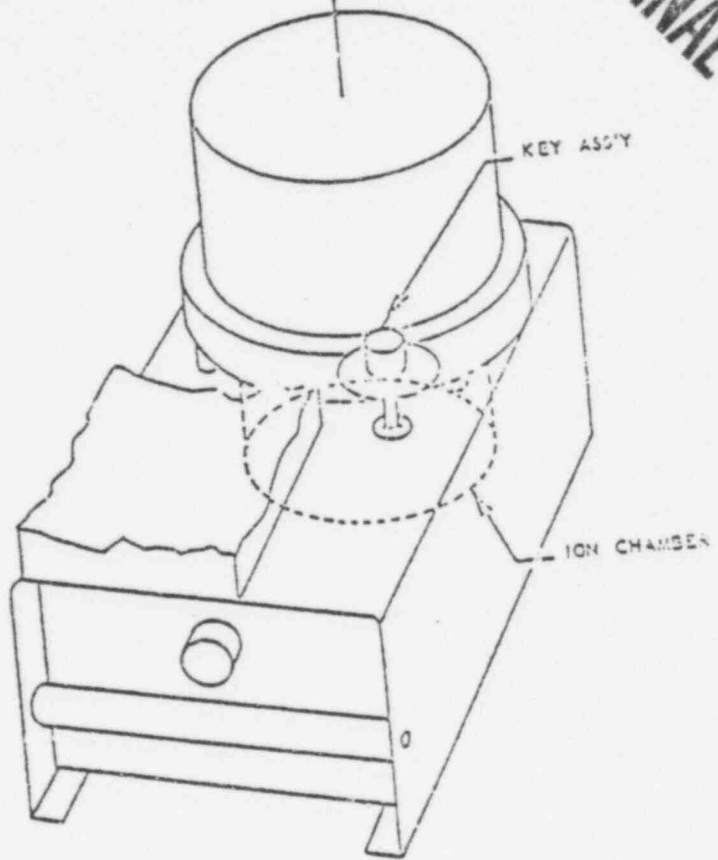
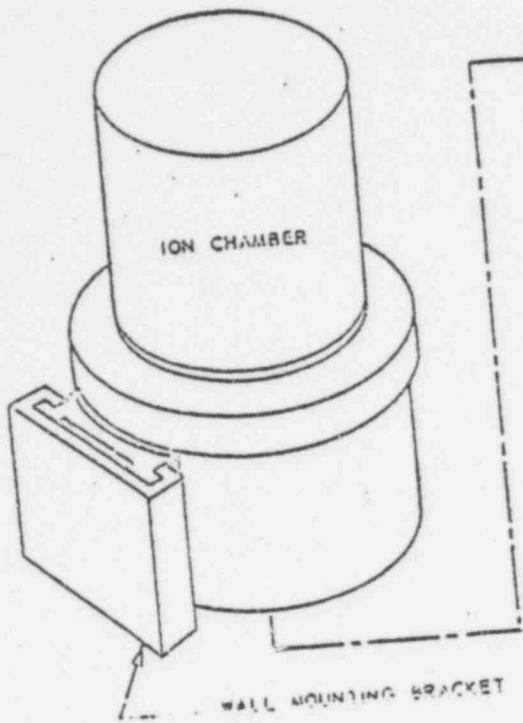
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FIGURE NO. 5: Model 848-8 Field Calibration Kit

745 178

POOR ORIGINAL



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FIGURE NO. 6: Mounting Arrangement of Detector in Calibrator  
TMI UNIT II  
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Page 9 of 10

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POOR ORIGINAL

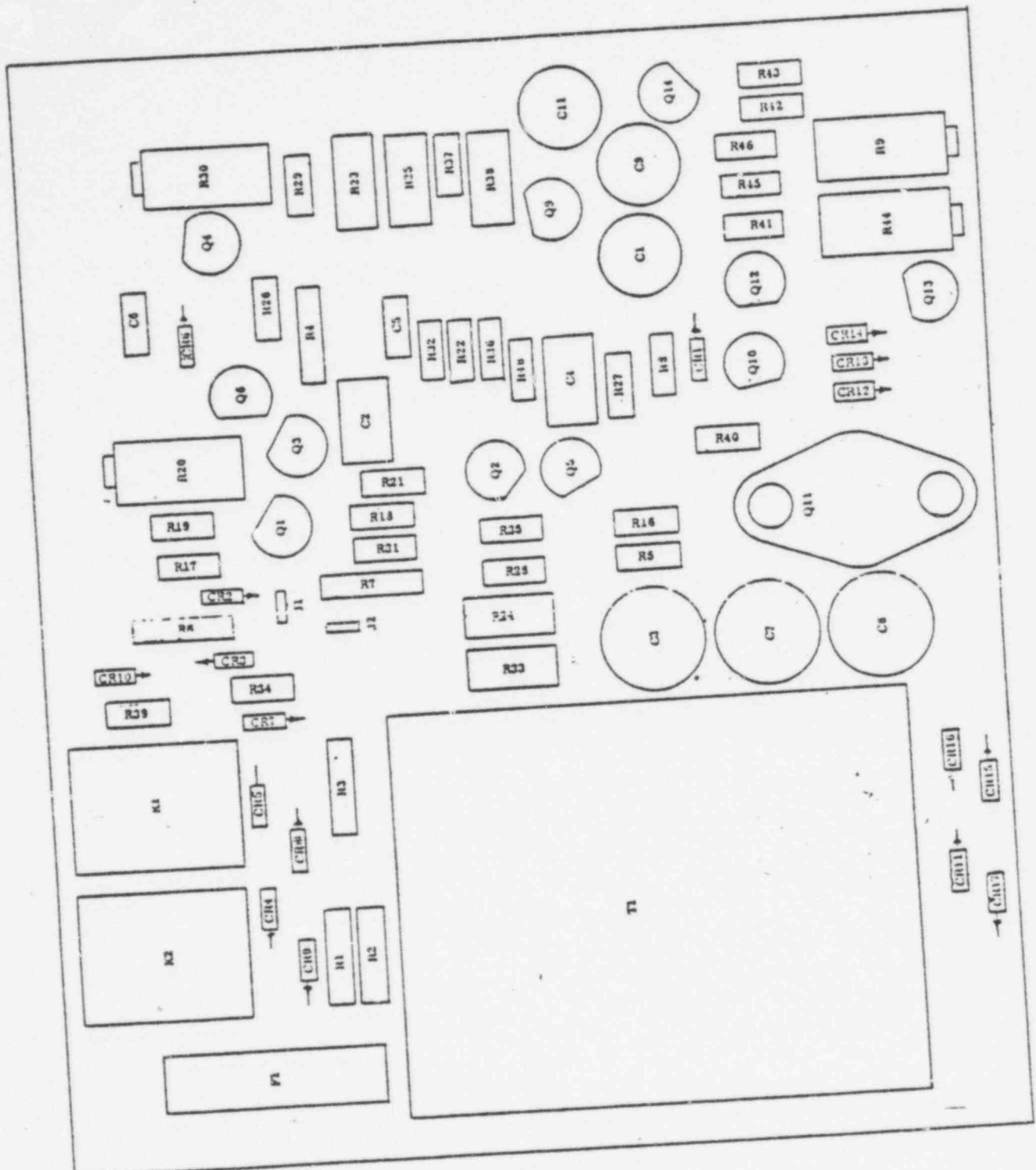


FIGURE NO. 7: Model 846-1 Readout Module Circuit Board Assembly  
TMI UNIT II  
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AREA RADIATION MONITORING CALIBRATION AND FUNCTIONAL TEST

TABLE 1

SLIDING LINK TERMINAL BLOCK CROSS REFERENCE

		(9.3.1)	(9.4.2)
		8	6
HP-R-201	TB 101	8	6
HP-R-202	TB 102	8	6
HP-R-204	TB 103	8	6
HP-R-205	TB 104	8	6
HP-R-206	TB 105	8	6
HP-R-207	TB 106	8	6
HP-R-209	TB 107	8	6
HP-R-210	TB 108	8	6
HP-R-211	TB 109	8	6
HP-R-212	TB 110	8	6
HP-R-213	TB 111	5	7
HP-R-214	TB 112	8	6
HP-R-215	TB 113	8	6
HP-R-218	TB 114	8	6
HP-R-231	TB 115	8	6
HP-R-232	TB 116	8	6
HP-R-233	TB 117	8	6
HP-R-234	TB 118	8	6
HP-R-3236	TB 119	8	6
HP-R-3238	TB 120	8	6
HP-R-3240	TB 121	8	6

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TMI UNIT II  
 TP 360/1C  
 Enclosure 3  
 Page 1 of 1

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RMS RECORDER CHANNEL ASSIGNMENTS

RMS CHANNEL	RECORDER CHANNEL	RECORDER
HP-R-201	1	Recorder HP-UR-1901
HP-R-202	2	
HP-R-204	3	
HP-R-205	4	
HP-R-206	5	
HP-R-207	6	
HP-R-209	7	
HP-R-210	8	
HP-R-211	9	
HP-R-212	10	
HP-R-213	11	
HP-R-214	12	
HP-R-215	1	Recorder HP-UR-1902
HP-R-218	2	
HP-R-231	3	
HP-R-232	4	
HP-R-233	5	
HP-R-234	6	
HP-R-236	7	
HP-R-3236	8	
HP-R-3238	9	
HP-R-3240	10	

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 TP 360/LC  
 Enclosure 5  
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**POOR ORIGINAL**

183  
745

Time, Date/Initials of Supervisor or Foreman Removing Tag

Shift Supervisor OR Shift Foreman Who Authorized

Reason Sticker Applied

Readout Device to which Sticker applied

OOS Sticker Tag Time & Date

WR#

OUT OF SERVICE  
Device FT-8B  
Date 3/13/78 Time 0730  
No. 258 Init. RA

OUT OF SERVICE  
Device Re-277-1  
Date 3/12/78  
No. 739 Init. Taz

OUT OF SERVICE  
Device RmL7  
Date 3/22/78 Time 0302  
No. 241 Init. MAB

OUT OF SERVICE  
Device TR-655  
Date 4/8/78 Time 1015  
No. 143 Init. RP

OUT OF SERVICE  
Device Hotwell  
Date 4-15-78 Time 1500  
No. 244 Init. RP

OUT OF SERVICE  
Device A-1-6  
Date 4/16/78 Time 0802  
No. 745 Init. JDB

OOS Sticker Tag Number

738

739

740

741

742

743

744

745

18-0 W.S.W.	A. S. Liberty	Leak @ FT-8B Test Line disconnected	FT-8B	3-13-78 0730	FT-8B	Leak @ FT-8B Test Line disconnected	A. S. Liberty	4-2-78 1330 M. K. M.
1398 3-17- L.N.	Boh	Calc.	Re-277-1	3/12/78 1300	Re-277-1	Calc.	Boh	4-2-78 1330 M. K. M.
	M. K. M.	Point #1 TE 853A Packed with W.R. 5000	overhead alarm PNL D-1-8	3-22-78 0302	RmL7 SL-P4 Inop	Point #1 TE 853A Packed with W.R. 5000	M. K. M.	4-2-78 1330 M. K. M.
	L. Nom	SL-P4 don't Pup		3-22-78 0610	RmL7 SL-P4 Inop	SL-P4 don't Pup	L. Nom	4-2-78 1330 M. K. M.
	L. Nom	wire up not hooked up	RM-A12	4-8-78 0300	RM-A12	wire up not hooked up	L. Nom	4-2-78 1245 L. Nom
	M. S. Liberty	RTD's are disconnected for I.L.R.T.	TR-655	4-11-78 1015	TR-655	RTD's are disconnected for I.L.R.T.	M. S. Liberty	4-2-78 1245 L. Nom
	M. S. Liberty	Toxic level indication	Hotwell level	4-15-78 1500	Hotwell level	Toxic level indication	M. S. Liberty	4-2-78 1245 L. Nom
	M. S. Liberty	Toxic	A-1-6	4/16/78 0802	A-1-6	Toxic	M. S. Liberty	4-2-78 1245 L. Nom

POOR ORIGINAL

184

Time, Date/Initials of Supervisor or Foreman Removing Tag

Shift Supervisor or Shift Foreman Who Authorized

Reason Sticker Applied

Readout Device to which Sticker applied

OOS Sticker Tag Time & Date

WR#

OOS Sticker Tag Number

OOS Sticker Tag Number	WR#	OOS Sticker Tag Time & Date	Readout Device to which Sticker applied	Reason Sticker Applied	Shift Supervisor or Shift Foreman Who Authorized	Time, Date/Initials of Supervisor or Foreman Removing Tag
738	OUT OF SERVICE Device FF-8B Date 3/13/78 Time 0730 No. 738 Init. MZ	3-13-78 0730	FF-8B	Leak @ FT-8B Inst. Lines disconnected	A. S. Beckwith	4-21-78 1800 L.N.M.
739	OUT OF SERVICE Device RE-277-1 Date 3/12/78 No. 739 Init. Treg	3/12/78 1300	RE-277-1	Calc.	Berk	1348 3-17-78 L.N.M.
740	OUT OF SERVICE Device PM D-1-8 Date 3-22-78 No. 0302	3-22-78 0302	over head alarm PM D-1-8	Point #1 TF 8.55A failed H <sub>2</sub> wh. substituted	A. Beckwith	
741	OUT OF SERVICE Device SK-P4 Date 3-22-78 No. 0610	3-22-78 0610	SK-P4 SK-P4 1100P	SK-P4 don't Pump	SK-HQ	4-2-78 1330 A. Beckwith
742	OUT OF SERVICE Device FM-A12 Date 4-8-78 No. 0300	4-8-78 0300	FM-A12	wire ins not hooked up	L.N.M.	
743	OUT OF SERVICE Device TR-655 Date 4-11-78 No. 1015	4-11-78 1015	TR-655	RTD's are disconnected for I.L.R.T.	A. S. Beckwith	4-20-78 1245 L.N.M.
744	OUT OF SERVICE Device Hotwell Date 4-15-78 No. 244 Init. AP	4-15-78 1200	Hotwell level	Erratic level indication	A. S. Beckwith	3:00 4/24/78 L.N.M.
745	OUT OF SERVICE Device RA-6 Date 4/16/78 No. 0822	4/16/78 0822	RA-6	Erratic	A. S. Beckwith	4/17/78 1300 L.N.M.
746	OUT OF SERVICE Device S-1 Date 4/23/78 No. 1939	4/23/78 1939	S-1	Erratic	A. S. Beckwith	4/23/78 1939

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2	0	24	0	46	0
3	0	25	0	47	0
4	0	26	0	48	0
5	0	27	0	49	0
6	0	28	0	50	0
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9	0	31	0	53	0
10	0	32	0	54	0
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13	0	35	0	57	0
14	0	36	0	58	0
15	0	37	0	59	0
16	0	38	0	60	0
17	0	39	0	61	0
18	0	40	0	62	0
19	0	41	0	63	0
20	0	42	0	64	0
21	0	43	0	65	0
22	0	44	0		

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1.0 PURPOSE

1.1 Calibration

1.1.1 Verify calibration of the detectors and log rate meters are in accordance with the manufacturers calibration data.

1.1.2 Verify power supply and ratemeter voltages.

1.1.3 Set and verify setpoints and alarms.

1.1.4 Verify calibration of the RMS area monitor recorders.

1.2 Functional Testing of each channel and verify the proper operation of:

1.2.1 Local and control panel operation, indication, and alarm status.

1.2.2 Annunciator status.

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TP 360/1C  
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1.0 PURPOSE

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2.0 REFERENCES

2.1 Drawings

- JLB* 2.1.1 Victoreen Dwg. No. 904924 Rev. C Area Radiation Monitor  
Wiring Diagram.
- JLB* 2.1.2 Victoreen Dwg. No. 904550 Rev. D, <sup>de</sup>Elementary Diagram.

2.2 Vendor Manuals

- 2.2.1 B&R RMS Specification 2555-65 Amendment 7.
- 2.2.2 Victoreen Radiation Monitoring System Instruction  
Manuals.
- 2.2.3 Victoreen Instruction Manual for the 848-8 Field  
Calibrator with Adaptor for 855 series detectors.
- 2.2.4 Esterline Angus Instruction Manual for Model E1124E  
Multipoint Recorders.
- 2.3 FSAR Section 12.1 Amendment 56.
- 2.4 Metropolitan Edison Co. operating procedure number OP-2105-1.12 -  
Radiation Monitoring System Setpoint - Rev. 2.

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3.0 TIME REQUIRED

3.1 1 Shift - 3 Weeks, 2 Men.

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4.0 PREREQUISITES

4.1 Tests

4.1.1 TP 250/2 - Electrical Test - MTX 123.1.

E-1

Signature John A. Brunner Date 2/2/78

4.2 Construction Completion Status

4.2.1 Met-Ed has accepted the system for preoperational testing.

Signature John A. Brunner Date 11/17/77

4.3 Environmental Conditions

4.3.1 No special environmental conditions are required.

Signature John A. Brunner Date 11/17/77

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5.0 TEST EQUIPMENT

5.1 MTE #6 - Digital Voltmeter (Fluke Model 8100A or Equivalent)

5.2 MTE #254 - Field Calibrator Kit Model 848-8 With Adaptor for  
857-2 Detectors. (Unit 1 FCK and Unit 2 FCK).

5.3 MTE #6H - MV Source Digitec Calibrator or Equivalent.

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6.0 LIMITATIONS AND PRECAUTIONS

6.1 Exercise Care in Handling Detectors to Prevent Damage To:

Preamplifier Electronics  
Detector Cable  
Detector Cable Connectors

6.2 Exercise Care in Handling the Field Calibrator Kit (FCK).

Source exposure must be minimized by familiarizing ones self with the operation of the FCK.

With the source in the open position, there is no beam shielding in the front hemisphere of the calibrator. Check the warning decal on the top of the case for radiation levels. Whenever the FCK is not in the closed position, take all readings as quickly as possible to minimize personnel exposure in the area of the FCK. However, the radiation given off by the FCK may cause an indication or alarm on other nearby monitoring channels. This, as well as possible personnel exposure, should be kept in mind when performing this test procedure.

6.3 Exercise care when working at the terminal blocks as 600 VDC is present.

6.4 Ground link on voltmeter must not be closed while taking readings for Section 9.2.1.

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7.0 PLANT STATUS

7.1 This procedure does not include any special requirements or conditions related to plant status.

Signature John A. Zimmer Date 11/2/77

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8.0 PREREQUISITE SYSTEM CONDITIONS

E-2  
8.1 All gamma radiation detectors and remote alarm units must be in their proper location. Complete data sheet no.1 in the following manner:

8.1.1 Fill in the serial no. for each detector and remote alarm listed on data sheet #1.

8.1.2 Check the appropriate column on data sheet 1 for correct location of detectors.

8.1.3 Check the appropriate column on data sheet no. 1 for correct detector orientation. The larger end of the detector should be facing downward.

8.1 - Data Sheet 1 - Completed

Signature *J. Brumma* Date 3/12/78

E-2  
8.2 At this time Met-Ed personnel should use labeling tape to label (eg. HP-R-201) on all components of each monitor channel listed on data sheet No. 1.

Signature *John A. Brumma* Date 2/8/78

8.3 All readout module function switches are in the OFF position. (See Enclosure 2 - Fig. 1).

Signature *John A. Brumma* Date 11/17/77

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8.0 PREREQUISITE SYSTEM CONDITIONS (Cont'd.)

8.4 The control room annunciator system must be operational for the RMS alarms.

E-3  
D-19

Signature John A. Brummer Date 3/9/78

8.5 Insure breaker 22 at Panel 2-12R is energized.

Signature John A. Brummer Date 4/17/77

8.6 Using reference 2.4 . . . 11 in the required setpoints on Enclosure 4.

E-3

Signature John A. Brummer Date 1/30/78

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9.0 TEST METHOD

9.1 Functional Testing (General)

9.1.1 The purpose of this part of the test procedure is to verify that the input voltage to the readout modules is within tolerance and to verify that the output voltages from the readout modules are within specifications. In addition, the power fail alarm system including the contact to the control room annunciator is tested.

9.1.2 All area gamma radiation readout modules and recorders are mounted in the control room on vertical panel 12. Apply power to all readout modules (channels HP-R-201 through HP-R-3240) by rotating each function selector switch from the "OFF" position to the "Operate" position. Refer to Enclosure 2 Fig. 1 for the location of this switch. Open the front of each recorder (HP-UR-1901 and HP-UR-1902) turn the power switch to the "ON" position and place the chart speed switch in the .5"/Hr. position.

Date the chart paper and identify the purpose of the test on the chart.

9.1.3 Allow the equipment to stabilize for a period of time not less than fifteen (15) minutes before proceeding with the test procedure.

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9.0 TEST METHOD. (Cont'd.)

9.1.4 Obtain twenty one (21) copies of data sheet No.2 and fillout the following for each channel.

Readout Module Model # \_\_\_\_\_

Readout Module Serial # \_\_\_\_\_

Section 9.1 Accomplished Sat.  Unsat. \_\_\_\_\_

Signature John A. Brunner Date 3/9/78

9.2 Voltage Checks

9.2.1 Using a digital voltmeter on the AC range, measure and record in Section 10.2.1 of data sheet No. 2 the AC input voltage to each readout module. Twenty one (21) identical data sheets are required. Refer to Enclosure 2 - Figures 2 and 2A for the proper hookup to measure this voltage.

CAUTION: THE JUMPER BETWEEN THE NEGATIVE INPUT TERMINAL AND THE GROUND TERMINAL ON THE VOLTMETER MUST NOT BE CONNECTED FOR THIS TEST.

9.2.1.1 Repeat section 9.2.1 until all (21) modules have been checked.

<sup>210</sup> (HP-R-201) Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 12/25/77

(HP-R-202) Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 12/23/77

<sup>210</sup> (HP-R-204) Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 1/8/78

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9.0 TEST METHOD (Cont'd.)

HP-R-205 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78

HP-R-206 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/8/78

*HL* HP-R-207 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/8/78

HP-R-209 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78

HP-R-210 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78

HP-R-211 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/8/78

HP-R-212 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/8/78

HP-R-213 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/8/78

*TL* HP-R-214 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/9/78

*TL* HP-R-215 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/27/78

HP-R-218 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/8/78

HP-R-231 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78

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9.0 TEST METHOD (Cont'd.)

HP-R-232 Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/10/78

HP-R-233 Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

HP-R-234 Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

HP-R-3236 Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

HP-R-3238 Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 3/8/78

HP-R-3240 Section 9.2.1 Accomplished Sat. \_\_\_\_\_ Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 3/8/78

E  
E  
E

E  
S  
-8

9.2.2 Place the digital voltmeter on the DC range using the voltmeter, measure and record in section 10.2.2 of data sheet No. 2 the power supply voltages generated by each readout module. These voltages are to be measured at the remote alarm unit (for all channels, except HP-R-201, 209, 210, 214, and 215) which do not have remote alarm units. To measure the voltages at the remote alarm unit, open the front of the unit and connect the voltmeter leads as shown in Enclosure 2 - Fig. No. 3. The ground lead can remain on TB1-2.

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9.0 TEST METHOD (Cont'd.)

9.2.2.1 Repeat section 9.2.2 until all (16) modules have been checked.

(HP-R-202) Section 9.2.2 Accomplished Sat.  Unsat.   
SAT  
955  
Signature John A. Bummer Date 1/30/78

(HP-R-204) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 3/1/78

(HP-R-205) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 2/5/78

(HP-R-206) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 3/5/78

(HP-R-207) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 1/8/78

(HP-R-211) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 3/1/78

(HP-R-212) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 3/8/78

(HP-R-213) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 3/8/78

(HP-R-218) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 2/8/78

(HP-R-231) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date \_\_\_\_\_

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MI UNIT II  
TP 360/1C  
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745 200

9.0 TEST METHOD (Cont'd.)

(HP-R-232) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 1/30/78

(HP-R-233) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 1/30/78

(HP-R-239)<sup>4</sup> Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 1/30/78

(HP-R-3236) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 3/8/78

(HP-R-3238) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 3/9/78

(HP-R-3240) Section 9.2.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 3/8/78

9.2.3 For the excepted channels listed in Section 9.2.2 the voltages are measured at the rear panel of the readout module in the control room. Refer to Enclosure 2 Fig. 2 for the proper hookup to measure these voltages. On module HP-R-201 measure the +22 VDC, +10 VDC, and the 600 VDC. Then pullout the module and measure the -6.8 VDC on the circuit board test point. (See Enclosure 2-Fig. 4). Record the readings in Section 10.2.3 of data sheet No. 2 .

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745 201



9.0 TEST METHOD (Cont'd.)

9.2.3.1 Repeat section 9.2.3 for HP-R-209, 210 and 215.

(HP-R-201) Section 9.2.3 Accomplished Sat.  Unsat. \_\_\_\_\_

547  
920

Signature John A. Brummer Date 1/8/78

(HP-R-209) Section 9.2.3 Accomplished Sat.  Unsat. \_\_\_\_\_

Signature John A. Brummer Date 1/24/78

(HP-R-210) Section 9.2.3 Accomplished Sat.  Unsat. \_\_\_\_\_

Signature John A. Brummer Date 1/26/78

Tsu (HP-R-215) Section 9.2.3 Accomplished Sat.  Unsat. \_\_\_\_\_

Signature John A. Brummer Date 1/27/78

9.2.4 For channel HP-R-214 the voltages are measured at the rear of the readout module (see Enclosure 2-Fig. 2A). Measure the +20 VDC, and the +14 VDC! Record the data on data sheet No. 2A (10.2.2).

Section 9.2.4 Accomplished Sat.  Unsat. \_\_\_\_\_

Tsu Signature John A. Brummer Date 1/27/78

9.3 Power Fail Alarm System

The power fail alarm system for area gamma radiation channels HP-R-201 through HP-R-3240 is tested by interrupting the electrical circuit which provides +10 volt power to the detectors (+14 volt power for HP-R-214). This is accomplished by unscrewing the shorting screw on the sliding link terminal blocks sufficiently to break the electrical circuit. These terminal blocks for each radiation

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745-202

9.0 TEST METHOD (Cont'd.)

9.3 (cont'd.)

channel are located in the main control room within panel 12 and are listed for cross reference in Enclosure 3.

9.3.1 Break the electrical circuit for channel HP-R-201 by unscrewing the appropriate screw listed in Enclosure 3.

9.3.2 Verify that the green "fail" lamp is extinguished on the appropriate readout module on vertical panel 12 in the control room. Record results on data sheet No. 2 (10.3.2).

9.3.3 Also verify that the main annunciator is armed with the audible alarm sounding and the annunciator window "RMS System Trouble" located on Panel 12 is flashing. Record the results on data sheet No. 2 (10.3.3).

9.3.4 Depress the annunciator "acknowledge" pushbutton. The annunciator light window should stop flashing and the audible alarm is silenced. Record the results on data sheet No. 2 (10.3.4).

9.3.5 Return the screw mentioned in step 9.3.1 above to its normal position. (Contacts together)

9.3.6 Verify that the fail lamp is now illuminated on the

D  
K-4

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745 203

9.0 TEST METHOD (Cont'd.)

9.3.6 (cont'd.)

appropriate readout module on vertical Panel 12. Record the results on Data Sheet 2 (10.3.6).

9.3.7 Verify the main annunciator is flashing and the audible alarm is sounding. Depress the annunciator acknowledge pushbutton and verify the alarm is cleared. Record the results on data sheet 2 (10.3.7).

9.3.8 Repeat section 9.3 for the remaining (20) readout modules.

D-4

(HP-R-201) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/8/78

D-4

(HP-R-202) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/8/78

(HP-R-204) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

(HP-R-205) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 2/8/78

(HP-R-206) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

D-4

(HP-R-207) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-209) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/26/78

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9.0 TEST METHOD (Cont'd.)

- (HP-R-210) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78
- (HP-R-211) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-212) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-213) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-214) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/27/78
- <sup>TW</sup>  
<sub>D-4</sub> (HP-R-215) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/27/78
- (HP-R-218) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78
- (HP-R-231) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78
- <sup>E-4</sup>  
<sub>D-4</sub> (HP-R-232) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- <sub>D-4</sub> (HP-R-233) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-234) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- <sup>TW</sup> (HP-R-3236) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

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TP 360/1C  
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745 205

9.0 TEST METHOD (Cont'd.)

(HP-R-3238) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 2/2/78

(HP-R-3240) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 3/2/78

\* 9.4 Calibration of Alarm Functions (alert) (for all channels except HP-R-214).

NOTE 1: For ease of performance steps 9.4, 9.5 and 9.6 should be performed as a single evolution and in sequence on each monitor. These steps may have to be repeated until all three (9.4, 9.5 and 9.6) are within tolerances.

2: All potentiometers except R-53 are located on the small vertical board and are accessible from the top see Enclosure 2 see Fig. 4A.

9.4.1 With A.C. Power disconnected from readout HP-R-201 place the alert alarm in the automatic reset mode by removing one end of <sup>(X to X)</sup> Jumper A<sub>1</sub> and one end of <sup>(See Enclosure 2)</sup> Jumper B (See Enclosure 2 Fig. 4).

9.4.2 Disconnect the signal input from the detector. This can be done by opening the sliding link of the customer interface terminal board and terminal number corresponding to the readout to be calibrated. Table 1 (9.4.2).

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9.0 TEST METHOD (Cont'd.)

9.4.3 Set the alarm setpoint potentiometer (R37) to the extreme clockwise position.

E-7 9.4.4 <sup>9.4.4</sup> ~~Set~~ <sup>Set</sup> the alarm meter calibration potentiometer (R53) to the approximate mechanical center. <sup>POT</sup>

9.4.5 Adjust the readout module front panel meter mechanical zero to the first left hand graduation on the meter scale. <sup>METER</sup>

9.4.6 Plug the external adjustable (0-30 volt) power supply into the calibration input jack on the readout module front panel. The positive lead should be to the tip and the negative lead to the barrel of the connection jack.

9.4.7 Connect power to the readout and turn the function switch to operate.

9.4.8 Adjust the external power supply so the readout front panel meter reads exactly on the first left hand graduation on the scale.

9.4.9 Adjust the alarm calibration ~~low end potentiometer~~ <sup>R37</sup> ~~(R34)~~ on small board until:

E-9 The amber alert alarm light on the readout module just energizes.

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TP 360/1C  
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745 207

9.0 TEST METHOD (Cont'd.)

9.4.10 Lower, then vary the external power supply and observe that the alarm energizes at exactly the first graduation on the readout front panel meter scale. Repeat steps 9.4.8, 9.4.9 and 9.4.10 if necessary until proper zeroing is obtained. Record the results on data sheet No. 3 (10.4.10).

X 9.4.11 Set the alarm setpoint potentiometer (R37) to the extreme counter-clockwise position, and adjust the external power supply to exactly full scale on the readout front panel meter.

9.4.12 Adjust the alarm setpoint (R37) until the amber light just energizes.

9.4.13 Lower, then vary the external power supply and observe that the alert alarm energizes at exactly fullscale on the readout front panel meter. Repeat steps 9.4.11, 9.4.12 and 9.4.13 if necessary until the proper alarm action results. Enter results on Data Sheet No. 3(10.4.13).

9.4.14 Lower the external power supply to below the alarm setpoint and observe that the amber alert alarm light de-energizes. Record the results on data sheet No. 3(10.4.14).

9.4.15 Rotate the function switch to alarm and hold against the

*E-9 Delete step*

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9.0 TEST METHOD (Cont'd.)

9.4.15 (cont'd.)

spring return while depressing the amber button on the readout front panel. While holding these adjust alarm meter potentiometer (R53) so that the readout front panel meter reads exactly full scale.

9.4.16 Unplug the external power supply from the readout calibration - jack.

9.4.17 Rotate the function switch to alarm and hold, while depressing the amber button on the front panel and adjust (R37) to the setpoint specified in Enclosure 4. Record the results on Data Sheet No. 3 (10.4.17).

NOTE: Checks for 9.4 will be signed off at the completion of section 9.6 when 9.4, 9.5 and 9.6 are complete.

9.5 Calibration of Alarm Functions (High)

NOTE: Potentiometers referred to relating to high alarm cal. are on the mother board and are accessed from the side. See Enclosure 2 Fig. 4.

9.5.1 Set the alarm setpoint potentiometer (R37) to the extreme clockwise position, ~~and set the alarm meter calibration potentiometer (R53) to the approximate mechanical zero.~~

E-9

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745 209

9.0 TEST METHOD (Cont'd.)

9.5.2 If necessary, adjust the readout module front panel meter mechanical zero to the first left hand graduation on the meter scale. (This will require reperformance of 9.4).

9.5.3 Plug the external power supply into the calibration input jack on the readout module front panel. Positive goes to the tip and negative goes to the barrel of the jack.

9.5.4 Adjust the external power supply so the readout front panel meter reads exactly on the first left hand graduation on the scale.

*E-9  
Deletes  
step*

9.5.5 Adjust the calibration low end potentiometer (R54) until the red high alarm light on the readout front panel just energizes. The high alarm relay should deenergize when the red light comes on.

9.5.6 Lower, then vary the external power supply and observe that the alarm energizes at exactly the first graduation on the readout front panel meter scale. Repeat steps 9.5.4, 9.5.5 and 9.5.6 until proper zeroing is accomplished. Record the results on data sheet No. 3(10.5.6).

9.5.7 Set the alarm setpoint potentiometer (R37) to the extreme counter-clockwise position. Adjust the external power supply to exactly full scale on the readout front panel meter.

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9.0 TEST METHOD (Cont'd.)

9.5.8 Adjust the alarm setpoint (R37) until the red high alarm light just energizes.

9.5.9 Lower, then vary the external power supply and observe that the high alarm energizes at exactly full scale on the readout front panel meter. Repeat steps 9.5.6 thru 9.5.9 until the proper alarm action occurs. Record the results on data sheet 3 (10.5.9).

9.5.10 Lower the external power supply to below the alarm setpoint and observe that the red high alarm light de-energizes. Record the results on data sheet No. 3 (10.5.10).

E-9  
Delete step  
9.5.11 Rotate the function switch to alarm and hold against the spring return while depressing the red button on the readout front panel and adjust the alarm meter potentiometer (R53) so that the readout front panel meter reads exactly fullscale. Then, unplug the external power supply from the readout calibration jack.

9.5.12 Rotate the function switch to alarm and hold against the spring return while depressing the red button on the readout front panel. Adjust the alarm setpoint potentiometer (R37) to the setpoint specified in Enclosure 4. Record the results on data sheet No. 3 (10.5.12).

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TP 360/1C  
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211

9.0 TEST METHOD (Cont'd.)

9.5.13 Replace the jumpers A & B removed in section 9.4.1 for this monitor.

NOTE: Checks for 9.5 will be signed off at the completion of section 9.6 when 9.4, 9.5 and 9.6 are complete.

9.6 Audible alarm and annunciator actuation

9.6.1 Depress the silence pushbutton on the front panel of the readout module being tested and reset the control room annunciator.

9.6.2 Plug the external power supply into the alarm cal. jack on the front panel and slowly increase the voltage until the amber alert light energizes.

D-4  
9.6.3 Verify that the control room RMS alarm is sounding and the control room annunciator marked 'RMS system trouble' is flashing. The remote alarm for that channel (if applicable) is sounding. Record the results on data sheet No.3 (10.6.3).

9.6.4 Pushing the acknowledge pushbutton on Panel 12 will silence the control room audible alarm and the annunciator window will stop flashing and remain lit. Record the results on data sheet No. 3 (10.6.4).

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9.0 TEST METHOD (Cont'd.)

9.6.5 Pushing the silence pushbutton on the front of the readout module being tested should silence the remote audible alarm for the channel under test. Record the results on data sheet No. 3 (10.6.5).

9.6.6 Increase the external power supply until the high alarm light is energized. Also verify that the control room annunciator marked "RMS System Trouble" is flashing, and the remote audible alarm (if applicable) is sounding. Record the results on data sheet No. 3 (10.6.6).

9.6.7 Lower the external power supply to zero and unplug it from the readout module.

9.6.8 Push the acknowledge pushbutton and the silence pushbutton and verify that the RMS audible alarm (Panel 12), and the remote audible alarm are silenced, and the control room RMS annunciator "RMS System Trouble" clears. Record the results on data sheet No. 3 (10.6.8).

DA

Section 9.6 Accomplished Sat.  Unsat.

Signature John A. Bussone Date 1/30/78

9.6.9 Repeat sections 9.4, 9.5 and 9.6 for the remaining (19) readout modules.

HP-R-202 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.

Signature John A. Bussone Date 2/8/78

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9.0 TEST METHOD (Cont'd.)

HP-R-204 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78

HP-R-205 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-206 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-207 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-209 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/24/78

HP-R-210 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78

HP-R-211 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

HP-R-212 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

HP-R-213 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

D-A HP-R-215 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-218 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-231 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/5/78

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9.0 TEST METHOD (Cont'd.)

DA HP-R-232 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

DA HP-R-233 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-234 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-3236 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-3238 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-3240 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

9.7 Recorder Calibration (HP-UR-1901, HP-UR-1902)

- 9.7.1 Turn the function selector switch for readout module HP-R-201 to "OFF".
- 9.7.2 Verify proper zero alignment for recorder HP-UR-1901 by lifting the lead at TB-1 marked recorder and touching to GND on TB1 on readout module HP-R-201.
- 9.7.3 Verify that the recorder channel corresponding to the shorted output from the readout module will print the dot on the zero line of the readout chart. See Enclosure 5

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9.0 TEST METHOD (Cont'd.)

9.7.3 (cont'd.)

for readout channel No. vs. recorder channel cross ref.  
Record the results on data sheet No. 4 (10.7.3).

9.7.4 Remove recorder output lead from GND inject a 10 MV  
(full scale) signal between GND on TBI and the wire  
lifted from rec.

9.7.5 Verify that the recorder channel corresponding to the  
readout module with the simulated full scale signal is  
printing at the full scale line on the chart paper. See  
Enclosure 5 for readout channel No. vs. recorder channel  
No. cross reference. Record the results on data sheet 4  
(10.7.5) and replace wire removed in 9.7.2.

9.7.6 Verify proper print wheel alignment by inspecting the  
chart paper for a clear printed dot with a legible  
channel No. just beside the dot. Record the results on  
data sheet No. 4 (10.7.6).

9.7.7 Verify proper recorder chart speed for the 5 speed  
positions available. Place the speed selector on the  
front of the recorder in the .5 inch/hr. position.

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9.0 TEST METHOD (Cont'd.)

9.7.8 Verify chart speed by measuring the travel in inches of a specific dot within a 1 hr. period. Record the results on data sheet No. 4 (10.7.8).

Section 9.7.8 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

9.7.8.1 With the chart speed switch in the 1 inch/hour position repeat step 9.7.8 and record the results on data sheet No. 4 (10.7.8.1).

Section 9.7.8.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

9.7.8.2 With the chart speed switch in the 2 inch/hour position repeat step 9.7.8 and record the results on data sheet No. 4 (10.7.8.2).

Section 9.7.8.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

9.7.8.3 With the chart speed switch in the 4 inch/hour position repeat step 9.7.8 and record the results on data sheet No. 4 (10.7.8.3).

Section 9.7.8.3 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/78

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9.0 TEST METHOD (Cont'd.)

9.7.8.4 With the chart speed switch in the 8 inch/hr. position repeat step 9.7.8 and record the results on data sheet No.4 (10.7.8.4).

Section 9.7.8.4 Accomplished Sat.  Unsat.

Signature John A. B... Date 1/30/78

9.7.9 If any of the functions tested in section 9.7 do not function properly refer to the manufacturers manuals (Ref. 2.2.4) for adjustments.

E-15 9.7.10 Repeat steps 9.7.1 thru 9.7.6 for the remaining (20) readout modules. HP-R-1902

NOTE: On module HP-R-214 the jumper (9.7.2) goes between GND and 10 MV on TBL. The wire on 10 MV is removed in section 9.7.4.

Section 9.7.10 Accomplished Sat.  Unsat.

Signature John A. B... Date 1/30/78

9.8 Background Radiation Reading

9.8.1 On Module HP-R-201 place the readout module function selector switch in the 'operate' position.

9.8.2 Read the radiation reading from the scale on the meter face and enter this information on data sheet No. 5 (10.8.2).

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9.0 TEST METHOD (Cont'd.)

9.8.3 Read the background radiation for the channel from the recorder print chart by observing the dot with a number corresponding to the channel being tested. See Enclosure 5-Table 3. Record this reading on data sheet No. 5 (10.8.3).

9.8.4 Repeat steps 9.8.1 thru 9.8.3 for the remaining (19) readout modules. (All except HP-R-214).

Section 9.8 Accomplished Sat.  Unst. \_\_\_\_\_

Signature John A. Bunn Date 3/8/78

CAUTION: WHEN TAKING BACKGROUND RADIATION READINGS, THE VICTOREEN FILED CALIBRATION KIT (FCK) MUST BE CLOSED AND AT LEAST TWENTY-FIVE (25) FEET FROM THE NEAREST DETECTOR.

9.9 Calibration of Detectors

9.9.1 Remove the detector for channel HP-R-201 from its wall mounting bracket.

9.9.2 Insert the detector into the Unit #2 Victoreen Field Calibrator Kit using the GM adaptor. Refer to Enclosure 2-Figures 5 and 6 for a description of the FCK and the mounting arrangement for the detector in the FCK.

9.9.3 Record in section 10.9.3 of data sheet No. 5 the radiation intensity produced by the FCK in each of its three positions; closed, intermediate, and open. Obtain this information

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9.0 TEST METHOD (Cont'd.)

9.9.3 (cont'd.)

from the decay chart which accompanies, or is attached to the FCK. Place this information in section 10.9.3 on all the channel data sheets No. 5.

NOTES: Source exposure must be minimized by familiarizing one's self with the operation of the FCK.

With the source in the open position, there is no beam shielding in the front hemisphere of the calibrator. Check the warning decal on the top of the case for radiation levels. Whenever the FCK is not in the closed position, take all readings as quick as possible so as to minimize personnel exposure in the area of the FCK. However, the radiation given off by the FCK may cause an indication or alarm on other nearby monitoring channels. This, as well as possible personnel exposure, should be kept in mind when performing this test procedure.

9.9.4 Record in section 10.9.4 of data sheet No. 5 the radiation readings on the readout module meter and corresponding recorder channel. The source knob must be in the closed position (full clockwise direction). Insert the key fully into the lock. Do not turn the key at this time.

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9.0 TEST METHOD (Cont'd.)

9.9.5 Slowly rotate the source knob on the FCK in a counter-clockwise direction until it stops. This is the intermediate position. Record the radiation readings on the readout module meter face and corresponding recorder channel in section 10.9.5 of data sheet No. 5.

9.9.6 Now rotate the key fully clockwise and then rotate the source knob in the counterclockwise direction to the final stop position. This is the open position. Record the readings on the readout module meter and corresponding recorder channel in section 10.9.6 of data sheet No.5.

9.9.7 Rotate the source knob on the FCK in the clockwise direction until the closed position is reached. Remove the key from the FCK at this time.

9.9.8 Replace the detector in its mounting.

9.9.9 On data sheet No. 5 calculate the net radiation reading by subtracting the background radiation reading from section 10.8.2 from each of the appropriate readings in sections 10.9.4, 10.9.5, and 10.9.6. Enter the results in section 10.9.9.

NOTE: When determining the net radiation, disregard the background radiation level if it is less than 5% of the measured radiation level in either the closed, intermediate or open positions.

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9.0 TEST METHOD (Cont'd.)

9.9.10 Obtain the Unit 1 FCK (MTE #254) and using the GM adaptor repeat steps 9.9.1 thru 9.9.9 to obtain baseline data with that FCK. Record this data on data sheet 5A for all detectors. Step 9.9.3 data for this calibrator will also be recorded on data sheet no. 5A.

9.9.11 Repeat steps 9.9.1 thru 9.9.10 for the remaining (19) detectors. (All except HP-R-214).

Section 9.9 Accomplished Sat.  Unsat.

Signature John H. Dummer Date 3/8/78

9.10 Test of internal check source.

9.10.1 Insure the FCK is at least 25 ft. from the detector at test.

9.10.2 Verify that the readout module selector switch is in the 'operate' position.

9.10.3 Activate the check source by depressing the green push-button. Record the value from the readout module meter on data sheet No. 5 Section 10.10.3. This reading should be higher than the background reading obtained in 10.8.2.

9.10.4 Repeat steps 9.10.1 thru 9.10.3 for the remaining (19) modules. (All except HP-R-214).

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9.0 TEST METHOD (Cont'd.)

- (HP-R-201) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-202) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-204) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-205) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-206) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-207) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-209) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78
- (HP-R-210) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78
- (HP-R-211) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-212) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-213) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78

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9.0 TEST METHOD (Cont'd.)

(HP-R-215) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/24/78

(HP-R-218) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

(HP-R-231) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

(HP-R-232) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-233) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-234) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-3236) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-3238) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

(HP-R-3240) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

9.11 Background radiation reading and detector cal. for HP-R-214.

9.11.1 Place the readout module function switch in the 'ALL' position and read the radiation reading from the upper scale on the meter face. ~~Record~~ this information on data sheet No.6 (10.11.1).

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9.0 TEST METHOD (Cont'd.)

9.11.2 Determine the appropriate recorder channel corresponding to channel HP-R-214 from the template on the RMS recorder and read the background radiation from the printout chart. Record this reading on data sheet No. 6 (10.11.2).

E-12  
9.11.3 Remove the detector for channel HP-R-214 from its wall mounting bracket and insert it into the Unit 2 Field Calibrator Kit. See Enclosure 2 Figures 5 and 6. (without GM adaptor).

9.11.4 Record in section (10.11.4) of data sheet No. 6, the radiation intensity produced by the FCK in each of its three positions; closed, intermediate, and open. This information can be obtained on any data sheet No. 5 (10.9.3).

NOTES: Source exposure must be minimized by familiarizing one's self with the operation of the FCK.

With the source in the open position, there is no beam shielding in the front hemisphere of the calibrator. Check the warning decal on the top of the case for radiation levels. Whenever the FCK is not in the closed position, take all readings as quick as possible so as to minimize personnel exposure in the area of the FCK. However, the radiation given off by the FCK may cause an

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9.0 TEST METHOD (Cont'd.)

NOTES: (cont'd.)

indication or alarm on other nearby monitoring channels. This, as well as possible personnel exposure, should be kept in mind when performing this test procedure.

9.11.5 Record in Section 10.11.5 of data sheet no. 6 the radiation readings on the readout module meter and corresponding recorder channel. The source knob must be in the closed position (full clockwise direction). Insert the key fully into the lock. Do not turn the key at this time.

9.11.6 Slowly rotate the source knob on the FCK (see Enclosure 2- Fig. No. 5) in a counterclockwise direction until it stops. This is the intermediate position. Record the radiation readings on the readout module meter and corresponding recorder channel in Section 10.11.6 of data sheet No. 6.

9.11.7 Now rotate the key fully clockwise and then rotate the source knob in the counterclockwise direction to the final stop position. This is the open position. Record the readings on the readout module meter and corresponding recorder channel in section 10.11.7 of data sheet No. 6.

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9.0 TEST METHOD (Cont'd.)

9.11.8 Rotate the source knob on the FCK in the clockwise direction until the closed position is reached. Remove the key from the FCK at this time also.

9.11.9 On data sheet No. 6 calculate the net radiation by subtracting the background radiation reading in Section 10.11.1 from each of the appropriate readings in Sections 10.11.5, 6 & 7. Enter the results in section 10.11.9.

9.11.10 Obtain the Unit 1 FCK MTE #(254) and repeat Steps 9.11.1 thru 9.11.9 to obtain baseline data for that calibrator. Record this data on data sheet No. 6A.

Section 9.11 Accomplished Sat \_\_\_\_\_ Unsat \_\_\_\_\_  
Signature John A. B... Date 1/27/78

9.12 Alert and High Alarm Verification (HP-R-214).

9.12.1 Leave the detector for (HP-R-214) in the FCK with the source knob in closed position.

9.12.2 Place the readout module function selector switch in the All position.

9.12.3 At Panel 12 pull HP-R-214 readout module out of the main panel and slowly adjust potentiometer R30 (see Enclosure 2- Fig. No.7) clockwise until an alarm is received.

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9.0 TEST METHOD (Cont'd.)

9.12.4 Depress the "Alert" pushbutton and record the readout module meter reading on data sheet No. 7 (10.12.4).

9.12.5 Verify that the following actions have taken place:

- Amber alert light On

- 'RMS System Trouble' annunciator is flashing.

0-4 - RMS audible alarm is sounding

Record the results on data sheet No. 7 (10.12.5).

9.12.6 Depress the annunciator acknowledge pushbutton and the silence PB on the readout module. Verify the following actions take place:

- 'RMS System Trouble' annunciator stops flashing

0-4 - RMS audible alarm stops sounding

Record the results on data sheet No. 6 (10.12.6).

9.12.7 Adjust potentiometer R30 to the full counterclockwise position. The alert light should go Off, and the following actions should take place:

- 'RMS System Trouble' annunciator is flashing

0-4 - RMS audible alarm is sounding

Record the results on data sheet No. 6 (10.12.7).

9.12.8 Depress the annunciator acknowledge pushbutton and verify that the 'RMS System Trouble' annunciator clears and the RMS audible alarm is silenced.

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9.0 TEST METHOD (Cont'd.)

9.12.9 Adjust potentiometer R20 (see Enclosure 2-fig. No. 7) counterclockwise until an alarm is received.

9.12.10 Depress the 'High' pushbutton and record the readout module meter reading on data sheet No. 7 (10.12.10).

9.12.11 Verify that the following actions have taken place:

- Red 'High' alarm light ON
- 'RMS System Trouble' annunciator is flashing and the RMS audible alarm is sounding.

Record the results on data sheet No. 7 (10.12.11).

9.12.12 Depress the annunciator acknowledge pushbutton and the silence P.B. on the readout module. Verify that the following actions take place:

- 'RMS System Trouble' annunciator stops flashing and the RMS audible alarm is silenced.

Record the results on data sheet No. 7 (10.12.12).

E-1/9.12.13 Adjust potentiometer <sup>20</sup>R30 to the full counterclockwise position. The 'High' alarm light should go off, and the following actions should take place:

- 'RMS System Trouble' annunciator is flashing and the RMS audible alarm is sounding.

Record the results on data sheet No. 7 (10.12.13).

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9.0 TEST METHOD (Cont'd.)

9.12.14 Depress the annunciator acknowledge pushbutton and verify that the 'RMS System Trouble' annunciator clears and the RMS audible alarm is silenced. Record the results on data sheet No. 7 (10.12.14).

~~E-12.15~~ 9.12.15 Remove detector from the FCK and place detector at least 25 feet from the FCK.

9.12.16 Activate the check source by interrupting the electrical circuit which provides +20 volt power to the detector for HP-R-214. This is accomplished by unscrewing the shorting screw on the sliding link terminal block. (See Enclosure 5 for correct TR No.).

9.12.17 Record the radiation reading of the check source on data sheet No. 7 (10.12.17).

9.12.18 Adjust potentiometer R30 clockwise until an alarm is received. Depress the alert pushbutton and record the readout module meter reading on Data Sheet No. 7 (10.12.18).

D-4 9.12.19 Deactivate all audible alarms by pressing the silence PB and the main RMS annunciator acknowledge pushbutton.

9.12.20 Adjust potentiometer R30 to the full counterclockwise position.

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9.0 TEST METHOD (Cont'd.)

9.12.21 Adjust potentiometer R20 counterclockwise until an alarm is received. Then depress the 'High' pushbutton and record the readout module meter reading on data sheet No. 7 (10.12.21).

9.12.22 Deactivate all audible alarms by pressing the silence PB on the readout module and the main RMS annunciator acknowledge button.

9.12.23 Adjust potentiometer R20 to the full clockwise position.

9.12.24 Complete sections 10.12.24 on data sheet No. 7. If the readings are not within  $\pm 1$  minor scale division, maintenance must be performed.

Section 9.12 Accomplished Sat. \_\_\_\_\_ Unsat. \_\_\_\_\_  
Signature John A. Brumma Date 1/27/78

9.13 Radiation Readings (HP-R-214)

9.13.1 Place the detector back in the FCK and turn the function switch to the All position. Insure the source knob on the FCK is still closed and record the radiation reading from the readout module meter in section (10.13.1) on data sheet No. 8. Also record in this section the radiation reading from the printout chart from recorder HP-UR-1901 channel 12.

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9.0 TEST METHOD (Cont'd.)

9.13.2 Record the radiation reading on the readout module HP-R-214 (lower scale) when the function selector switch is placed in each of the following ranges: " $10^2$ ," " $10^3$ ," and " $10^4$ ." Enter this information in Section 10.13.1 of Data Sheet 8. (closed). The source knob on the FCK must remain in the closed position for these readings. The remaining switch positions are tested later when there will be sufficient radiation to register on the readout module meter.

9.13.3 Place the key into the Field Calibrator Kit (FCK) and rotate the source knob counterclockwise into the intermediate position. Record the radiation readings on the readout module meter HP-R-214 in Section 10.13.1 of Data Sheet No. 8 (intermediate) with the readout module function selector switch in the "All" and the " $10^4$ " positions. Also record in this section, the radiation reading from the recorder channel which corresponds to the radiation channel HP-R-214.

9.13.4 Rotate the source knob on the FCK counterclockwise to the open position. Record the radiation readings on the readout module meter in Section 10.13.1 of Data Sheet No. 8 (open) with the readout module function selector switch in each of the following positions: "All," " $10^4$ ," " $10^5$ ," " $10^6$ ," and " $10^7$ ." Also record in this section the radiation reading

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9.0 TEST METHOD (Cont'd.)

9.13.4 (cont'd.)

from the recorder channel which corresponds to the radiation channel HP-R-214.

9.13.5 Rotate the source knob on the FCK in the clockwise direction into the closed position and complete section 10.13.5 of data sheet No. 3 by subtracting the background radiation listed in section 10.11.1 of data sheet No. 6 from the data sheet No. 8 and listing the results on data sheet No. 8 (10.13.5).

9.13.6 Return the detector to its wall mount.

9.13.7 Verify system setpoints for module HP-R-214 by placing the function switch in the All position and depressing the amber 'Alert' button on the readout module.

9.13.8 Readjust potentiometer R30 to obtain a meter reading equal to that level listed in Enclosure 4. The accuracy of this adjustment is  $\pm 1/2$  minor scale division and is read on the upper scale of the readout module meter. Enter as left results on data sheet No. 8 (10.13.8).

9.13.9 Depress the RED HIGH ALARM button on module HP-R-214 and readjust potentiometer R20 to obtain a meter reading equal to the level shown in Enclosure 4. Enter the as left results on Data Sheet No. 8 (10.13.9).

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9.0 TEST METHOD (Cont'd.)

9.13.10 Push the readout module back into panel 12.

Section 9.13 Accomplished Sat.            Unsat.           

Signature John A. Lawrence Date 1/27/78

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CHANNEL	FELICOR OR REMOTE ALARM	RADIATION PETER		MODEL NO.	SERIAL NO.	LOCATION OF DETECTORS OR REMOTE UNITS		CORRECT LOCATION		CORRECT ORIENTATION	
		YES	NO			BUILDING	FLOOR LEVEL (Fr)	YES	NO	YES	NO
HP-R-201	DET	N.A.	N.A.	B57-2	357	Control & Service	331.5	Control & Service	331.5	South Wall	MB 1/12/78
HP-R-202	DET	N.A.	N.A.	B57-2	324	Control & Service	305	Control & Service	305	North Wall - Near BOP Computer	MB 1/12/78
HP-R-202	RA	X		B58-3	N/A	Control & Service	305	Control & Service	305	Near Detector	MB
HP-R-204	DET	N.A.	N.A.	B57-2	358	Auxiliary	280.5	Auxiliary	280.5	Southeast Corner near RB Emerg. Bst. Pmp 1C	MB 1/12/78
HP-R-204	RA	X		B58-3	N/A	Auxiliary	280.5	Auxiliary	280.5	Near Detector	MB
HP-R-205	DET	N.A.	N.A.	B57-2	367	Auxiliary	280.5	Auxiliary	280.5	Adjacent Southside of Evaporator Ctrl. Pnl.	MB 1/12/78
HP-R-205	RA	X		B58-3	N/A	Auxiliary	280.5	Auxiliary	280.5	Near Detector	MB 1/12/78
HP-R-206	DET	N.A.	N.A.	B57-2	377	Auxiliary	305	Auxiliary	305	Adjacent Gas Analyzer	MB 1/12/78
HP-R-206	RA	X		B58-3	N/A	Auxiliary	305	Auxiliary	305	Near Detector	MB 1/12/78
HP-R-207	DET	N.A.	N.A.	B57-2	357	Auxiliary	305	Auxiliary	305	South wall - adjacent Int. CIG. Pumps	MB 1/12/78
HP-R-207	RA	X		B58-3	N/A	Auxiliary	305	Auxiliary	305	Near Detector	MB 1/12/78
HP-R-209	DET	N.A.	N.A.	B57-2	328A	Rx. Bldg.	347.5	Rx. Bldg.	347.5	Fuel Handling Bridge North	MB 1/12/78
HP-R-210	DET	N.A.	N.A.	B57-2	320	Rx. Bldg.	347.5	Rx. Bldg.	347.5	Fuel Handling Bridge South	MB 1/12/78
HP-R-211	DET	N.A.	N.A.	P57-2	357	Rx. Bldg.	312	Rx. Bldg.	312	Southeast Quadrant Near Personnel Air Lock	MB 1/12/78
HP-R-211	RA	X		B58-1 B58-2	N/A	Rx. Bldg.	312	Rx. Bldg.	312	Near Detector	MB 1/12/78

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Signature *John A. Bunn* Date *3/5/78*

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CHANNEL	DETECTOR OR REBYTE ALARM	RADIATION PETER		MODEL NO.	SERIAL NO.	LOCATION OF DETECTORS OR REBYTE ALARMS		CORRECT LOCATION		CORRECT ORIENTATION		
		YES	NO			BUILDING	FLOOR LEVEL (ft)	DESCRIPTION	YES	NO	YES	NO
HP-R-212	DET	N.A.	N.A.	857-2	340	Rx. Bldg.	305	Southwest Quadrant near Equip. Hatch.	Yes		Yes	
HP-R-212	R.A.	X		858-2 858-1	N/A	Rx. Bldg.	305	Near Detector	Yes		Yes	
HP-R-213	DET	N.A.	N.A.	857-2	326	Rx. Bldg.	347.5	Northwest Quadrant under Jib Crane	Yes		Yes	
HP-R-213	R.A.	X		858-3	N/A	Rx. Bldg.	347.5	Near Detector	Yes		Yes	
HP-R-214	DET	N.A.	N.A.	847-1	740	Rx. Bldg.	305	East wall under polar crane rail	Yes		Yes	
HP-R-215	DET	N.A.	N.A.	857-2	335	Fuel Handling	347.5	On Fuel Storage Handling Bridge	X		X	
HP-R-218	DET	N.A.	N.A.	857-2	361	Fuel Handling	305	NE Corner Waste Storage Bldg	Yes		Yes	
HP-R-218	R.A.	X		858-3	N/A	Fuel Handling	305	Near Door to Waste Storage Room	Yes		Yes	
HP-R-231	DET	N.A.	N.A.	857-2	346	Auxiliary	280.5	Aux. Bldg. Sump Tank Filter Room	Yes		Yes	
HP-R-231	R.A.	X		858-3 858-1	N/A	Auxiliary	280.5	Near Detector	Yes		Yes	
HP-R-232	DET	N.A.	N.A.	857-2	331	Auxiliary	305	NE Corner Corridor Adjacent HCC 2-11 EB	Yes		Yes	
HP-R-232	R.A.	X		858-3	N/A	Auxiliary	305	Near Detector	Yes		Yes	
HP-R-233		N.A.	N.A.	857-2	178	Auxiliary	305	Corridor just outside spent fuel filters	Yes		Yes	
HP-R-233	R.A.	X		858-3	N/A	Auxiliary	305	Near Detector	Yes		Yes	

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Signature *John A. Gorman* Date *9/78*

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CHANNEL	DETECTOR OR REMOTE ALARM	RADIATION METER		MODEL NO.	SERIAL NO.	LOCATION OF DETECTORS OR REMOTE UNITS			CORRECT LOCATION		CORRECT ORIENTATION	
		YES	NO			BUILDING	FLOOR LEVEL (ft)	DESCRIPTION	YES	NO	YES	NO
HP-R-234	DET	N.A.	N.A.	857-2	256	Control & Serv.	280.5	Just opposite sewage collection tank	Yes	Yes	Yes	Yes
HP-R-234	R.A.	X	N.A.	857-3	N/A	Control & Serv.	280.5	Near Detector	Yes	Yes	Yes	Yes
HP-R-3236	DET	N.A.	N.A.	857-2	357	Auxiliary	328	Adjacent West Side Rx Bldg. purge air exh. unit A	Yes	Yes	Yes	Yes
HP-R-3236	R.A.	X	N.A.	858-1 858-3	N/A	Auxiliary	328	Next column West by entrance	Yes	Yes	Yes	Yes
HP-R-3238	DET	N.A.	N.A.	857-2	363	Auxiliary	328	Between Aux. Bldg. Exhaust Units	Yes	Yes	Yes	Yes
HP-R-3238	R.A.	X	N.A.	858-1 858-3	N/A	Auxiliary	328	By Entrances	Yes	Yes	Yes	Yes
HP-R-3240	DET	N.A.	N.A.	857-2	322	Auxiliary	328	Between Fuel Handling Bldg. Exhaust Units	Yes	Yes	Yes	Yes
HP-R-3240	R.A.	X	N.A.	858-1 858-3	4/p	Auxiliary	328	Near Entrance by Unit A	Yes	Yes	Yes	Yes

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Date 1/18

Signature John A. Berman

Data Sheet No.  
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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>119.2</u> VAC	117 $\pm 15$ VAC	JSS/FC Met Ed	12/25/77
10.2.2	Power Supply Voltages E-5 E-6	<u>19.38</u> VDC	22 $\pm 3$ VDC	JSS/FC Met Ed	12/28/77
		<u>10.1</u> VDC	10 $\pm 0.5$ VDC	JSS/FC Met Ed	12/28/77
		<u>517.8</u> VDC	600 $\pm 16$ VDC	JSS/FC Met Ed	12/25/77
10.2.3	Test Point Voltage	<u>-6.56</u> VDC	-6.8 $\pm 0.5$ VDC	JSS/FC Met Ed	12/25/77
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>X</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/25/77
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding E-4	<u>X</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/28/77
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>X</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/28/77
10.3.5	Green Fail Indicator Comes On	<u>X</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/25/77
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding E-4	<u>X</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/28/77
	Alarms Cleared	<u>X</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/25/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10.4.10	Alert Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JLR</i>	<i>MET ED</i>	12/29/77
10.4.13	Alert Full Scale	Energize at full scale <i>yes</i>	Yes	<i>JLR</i>	<i>MET ED</i>	12/31/77
10.4.14	Alert Alarm Reset	Amber Light Out <i>yes</i>	Yes	<i>JLR</i>	<i>MET ED</i>	12/31/77
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>0.5</u>	+0 -1 Minor Scale Division	<i>JLR</i>	<i>MET ED</i>	12/31/77
10.5.6	High Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JLR</i>	<i>MET ED</i>	12/31/77
10.5.9	High Alarm Full Scale	Energize at full scale <i>yes</i>	Yes	<i>JLR</i>	<i>MET ED</i>	12/31/77
10.5.10	High Alarm Reset	Red Light Out <i>yes</i>	Yes	<i>JLR</i>	<i>MET ED</i>	12/31/77
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1.4</u>	+0 -1 Minor Scale Division	<i>JLR</i>	<i>MET ED</i>	12/31/77
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JLR</i>	<i>MET ED</i>	12/31/77
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JLR</i>	<i>MET ED</i>	1/27/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.6.3 cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR	MET ED	12/31/77
	Remote Audible Alarm is sounding (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JHR	MET ED	12/31/77
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR	MET ED	12/31/77
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR	MET ED	12/31/77
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JHR	MET ED	12/31/77
10.6.6	High Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR	MET ED	12/31/77
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR	MET ED	12/31/77
	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR	MET ED	12/31/77
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JHR	MET ED	12/31/77
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR	MET ED	12/31/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
8.2	Background Radiation Reading (Meter)	.1 mr/hr	N/A	JAB	Met-Ed	1/29/78
8.3	Background Radiation Reading (Recorder)	.1 mr/hr	N/A	JAB	Met-Ed	1/29/78
9.3	Radiation Input produced by FCK closed	52 mr/hr	N/A	JAB	Met-Ed	1/29/78
	Intermediate Open	382 mr/hr 1920 mr/hr	N/A N/A	JAB	Met-Ed	1/29/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 55 <u>Recorder</u> 55	N/A	JAB	Met-Ed	1/29/78
10.9.5	Intermediate	<u>Meter</u> 3.8 <u>Recorder</u> 3.6	N/A	JAB	Met-Ed	1/29/78
10.9.6	Open	<u>Meter</u> 1.9 <u>Recorder</u> 1.7	N/A	JAB	Met-Ed	1/29/78
10.9.9	Net Radiation Closed	<u>Meter</u> 55 <u>Recorder</u> 55	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
	Intermediate	<u>Meter</u> 3.8 <u>Recorder</u> 3.6	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
	Open	<u>Meter</u> 1.9 <u>Recorder</u> 1.7	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
10.10.3	Check Source Reading	4.5 x10 mr/h	Greater than reading obtained in step 10.8.2	JAB	Met-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
9.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB	Met-Ed	1/29/78
9.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB	Met-Ed	1/29/78
9.9.3	Radiation Input produced by FCK closed	E-16	N/A			
	Intermediate Open	E-16	N/A N/A			
10.9.4	Measured Radiation Closed	Meter 70 Recorder 70	N/A	JAB	Met-Ed	1/25/78
10.9.5	Intermediate	Meter 4.2 Recorder 4.2	N/A	JAB	Met-Ed	1/29/78
10.9.6	Open	Meter 2 Recorder 1.9	N/A	JAB	Met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter 70 Recorder 70	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
	Intermediate	Meter 4.2 Recorder 4.2	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
	Open	Meter 2 Recorder 1.9	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/25/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>8.2</u> VAC	117 $\pm$ 15 VAC	JSS/FC Met Ed	12/28/77
10.2.2	Power Supply Voltages	<u>9.76</u> VDC	22 $\pm$ 3.3 VDC	JSS/FC Met Ed	12/28/77
		<u>10.05</u> VDC	10 $\pm$ 0.1 VDC	JSS/FC Met Ed	12/28/77
		<u>593.1</u> VDC	600 $\pm$ 16 VDC	JSS/FC Met Ed	12/28/77
10.2.3	Test Point Voltage	<u>-6.3</u> VDC	-6.8 $\pm$ 0.5 VDC	JSS/FC Met Ed	12/28/77
10.3.2	Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSS Met Ed	12/28/77
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSS Met Ed	12/28/77
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSS Met Ed	12/28/77
10.3.6	Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSS Met Ed	14/28/77
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSS Met Ed	12/28/77
	Alarms Cleared	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSS Met Ed	12/28/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
0.4.10	Alert Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JAB</i>	<i>Met Ed</i>	12/29/77
0.4.13	Alert Full Scale	Energize at full scale <i>yes</i>	Yes	<i>Eab</i>	<i>Met Ed</i>	12-29-77
0.4.14	Alert Alarm Reset	Amber Light Out <i>yes</i>	Yes	<i>Eab</i>	<i>Met Ed</i>	12-29-77
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>0.5</u>	+0 -1 Minor Scale Division	<i>Eab</i>	<i>Met Ed</i>	12-29-77
10.5.6	High Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JAB</i>	<i>Met Ed</i>	12/29/77
10.5.9	High Alarm Full Scale	Energize at full scale <i>yes</i>	Yes	<i>JAB</i>	<i>Met Ed</i>	12/29/77
10.5.10	High Alarm Reset	Red Light Out <i>yes</i>	Yes	<i>JAB</i>	<i>Met Ed</i>	12/29/77
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	<i>JAB</i>	<i>Met Ed</i>	12/29/77
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JAB</i>	<i>ME</i>	12/29/77
	RMS Audible Alarm Sounding <i>D-4</i>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JAB</i>	<i>ME</i>	12/29/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>    </u> No <u>    </u>	Yes	JH MIE	1/25/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>    </u> No <u>    </u> N/A <u>    </u>	Yes N/A	JH MIE	1/25/75
10.6.4	RMS Audible Alarm Reset	Yes <u>  Y  </u> No <u>    </u>	Yes	JH MIE	1/25/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>  X  </u> No <u>    </u>	Yes	JH MIE	1/25/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>  X  </u> No <u>    </u> N/A <u>    </u>	Yes N/A	JH MIE	1/25/75
10.6.6	High Alarm Light ON	Yes <u>  X  </u> No <u>    </u>	Yes	JH MIE	1/25/75
	RMS Audible Alarm Sounding	Yes <u>  X  </u> No <u>    </u>	Yes	JH MIE	1/25/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>  X  </u> No <u>    </u>	Yes	JH MIE	1/25/75
	Remote Audible Alarm Sounding if applicable	Yes <u>  X  </u> No <u>    </u> N/A <u>    </u>	Yes N/A	JH MIE	1/25/75
10.6.8	All Alarms Clear	Yes <u>  ✓  </u> No <u>    </u>	Yes	JH MIE	1/25/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
0.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB Met Ed	1/29/78
0.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB Met Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	52	N/A	JAB Met Ed	1/29/78
	Intermediate Open	382 1920	N/A N/A	JAB Met Ed JAB Met Ed	1/29/78 1/29/78
10.9.4	Measured Radiation Closed	Meter Recorder	N/A	JAB Met Ed	1/29/78
		55 52			
10.9.5	Intermediate	Meter Recorder	N/A	JAB Met Ed JAB Met Ed	1/29/78 1/29/78
		3.7 3.6			
10.9.6	Open	Meter Recorder	N/A	JAB Met Ed	1/29/78
		2 1.8			
10.9.9	Net Radiation Closed	Meter Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met Ed	1/29/78
		55 52			
	Intermediate	Meter Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met Ed	1/29/78
		3.9 3.6			
	Open	Meter Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met Ed	1/29/78
		2 1.8			
10.10.3	Check Source Reading	6 x10 <sup>0</sup> mr/h	Greater than reading obtained in step 10.8.2	JAB Met Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
0.8.2	Background Radiation Reading (Meter)	.1 mr/hr	N/A	JAB	Met-Ed	1/29/78
0.8.3	Background Radiation Reading (Recorder)	.1 mr/hr	N/A	JAB	Met-Ed	1/29/78
0.9.3	Radiation Input produced by FCK closed	E-16	N/A			
	Intermediate Open	E-16	N/A N/A			
10.9.4	Measured Radiation Closed	Meter <u>5.0</u> Recorder <u>4.5</u>	$\times 10^{-2}$ mr/h N/A	JAB	Met-Ed	1/29/78
10.9.5	Intermediate	Meter <u>3.6</u> Recorder <u>3.2</u>	$\times 10^{-2}$ mr/h N/A	JAB	Met-Ed	1/29/78
10.9.6	Open	Meter <u>2</u> Recorder <u>1.8</u>	$\times 10^{-3}$ mr/h N/A	JAB	Met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter <u>5.0</u> Recorder <u>4.5</u>	$\times 10^{-1}$ mr/h + 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
	Intermediate	Meter <u>5.6</u> Recorder <u>3.2</u>	$\times 10^{-2}$ mr/h + 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
	Open	Meter <u>2</u> Recorder <u>1.8</u>	$\times 10^{-3}$ mr/h + 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>119.5</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JH M-E	1/30/78
10.2.2	Power Supply Voltages	<u>4.8</u> VDC	22 $\begin{matrix} +3 \\ -3 \end{matrix}$ VDC	JH M-E	1/30/78
		<u>10.2</u> VDC	10 $\begin{matrix} +0.2 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JH M-E	1/30/78
		<u>602</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JH M-E	1/30/78
10.2.3	Test Point Voltage	<u>-6.81</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JH M-E	1/30/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	JH M-E	1/30/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JH M-E	1/30/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	JH M-E	1/30/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	JH M-E	1/30/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JH M-E	1/30/78
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	JH M-E	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation (1.0)	Yes	JSI M.E	1/25/75
10.4.13	Alert Full Scale	Energize at full scale (1.0)	Yes	JSI M.E	1/25/75
10.4.14	Alert Alarm Reset	Amber Light Out (1.0)	Yes	JSI M.E	1/25/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	JSI M.E	1/25/75
10.5.6	High Alarm Zero	Energize at 1st graduation (1.0)	Yes	JSI M.E	1/25/75
10.5.9	High Alarm Full Scale	Energize at full scale (1.0)	Yes	JSI M.E	1/25/75
10.5.10	High Alarm Reset	Red Light Out (1.0)	Yes	JSI M.E	1/25/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	JSI M.E	1/25/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI M.E	1/25/75
	RMS Audible Alarm Sounding <del>D-113</del>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI M.E	1/25/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JSI MIE	1/25/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JSI MIE	1/25/75
10.6.4	RMS Audible Alarm Reset	Yes <u>X</u> No _____	Yes	JSI MIE	1/25/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>X</u> No _____	Yes	JSI MIE	1/25/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JSI MIE	1/25/75
10.6.6	High Alarm Light ON	Yes <u>X</u> No _____	Yes	JSI MIE	1/25/75
	RMS Audible Alarm Sounding	Yes <u>X</u> No _____	Yes	JSI MIE	1/25/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JSI MIE	1/25/75
	Remote Audible Alarm Sounding if applicable	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JSI MIE	1/25/75
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	JSI MIE	1/25/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB met-Ed	1/29/78
	Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB met-Ed	1/29/78
10.9.4	Measured Radiation Closed	Meter Recorder			
		5.0 x10 <sup>-1</sup> mR/h 5.2	N/A	JAB met-Ed	1/29/78
10.9.5	Intermediate	Meter Recorder			
		3.7 x10 <sup>-2</sup> mR/h 3.9	N/A	JAB met-Ed	1/29/78
10.9.6	Open	Meter Recorder			
		1.9 x10 <sup>-3</sup> mR/h 2.0	N/A	JAB met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter Recorder			
		5.0 x10 <sup>-1</sup> mR/h 5.2	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-Ed	1/29/78
	Intermediate	Meter Recorder			
		5.7 x10 <sup>-2</sup> mR/h 3.9	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-Ed	1/29/78
	Open	Meter Recorder			
		1.9 x10 <sup>-3</sup> mR/h 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-Ed	1/29/78
10.10.3	Check Source Reading	4.0 x10 <sup>0</sup> mR/h	Greater than reading obtained in step 10.8.2	JAB met-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB met-ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB met-ed	1/29/78
10.9.3	Radiation Input produced by FCK closed E-14		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed	Meter 6.0 x10 <sup>-1</sup> mR/h Recorder 7.0	N/A	JAB met-ed	1/29/78
10.9.5	Intermediate	Meter 4.0 x10 <sup>-2</sup> mR/h Recorder 4.8	N/A	JAB met-ed	1/29/78
10.9.6	Open	Meter 2.0 x10 <sup>-3</sup> mR/h Recorder 2.1	N/A	JAB met-ed	1/29/78
10.9.9	Net Radiation Closed E-14	Meter 6.0 x10 <sup>-1</sup> mR/h Recorder 7.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-ed	1/29/78
	Intermediate E-16	Meter 6.0 x10 <sup>-2</sup> mR/h Recorder 4.8	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-ed	1/29/78
	Open E-14	Meter 2.0 x10 <sup>-3</sup> mR/h Recorder 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-ed	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>115.12</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JSI M-E	1/31/78
10.2.2	Power Supply Voltages	<u>21.8</u> VDC	22 $\begin{matrix} +5+3 \\ -5-3 \end{matrix}$ VDC	JSI M-E	1/31/78
		<u>9.93</u> VDC	10 $\begin{matrix} +0.5 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JSI M-E	1/31/78
		<u>317</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JSI M-E	1/31/78
10.2.3	Test Point Voltage	<u>-6.56</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JSI M-E	1/31/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSI M-E	1/31/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSI M-E	1/31/78
10.3.4	Audible Alarm Cleared Light Now Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSI M-E	1/31/78
10.3.6	Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSI M-E	1/31/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSI M-E	1/31/78
	Alarms Cleared	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JSI M-E	1/31/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <u>227</u>	Yes	JH ME	1/31/78
10.4.13	Alert Full Scale	Energize at full scale <u>227</u>	Yes	JH ME	1/31/78
10.4.14	Alert Alarm Reset	Amber Light Out <u>227</u>	Yes	JH ME	1/31/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.2</u>	+0 -1 Minor Scale Division	JH ME	1/31/78
10.5.6	High Alarm Zero	Energize at 1st graduation <u>227</u>	Yes	JH ME	1/31/78
10.5.9	High Alarm Full Scale	Energize at full scale <u>227</u>	Yes	JH ME	1/31/78
10.5.10	High Alarm Reset	Red Light Out <u>227</u>	Yes	JH ME	1/31/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.2</u>	+0 -1 Minor Scale Division	JH ME	1/31/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/31/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/31/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	JSI ME	1/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes  N/A	JSI ME	1/31/75
10.6.4	RMS Audible Alarm Reset	Yes <u>X</u> No _____	Yes	JSI ME	1/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>X</u> No _____	Yes	JSI ME	1/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes  N/A	JSI ME	1/31/75
10.6.6	High Alarm Light ON	Yes <u>X</u> No _____	Yes	JSI ME	1/31/75
	RMS Audible Alarm Sounding	Yes <u>X</u> No _____	Yes	JSI ME	1/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JSI ME	1/31/75
	Remote Audible Alarm Sounding if applicable	Yes <u>X</u> No _____ N/A <u>X</u>	Yes  N/A	JSI ME	1/31/75
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	JSI ME	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2	N/A	JH M.E.	3/5/78
10.8.3	Background Radiation Reading (Recorder)	.2	N/A	JSS M.E.	3/5/78
10.9.3	Radiation Input produced by FCK closed	52	N/A	JH M.E.	3/5/78
	Intermediate Open	382 1720	N/A N/A	JH M.E.	3/5/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 3.2 $\times 10^{-3}$ mr/h <u>Recorder</u> 5.4	N/A	JSS M.E.	3/5/78
10.9.5	Intermediate	<u>Meter</u> 3.5 $\times 10^{-3}$ mr/h <u>Recorder</u> 3.5	N/A	JSS M.E.	3/5/78
10.9.6	Open	<u>Meter</u> 1572 $\times 10^{-3}$ mr/h <u>Recorder</u> 15.3	N/A	JH M.E.	3/5/78
10.9.9	Net Radiation Closed	<u>Meter</u> 5.2 $\times 10^{-3}$ mr/h <u>Recorder</u> E-17 5.25	+ 20% of 10.9.3 + 4% of 10.9.3	JH M.E.	3/5/78
	Intermediate	<u>Meter</u> 3.75 $\times 10^{-3}$ mr/h <u>Recorder</u> E-17 3.74	+ 20% of 10.9.3 + 4% of 10.9.3	JH M.E.	3/5/78
	Open	<u>Meter</u> 1575 $\times 10^{-3}$ mr/h <u>Recorder</u> E-17 15.25	+ 20% of 10.9.3 + 4% of 10.9.3	JH M.E.	3/5/78
10.10.3	Check Source Reading	<u>40</u> $\times 10^{-3}$ mr/h	Greater than reading obtained in step 10.8.2	JH M.E.	3/5/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2	N/A	JH M-E	3/5/75
10.8.3	Background Radiation Reading (Recorder)	.2	N/A	JH M-E	3/5/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> 5.5 $\times 10^{-2}$ mr/h <u>Recorder</u> 6.0	N/A	JH M-E	3/5/75
10.9.5	Intermediate	<u>Meter</u> 4.0 $\times 10^{-2}$ mr/h <u>Recorder</u> 4.0	N/A	JH M-E	3/5/75
10.9.6	Open	<u>Meter</u> 2.0 $\times 10^{-2}$ mr/h <u>Recorder</u> 2.0	N/A	JH M-E	3/5/75
10.9.9	Net Radiation Closed E-16	<u>Meter</u> 57.5 $\times 10^{-2}$ mr/h <u>Recorder</u> 59.5	+ 20% of 10.9.3 + 4% of 10.9.3	JH M-E	3/5/75
	Intermediate E-16	<u>Meter</u> 57.5 $\times 10^{-2}$ mr/h <u>Recorder</u> 300.5	+ 20% of 10.9.3 + 4% of 10.9.3	JH M-E	3/5/75
	Open E-16	<u>Meter</u> 144.5 $\times 10^{-2}$ mr/h <u>Recorder</u> 155.5	+ 20% of 10.9.3 + 4% of 10.9.3	JH M-E	3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>117.6</u> VAC	117 $\begin{matrix} +15 \\ -13 \end{matrix}$ VAC	JJS M-E	1/31/75
10.2.2	Power Supply Voltages	<u>21.5</u> VDC	22 $\begin{matrix} +5 \\ -3 \end{matrix}$ VDC	JJS M-E	1/31/75
		<u>12.2</u> VDC	10 $\begin{matrix} +0.5 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JJS M-E	1/31/75
		<u>6.02</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JJS M-E	1/31/75
10.2.3	Test Point Voltage	<u>-6.96</u> VDC	-6.3 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JJS M-E	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	JJS M-E	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JJS M-E	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	JJS M-E	1/31/75
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	JJS M-E	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JJS M-E	1/31/75
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	JJS M-E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <u>1.25</u>	Yes	JM ME	1/31/75
10.4.13	Alert Full Scale	Energize at full scale <u>1.25</u>	Yes	JM ME	1/31/75
10.4.14	Alert Alarm Reset	Amber Light Out <u>1.25</u>	Yes	JM ME	1/31/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>12.2</u>	+0 -1 Minor Scale Division	JM ME	1/31/78
10.5.6	High Alarm Zero	Energize at 1st graduation <u>1.25</u>	Yes	JM ME	1/31/75
10.5.9	High Alarm Full Scale	Energize at full scale <u>1.25</u>	Yes	JM ME	1/31/75
10.5.10	High Alarm Reset	Red Light Out <u>1.25</u>	Yes	JM ME	1/31/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>20.2</u>	+0 -1 Minor Scale Division	JM ME	1/31/75
				C	
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JM ME	1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JM ME	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>Y</u> No _____	Yes	JH MIE	1/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JH MIE	1/31/75
10.6.4	RMS Audible Alarm Reset	Yes <u>X</u> No _____	Yes	JH MIE	1/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>X</u> No _____	Yes	JH MIE	1/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JH MIE	1/31/75
10.6.6	High Alarm Light ON	Yes <u>Y</u> No _____	Yes	JH MIE	1/31/75
	RMS Audible Alarm Sounding	Yes <u>Y</u> No _____	Yes	JH MIE	1/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JH MIE	1/31/75
	Remote Audible Alarm Sounding if applicable	Yes <u>Y</u> No _____ N/A <u>X</u>	Yes N/A	JH MIE	1/31/75
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	JH MIE	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	.3	N/A		M-E	3/5/78
10.8.3	Background Radiation Reading (Recorder)	.3	N/A		M-E	3/5/78
10.9.3	Radiation Input produced by FCK closed	2mr/h	N/A		M-E	3/5/78
	Intermediate Open	382 1920	N/A N/A		M-E M-E	3/5/78 3/5/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 2.0 $\times 10^{-3}$ mr/h <u>Recorder</u> 1.0	N/A		M-E	3/5/78
10.9.5	Intermediate	<u>Meter</u> 3.5 $\times 10^{-3}$ mr/h <u>Recorder</u> 4.0	N/A		M-E	3/5/78
10.9.6	Open	<u>Meter</u> 1.7 $\times 10^{-3}$ mr/h <u>Recorder</u> 2.0	N/A		M-E	3/5/78
10.9.9	Net Radiation Closed	<u>Meter</u> 497 $\times 10^{-3}$ mr/h <u>Recorder</u> 547	+ 20% of 10.9.3 + 4% of 10.9.3		M-E	3/5/78
	Intermediate	<u>Meter</u> 359.7 $\times 10^{-3}$ mr/h <u>Recorder</u> 359.7	+ 20% of 10.9.3 + 4% of 10.9.3		M-E	3/5/78
	Open	<u>Meter</u> 134.7 $\times 10^{-3}$ mr/h <u>Recorder</u> 134.7	+ 20% of 10.9.3 + 4% of 10.9.3		M-E	3/5/78
10.10.3	Check Source Reading	3 $\times 10^{-3}$ mr/h	Greater than reading obtained in step 10.8.2		M-E	3/5/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	3m/h	N/A	JH	MtEd	3/5/75
10.8.3	Background Radiation Reading (Recorder)	3m/h	N/A	JH	MtEd	3/5/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A			
	Intermediate Open E-16		N/A N/A			
10.9.4	Measured Radiation Closed	Meter 1.5 x10 <sup>-3</sup> mr/h Recorder 7.0	N/A	JH	MtEd	3/5/75
10.9.5	Intermediate	Meter 3.9 x10 <sup>-3</sup> mr/h Recorder 4.5	N/A	JH	MtEd	3/5/75
10.9.6	Open	Meter 4.9 x10 <sup>-3</sup> mr/h Recorder 2.1	N/A	JH	MtEd	3/5/75
10.9.9	Net Radiation Closed E-16	Meter 2.7 x10 <sup>-3</sup> mr/h Recorder 29.7	+ 20% of 10.9.3 + 4% of 10.9.3	JH	MtEd	3/5/75
	Intermediate E-16	Meter 335.7 x10 <sup>-3</sup> mr/h Recorder 145.7	+ 20% of 10.9.3 + 4% of 10.9.3	JH	MtEd	3/5/75
	Open E-16	Meter 154.7 x10 <sup>-3</sup> mr/h Recorder 70.7	+ 20% of 10.9.3 + 4% of 10.9.3	JH	MtEd	3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>118.76</u> VAC	117 $\begin{smallmatrix} +15 \\ -15 \end{smallmatrix}$ VAC	<u>JFR</u> MET ED.	1-1-78
10.2.2	Power Supply Voltages	<u>19.47</u> VDC	22 $\begin{smallmatrix} +3 \\ -3 \end{smallmatrix}$ VDC	<u>JFR</u> MET ED.	1-3-78
		<u>10.076</u> VDC	10 $\begin{smallmatrix} +0.3 \\ -0.1 \\ -0.5 \end{smallmatrix}$ VDC	<u>JFR</u> MET ED.	1-3-78
		<u>595.3</u> VDC	600 $\begin{smallmatrix} +16 \\ -16 \end{smallmatrix}$ VDC	<u>JFR</u> MET ED.	1-3-78
10.2.3	Test Point Voltage	<u>-6.86</u> -VDC	-6.8 $\begin{smallmatrix} +0.5 \\ -0.5 \end{smallmatrix}$ VDC	<u>JFR</u> MET ED.	1-3-78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>YES</u> Yes No	Yes	<u>JFR</u> MET ED.	1-3-78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>YES</u> Yes No	Yes	<u>JFR</u> MET ED.	1-3-78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>YES</u> Yes No	Yes	<u>JFR</u> MET ED.	1-3-78
10.3.6	Green Fail Indicator Comes On	<u>YES</u> Yes No	Yes	<u>JFR</u> MET ED.	1-3-78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>NO</u> Yes No	Yes	<u>JAB</u> met-ed	1/30/78
	Alarms Cleared	<u>NO</u> Yes No	Yes	<u>JAB</u> met-ed	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>Ecal</i> <i>MET ED</i>	<i>1/3/78</i>
10.4.13	Alert Full Scale	Energize at full scale <i>yes</i>	Yes	<i>Ecal</i> <i>MET ED</i>	<i>1/3/78</i>
10.4.14	Alert Alarm Reset	Amber Light Out <i>yes</i>	Yes	<i>Ecal</i> <i>MET ED</i>	<i>1/3/78</i>
10.4.17	Setpoint Value from Table 2 adjusted	Value <i>1.0</i> <del>0.5</del>	+0 -1 Minor Scale Division	<i>JHR</i> <i>MET ED</i>	<i>1/3/78</i>
10.5.6	High Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JHR</i> <i>MET ED</i>	<i>1/3/78</i>
10.5.9	High Alarm Full Scale	Energize at full scale <i>yes</i>	Yes	<i>JHR</i> <i>MET ED</i>	<i>1/3/78</i>
10.5.10	High Alarm Reset	Red Light Out <i>yes</i>	Yes	<i>JHR</i> <i>MET ED</i>	<i>1/3/78</i>
10.5.12	Setpoint Value from Table 2 adjusted	Value <i>2.0</i>	+0 -1 Minor Scale Division	<i>JHR</i> <i>MET ED</i>	<i>1/3/78</i>
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JHR</i> <i>MET ED</i>	<i>1/3/78</i>
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Yes	<i>JHR</i> <i>MET ED</i>	<i>1/29/78</i>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AR MET EO	1-3-78
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH MET EO	1/31/78
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AR MET EO	1-3-78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AR MET EO	1-3-78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH MET EO	3/1/78
10.6.6	High Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AR MET - EO	1-3-78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MET EO	1/31/78
	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AR MET - EO	1-3-78
	Remote Audible Alarm Sounding if applicable	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH MET EO	1/31/78
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AR MET EO	1-3-78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.3.2	Background Radiation Reading (Meter)	2mr/h	N/A	JH III-E	3/5/78
10.8.3	Background Radiation Reading (Recorder)	2mr/h	N/A	JH III-E	3/5/78
10.9.3	Radiation Input produced by FCK closed	52	N/A	JH III-E	3/5/78
	Intermediate Open	382 192.0	N/A N/A	JH III-E	3/5/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 3.0 <u>Recorder</u> 3.0	N/A	JH III-E	3/5/78
10.9.5	Intermediate	<u>Meter</u> 3.5 <u>Recorder</u> 4.0	N/A	JH III-E	3/5/78
10.9.6	Open	<u>Meter</u> 5 <u>Recorder</u> 2.0	N/A	JH III-E	3/5/78
10.9.9	Net Radiation Closed	<u>Meter</u> 24.8 <u>Recorder</u> 24.8	+ 20% of 10.9.3 + 4% of 10.9.3	JH III-E	3/5/78
	Intermediate	<u>Meter</u> 24.8 <u>Recorder</u> 24.8	+ 20% of 10.9.3 + 4% of 10.9.3	JH III-E	3/5/78
	Open	<u>Meter</u> 24.8 <u>Recorder</u> 197.5	+ 20% of 10.9.3 + 4% of 10.9.3	JH III-E	3/5/78
10.10.3	Check Source Reading	≤ 0 x10 mr/h	Greater than reading obtained in step 10.3.2	JH III-E	3/5/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	• 2.0 mR/hr	N/A	JSI / M-E	3/5/75
10.8.3	Background Radiation Reading (Recorder)	• 2.0 mR/hr	N/A	JSI / M-E	3/5/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A	JSI / M-E	3/5/75
	Intermediate Open E-16		N/A	JSI / M-E	3/5/75
10.9.4	Measured Radiation Meter Recorder	6.0 x10 <sup>-3</sup> mr/h 7.0	N/A	JSI / M-E	3/5/75
10.9.5	Intermediate Meter Recorder	3.9 x10 <sup>-3</sup> mr/h 4.5	N/A	JSI / M-E	3/5/75
10.9.6	Open Meter Recorder	1.9 x10 <sup>-3</sup> mr/h 2.3	N/A	JSI / M-E	3/5/75
10.9.9	Net Radiation E-16 Meter Recorder	59.5 x10 <sup>-3</sup> mr/h 69.5	+ 20% of 10.9.3 + 4% of 10.9.3	JSI / M-E	3/5/75
	Intermediate E-16 Meter Recorder	59.5 x10 <sup>-3</sup> mr/h 49.5	+ 20% of 10.9.3 + 4% of 10.9.3	JSI / M-E	3/5/75
	Open E-16 Meter Recorder	59.5 x10 <sup>-3</sup> mr/h 29.5	+ 20% of 10.9.3 + 4% of 10.9.3	JSI / M-E	3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>116.0</u> VAC	117 $\begin{smallmatrix} +15 \\ -15 \end{smallmatrix}$ VAC	JH noted	1/24/78
10.2.2	Power Supply Voltages	<del>22.0</del> VDC 19.0	22 $\begin{smallmatrix} +5 +3 \\ -3 -3 \end{smallmatrix}$ VDC	JH noted	1/26/78
		<u>10.03</u> VDC	10 $\begin{smallmatrix} +0.5 \\ -0.1 \\ -0.5 \end{smallmatrix}$ VDC	JH noted	1/26/78
		<del>598</del> VDC 598	600 $\begin{smallmatrix} +16 \\ -16 \end{smallmatrix}$ VDC	JH noted	1/26/78
10.2.3	Test Point Voltage	<del>6.85</del> VDC -6.583	-6.8 $\begin{smallmatrix} +0.5 \\ -0.5 \end{smallmatrix}$ VDC	JH noted	1/26/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
	Alarms Cleared	<u>Yes</u> Yes No	Yes	JH noted	1/26/78

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745-268

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/25/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/25/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW MET ED	1/25/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>100</u>	+0 -1 Minor Scale Division	TJW MET ED	1/25/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/25/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/25/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW MET ED	1/25/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1000</u>	+0 -1 Minor Scale Division	TJW MET ED	1/25/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JAB MET-ED	1/26/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JAB MET-ED	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	ft noted	1/26/78
	Remote Audible Alarm is sounding (if applicable)	Yes _____ No _____ N/A <u>not</u>	Yes N/A	ft noted	1/26/78
10.6.4	RMS Audible Alarm Reset	Yes <u>✓</u> No _____	Yes	ft noted	1/26/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>✓</u> No _____	Yes	ft noted	1/26/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A <u>not</u>	Yes N/A	ft noted	1/26/78
10.6.6	High Alarm Light ON	Yes <u>✓</u> No _____	Yes	ft noted	1/26/78
	RMS Audible Alarm Sounding	Yes <u>✓</u> No _____	Yes	ft noted	1/26/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	ft noted	1/26/78
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A <u>not</u>	Yes N/A	ft noted	1/26/78
10.6.8	All Alarms Clear	Yes <u>✓</u> No _____	Yes	ft noted	1/26/78

**POOR ORIGINAL**

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745-270

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	.12	N/A	JAB	met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1	N/A	JAB	met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 m/h	N/A	JAB	met-Ed	1/24/78
	Intermediate Open	382 1920	N/A N/A	JAB	met-Ed	1/24/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 50 x10 <sup>-</sup> mr/h <u>Recorder</u> 52 27.1m	N/A	JAB	met-Ed	1/24/78
10.9.5	Intermediate	<u>Meter</u> 350 x10 <sup>-</sup> mr/h <u>Recorder</u> 360 357m	N/A	JAB	met-Ed	1/24/78
10.9.6	Open	<u>Meter</u> 1400 x10 <sup>-</sup> mr/h <u>Recorder</u> 1700 42.4m	N/A	JAB	met-Ed	1/29/78
10.9.9	Net Radiation Closed	<u>Meter</u> 49.88 x10 <sup>-</sup> mr/h <u>Recorder</u> 51.88 379.88	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/29/78
	Intermediate	<u>Meter</u> 1699.88 x10 <sup>-</sup> mr/h <u>Recorder</u> 1699.88 357.88	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/24/78
	Open	<u>Meter</u> 1879.88 x10 <sup>-</sup> mr/h <u>Recorder</u> 1689.88	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/24/78
10.10.3	Check Source Reading	1.6 x10 <sup>-</sup> mr/h	Greater than reading obtained in step 10.8.2	JAB	met-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	.25	N/A	JAS	Met-Ed	1/24/78
10.8.3	Background Radiation Reading (Recorder)	.25	N/A	JAS	Met-Ed	1/24/78
10.9.3	Radiation Input produced by FCK closed		N/A			
	Intermediate Open	E-16	N/A N/A			
10.9.4	Measured Radiation Closed	Meter <u>60</u> Recorder <u>72</u> 28.3m	N/A	JAS	Met-Ed	1/24/78
10.9.5	Intermediate	Meter <u>400</u> Recorder <u>450</u> 36.2m	N/A	JAS	Met-Ed	1/24/78
10.9.6	Open	Meter <u>2000</u> Recorder <u>2000</u> 430m	N/A	JAS	Met-Ed	1/24/78
10.9.9	Net Radiation Closed	Meter <u>57.75</u> Recorder <u>71.75</u> E-16	+ 20% of 10.9.3 + 4% of 10.9.3	JAS	Met-Ed	1/30/78
	Intermediate	Meter <u>399.25</u> Recorder <u>449.25</u> E-16	+ 20% of 10.9.3 + 4% of 10.9.3	JAS	Met-Ed	1/30/78
	Open	Meter <u>1999.75</u> Recorder <u>1999.75</u> E-16	+ 20% of 10.9.3 + 4% of 10.9.3	JAS	Met-Ed	1/30/78

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TMI UNIT 2  
 INST. CAL. DATA SHEET

MTX 23

SYSTEM Pipe  
 LOCATION Flow Control Valve  
 TOLERANCE \_\_\_\_\_ ENG. UNIT \_\_\_\_\_  
 OR \_\_\_\_\_  
 % OF SPAN \_\_\_\_\_  
 MAX. ERROR OF % OF SPAN \_\_\_\_\_  
 OR \_\_\_\_\_  
 MAX. ERROR ENG. UNITS \_\_\_\_\_  
 STATIC PRESSURE ERROR \_\_\_\_\_

INST. NO. 10-2-200  
 SERIAL NO. \_\_\_\_\_  
 MODEL OR TYPE \_\_\_\_\_  
 FUNCTION \_\_\_\_\_  
 RANGE \_\_\_\_\_  
 OUTPUT \_\_\_\_\_  
 ACTION \_\_\_\_\_

REFERENCE DATA \_\_\_\_\_

SPECIAL DATA \_\_\_\_\_

**POOR ORIGINAL**

CALIB.	TESTER	REVISION	SPAN	ZERO	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
1	0	0	.1	.1	0	.27	.1	.1	.1	
2	2	2	1	1	10	10.50	.98	1	1	
3	4	4	10	10	20	20.30	0.2	10	0	
4	6	6	10 <sup>2</sup>	90 <sup>2</sup>	30	30.7	0.4x10 <sup>2</sup>	10 <sup>2</sup>	10 <sup>2</sup>	
5	8	8	10 <sup>3</sup>	9x10 <sup>2</sup>	40	40.24	0.3x10 <sup>2</sup>	10 <sup>3</sup>	10 <sup>3</sup>	
6	10	10	10 <sup>4</sup>	8x10 <sup>3</sup>	50	50	0.3x10 <sup>3</sup>	10 <sup>4</sup>	10 <sup>4</sup>	

REMARKS: \_\_\_\_\_

TEST EQUIPMENT USED

EQUIP. Flow Valve SER. NO. 1530310 LAST CAL. 2/27 CAL. FREQ. 1000<sup>3</sup>  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. Duplicate Page 0 LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_

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MACHINERY HISTORY ENTRY: DATE \_\_\_\_\_ INITIALS 745 273  
 PERFORMED BY J. Bauman DATE 2/2/78 APPROVED BY J. Bauman DATE 2/2/78

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>116.3</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JH noted	1/26/78
10.2.2	Power Supply Voltages	<u>19.03</u> VDC	22 $\begin{matrix} +5.3 \\ -5.3 \end{matrix}$ VDC	JH noted	1/26/78
		<u>10.015</u> VDC	10 $\begin{matrix} +8.5 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JH noted	1/26/78
		<u>577.5</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JH noted	1/26/78
10.2.3	Test Point Voltage	<u>-6.877</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JH noted	1/26/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> No	Yes	JH noted	1/26/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	JH noted	1/26/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> No	Yes	JH noted	1/26/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> No	Yes	JH noted	1/26/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	JH noted	1/26/78
	Alarms Cleared	<u>Yes</u> No	Yes	JH noted	1/26/78

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POOR ORIGINAL

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW METCO	1/25/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW METCO	1/25/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW METCO	1/25/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>100</u>	+0 -1 Minor Scale Division	TJW METCO	1/25/78
10.3.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW METCO	1/25/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW METCO	1/25/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW METCO	1/25/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1000</u>	+0 -1 Minor Scale Division	TJW METCO	1/25/78
				⊗	
10.6.3	Alert Alarm Light ON	Yes <u>Yes</u> No _____	Yes	AH METCO	1/26/78
	RMS Audible Alarm Sounding	Yes <u>Yes</u> No _____	Yes	AH METCO	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	ff	met/d	1/26/78
	Remote Audible Alarm is sounding (if applicable)	Yes <u>✓</u> No _____ N/A <u>N/A</u>	Yes N/A	ff	met/d	1/26/78
10.6.4	RMS Audible Alarm Reset	Yes <u>✓</u> No _____	Yes	ff	met/d	1/26/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>✓</u> No _____	Yes	ff	met/d	1/26/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A <u>N/A</u>	Yes N/A	ff	met/d	1/26/78
10.6.6	High Alarm Light ON	Yes <u>✓</u> No _____	Yes	ff	met/d	1/26/78
	RMS Audible Alarm Sounding	Yes <u>✓</u> No _____	Yes	ff	met/d	1/26/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	ff	met/d	1/26/78
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A <u>N/A</u>	Yes N/A	ff	met/d	1/26/78
10.6.8	All Alarms Clear	Yes <u>✓</u> No _____	Yes	ff	met/d	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.12 200/hr	N/A	JAB Med Ed	1/24/78
10.8.3	Background Radiation Reading (Recorder)	.1 mrad/hr	N/A	JAB Med Ed	1/24/78
10.9.3	Radiation Input produced by FCK closed	52 mrad/hr	N/A	JAB Med Ed	1/24/78
	Intermediate Open	382 mrad/hr 1920 mrad/hr	N/A N/A	JAB Med Ed JAB Med Ed	1/24/78 1/24/78
10.9.4	Measured Radiation Closed	Meter 55 x10 <sup>-6</sup> mr/h Recorder 40 27.2 mrad	N/A	JAB Med Ed	1/24/78
10.9.5	Intermediate	Meter 350 x10 <sup>-6</sup> mr/h Recorder 300 36.2 mrad	N/A	JAB Med Ed	1/24/78
10.9.6	Open	Meter 1700 x10 <sup>-6</sup> mr/h Recorder 1000 43.1 mrad	N/A	JAB Med Ed	1/24/78
10.9.9	Net Radiation Closed	Meter 54.88 x10 <sup>-6</sup> mr/h Recorder 39.88 E-18	+ 20% of 10.9.6 + 4% of 10.9.3	JAB Med Ed	1/24/78
	Intermediate	Meter 387.88 x10 <sup>-6</sup> mr/h Recorder 277.88 E-18	+ 20% of 10.9.6 + 4% of 10.9.3	JAB Med Ed	1/24/78
	Open	Meter 1697.88 x10 <sup>-6</sup> mr/h Recorder 1994.88 E-18	+ 20% of 10.9.6 + 4% of 10.9.3	JAB Med Ed	1/24/78
10.10.3	Check Source Reading	1.5 x10 mr/h	Greater than reading obtained in step 10.8.2	JAB	1/24/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.25	N/A	JAB Met-Ed	1/24/78
10.8.3	Background Radiation Reading (Recorder)		N/A		
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Meter Closed Recorder	<u>60</u> x10 <sup>-3</sup> mr/h <u>60</u> 24.5mr	N/A	JAB Met-Ed	1/24/78
10.9.5	Intermediate Meter Recorder	<u>350</u> x10 <sup>-3</sup> mr/h <u>300</u> 24.6mr	N/A	JAB Met-Ed	1/29/78
10.9.6	Open Meter Recorder	<u>1800</u> x10 <sup>-3</sup> mr/h <u>1500</u> 43.6mr	N/A	JAB Met-Ed	1/29/78
10.9.9	Net Radiation Closed E-16 Recorder	<u>59.75</u> x10 <sup>-3</sup> mr/h <u>59.75</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/26/78
	Intermediate E-16 Recorder	<u>349.75</u> x10 <sup>-3</sup> mr/h <u>299.75</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Open E-16 Recorder	<u>1799.75</u> x10 <sup>-3</sup> mr/h <u>1499.75</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/30/78

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TMI UNIT 2  
 INST. CAL. DATA SHEET

MTX 23

SYSTEM RMS  
 LOCATION Foot Landing Bridge  
 TOLERANCE \_\_\_\_\_ ENG. UNIT \_\_\_\_\_  
 OR \_\_\_\_\_  
 % OF SPAN \_\_\_\_\_  
 MAX. ERROR OF % OF SPAN \_\_\_\_\_  
 OR \_\_\_\_\_  
 MAX. ERROR ENG. UNITS \_\_\_\_\_  
 STATIC PRESSURE ERROR \_\_\_\_\_

INST. NO. 17-R-20  
 SERIAL NO. \_\_\_\_\_  
 MODEL OR TYPE \_\_\_\_\_  
 FUNCTION \_\_\_\_\_  
 RANGE \_\_\_\_\_  
 OUTPUT \_\_\_\_\_  
 ACTION \_\_\_\_\_

REFERENCE DATA

SPECIAL DATA

**POOR ORIGINAL**

CALIB.	TESTING RECORDED	TESTING DATE	TESTING METER	TESTING METER	TESTING METER	TESTING METER	TESTING METER	TESTING METER	TESTING METER
1	0	0	1	1	1	0	0.10		1
2	2	2	1	1	2	10	10.41		1
3	4	4	10	10	4	20	20.26	10	10
4	6	6	10 <sup>2</sup>	10 <sup>2</sup>	9x10 <sup>1</sup>	30	30.15	10 <sup>2</sup>	10 <sup>2</sup>
5	8	8	10 <sup>3</sup>	9x10 <sup>2</sup>	8x10 <sup>2</sup>	40	40.09	10 <sup>3</sup>	10 <sup>3</sup>
6	10	10	10 <sup>4</sup>	8x10 <sup>3</sup>	8.3x10 <sup>3</sup>	50	50	10 <sup>4</sup>	10 <sup>4</sup>

REMARKS:

TEST EQUIPMENT USED

EQUIP. FLC DUM SER. NO. 530310 LAST CAL. 10/77 CAL. FREQ. semi  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_

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MACHINERY HISTORY ENTRY: DATE \_\_\_\_\_ INITIALS \_\_\_\_\_  
 PERFORMED BY [Signature] DATE 12/78 APPROVED BY [Signature] DATE 2/2/81

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>118</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JH M-E	1/31/75
10.2.2	Power Supply Voltages	<u>21.8</u> VDC	22 $\begin{matrix} +3 \\ -3 \end{matrix}$ VDC	JH M-E	1/31/75
		<u>9.98</u> VDC	10 $\begin{matrix} +0.2 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JH M-E	1/31/75
		<u>6.23</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JH M-E	1/31/75
10.2.3	Test Point Voltage	<u>-6.56</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JH M-E	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.6	Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
	Alarms Cleared	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <u>1.20</u>	Yes	JH M-E	1/31/75
10.4.13	Alert Full Scale	Energize at full scale <u>1.20</u>	Yes	JH M-E	1/31/75
10.4.14	Alert Alarm Reset	Amber Light Out <u>yes</u>	Yes	JH M-E	1/31/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>25.2</u>	+0 -1 Minor Scale Division	JH M-E	1/31/75
10.5.6	High Alarm Zero	Energize at 1st graduation <u>1.20</u>	Yes	JH M-E	1/31/75
10.5.9	High Alarm Full Scale	Energize at full scale <u>1.20</u>	Yes	JH M-E	1/31/75
10.5.10	High Alarm Reset	Red Light Out <u>yes</u>	Yes	JH M-E	1/31/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>52.2</u>	+0 -1 Minor Scale Division	JH M-E	1/31/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH M-E	1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH M-E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>Y</u> No _____	Yes	JH ME	1/31/78
	Remote Audible Alarm is sounding (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JH ME	1/31/78
10.6.4	RMS Audible Alarm Reset	Yes <u>Y</u> No _____	Yes	JH ME	1/31/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>X</u> No _____	Yes	JH ME	1/31/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JH ME	1/31/78
10.6.6	High Alarm Light ON	Yes <u>X</u> No _____	Yes	JH ME	1/31/78
	RMS Audible Alarm Sounding	Yes <u>X</u> No _____	Yes	JH ME	1/31/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JH ME	1/31/78
	Remote Audible Alarm Sounding if applicable	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JH ME	1/31/78
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	JH ME	1/31/78

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ep o.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
1.2	Background Radiation Reading (Meter)	15 mrad/hr	N/A	JJS Met Ed	2/3/78
3.3	Background Radiation Reading (Recorder)	15 mrad/hr	N/A	JJS Met Ed	2/3/78
9.3	Radiation Input produced by FCK closed	52 mrad/hr	N/A	JJS Met Ed	2/3/78
	Intermediate Open	382 mrad/hr 1920 mrad/hr	N/A N/A	JJS Met Ed	2/3/78
9.4	Measured Radiation Closed	<u>Meter</u> 50 <u>Recorder</u> 54	N/A	JJS Met Ed	2/3/78
9.5	Intermediate	<u>Meter</u> 2.5 <u>Recorder</u> 3.5	N/A	JJS Met Ed	2/3/78
9.6	Open	<u>Meter</u> 6.3 <u>Recorder</u> 1.9	N/A	JJS Met Ed	2/3/78
10.9.9	Net Radiation Closed	<u>Meter</u> 5.2 <u>Recorder</u> 5.4	+ 20% of 10.9.3 + 4% of 10.9.3	JJS Met Ed	2/3/78
	Intermediate	<u>Meter</u> 3.5 <u>Recorder</u> 3.8	+ 20% of 10.9.3 + 4% of 10.9.3	JJS Met Ed	2/3/78
	Open	<u>Meter</u> 1.63 <u>Recorder</u> 1.9	+ 20% of 10.9.3 + 4% of 10.9.3	JJS Met Ed	2/3/78
10.10.3	Check Source Reading	3 x10 <sup>0</sup> mrad/hr	Greater than reading obtained in step 10.3.2	JJS Met Ed	2/3/78

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P	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
2	Background Radiation Reading (Meter)	0.15 mr/h	N/A	JH Met Ed	2/3/78
3	Background Radiation Reading (Recorder)	0.15 mr/h	N/A	JH Met Ed	2/3/78
1.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
9.4	Measured Radiation Closed	Meter: $\frac{6.2}{x10^3}$ mr/h Recorder: $\frac{6.2}{x10^3}$	N/A	JH Met Ed	2/5/78
9.5	Intermediate	Meter: $\frac{3.9}{x10^3}$ mr/h Recorder: $\frac{4.0}{x10^3}$	N/A	JH Met Ed	2/3/78
9.6	Open	Meter: $\frac{1.9}{x10^3}$ mr/h Recorder: $\frac{2.0}{x10^3}$	N/A	JH Met Ed	2/3/78
10.9.9	Net Radiation Closed	Meter: $\frac{6.0}{x10^3}$ mr/h Recorder: $\frac{6.7}{x10^3}$	+ 20% of 10.9.3 + 4% of 10.9.3	JH Met Ed	2/5/78
	Intermediate	Meter: $\frac{3.4}{x10^3}$ mr/h Recorder: $\frac{4.0}{x10^3}$	+ 20% of 10.9.3 + 4% of 10.9.3	JH Met Ed	2/3/78
	Open	Meter: $\frac{1.7}{x10^3}$ mr/h Recorder: $\frac{2.0}{x10^3}$	+ 20% of 10.9.3 + 4% of 10.9.3	JH Met Ed	2/3/78
10.10.3	Check Source Reading	$\frac{...}{x10}$ mr/h	Greater than reading obtained in step 10.3.2	N/A	N/A

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>12.2</u> VAC	117 $\pm 15$ VAC	JU M-E	1/31/75
10.2.2	Power Supply Voltages	<u>21.8</u> VDC	22 $\pm 3$ VDC	JU M-E	1/31/75
		<u>10.32</u> VDC	10 $\pm 0.5$ VDC	JU M-E	1/31/75
		<u>6.25</u> VDC	600 $\pm 16$ VDC	JU M-E	1/31/75
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\pm 0.5$ VDC	JU M-E	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	JU M-E	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JU M-E	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	JU M-E	1/31/75
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	JU M-E	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JU M-E	1/31/75
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	JU M-E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <u>1.25</u>	Yes	JMI	1/31/78
10.4.13	Alert Full Scale	Energize at full scale <u>1.25</u>	Yes	JMI	1/31/78
10.4.14	Alert Alarm Reset	Amber Light Out <u>1.25</u>	Yes	JMI	1/31/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>25.0</u>	+0 -1 Minor Scale Division	JMI	1/31/78
10.5.6	High Alarm Zero	Energize at 1st graduation <u>1.25</u>	Yes	JMI	1/31/78
10.5.9	High Alarm Full Scale	Energize at full scale <u>1.25</u>	Yes	JMI	1/31/78
10.5.10	High Alarm Reset	Red Light Out <u>1.25</u>	Yes	JMI	1/31/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>50.0</u>	+0 -1 Minor Scale Division	JMI	1/31/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JMI	1/31/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JMI	1/31/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>Y</u> No _____	Yes	JH ME	1/31/78
	Remote Audible Alarm is sounding (if applicable)	Yes <u>Y</u> No _____ N/A <u>X</u>	Yes N/A	JH ME	1/31/78
10.6.4	RMS Audible Alarm Reset	Yes <u>X</u> No _____	Yes	JH ME	1/31/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>X</u> No _____	Yes	JH ME	1/31/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>Y</u> No _____ N/A <u>X</u>	Yes N/A	JH ME	1/31/78
10.6.6	High Alarm Light ON	Yes <u>X</u> No _____	Yes	JH ME	1/31/78
	RMS Audible Alarm Sounding	Yes <u>X</u> No _____	Yes	JH ME	1/31/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JH ME	1/31/78
	Remote Audible Alarm Sounding if applicable	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JH ME	1/31/78
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	JH ME	1/31/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2	N/A	JSS M-E	3/5/75
10.8.3	Background Radiation Reading (Recorder)	.2	N/A	JSS M-E	3/5/75
10.9.3	Radiation Input produced by FCX closed	52	N/A	JSS M-E	3/5/75
	Intermediate Open	592 192.0	N/A N/A	JSS M-E	3/5/75
10.9.4	Measured Radiation Closed	<u>Meter</u> 5.2 <u>Recorder</u>	$\times 10^{-3}$ mr/h N/A	JSS M-E	3/5/75
10.9.5	Intermediate	<u>Meter</u> 3.8 <u>Recorder</u> 2.8	$\times 10^{-3}$ mr/h N/A	JSS M-E	3/5/75
10.9.6	Open	<u>Meter</u> 1.9 <u>Recorder</u>	$\times 10^{-3}$ mr/h N/A	JSS M-E	3/5/75
10.9.9	Net Radiation Closed	<u>Meter</u> 498 <u>Recorder</u> E-17	$\times 10^{-3}$ mr/h + 20% of 10.9.3 ± 4% of 10.9.3	JSS M-E	3/5/75
	Intermediate	<u>Meter</u> 3.75 <u>Recorder</u> E-17	$\times 10^{-3}$ mr/h + 20% of 10.9.3 ± 4% of 10.9.3	JSS M-E	3/5/75
	Open	<u>Meter</u> 52.5 <u>Recorder</u> E-17	$\times 10^{-3}$ mr/h + 20% of 10.9.3 ± 4% of 10.9.3	JSS M-E	3/5/75
10.10.3	Check Source Reading	4.0 $\times 10^{-3}$ mr/h	Greater than reading obtained in step 10.9.2	JSS M-E	3/5/75

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2	N/A	JSS M-E	3/5/75
10.8.3	Background Radiation Reading (Recorder)	.2	N/A	JSS M-E	3/5/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A	J	
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> 7.0 <u>Recorder</u> 7.0	N/A	JSS M-E	3/5/75
10.9.5	Intermediate	<u>Meter</u> 4.0 <u>Recorder</u> 4.0	N/A	JSS M-E	3/5/75
10.9.6	Open	<u>Meter</u> 2.0 <u>Recorder</u> 2.0	N/A	JSS M-E	3/5/75
10.9.9	Net Radiation Closed E-16	<u>Meter</u> 6.95 <u>Recorder</u> 6.95	+ 20% of 10.9.3 + 4% of 10.9.3	JSS M-E	3/5/75
	Intermediate E-16	<u>Meter</u> 3.995 <u>Recorder</u> 3.995	+ 20% of 10.9.3 + 4% of 10.9.3	JSS M-E	3/5/75
	Open E-16	<u>Meter</u> 2.0 <u>Recorder</u> 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	JSS M-E	3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.2.1	AC Input Voltage Check	<u>119</u> VAC	117 $\begin{smallmatrix} +15 \\ -15 \end{smallmatrix}$ VAC	JH	M-E	1/31/75
10.2.2	Power Supply Voltages	<u>22.01</u> VDC	22 $\begin{smallmatrix} +3 \\ -3 \end{smallmatrix}$ VDC	JH	M-E	1/31/75
		<u>10.08</u> VDC	10 $\begin{smallmatrix} +0.2 \\ -0.1 \\ -0.5 \end{smallmatrix}$ VDC	JH	M-E	1/31/75
		<u>6.03</u> VDC	600 $\begin{smallmatrix} +16 \\ -16 \end{smallmatrix}$ VDC	JH	M-E	1/31/75
10.2.3	Test Point Voltage	<u>-6.81</u> VDC	-6.8 $\begin{smallmatrix} +0.5 \\ -0.5 \end{smallmatrix}$ VDC	JH	M-E	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	JH	M-E	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JH	M-E	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	JH	M-E	1/31/75
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	JH	M-E	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JH	M-E	1/31/75
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	JH	M-E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <u>✓</u>	Yes	JM ME	1/31/78
10.4.13	Alert Full Scale	Energize at full scale <u>✓</u>	Yes	JM ME	1/31/78
10.4.14	Alert Alarm Reset	Amber Light Out <u>✓</u>	Yes	JM ME	1/31/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>25.0</u>	+0 -1 Minor Scale Division	JM ME	1/31/78
10.5.6	High Alarm Zero	Energize at 1st graduation <u>✓</u>	Yes	JM ME	1/31/78
10.5.9	High Alarm Full Scale	Energize at full scale <u>✓</u>	Yes	JM ME	1/31/78
10.5.10	High Alarm Reset	Red Light Out <u>✓</u>	Yes	JM ME	1/31/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>5.20</u>	+0 -1 Minor Scale Division	JM ME	1/31/78
10.6.3	Alert Alarm Light ON	Yes <u>✓</u> No _____	Yes	JM ME	1/31/78
	RMS Audible Alarm Sounding <u>D-195</u>	Yes <u>✓</u> No _____	Yes	JM ME	1/31/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE	1/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JSI MIE	1/31/75
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE	1/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE	1/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JSI MIE	1/31/75
10.6.6	High Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE	1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE	1/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE	1/31/75
	Remote Audible Alarm Sounding if applicable	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JSI MIE	1/31/75
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	0.2 mR/hr	N/A			2/3/78
10.8.3	Background Radiation Reading (Recorder)	0.2 mR/hr	N/A			2/3/78
10.9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JSS		2/3/78
	Intermediate Open	382 <del>110</del> mR/hr 1900	N/A N/A	JSS		2/3/78
10.9.4	Measured Radiation Closed	Meter 5.0 Recorder 5.5	N/A	JSS		2/3/78
10.9.5	Intermediate	Meter 3.5 Recorder 4.0	N/A	JSS		2/3/78
10.9.6	Open	Meter 1.5 Recorder 2	N/A	JSS		2/3/78
10.9.9	Net Radiation Closed	Meter 5.0 Recorder 5.5	+ 20% of 10.9.3 + 4% of 10.9.3	JSS		2/3/78
	Intermediate	Meter 3.5 Recorder 4.0	+ 20% of 10.9.3 + 4% of 10.9.3	JSS		2/3/78
	Open	Meter 1.5 Recorder 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JSS		2/3/78
10.10.3	Check Source Reading	4 x10 <sup>3</sup> mR/hr	Greater than reading obtained in step 10.8.2	JSS		2/3/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	2.00/hr	N/A	JSS		2/3/78
10.8.3	Background Radiation Reading (Recorder)	2.00/hr	N/A	JSS		2/3/78
10.9.3	Radiation Input produced by FCK closed	E-16	N/A			
	Intermediate Open	E-16	N/A			
10.9.4	Measured Radiation Closed	Meter: 6.0 Recorder: 6.0	N/A	JSS		2/3/78
10.9.5	Intermediate	Meter: 3.5 Recorder: 4.5	N/A	JSS		2/3/78
10.9.6	Open	Meter: 2.0 Recorder: 2.5	N/A	JSS		2/3/78
10.9.9	Net Radiation Closed	Meter: 6.0 Recorder: 6.3	+ 20% of 10.9.3 + 4% of 10.9.3	JSS		2/3/78
	Intermediate	Meter: 3.8 Recorder: 4.5	+ 20% of 10.9.3 + 4% of 10.9.3	JSS		2/3/78
	Open	Meter: 2.0 Recorder: 2.5	+ 20% of 10.9.3 + 4% of 10.9.3	JSS		2/3/78
10.10.3	Check Source Reading	x10 mr/l	Greater than reading obtained in step 10.8.2	N/A		N/A

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>115.5</u> VAC	117 $\pm$ 15 VAC	TJW MET ED	1/22/78
10.2.2	Power Supply Voltages	<u>14.16</u> VDC	22 $\pm$ 3 VDC	TJW MET ED	1/22/78
		<u>10.07</u> VDC	10 $\pm$ 0.5 VDC	TJW MET ED	1/22/78
		<u>595.4</u> VDC	600 $\pm$ 16 VDC	TJW MET ED	1/22/78
10.2.3	Test Point Voltage	<u>-6.57</u> VDC	-6.8 $\pm$ 0.5 VDC	TJW MET ED	1/22/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> Yes <u>      </u> No	Yes	TJW MET ED	1/27/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>NO</u> Yes <u>      </u> No	Yes	TJW MET ED	1/27/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>YES</u> Yes <u>      </u> No	Yes	TJW MET ED	1/27/78
10.3.6	Green Fail Indicator Comes On	<u>YES</u> Yes <u>      </u> No	Yes	TJW MET ED	1/27/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>NO</u> Yes <u>      </u> No	Yes	TJW MET ED	1/27/78
	Alarms Cleared	<u>YES</u> Yes <u>      </u> No	Yes	TJW MET ED	1/27/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/27/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/27/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW MET ED	1/27/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>10</u>	+0 -1 Minor Scale Division	TJW MET ED	1/27/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/27/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/27/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW MET ED	1/27/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>20</u>	+0 -1 Minor Scale Division	TJW MET ED	1/27/78
10.6.3	Alert Alarm Light ON	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes	JAB -1/27/78	1/30/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JAB Met-Ed	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>Yes</u> No _____	Yes	TJW MET ED	1/27/78
	Remote Audible Alarm is sounding (if applicable) <span style="margin-left: 100px;">D-4</span>	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	TJW MET ED	1/27/78
10.6.4	RMS Audible Alarm Reset	Yes <u>Yes</u> No _____	Yes	TJW MET ED	1/27/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>Yes</u> No _____	Yes	TJW MET ED	1/27/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	TJW MET ED	1/27/78
10.6.6	High Alarm Light ON	Yes <u>Yes</u> No _____	Yes	TJW MET ED	1/27/78
	RMS Audible Alarm Sounding <span style="margin-left: 100px;">D-4</span>	Yes _____ No <u>NO</u>	Yes	TJW MET ED	1/27/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>Yes</u> No _____	Yes	TJW MET ED	1/27/78
	Remote Audible Alarm Sounding if applicable	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	TJW MET ED	1/27/78
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	TJW MET ED	1/27/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.28 mr/hr	N/A	JAB Met-El	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.3 mr/hr	N/A	JAB Met-El	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mr/hr	N/A	JAB Met-El	1/29/78
	Intermediate Open	382 mr/hr 1920 mr/hr	N/A N/A	JAB Met-El	1/29/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 50 $\times 10^0$ mr/h <u>Recorder</u> 50	N/A	JAB Met-El	1/29/78
10.9.5	Intermediate	<u>Meter</u> 380 $\times 10^0$ mr/h <u>Recorder</u> 500	N/A	JAB Met-El	1/29/78
10.9.6	Open	<u>Meter</u> 2000.0 $\times 10^0$ mr/h <u>Recorder</u> 2500	N/A	JAB Met-El	1/29/78
10.9.9	Net Radiation Closed	<u>Meter</u> 49.88 $\times 10^0$ mr/h <u>Recorder</u> 49.84	$\pm 20\%$ of 10.9.3 $\pm 4\%$ of 10.9.3	JAB Met-El	1/29/78
	Intermediate	<u>Meter</u> 379.88 $\times 10^0$ mr/h <u>Recorder</u> 499.88	$\pm 20\%$ of 10.9.3 $\pm 4\%$ of 10.9.3	JAB Met-El	1/29/78
	Open	<u>Meter</u> 1999.88 $\times 10^0$ mr/h <u>Recorder</u> 2997.88	$\pm 20\%$ of 10.9.3 $\pm 4\%$ of 10.9.3	JAB Met-El	1/29/78
10.10.3	Check Source Reading	<u>4</u> $\times 10^0$ mr/h	Greater than reading obtained in step 10.8.2	JAB Met-El	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
9.8.2	Background Radiation Reading (Meter)	.12 - 1/2	N/A	JAB	Met-Ed	1/24/78
9.8.3	Background Radiation Reading (Recorder)	.1	N/A	JAB	Met-Ed	1/29/78
9.9.3	Radiation Input produced by FCK closed	E-14	N/A			
	Intermediate Open	E-16	N/A N/A			
10.9.4	Measured Radiation Closed	Meter <u>65</u> Recorder <u>70</u>	N/A	JAB	Met-Ed	1/24/78
10.9.5	Intermediate	Meter <u>500</u> Recorder <u>600</u>	N/A	JAB	Met-Ed	1/24/78
10.9.6	Open	Meter <u>2800</u> Recorder <u>3000</u>	N/A	JAB	Met-Ed	1/24/78
10.9.9	Net Radiation Closed	Meter <u>69.88</u> Recorder <u>68.88</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/30/78
	Intermediate	Meter <u>499.88</u> Recorder <u>579.88</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/30/78
	Open	Meter <u>2999.88</u> Recorder <u>2999.88</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/30/78

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TMI UNIT 2  
 INST. CAL. DATA SHEET

MTX 23

SYSTEM P1115  
 LOCATION FIELD HANDLING  
 TOLERANCE \_\_\_\_\_ ENG. UNIT \_\_\_\_\_  
 OR \_\_\_\_\_  
 % OF SPAN \_\_\_\_\_  
 MAX. ERROR OF % OF SPAN \_\_\_\_\_  
 OR \_\_\_\_\_  
 MAX. ERROR ENG. UNITS \_\_\_\_\_  
 STATIC PRESSURE ERROR \_\_\_\_\_

INST. NO. 20-2-215  
 SERIAL NO. \_\_\_\_\_  
 MODEL OR TYPE \_\_\_\_\_  
 FUNCTION \_\_\_\_\_  
 RANGE \_\_\_\_\_  
 OUTPUT \_\_\_\_\_  
 ACTION \_\_\_\_\_

REFERENCE DATA

**POOR ORIGINAL**

SPECIAL DATA

CALIB.	DES. REC.	ACTUAL REC.	SCALE FACTOR	SCALE	TEMP. METER	COMP. OUT	ACTUAL COMP.	ROUNDING	ACTUAL RECORD
1	0	0	.1	.1	.1	0	0.00	.1	.1
2	2	2	1	1	.9	10	10.90	1	1
3	4	4	10	10	9	20	20.35	10	10
4	6	6	10 <sup>2</sup>	90	90	30	30.40	10 <sup>2</sup>	10 <sup>2</sup>
5	8	8	10 <sup>3</sup>	910 <sup>2</sup>	810 <sup>2</sup>	40	40.50	10 <sup>3</sup>	10 <sup>3</sup>
6	10	10	10 <sup>4</sup>	910 <sup>3</sup>	810 <sup>3</sup>	50	50.00	10 <sup>4</sup>	10 <sup>4</sup>

REMARKS:

TEST EQUIPMENT USED

EQUIP. Fluke DMM SER. NO. 530310 LAST CAL. 12/1/77 CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_

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MACHINERY HISTORY ENTRY: DATE \_\_\_\_\_ INITIALS \_\_\_\_\_  
 PERFORMED BY [Signature] DATE 2/2/78 APPROVED BY [Signature] DATE 2/2/78

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>117.8</u> VAC	117 $\pm 15$ VAC	JH M-E	1/31/75
10.2.2	Power Supply Voltages	<u>21.03</u> VDC	22 $\pm 3$ VDC	JH M-E	1/31/75
		<u>9.98</u> VDC	10 $\pm 0.5$ VDC	JH M-E	1/31/75
		<u>598</u> VDC	600 $\pm 16$ VDC	JH M-E	1/31/75
10.2.3	Test Point Voltage	<u>-6.56</u> VDC	-6.8 $\pm 0.5$ VDC	JH M-E	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.6	Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
	Alarms Cleared	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation (1.0)	Yes	JH ME	1/31/75
10.4.13	Alert Full Scale	Energize at full scale (1.0)	Yes	JH ME	1/31/75
10.4.14	Alert Alarm Reset	Amber Light Out (1.0)	Yes	JH ME	1/31/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>25.0</u>	+0 -1 Minor Scale Division	JH ME	1/31/75
10.5.6	High Alarm Zero	Energize at 1st graduation (1.0)	Yes	JH ME	1/31/75
10.5.9	High Alarm Full Scale	Energize at full scale (1.0)	Yes	JH ME	1/31/75
10.5.10	High Alarm Reset	Red Light Out (1.0)	Yes	JH ME	1/31/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>50.0</u>	+0 -1 Minor Scale Division	JH ME	1/31/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	JH ME	1/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>X 77 X</u> No _____ N/A <u>X 77 X</u>	Yes N/A	JH ME	1/31/75
10.6.4	RMS Audible Alarm Reset	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>Y</u> No _____ N/A <u>X 77 X</u>	Yes N/A	JH ME	1/31/75
10.6.6	High Alarm Light ON	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
	RMS Audible Alarm Sounding	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
	Remote Audible Alarm Sounding if applicable	Yes <u>Y</u> No _____ N/A <u>X 77 X</u>	Yes N/A	JH ME	1/31/75
10.6.8	All Alarms Clear	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2	N/A	JSS M-E	3/5/78
10.8.3	Background Radiation Reading (Recorder)	.2	N/A	JSS M-E	3/5/78
10.9.3	Radiation Input produced by FCK closed	52	N/A	JH M-E	3/5/78
	Intermediate Open	382 1920	N/A N/A	JSS M-E	3/5/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 3.0 $\times 10^{-3}$ mr/h <u>Recorder</u> 3.4	N/A	JSS M-E	3/5/78
10.9.5	Intermediate	<u>Meter</u> 3.6 $\times 10^{-3}$ mr/h <u>Recorder</u> 3.9	N/A	JSS M-E	3/5/78
10.9.6	Open	<u>Meter</u> 5 $\times 10^{-3}$ mr/h <u>Recorder</u> 7.2	N/A	JSS M-E	3/5/78
10.9.9	Net Radiation Closed	<u>Meter</u> 2.78 $\times 10^{-3}$ mr/h <u>Recorder</u> E-17 5.18	+ 20% of 10.9.3 + 4% of 10.9.3	JSS M-E	3/5/78
	Intermediate	<u>Meter</u> 3.55 $\times 10^{-3}$ mr/h <u>Recorder</u> E-17 3.98	+ 20% of 10.9.3 + 4% of 10.9.3	JSS M-E	3/5/78
	Open	<u>Meter</u> 15.85 $\times 10^{-3}$ mr/h <u>Recorder</u> E-17 19.98	+ 20% of 10.9.3 + 4% of 10.9.3	JSS M-E	3/5/78
10.10.3	Check Source Reading	4.2 $\times 10^{-3}$ mr/h	Greater than reading obtained in step 10.8.2	JSS M-E	3/5/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	2	N/A	JSS M-E	3/5/75
10.8.3	Background Radiation Reading (Recorder)	2	N/A	JSS M-E	3/5/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> 2.2 <u>Recorder</u> 2.2	N/A	JSS M-E	3/5/75
10.9.5	Intermediate	<u>Meter</u> 3.5 <u>Recorder</u> 4.5	N/A	JSS M-E	3/5/75
10.9.6	Open	<u>Meter</u> 2.2 <u>Recorder</u> 2.2	N/A	JSS M-E	3/5/75
10.9.9	Net Radiation Closed	<u>Meter</u> 5.45 <u>Recorder</u> 6.95	+ 20% of 10.9.3 + 4% of 10.9.3	JSS M-E	3/5/75
	Intermediate E-16	<u>Meter</u> 3.85 <u>Recorder</u> 4.45	+ 20% of 10.9.3 + 4% of 10.9.3	JSS M-E	3/5/75
	Open E-16	<u>Meter</u> 1.115 <u>Recorder</u> 2.155	+ 20% of 10.9.3 + 4% of 10.9.3	JSS M-E	3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>115</u> VAC	117 $\pm 15$ VAC	JH M-E	1/31/75
10.2.2	Power Supply Voltages	<u>2205</u> VDC	22 $\pm 3$ VDC	JH M-E	1/31/75
		<u>10.10</u> VDC	10 $\pm 0.1$ VDC	JH M-E	1/31/75
		<u>597</u> VDC	600 $\pm 16$ VDC	JH M-E	1/31/75
10.2.3	Test Point Voltage	<u>-6.56</u> VDC	-6.8 $\pm 0.5$ VDC	JH M-E	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.6	Green Fail Indicator Comes On	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
	Alarms Cleared	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JH M-E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <i>(yes)</i>	Yes	JH ME	1/31/78
10.4.13	Alert Full Scale	Energize at full scale <i>(yes)</i>	Yes	JH ME	1/31/78
10.4.14	Alert Alarm Reset	Amber Light Out <i>(yes)</i>	Yes	JH ME	1/31/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>500</u>	+0 -1 Minor Scale Division	JH ME	1/31/78
10.5.6	High Alarm Zero	Energize at 1st graduation <i>(yes)</i>	Yes	JH ME	1/31/78
10.5.9	High Alarm Full Scale	Energize at full scale <i>(yes)</i>	Yes	JH ME	1/31/78
10.5.10	High Alarm Reset	Red Light Out <i>(yes)</i>	Yes	JH ME	1/31/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1000</u>	+0 -1 Minor Scale Division	JH ME	1/31/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/31/78
	RMS Audible Alarm Sounding <i>D</i>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	1/31/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>X</u> No _____ N/A <u>JH</u>	Yes N/A	JH ME	1/31/75
10.6.4	RMS Audible Alarm Reset	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>Y</u> No _____ N/A <u>JH</u>	Yes N/A	JH ME	1/31/75
10.6.6	High Alarm Light ON	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
	RMS Audible Alarm Sounding	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75
	Remote Audible Alarm Sounding if applicable	Yes <u>Y</u> No _____ N/A <u>JH</u>	Yes N/A	JH ME	1/31/75
10.6.8	All Alarms Clear	Yes <u>Y</u> No _____	Yes	JH ME	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.4	N/A	JH M.E.	3/5/75
10.8.3	Background Radiation Reading (Recorder)	.4	N/A	JH M.E.	3/5/75
10.9.3	Radiation Input produced by FCK closed	52	N/A	JH M.E.	3/5/75
	Intermediate Open	352 1920	N/A N/A	JH M.E.	3/5/75
10.9.4	Measured Radiation Closed	Meter <u>5.2</u> Recorder <u>6.0</u>	$\times 10^{-2}$ mr/h N/A	JH M.E.	3/5/75
10.9.5	Intermediate	Meter <u>4.1</u> Recorder <u>3.7</u>	$\times 10^{-2}$ mr/h N/A	JH M.E.	3/5/75
10.9.6	Open	Meter <u>7.5</u> Recorder <u>2.0</u>	$\times 10^{-2}$ mr/h N/A	JH M.E.	3/5/75
10.9.9	Net Radiation Closed	Meter <u>2.5</u> Recorder <u>2.0</u>	$\times 10^{-2}$ mr/h + 20% of 10.9.3 + 4% of 10.9.3	JH M.E.	3/5/75
	Intermediate	Meter <u>3.2</u> Recorder <u>2.6</u>	$\times 10^{-2}$ mr/h + 20% of 10.9.3 + 4% of 10.9.3	JH M.E.	3/5/75
	Open	Meter <u>3.0</u> Recorder <u>2.7</u>	$\times 10^{-2}$ mr/h + 20% of 10.9.3 + 4% of 10.9.3	JH M.E.	3/5/75
10.10.3	Check Source Reading	<u>5.0</u> $\times 10^{-2}$ mr/h	Greater than reading obtained in step 10.8.2	JH M.E.	3/5/75

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.4	N/A	J.S. M-E	3/5/78
10.8.3	Background Radiation Reading (Recorder)	.4	N/A	J.S. M-E	3/5/78
10.9.3	Radiation Input produced by FCK closed		N/A		
	Intermediate Open		N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> 7.0 $\times 10^{-2}$ mr/h <u>Recorder</u> 6.5	N/A	J.S. M-E	3/5/78
10.9.5	Intermediate	<u>Meter</u> 4.5 $\times 10^{-2}$ mr/h <u>Recorder</u> 4.0	N/A	J.S. M-E	3/5/78
10.9.6	Open	<u>Meter</u> 23 $\times 10^{-3}$ mr/h <u>Recorder</u> 20	N/A	J.S. M-E	3/5/78
10.9.9	Net Radiation Closed	<u>Meter</u> 796 $\times 10^{-3}$ mr/h <u>Recorder</u> 746	+ 20% of 10.9.3 + 4% of 10.9.3	J.S. M-E	3/5/78
	Intermediate	<u>Meter</u> 444 $\times 10^{-3}$ mr/h <u>Recorder</u> 396	+ 20% of 10.9.3 + 4% of 10.9.3	J.S. M-E	3/5/78
	Open	<u>Meter</u> 427 $\times 10^{-3}$ mr/h <u>Recorder</u> 396	+ 20% of 10.9.3 + 4% of 10.9.3	J.S. M-E	3/5/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>116.5</u> VAC	117 $\pm 15$ VAC	TJW MET ED	1/28/78
10.2.2	Power Supply Voltages	<u>20.2</u> VDC	22 $\pm 3$ VDC	TJW MET ED	1/28/78
		<u>10.1</u> VDC	10 $\pm 1$ VDC	TJW MET ED	1/28/78
		<u>578.1</u> VDC	600 $\pm 16$ VDC	TJW MET ED	1/28/78
10.2.3	Test Point Voltage	<u>-6.55</u> VDC	-6.8 $\pm 0.5$ VDC	TJW MET ED	1/28/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> No	Yes	TJW MET ED	1/28/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>No</u> Yes D-4 LIGHT OUT NO AUDIBLE	Yes	TJW MET ED	1/28/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> No	Yes	TJW MET ED	1/28/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> No	Yes	TJW MET ED	1/28/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>No</u> Yes D-4 FLASHING OUT NO AUDIBLE	Yes	TJW MET ED	1/28/78
	Alarms Cleared	<u>X</u> Yes No	Yes	TJW MET ED	1/28/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/28/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/28/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW MET ED	1/28/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	TJW MET ED	1/28/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/28/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/28/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW MET ED	1/28/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	TJW MET ED	1/28/78
					#
10.6.3	Alert Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/25/78
	RMS Audible Alarm Sounding	Yes _____ No <u>X</u> LIGHT BL- NO AUDIBLE	Yes	TJW MET ED	1/28/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/22/78
	Remote Audible Alarm is sounding (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/23/78
10.6.4	RMS Audible Alarm Reset	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/23/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/23/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/22/78
10.6.6	High Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/22/78
	RMS Audible Alarm Sounding	Yes _____ No <u>X</u>	Yes LIGHT BUT NO AUDIBLE	TJW MET ED	1/22/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/22/78
	Remote Audible Alarm Sounding if applicable	Yes <u>YES</u> No <u>X</u> N/A _____	Yes N/A	TJW MET ED	1/23/78
10.6.8	All Alarms Clear	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/23/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB / met-EL	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB / met-EL	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB / met-EL	1/29/78
	Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB / met-EL	1/29/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 30 $\times 10^{-6}$ mr/h <u>Recorder</u> 55	N/A	JAB / met-EL	1/29/78
10.9.5	Intermediate	<u>Meter</u> 3.8 $\times 10^{-6}$ mr/h <u>Recorder</u> 9.0	N/A	JAB / met-EL	1/29/78
10.9.6	Open	<u>Meter</u> 1.9 $\times 10^{-3}$ mr/h <u>Recorder</u> 2.0	N/A	JAB / met-EL	1/29/78
10.9.9	Net Radiation Closed	<u>Meter</u> 5.0 $\times 10^{-6}$ mr/h <u>Recorder</u> 5.5 E-17	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / met-EL	1/29/78
	Intermediate	<u>Meter</u> 3.8 $\times 10^{-6}$ mr/h <u>Recorder</u> 4.0 E-17	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / met-EL	1/30/78
	Open	<u>Meter</u> 1.9 $\times 10^{-3}$ mr/h <u>Recorder</u> 2.0 E-17	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / met-EL	1/29/78
10.10.3	Check Source Reading	4.0 $\times 10^{-6}$ mr/h	Greater than reading obtained in step 10.8.2	JAB / met-EL	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB Met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB Met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed		N/A		
	Intermediate Open		N/A N/A		
10.9.4	Measured Radiation Closed	<u>Meter</u> 6.0 <u>Recorder</u> 6.0	N/A	JAB Met-Ed	1/29/78
10.9.5	Intermediate	<u>Meter</u> 4.0 <u>Recorder</u> 4.8	N/A	JAB Met-Ed	1/29/78
10.9.6	Open	<u>Meter</u> 2.0 <u>Recorder</u> 2.1	N/A	JAB Met-Ed	1/29/78
10.9.9	Net Radiation Closed	<u>Meter</u> 6.0 <u>Recorder</u> 6.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Intermediate	<u>Meter</u> 4.0 <u>Recorder</u> 4.8	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Open	<u>Meter</u> 2.0 <u>Recorder</u> 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>116.2</u> VAC	117 $\pm 15$ VAC	TJW MET ED	1/29/78
10.2.2	Power Supply Voltages	<u>19.09</u> VDC	22 $\pm 3$ VDC	TJW MET ED	1/29/78
		<u>10.09</u> VDC	10 $\pm 1$ VDC	TJW MET ED	1/29/78
		<u>597.2</u> VDC	600 $\pm 16$ VDC	TJW MET ED	1/29/78
10.2.3	Test Point Voltage	<u>-6.75</u> VDC	-6.8 $\pm 0.5$ VDC	TJW MET ED	1/29/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> Yes <u>      </u> No	Yes	TJW MET ED	1/29/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>      </u> Yes <u>  X  </u> No LIGHT BUT NO AUDIBLE	Yes	TJW MET ED	1/29/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> Yes <u>      </u> No	Yes	TJW MET ED	1/29/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> Yes <u>      </u> No	Yes	TJW MET ED	1/29/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>      </u> Yes <u>  X  </u> No LIGHT BUT NO AUDIBLE	Yes	TJW MET ED	1/29/78
	Alarms Cleared	<u>  X  </u> Yes <u>      </u> No	Yes	TJW MET ED	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TW MET ED	1/29/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TW MET ED	1/29/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TW MET ED	1/29/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	TW MET ED	1/29/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TW MET ED	1/29/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TW MET ED	1/29/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TW MET ED	1/29/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	TW MET ED	1/29/78
10.6.3	Alert Alarm Light ON	Yes <u>YES</u> No _____	Yes	TW MET ED	1/29/78
	RMS Audible Alarm Sounding	Yes _____ No <u>X</u> LIGHT SUP NO AUDIBLE	Yes	TW MET ED	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>Yes</u> No _____	Yes	JW MET ED	1/29/78
	Remote Audible Alarm is sounding (if applicable)	Yes <u>Yes</u> No _____ N/A _____	Yes N/A	JW MET ED	1/29/78
10.6.4	RMS Audible Alarm Reset	Yes <u>Yes</u> No _____	Yes	JW MET ED	1/29/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>Yes</u> No _____	Yes	JW MET ED	1/29/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>Yes</u> No _____ N/A _____	Yes N/A	JW MET ED	1/29/78
10.6.6	High Alarm Light ON	Yes <u>Yes</u> No _____	Yes	JW MET ED	1/29/78
	RMS Audible Alarm Sounding	Yes _____ No <u>X</u>	Yes	JW MET ED	1/29/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>Yes</u> No _____	Yes	JW MET ED	1/29/78
	Remote Audible Alarm Sounding if applicable	Yes <u>Yes</u> No <u>No</u> N/A _____	Yes N/A	JW MET ED	1/29/78
10.6.8	All Alarms Clear	Yes <u>✓</u> No _____	Yes	JW MET ED	2/1/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2 m <sup>4</sup> /hr	N/A	JAB Met-El	1/30/78
10.8.3	Background Radiation Reading (Recorder)	.2 m <sup>4</sup> /hr	N/A	JAB Met-El	1/30/78
10.9.3	Radiation Input produced by FCK closed	52 m <sup>4</sup> /hr	N/A	JAB Met-El	1/30/78
	Intermediate Open	382 m <sup>4</sup> /hr 1920 m <sup>4</sup> /hr	N/A N/A	JAB Met-El	1/30/78
10.9.4	Measured Radiation Closed	Meter <u>5.0</u> Recorder <u>55</u>	N/A	JAB Met-El	1/30/78
10.9.5	Intermediate	Meter <u>3.8 2</u> Recorder <u>4.0</u>	N/A	JAB Met-El	1/30/78
10.9.6	Open	Meter <u>1.8 3</u> Recorder <u>2.0</u>	N/A	JAB Met-El	1/30/78
10.9.9	Net Radiation Closed	Meter <u>5.0 1</u> Recorder <u>55</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-El	1/30/78
	Intermediate	Meter <u>3.8 2</u> Recorder <u>4.0</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-El	1/30/78
	Open	Meter <u>1.8 3</u> Recorder <u>2.0</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-El	1/30/78
10.10.3	Check Source Reading	<u>5</u> x10 <sup>3</sup> mr/h	Greater than reading obtained in step 10.8.2	JAB Met-El	1/30/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	2 mR/hr	N/A	JAB Met-El	1/30/78
10.8.3	Background Radiation Reading (Recorder)	2 mR/hr	N/A	JAB Met-El	1/30/78
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Meter Closed Recorder	<u>6.0</u> x10 <sup>-1</sup> mr/h <u>6.8</u>	N/A	JAB Met-El	1/30/78
10.9.5	Intermediate Meter Recorder	<u>4.0</u> x10 <sup>-2</sup> mr/h <u>4.8</u>	N/A	JAB Met-El	1/30/78
10.9.6	Open Meter Recorder	<u>2.0</u> x10 <sup>-3</sup> mr/h <u>2.2</u>	N/A	JAB Met-El	1/30/78
10.9.9	Net Radiation E-16 Closed Recorder	<u>6.0</u> x10 <sup>-1</sup> mr/h <u>6.8</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-El	1/30/78
	Intermediate E-16 Recorder	<u>4.0</u> x10 <sup>-2</sup> mr/h <u>4.8</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-El	1/30/78
	Open E-16 Recorder	<u>2.0</u> x10 <sup>-3</sup> mr/h <u>2.2</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-El	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
0.2.1	AC Input Voltage Check	<u>116.1</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	TJW MET ED	1/29/78
0.2.2	Power Supply Voltages	<u>20.17</u> VDC	22 $\begin{matrix} +3 \\ -3 \end{matrix}$ VDC	TJW MET ED	1/29/78
		<u>10.11</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	TJW MET ED	1/29/78
		<u>594.2</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	TJW MET ED	1/29/78
10.2.3	Test Point Voltage	<u>-6.66</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	TJW MET ED	1/29/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> Yes <u>      </u> No	Yes	TJW MET ED	1/29/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>      </u> Yes <u>AD</u> No	Yes FLASHING OUT NO HORN	TJW MET ED	1/29/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>YES</u> Yes <u>      </u> No	Yes	TJW MET ED	1/29/78
10.3.6	Green Fail Indicator Comes On	<u>YES</u> Yes <u>      </u> No	Yes	TJW MET ED	1/29/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>      </u> Yes <u>X</u> No high level and audible	Yes	TJW MET ED	1/29/78
	Alarms Cleared	<u>YES</u> Yes <u>      </u> No	Yes	TJW MET ED	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED		1/29/78
4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW MET ED		1/29/78
4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW MET ED		1/29/78
4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	TJW MET ED		1/29/78
5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED		1/29/78
5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW MET ED		1/29/78
5.10	High Alarm Reset	Red Light Out	Yes YES	TJW MET ED		1/29/78
5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	TJW MET ED		1/29/78
6.3	Alert Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJW MET ED		1/29/78
	RMS Audible Alarm Sounding	Yes _____ No <u>X</u>	Yes	TJW MET ED		1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW	NET ED	1/29/78
	Remote Audible Alarm is sounding (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW	NET ED	1/29/78
10.6.4	RMS Audible Alarm Reset	Yes <u>YES</u> No _____	Yes	TJW	NET ED	1/29/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>YES</u> No _____	Yes	TJW	NET ED	1/29/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW	NET ED	1/29/78
10.6.6	High Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJW	NET ED	1/29/78
	RM Audible Alarm Sounding	Yes <u>YES</u> No <u>NO</u>	Yes	TJW	NET ED	1/29/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW	NET ED	1/29/78
	Remote Audible Alarm Sounding if applicable	Yes <u>YES</u> No <u>NO</u> N/A _____	Yes N/A	TJW	NET ED	1/29/78
10.6.8	All Alarms Clear	Yes <u>YES</u> No _____	Yes	TJW	NET ED	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
9.8.2	Background Radiation Reading (Meter)	20 <sup>4</sup> m/hr	N/A	JAB met-el	1/30/78
9.8.3	Background Radiation Reading (Recorder)	20 <sup>4</sup> m/hr	N/A	JAB met-el	1/30/78
9.9.3	Radiation Input produced by FCK closed	52 m/hr	N/A	JAB met-el	1/30/78
	Intermediate Open	352 m/hr 1720 m/hr	N/A N/A	JAB met-el	1/30/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 5.0 <u>Recorder</u> 5.5	N/A	JAB met-el	1/30/78
10.9.5	Intermediate	<u>Meter</u> 3.8 <u>Recorder</u> 3.8	N/A	JAB met-el	1/30/78
10.9.6	Open	<u>Meter</u> 2.0 <u>Recorder</u> 2.0	N/A	JAB met-el	1/30/78
10.9.9	Net Radiation Closed	<u>Meter</u> 5.0 <u>Recorder</u> 5.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-el	1/30/78
	Intermediate	<u>Meter</u> 3.8 <u>Recorder</u> 3.8	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-el	1/30/78
	Open	<u>Meter</u> 2.0 <u>Recorder</u> 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-el	1/30/78
10.10.3	Check Source Reading	7 x10 <sup>0</sup> m/hr	Greater than reading obtained in step 10.8.2	JAB met-el	1/30/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
0.8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB	Met-El	1/30/78
0.8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB	Met-El	1/30/78
10.9.3	Radiation Input produced by FCK closed E-16		N/A			
	Intermediate Oper E-16		N/A N/A			
10.9.4	Measured Radiation Meter Recorder	$\frac{6.0}{x10^{-1}}$ mr/h 6.5	N/A	JAB	Met-El	1/30/78
10.9.5	Intermediate Meter Recorder	$\frac{4.0}{x10^{-2}}$ mr/h 4.0	N/A	JAB	Met-El	1/30/78
10.9.6	Open Meter Recorder	$\frac{2.1}{x10^{-3}}$ mr/h 2.1	N/A	JAB	Met-El	1/30/78
10.9.9	Net Radiation Meter Recorder E-16	$\frac{6.0}{x10^{-1}}$ mr/h 6.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-El	1/30/78
	Intermediate Meter Recorder E-16	$\frac{4.0}{x10^{-2}}$ mr/h 4.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-El	1/30/78
	Open Meter Recorder E-16	$\frac{2.1}{x10^{-3}}$ mr/h 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-El	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
1.2.1	AC Input Voltage Check	<del>118.8</del> VAC	117 $\pm 15$ $-15$ VAC	JH	M-E	1/26/75
1.2.2	Power Supply Voltages	<u>22</u> VDC	22 $\pm 3$ $-3$ VDC	JH	M-E	1/26/75
		<u>10.05</u> VDC	10 $\pm 0.1$ $-0.1$ $-0.3$ VDC	JH	M-E	1/26/75
		<u>6.03</u> VDC	600 $\pm 16$ $-16$ VDC	JH	M-E	1/26/75
10.2.3	Test Point Voltage	<u>-6.86</u> -VDC	-6.8 $\pm 0.5$ $-0.5$ VDC	JH	M-E	1/26/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> No	Yes	JH	M-E	1/26/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	JH	M-E	1/26/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> No	Yes	JH	M-E	1/26/75
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> No	Yes	JH	M-E	1/26/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	JH	M-E	1/26/75
	Alarms Cleared	<u>Yes</u> No	Yes	JH	M-E	1/26/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW	NET ED	1/26/78
4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW	NET ED	1/26/78
4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW	NET ED	1/26/78
0.4.17	Setpoint Value from Table 2 adjusted	Value <u>10</u>	+0 -1 Minor Scale Division	TJW	NET ED	1/26/78
0.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW	NET ED	1/26/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW	NET ED	1/26/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW	NET ED	1/26/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>20</u>	+0 -1 Minor Scale Division	TJW	NET ED	1/26/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	[Signature]		3/15/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	[Signature]		3/15/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>Y</u> No _____	Yes	JSI ME	2/1/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>Y</u> No _____ N/A <u>X</u>	Yes N/A	JSI ME	2/1/75
10.6.4	RMS Audible Alarm Reset	Yes <u>X</u> No _____	Yes	JSI ME	2/1/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>Y</u> No _____	Yes	JSI ME	2/1/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JSI ME	2/1/75
10.6.6	High Alarm Light ON	Yes <u>Y</u> No _____	Yes	JSI ME	2/1/75
	RMS Audible Alarm Sounding	Yes <u>X</u> No _____	Yes	JSI ME	2/1/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>Y</u> No _____	Yes	JSI ME	2/1/75
	Remote Audible Alarm Sounding if applicable	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JSI ME	2/1/75
10.6.8	All Alarms Clear	Yes <u>Y</u> No _____	Yes	JSI ME	2/1/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB met-EL	1/29/78
8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB met-EL	1/29/78
9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB met-EL	1/29/78
	Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB met-EL	1/29/78
10.9.4	Measured Radiation Closed	Meter $\frac{5.5}{\times 10^{-1}}$ mr/h Recorder 5.0	N/A	JAB met-EL	1/29/78
10.9.5	Intermediate	Meter $\frac{3.9}{\times 10^{-2}}$ mr/h Recorder 3.5	N/A	JAB met-EL	1/29/78
10.9.6	Open	Meter $\frac{2.0}{\times 10^{-2}}$ mr/h Recorder 1.7	N/A	JAB met-EL	1/29/78
10.9.9	Net Radiation Closed	Meter $\frac{5.5}{\times 10^{-1}}$ mr/h E-17 Recorder 5.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-EL	1/29/78
	Intermediate	Meter $\frac{3.9}{\times 10^{-2}}$ mr/h E-17 Recorder 3.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-EL	1/30/78
	Open	Meter $\frac{2.0}{\times 10^{-2}}$ mr/h E-17 Recorder 1.7	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-EL	1/29/78
10.10.3	Check Source Reading	$\frac{6}{\times 10^{-1}}$ mr/h	Greater than reading obtained in step 10.8.2	JAB met-EL	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB	met-ED	1/30/78
8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB	met-ED	1/30/78
9.3	Radiation Input produced by FCK closed	E-16	N/A			
	Intermediate Open	E-16	N/A			
10.9.4	Measured Radiation	Meter <u>7.0</u> Recorder <u>7.0</u>	N/A	JAB	met-ED	1/30/78
10.9.5	Intermediate	Meter <u>4.5</u> <sup>2</sup> Recorder <u>4.5</u>	N/A	JAB	met-ED	1/30/78
10.9.6	Open	Meter <u>2.5</u> <sup>3</sup> Recorder <u>2.1</u>	N/A	JAB	met-ED	1/30/78
10.9.9	Net Radiation	Meter <u>7.0</u> <sup>1</sup> Recorder <u>7.0</u>	+ 20% of 10.9. <sup>3</sup> + 4% of 10.9. <sup>3</sup>	JAB	met-ED	1/30/78
	Intermediate	Meter <u>4.5</u> <sup>2</sup> Recorder <u>4.5</u>	+ 20% of 10.9. <sup>3</sup> + 4% of 10.9. <sup>3</sup>	JAB	met-ED	1/30/78
	Open	Meter <u>2.5</u> <sup>3</sup> Recorder <u>2.1</u>	+ 20% of 10.9. <sup>3</sup> + 4% of 10.9. <sup>3</sup>	JAB	met-ED	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
2.1	AC Input Voltage Check	<u>113</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JH ME		2/3/78
2.2	Power Supply Voltages	<u>22.4</u> VDC	22 $\begin{matrix} +5.3 \\ -5.3 \end{matrix}$ VDC	JH ME		2/3/78
		<u>10.73</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JH ME		2/1/78
		<u>655</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JH ME		2/1/78
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JH ME		2/1/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> No	Yes	JH ME		2/1/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	JH ME		2/1/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> No	Yes	JH ME		2/1/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> No	Yes	JH ME		2/1/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	JH ME		2/1/78
	Alarms Cleared	<u>Yes</u> No	Yes	JH ME		2/1/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
4.10	Alert Alarm Zero	Energize at 1st graduation (1.0)	Yes	JH	ME	2/1/75
4.13	Alert Full Scale	Energize at full scale (1.0)	Yes	JH	ME	2/1/75
4.14	Alert Alarm Reset	Amber Light Out (1.0)	Yes	JH	ME	2/1/75
4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	JH	ME	2/1/75
5.6	High Alarm Zero	Energize at 1st graduation (1.0)	Yes	JH	ME	2/1/75
5.9	High Alarm Full Scale	Energize at full scale (1.0)	Yes	JH	ME	2/1/75
5.10	High Alarm Reset	Red Light Out (1.0)	Yes	JH	ME	2/1/75
5.12	Setpoint Value from Table 2 adjusted	Value <u>3.0</u>	+0 -1 Minor Scale Division	JH	ME	2/1/75
6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH	ME	2/1/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH	ME	2/1/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
6.3	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JH ME		2/1/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JH ME		2/1/75
6.4	RMS Audible Alarm Reset	Yes <u>X</u> No _____	Yes	JH ME		2/1/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>X</u> No _____	Yes	JH ME		2/1/75
6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JH ME		2/1/75
6.6	High Alarm Light ON	Yes <u>X</u> No _____	Yes	JH ME		2/1/75
	RMS Audible Alarm Sounding	Yes <u>X</u> No _____	Yes	JH ME		2/1/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JH ME		2/1/75
	Remote Audible Alarm Sounding if applicable	Yes <u>X</u> No _____ N/A <u>X</u>	Yes N/A	JH ME		2/1/75
6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	JH ME		2/1/75

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
			Org.		
Background Radiation Reading (Meter)	0.2 mR/hr	N/A			2/3/78
Background Radiation Reading (Recorder)	0.2 mR/hr	N/A			2/3/78
3 Radiation Input produced by FCK closed	52 mR/hr	N/A			2/3/78
Intermediate Open	382 mR/hr 1920 1192 mR/hr	N/A N/A			2/3/78
9.4 Measured Radiation Closed	Meter Recorder	$5.5 \times 10^{-2}$ mr/h N/A			2/3/78
9.5 Intermediate	Meter Recorder	$5.5 \times 10^{-2}$ mr/h 3.8			2/3/78
9.6 Open	Meter Recorder	$1.73 \times 10^{-2}$ mr/h 1.3			2/3/78
9.9 Net Radiation Closed	Meter Recorder	$5.1 \times 10^{-2}$ mr/h 5.5	+ 20% of 10.9 + 4% of 10.9.3		2/3/78
Intermediate	Meter Recorder	$3.5 \times 10^{-2}$ mr/h 3.3	+ 20% of 10.9 + 4% of 10.9.3		2/3/78
Open	Meter Recorder	$1.7 \times 10^{-2}$ mr/h 1.8	+ 20% of 10.9 + 4% of 10.9.3		2/3/78
10.10.3 Check Source Reading		$5 \times 10^0$ mr/h	Greater than reading obtained in cop 10.8.2		2/3/78

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UNIT FCK

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	2.3m/h	N/A	Met Ed	2/3/78
10.8.3	Background Radiation Reading (Recorder)	2.2m/h	N/A	Met Ed	2/3/78
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A		
10.9.4	Measured Radiation Closed	Meter 2.5 $\times 10^{-1}$ mr/h Recorder 2.4	N/A	Met Ed	2/3/78
10.9.5	Intermediate	Meter 3.9 $\times 10^{-2}$ mr/h Recorder 4.0	N/A	Met Ed	2/3/78
10.9.6	Open	Meter 1.7 $\times 10^{-3}$ mr/h Recorder 2.0	N/A	Met Ed	2/3/78
10.9.9	Net Radiation Closed E-16	Meter 6.0 $\times 10^{-1}$ mr/h Recorder 6.2	+ 20% of 10.9.3 + 4% of 10.9.3	Met Ed	2/3/78
	Intermediate E-16	Meter 3.9 $\times 10^{-2}$ mr/h Recorder 4.0	+ 20% of 10.9.3 + 4% of 10.9.3	Met Ed	2/3/78
	Open E-16	Meter 1.7 $\times 10^{-3}$ mr/h Recorder 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	Met Ed	2/3/78
10.10.3	Check Source Reading	$\times 10^{-1}$ mr/h	Greater than reading obtained in step 10.8.2	N/A	N/A

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
0.2.1	AC Input Voltage Check.	<u>117.5</u> VAC	117 $\begin{matrix} +15 \\ -13 \end{matrix}$ VAC	JH ME	2/1/78
0.2.2	Power Supply Voltages	<u>22.9</u> VDC	22 $\begin{matrix} +3 \\ -3 \end{matrix}$ VDC	JH ME	2/1/78
		<u>10.11</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \end{matrix}$ VDC	JH ME	2/1/78
		<u>597</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JH ME	2/1/78
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.3 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JH ME	2/1/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	JH ME	2/1/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JH ME	2/1/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	JH ME	2/1/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	JH ME	2/1/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JH ME	2/1/78
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	JH ME	2/1/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation (10)	Yes	JSI ME	2/1/78
11.4.13	Alert Full Scale	Energize at full scale (12)	Yes	JSI ME	2/1/78
10.4.14	Alert Alarm Reset	Amber Light Out (12)	Yes	JSI ME	2/1/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>10</u>	+0 -1 Minor Scale Division	JSI ME	2/1/78
10.5.6	High Alarm Zero	Energize at 1st graduation (12)	Yes	JSI ME	2/1/78
10.5.9	High Alarm Full Scale	Energize at full scale (12)	Yes	JSI ME	2/1/78
10.5.10	High Alarm Reset	Red Light Out (12)	Yes	JSI ME	2/1/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>20</u>	+0 -1 Minor Scale Division	JSI ME	2/1/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI ME	2/1/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI ME	2/1/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JH ME	2/1/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>X</u> No _____ N/A <u>X/14</u>	Yes N/A	JH ME	2/1/75
10.6.4	RMS Audible Alarm Reset	Yes <u>X</u> No _____	Yes	JH ME	2/1/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>X</u> No _____	Yes	JH ME	2/1/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A <u>X/14</u>	Yes N/A	JH ME	2/1/75
10.6.6	High Alarm Light ON	Yes <u>X</u> No _____	Yes	JH ME	2/1/75
	RMS Audible Alarm Sounding	Yes <u>X</u> No _____	Yes	JH ME	2/1/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JH ME	2/1/75
	Remote Audible Alarm Sounding if applicable	Yes <u>X</u> No _____ N/A <u>X/14</u>	Yes N/A	JH ME	2/1/75
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	JH ME	2/1/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	0.1 mr/hr	N/A	JSI Met Ed	2/3/78
10.8.3	Background Radiation Reading (Recorder)	0.1 mr/hr	N/A	JSS Met Ed	2/3/78
10.9.3	Radiation Input produced by FCK closed	52 mr/hr	N/A	JSI Met Ed	2/3/78
	Intermediate Open	380 mr/hr 1920 mr/hr	N/A N/A	JSI Met Ed	2/3/78
10.9.4	Measured Radiation Closed	Meter: $5.5 \times 10^{-2}$ mr/h Recorder: <u>5.5</u>	N/A	JSI Met Ed	2/3/78
10.9.5	Intermediate	Meter: $3.8 \times 10^{-2}$ mr/h Recorder: <u>4.0</u>	N/A	JSI Met Ed	2/3/78
10.9.6	Open	Meter: $1.9 \times 10^{-2}$ mr/h Recorder: <u>2.0</u>	N/A	JSI Met Ed	2/3/78
10.9.9	Net Radiation Closed	Meter: $2.1 \times 10^{-2}$ mr/h Recorder: <u>5.5</u>	+ 20% of 10.9.3 - 4% of 10.9.3	JSI Met Ed	2/3/78
	Intermediate	Meter: $3.3 \times 10^{-2}$ mr/h Recorder: <u>4.0</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JSI Met Ed	2/3/78
	Open	Meter: $1.9 \times 10^{-2}$ mr/h Recorder: <u>2.0</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JSI Met Ed	2/3/78
10.10.3	Check Source Reading	$5 \times 10^{-6}$ mr/h	Greater than reading obtained in step 10.8.2	JSI Met Ed	2/3/78

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UNIT FCK

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org	Date
10.8.2	Background Radiation Reading (Meter)	0.1 mr/hr	N/A	JH Met Ed	2/3/78
10.8.3	Background Radiation Reading (Recorder)	0.1 mr/hr	N/A	JH Met Ed	2/3/78
10.9.3	Radiation Input produced by FCK closed	E-16	N/A		
	Intermediate Open	E-16	N/A		
10.9.4	Measured Radiation Closed	Meter: 2.5 x 10 <sup>-2</sup> mr/h Recorder: 7.0	N/A	JH Met Ed	2/3/78
10.9.5	Intermediate	Meter: 4.0 x 10 <sup>-2</sup> mr/h Recorder: 4.5	N/A	JH Met Ed	2/3/78
10.9.6	Open	Meter: 2.0 x 10 <sup>-2</sup> mr/h Recorder: 2.1	N/A	JH Met Ed	2/3/78
10.9.9	Net Radiation Closed	Meter: 6.5 x 10 <sup>-2</sup> mr/h Recorder: 7.0	+ 20% of 10.9.3 + 4% of 10.9.3	JH Met Ed	2/3/78
	Intermediate	Meter: 4.0 x 10 <sup>-2</sup> mr/h Recorder: 4.5	+ 20% of 10.9.3 + 4% of 10.9.3	JH Met Ed	2/3/78
	Open	Meter: 2.0 x 10 <sup>-2</sup> mr/h Recorder: 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JH Met Ed	2/3/78
10.10.3	Check Source Reading	x 10 mr/h	Greater than reading obtained in step 10.8.2	N/A	N/A

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>118.5</u> VAC	117 $\pm$ 1.5 VAC	TJW / nec	1/9/78
10.2.2	Power Supply Voltages	<u>21.98</u> VDC	20.5 $\pm$ 2.0 VDC	TJW / nec	1/9/78
		<u>13.95</u> VDC	14.0 $\pm$ 1.0 VDC	TJW / nec	1/9/78
10.3.2	Green Fail Indicator Lamp Goes Out	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	TJW / nec	27-78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding D-4 No Audible	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	TJW / nec	27-78
10.3.4	Audible Alarm Clear, Light Window Stops Flashing D-4 No Audible	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	TJW / nec	27-78
10.3.6	Green Fail Indicator Comes ON	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	TJW / nec	27-78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding D-4 No Audible	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	TJW / nec	27-78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.11.1	Background Radiation Reading (Meter)	< 0.1 mr/hr	N/A	JSS met Ed	1/27/78
10.11.2	Background Radiation Reading (Recorder)	< 0.1 mr/hr	N/A	QSS met Ed	1/27/78
10.11.4	Radiation Input produced by FCK closed	5.7 x 10 <sup>-1</sup>	N/A	JSS met Ed	1/27/78
	Intermediate Open	5.8 x 10 <sup>-2</sup> 4.1 x 10 <sup>-3</sup>	N/A N/A	JSS met Ed	1/27/78
10.11.5	Measured Radiation Closed D-13	Meter Recorder $\frac{3.2 \times 10^{-1} \text{ mr/hr}}{3.2 \times 10^{-1} \text{ *}}$	N/A	JSS met Ed	1/27/78
10.11.6	Intermediate D-13	Meter Recorder $\frac{1.9 \times 10^{-2} \text{ mr/hr}}{1.9 \times 10^{-2} \text{ *}}$	N/A	JSS met Ed	1/27/78
10.11.7	Open D-13	Meter Recorder $\frac{5.9 \times 10^{-3} \text{ mr/hr}}{5.9 \times 10^{-3} \text{ *}}$	N/A	JSS met Ed	1/27/78
10.11.9	Net Radiation Closed D-13	Meter Recorder $\frac{3.7 \times 10^{-1} \text{ mr/hr}}{3.2 \times 10^{-1} \text{ *}}$	+ 20% of 10.11.4 + 4% of 10.11.4	JSS met Ed	1/27/78
	Intermediate D-13	Meter Recorder $\frac{5.7 \times 10^{-1} \text{ mr/hr}}{1.0 \times 10^{-1} \text{ *}}$	+ 20% of 10.11.4 + 4% of 10.11.4	JSS met Ed	1/27/78
	Open D-13	Meter Recorder $\frac{5.9 \times 10^{-3} \text{ mr/hr}}{5.9 \times 10^{-3} \text{ *}}$	+ 20% of 10.11.4 + 4% of 10.11.4	JSS met Ed	1/27/78
	D-13 * Recorder full scale 10 <sup>5</sup> mr/hr				

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(9.11.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Ory.	Date
10.11.1	Background Radiation Reading (Meter)	< 0.1 mR/hr	N/A	JSS Met Ed	1/27/78
10.11.2	Background Radiation Reading (Recorder)	< 1.0 mR/hr	N/A	JSS Met Ed	1/27/78
10.11.4	Radiation Input produced by FCK closed E-16	5.5 x 10 <sup>1</sup> mR/m	N/A	JSS Met Ed	1/27/78
	Intermediate Open E-16	6.6 x 10 <sup>2</sup> mR/hr 4.5 x 10 <sup>3</sup> mR/hr	N/A N/A	JSS Met Ed	1/27/78
10.11.5	Measured Radiation Closed D-13	Meter Recorder 5.5 x 10 <sup>0</sup> *	N/A	JSS Met Ed	1/27/78
10.11.6	Intermediate D-13	Meter Recorder 2.2 x 10 <sup>2</sup> *	N/A	JSS Met Ed	1/27/78
10.11.7	Open D-13	Meter Recorder 6.5 x 10 <sup>3</sup> *	N/A	JSS Met Ed	1/27/78
10.11.9	Net Radiation Closed E-16 D-13	Meter Recorder 4.5 x 10 <sup>0</sup> *	+ 20% of 10.11.4 + 4% of 10.11.4	JSS Met Ed	1/27/78
	Intermediate E-16 D-13	Meter Recorder 6.6 x 10 <sup>2</sup> *	+ 20% of 10.11.4 + 4% of 10.11.4	JSS Met Ed	1/27/78
	Open E-16 D-13	Meter Recorder 6.5 x 10 <sup>3</sup> *	+ 20% of 10.11.4 + 4% of 10.11.4	JSS Met Ed	1/27/78
	D-13 Recorder full scale 0.5 mR/hr				

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.12.4	'Alert' alarm setpoint setting	<u>5.8</u> x10 <sup>-3</sup> m/s <sup>2</sup>	N/A	JSS mtdEd	1/27/78
10.12.5	Amber 'Alert' light	<u>✓</u> On Off	On	JSS mtdEd	1/27/78
	'RMS System Trouble' annunciator is flashing and RMS audible alarm is sounding. <u>4 No Audible</u>	<u>✓</u> Yes No	Yes	JSS mtdEd	1/27/78
10.12.6	'RMS System Trouble' annunciator stops flashing and RMS audible alarm is silenced. <u>4 No Audible</u>	<u>✓</u> Yes No	Yes	JSS mtdEd	1/27/78
10.12.7	Amber 'Alert' light.	On <u>Off</u>	Off	JSS mtdEd	1/27/78
	'RMS System Trouble' annunciator is flashing and RMS audible alarm is sounding. <u>4 No Audible</u>	Yes <u>No</u>	Yes	JSS mtdEd	1/27/78
10.12.8	'RMS System Trouble' annunciator clears and RMS audible alarm is silenced. <u>4 No Audible</u>	Yes <u>No</u>	Yes	JSS mtdEd	1/27/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.12.10	'High' alarm setpoint setting	<u>5.8</u> x10 <sup>-mr/h</sup>	N/A	JH MetEd	1/27/78
10.12.11	Red 'High' light	<input checked="" type="checkbox"/> On <input type="checkbox"/> Off	On	JH MetEd	1/27/78
	'RMS System Trouble' annunciator is flashing and RMS audible alarm is sounding. <i>No Audible D-4</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH MetEd	1/27/78
10.12.12	'RMS System Trouble' annunciator stops flashing and RMS audible alarm is silenced. <i>No Audible D-4</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH MetEd	1/27/78
10.12.13	Red 'High' Alarm Light	<input type="checkbox"/> On <input checked="" type="checkbox"/> Off	Off	JH MetEd	1/27/78
	'RMS System Trouble' annunciator is flashing and RMS audible alarm is sounding. <i>No Audible D-4</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH MetEd	1/27/78
10.12.14	'RMS System Trouble' annunciator clears and RMS audible alarm is silenced. <i>No Audible D-4</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH MetEd	1/27/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.12.17	Check source radiation level	$\frac{4.5}{\times 10^{-2}} \text{ mr/h}$	N/A	<i>[Signature]</i> MTEd	1/27/78
10.12.18	'Alert' alarm setpoint setting	$\frac{5.8}{\times 10^{-2}} \text{ mr/h}$	N/A	<i>[Signature]</i> MTEd	1/27/78
10.12.21	'High' alarm setpoint setting	$\frac{5.2}{\times 10^{-2}} \text{ mr/h}$	N/A	<i>[Signature]</i> MTEd	1/27/78
10.12.24	'Alert' alarm setpoint comparison	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	$\pm 1$ minor div. Yes	<i>[Signature]</i> MTEd	1/27/78
	'high' alarm setpoint comparison	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	$\pm 1$ minor div. Yes	<i>[Signature]</i> MTEd	1/27/78

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Step No.	Description of Data required	Data	Acceptance Criteria	Initials / Org.	Date
10.7.3	Recorder Channel for HP-R-201 prints dot on zero line	Yes <input checked="" type="checkbox"/> No _____	+ one minor div.	JHR MET ED	1-1-78
10.7.5	Recorder channel for HP-R-201 prints dot on Fs line	Yes <input checked="" type="checkbox"/> No _____	+ one minor div.	JHR MET ED	1-1-78
10.7.6	Proper Print wheel alignment	Yes <input checked="" type="checkbox"/> No _____	Clear dot & channel No.	JHR MET ED	1-1-78
10.7.8	Chart speed in the 0.5"/hr. position E-7	.5"	N/A	JHR MET ED	1-1-78
10.7.8.1	1"/hr. position	1"	N/A	JHR MET ED	1-1-78
10.7.8.2	2"/hr. position	1 <sup>63</sup> / <sub>64</sub> "	N/A	JHR MET ED	1-1-78
10.7.8.3	4"/hr. position	3 <sup>15</sup> / <sub>16</sub> "	N/A	JHR MET ED	1-1-78
10.7.8.4	8"/hr. position	7 <sup>31</sup> / <sub>32</sub> "	N/A	JHR MET ED	1-2-78
10.7.9	All remaining recorder channels operate properly	Yes <input checked="" type="checkbox"/> No _____	Yes	JHB MET ED	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.7.3	Recorder Channel for HP-R- <sup>215</sup> 201 prints dot on zero line	Yes <input checked="" type="checkbox"/> No _____	+ one minor - div.	JAB met ed	1/30/78
10.7.5	Recorder channel for HP-R- <sup>215</sup> 201 prints dot on Fs line	Yes <input checked="" type="checkbox"/> No _____	+ one minor - div.	JAB met ed	1/30/78
10.7.6	Proper Print wheel alignment	Yes <input checked="" type="checkbox"/> No _____	Clear dot & channel No.	JAB met ed	1/30/78
10.7.8	Chart speed in the <sup>E-7</sup> 5"/hr. position	5"/HR	N/A	TJW met ed	1/29/78
10.7.8.1	1"/hr. position	.9"/HR	N/A	TJW met ed	1/29/78
10.7.8.2	2"/hr. position	1 7/8"/HR	N/A	TJW met ed	1/29/78
10.7.8.3	4"/hr. position	4 i/hr	N/A	JAB met ed	1/31/78
10.7.8.4	8"/hr. position	8"/HR	N/A	TJW met ed	1/29/78
10.7.9	All remaining recorder channels operate properly	Yes <input checked="" type="checkbox"/> No _____	Yes	JAB met ed	1/30/78

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Readout Module No. 572993  
Readout Serial No. 790

DATA SHEET NO. B

D-13  
Recorder Full Scale is 10<sup>5</sup> m/s/h

Channel No. HP-R-214  
CS 4.5 x 10<sup>5</sup> m/s/h Background  $< 1$  m/s/h

10.13.1 Radiation Readings (uncorrected)  $\mu$ R/h

D-13

FCX POSITION	READOUT MODULE FUNCTION SWITCH POSITION								RECORDER	INITIALS/ORG.	DATE
	ALL	10 <sup>2</sup>	10 <sup>3</sup>	10 <sup>4</sup>	10 <sup>5</sup>	10 <sup>6</sup>	10 <sup>7</sup>				
CLOSED	5.7 x 10 <sup>-1</sup>	2.5 x 10 <sup>-1</sup>	3.5 x 10 <sup>-1</sup>	3.8 x 10 <sup>-1</sup>	N/A	N/A	N/A	N/A	5.2 x 10 <sup>-1</sup>	JSS	1/27/78
INTERMEDIATE	5.8 x 10 <sup>-2</sup>	N/A	N/A	5.6 x 10 <sup>-2</sup>	N/A	N/A	N/A	N/A	1.9 x 10 <sup>-1</sup>	JSS	1/27/78
OPEN	1.1 x 10 <sup>-3</sup>	N/A	N/A	3.8 x 10 <sup>-3</sup>	4.0 x 10 <sup>-3</sup>	4.9 x 10 <sup>-3</sup>	4.9 x 10 <sup>-3</sup>	4.9 x 10 <sup>-3</sup>	5.9 x 10 <sup>-1</sup>	JSS	1/27/78

10.13.5 Radiation Readings (corrected)  $\mu$ R/h (Readings in 10.13.1 - background)

D-13

FCX POSITION	READOUT MODULE FUNCTION SWITCH POSITION								RECORDER	INITIALS/ORG.	DATE
	ALL	10 <sup>2</sup>	10 <sup>3</sup>	10 <sup>4</sup>	10 <sup>5</sup>	10 <sup>6</sup>	10 <sup>7</sup>				
CLOSED	5.7 x 10 <sup>-1</sup>	5.5 x 10 <sup>-1</sup>	5.5 x 10 <sup>-1</sup>	3.2 x 10 <sup>-1</sup>	N/A	N/A	N/A	N/A	3.2 x 10 <sup>-1</sup>	JSS	1/27/78
INTERMEDIATE	5.8 x 10 <sup>-2</sup>	N/A	N/A	5.6 x 10 <sup>-2</sup>	N/A	N/A	N/A	N/A	1.9 x 10 <sup>-1</sup>	JSS	1/27/78
OPEN	1.1 x 10 <sup>-3</sup>	N/A	N/A	3.8 x 10 <sup>-3</sup>	4 x 10 <sup>-3</sup>	4.3 x 10 <sup>-3</sup>	4.3 x 10 <sup>-3</sup>	4.3 x 10 <sup>-3</sup>	5.9 x 10 <sup>-1</sup>	JSS	1/27/78

10.13.8 Alert Setpoint  $5.5 \mu$ R/h as left setpoint at  $2.5 \mu$ R/h  $\pm 1/2$  minor division.

10.13.9 High Setpoint  $8.1 \mu$ R/h as left setpoint  $11.8 \mu$ R/h  $\pm 1/2$  minor division.

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11.0 - ACCEPTANCE CRITERIA

11.1 Acceptance criteria will be found on the data sheets in  
Section 10.

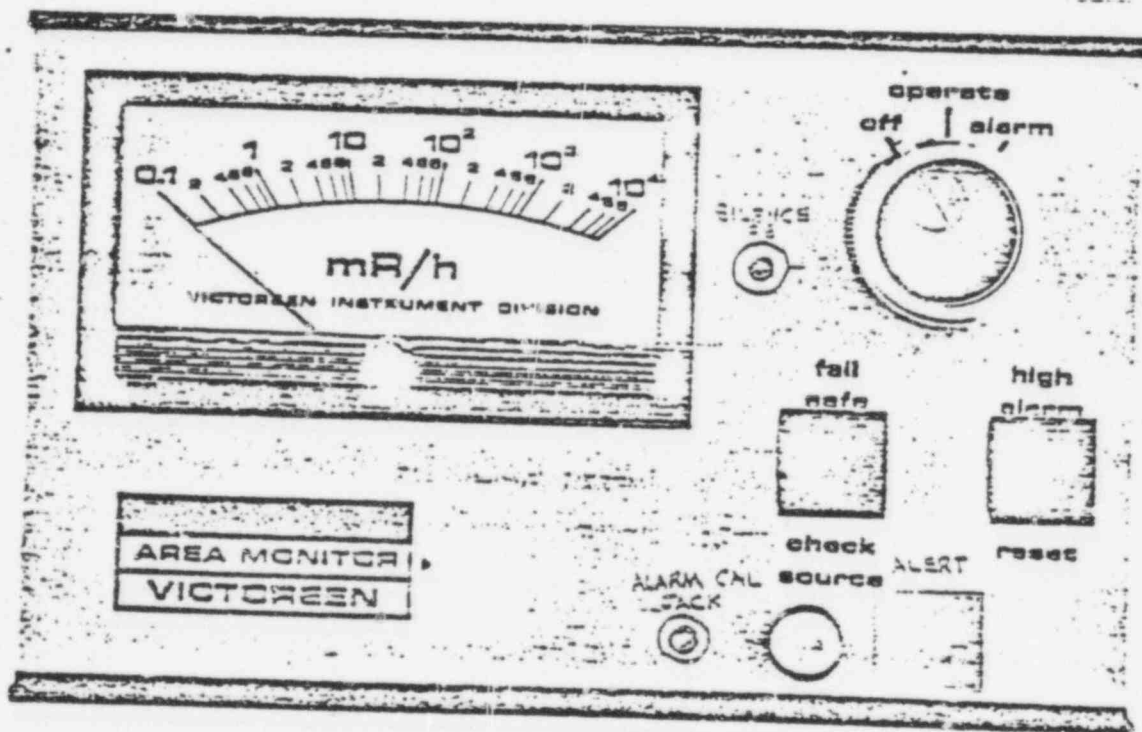
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FIGURE 1 857-2 READOUT MODULE



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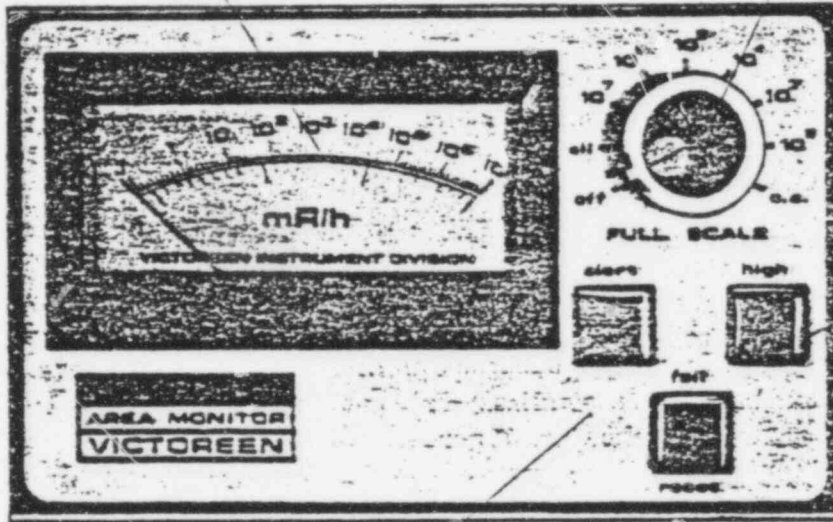
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FIGURE 1A MODEL 84601 READOUT MODULE (HP-R-214)

Readout Module Meter

Function Selector Switch



Red "High" Alarm Lamp & Button

Amber "Alert" Lamp & Button

Green Fail-Reset Lamp & Button

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READOUT MODULE, MODEL 856-2 REAR VIEW

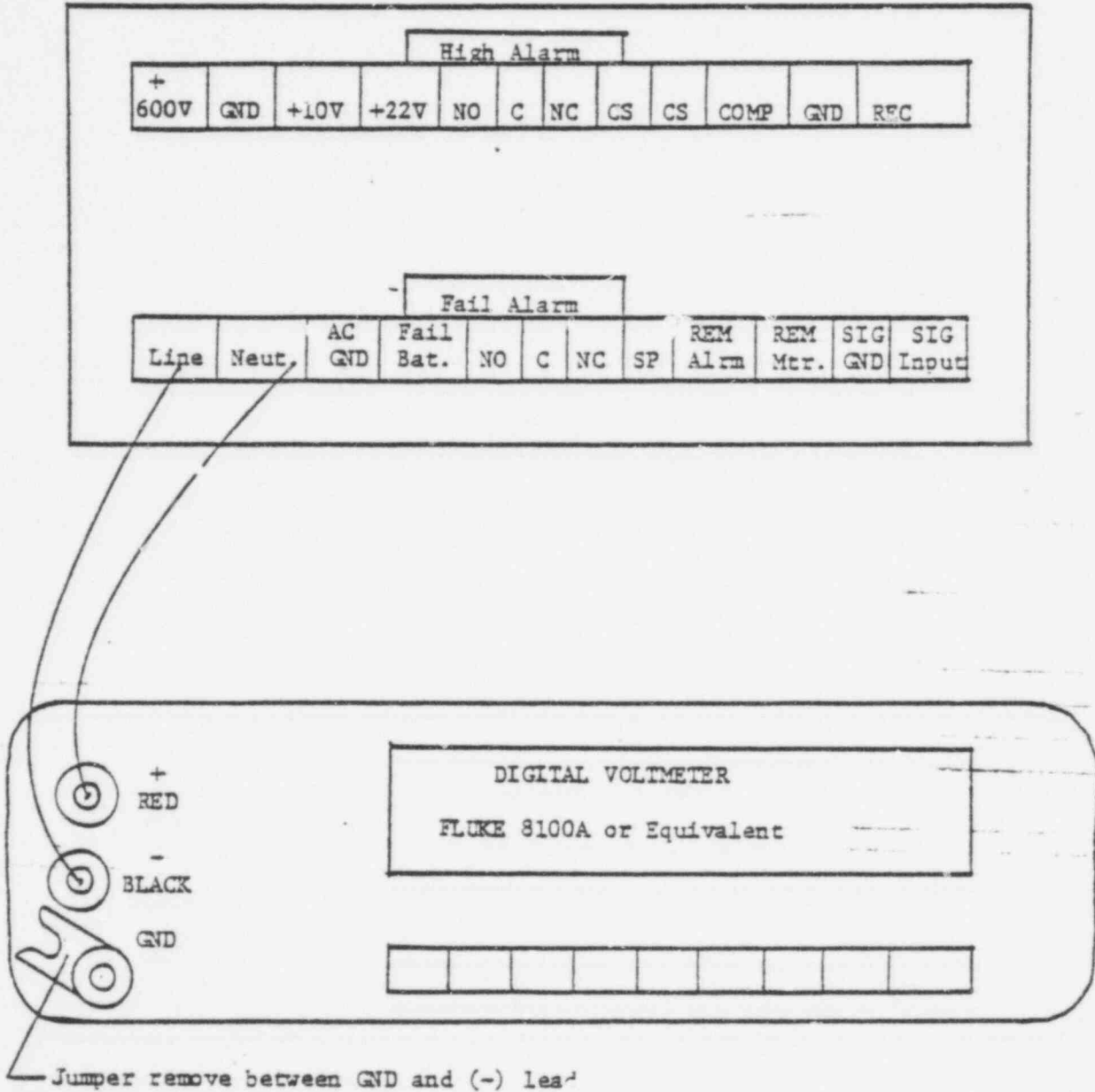


Figure 2 Diagram, A.C. Voltage Measurement on the Readout Module

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(HP-R-214)

Readout Module, Model 846-1  
Rear View

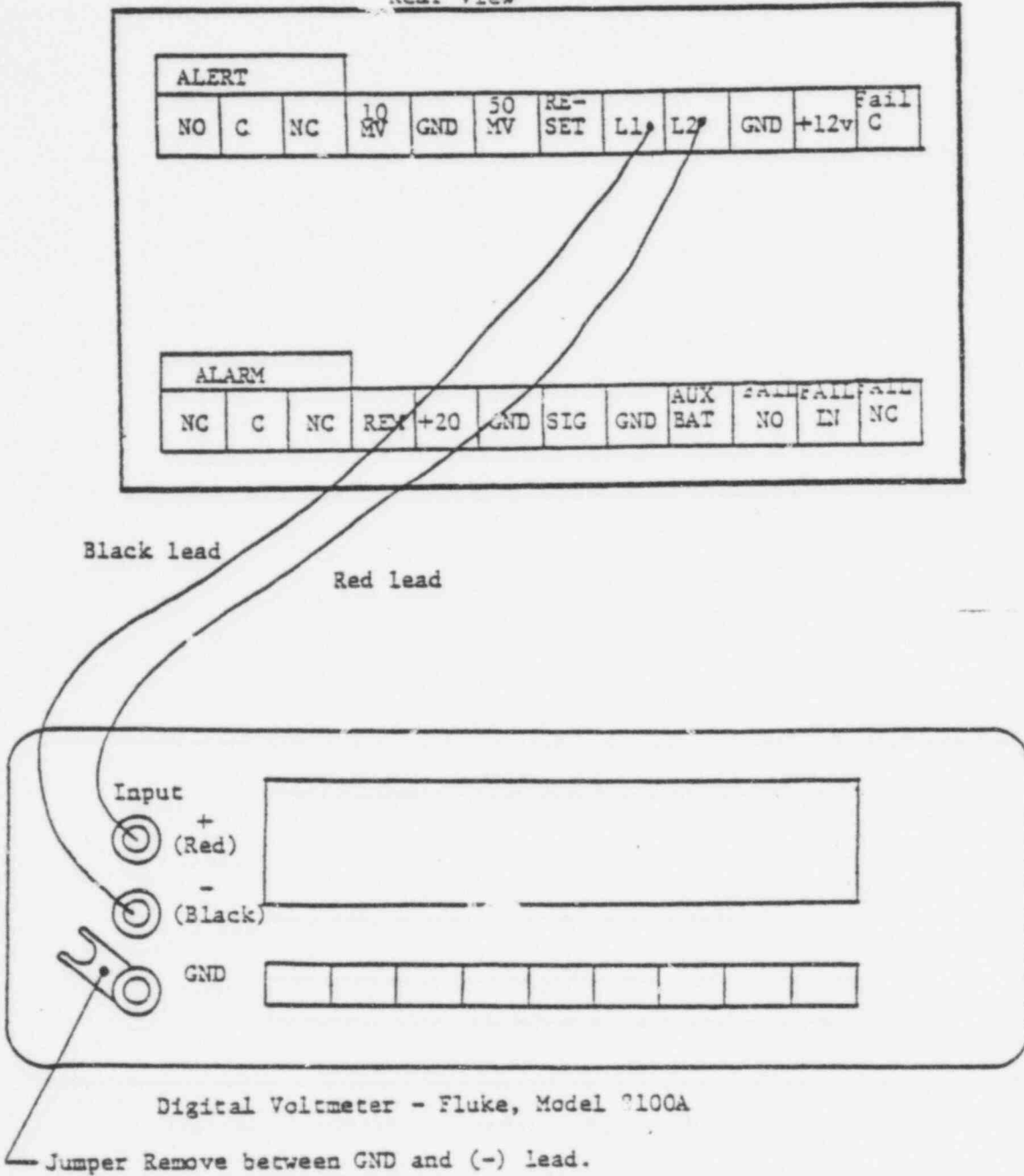


FIGURE NO. 2A: Diagram, A.C. Voltage Measurement on the Readout Module

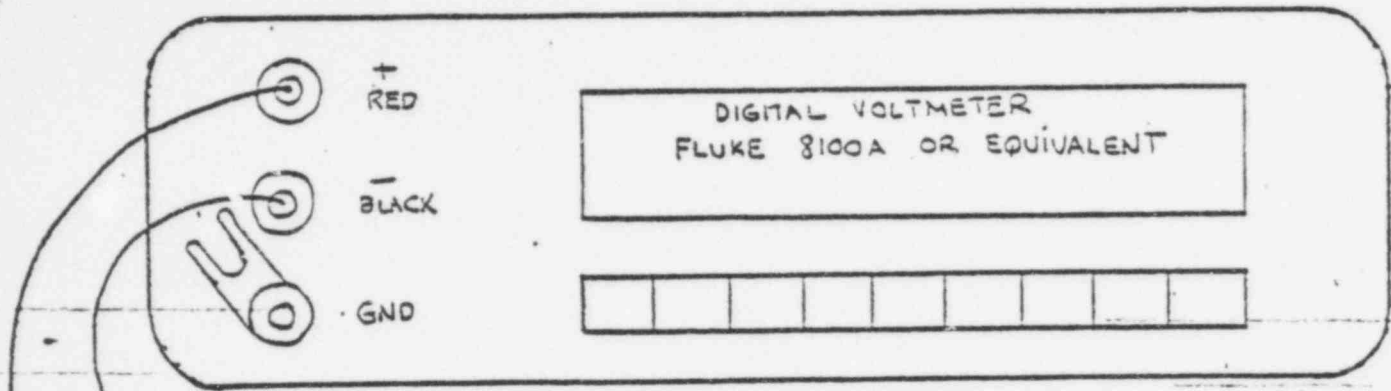
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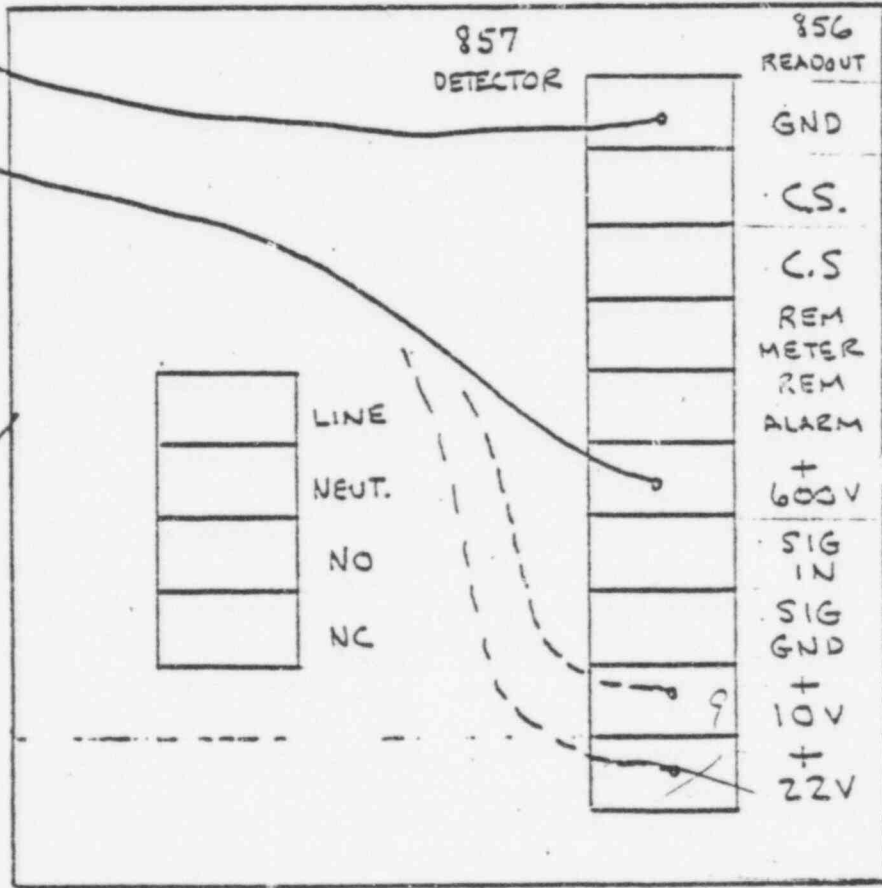


FIGURE NO. 3 POWER SUPPLY VOLTAGE MEASUREMENTS ON THE REMOTE ALARM UNIT

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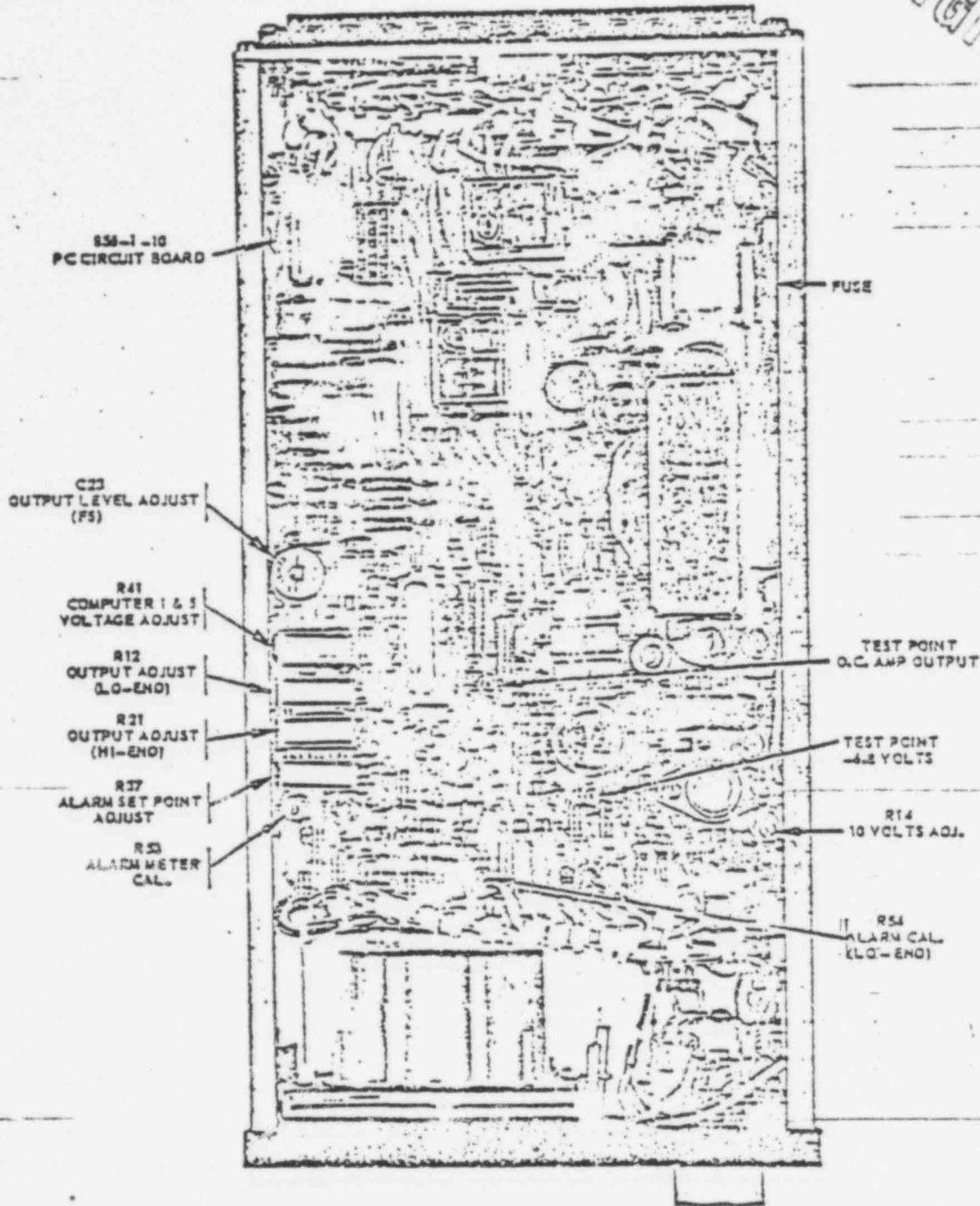


Figure 4. Interior View of Readout Module

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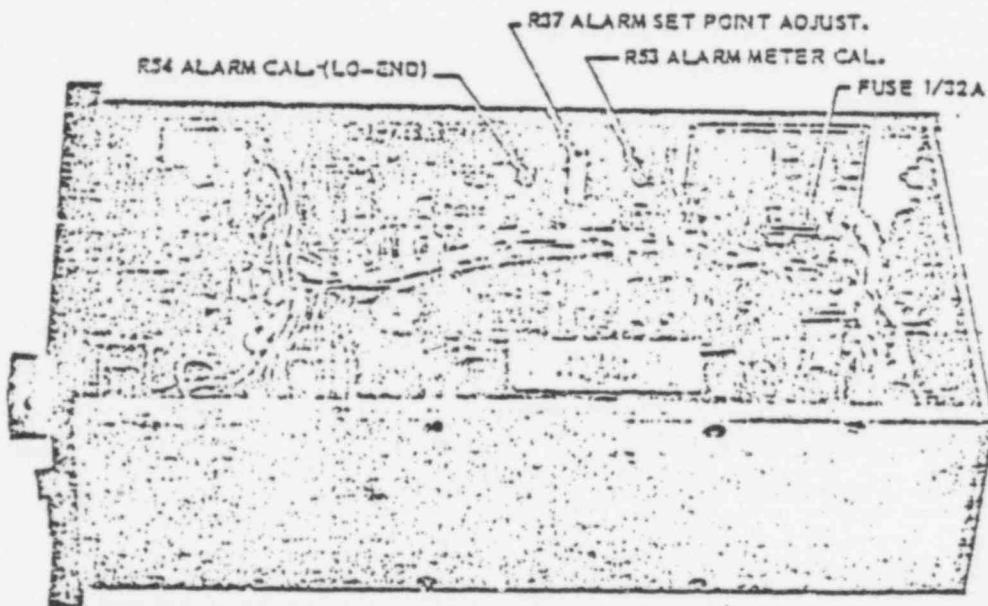
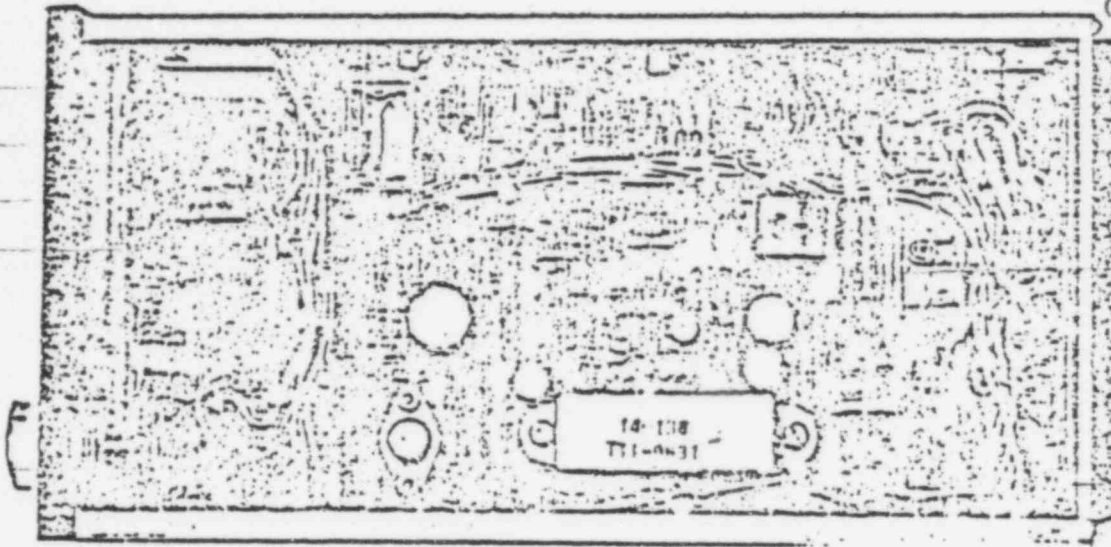


Figure 4A: Interior Views of Readout Module

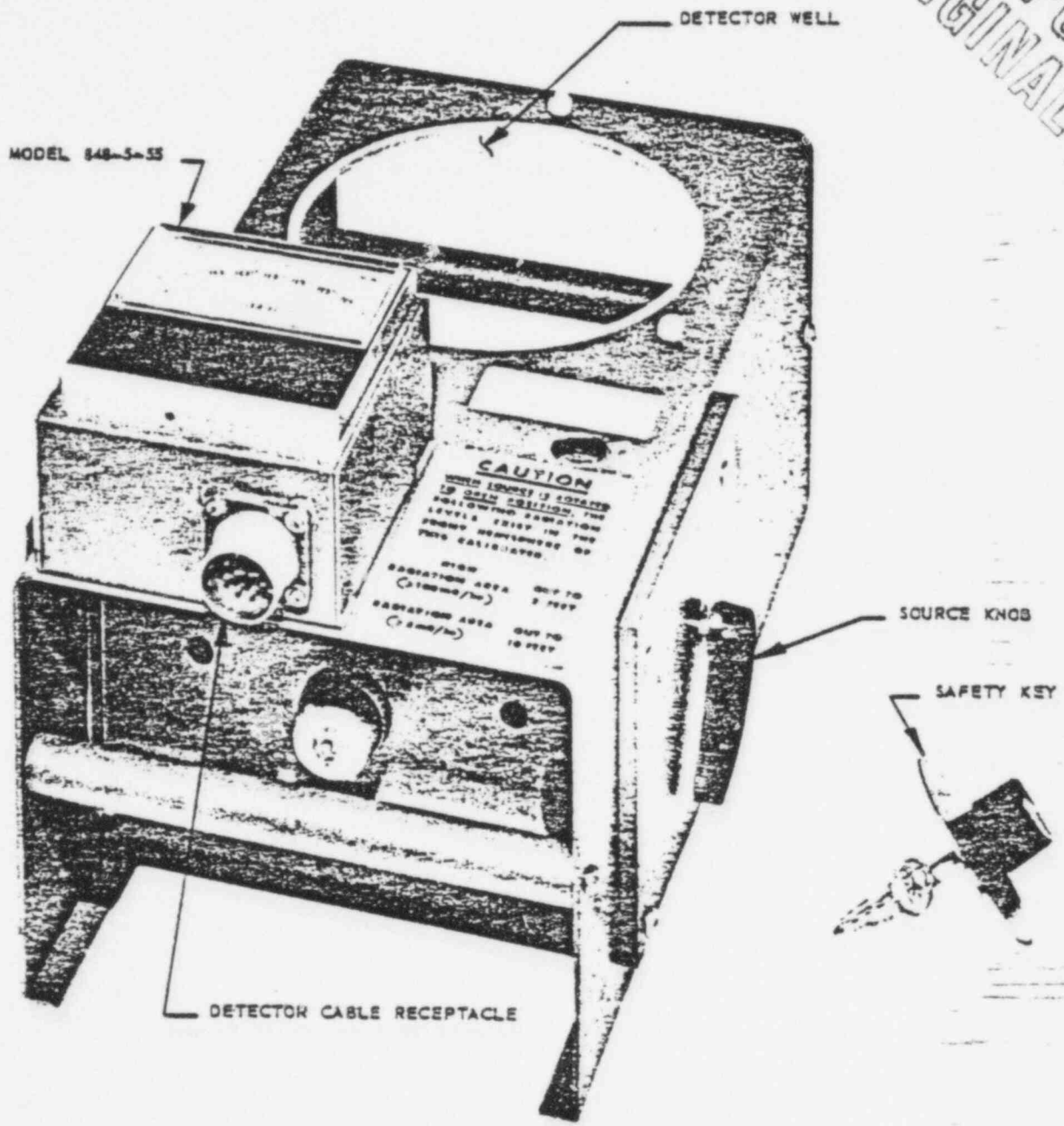
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EMI UNIT II  
TP 360/1C  
Enclosure 2  
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VERY POOR ORIGINAL



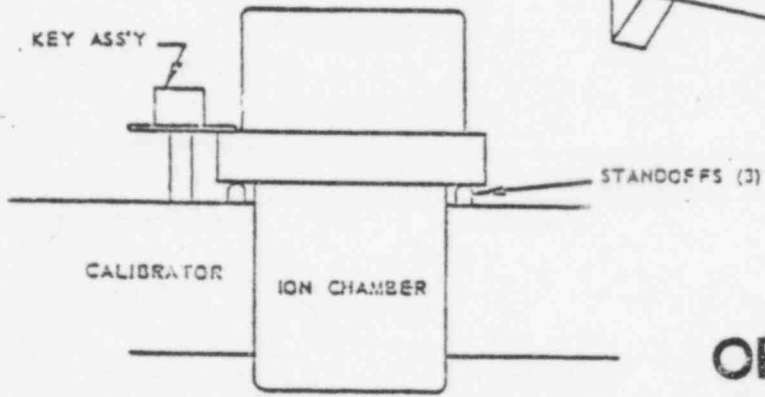
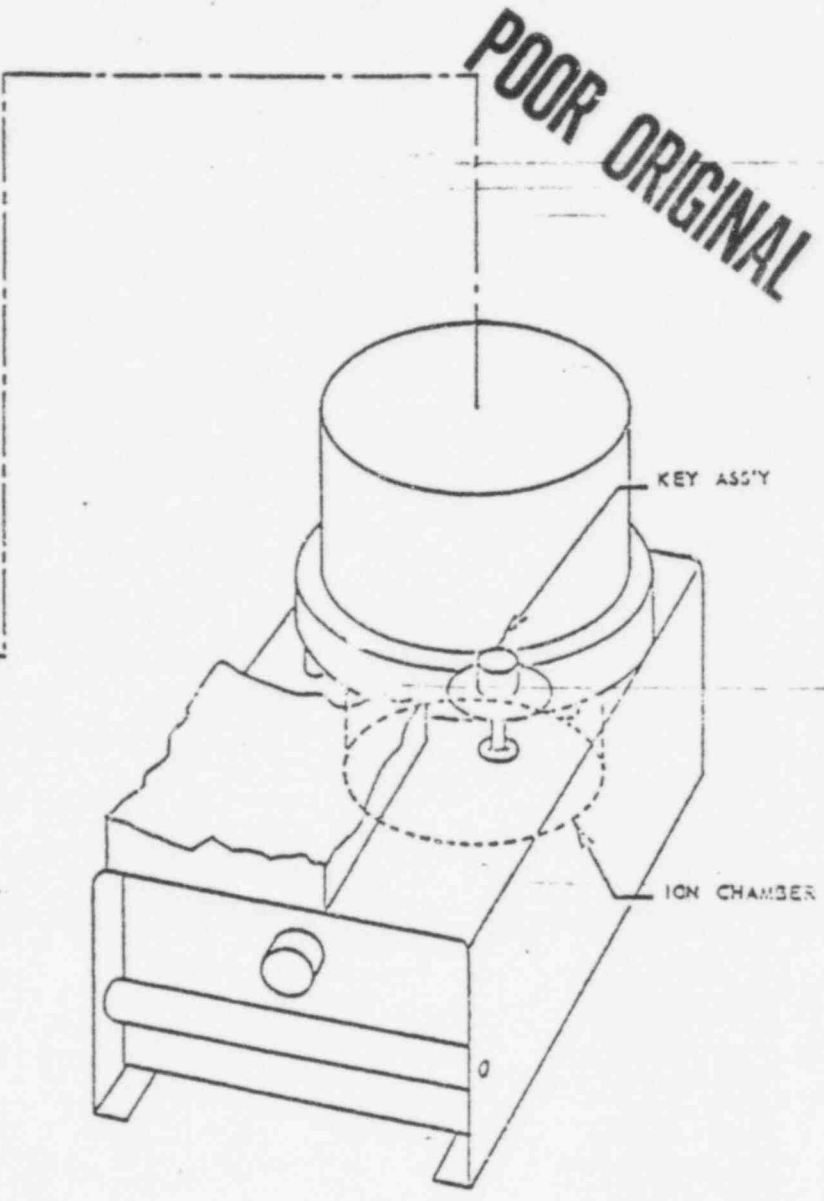
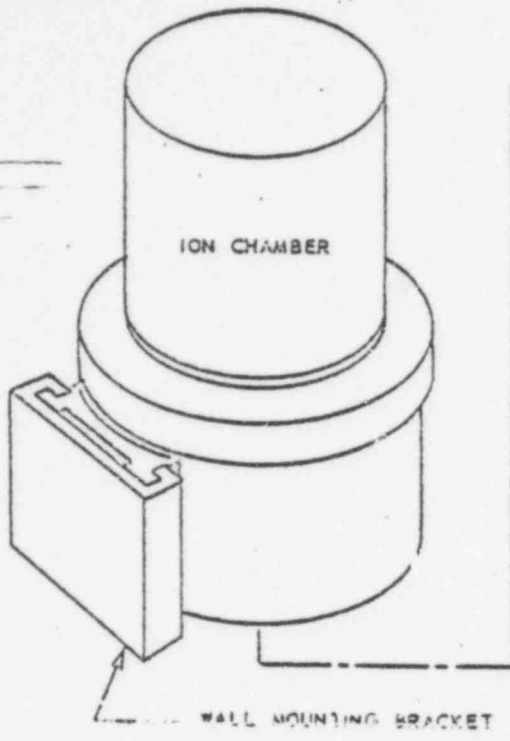
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Enclosure 2  
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FIGURE NO. 5: Model 848-8 Field Calibration Kit

745 358



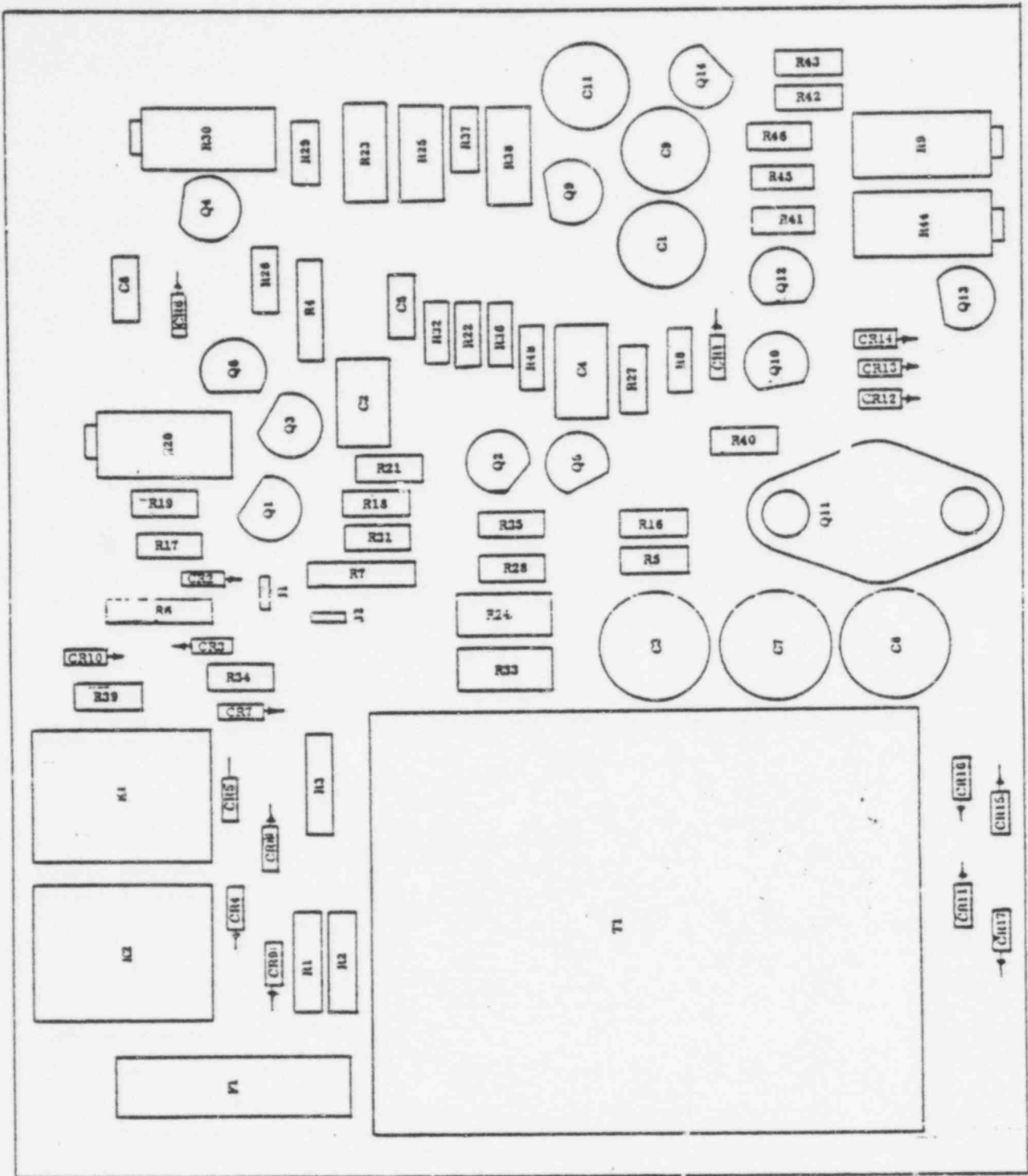
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FIGURE NO. 6: Mounting Arrangement of Detector in Calibrator

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 Enclosure 2  
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**POOR ORIGINAL**

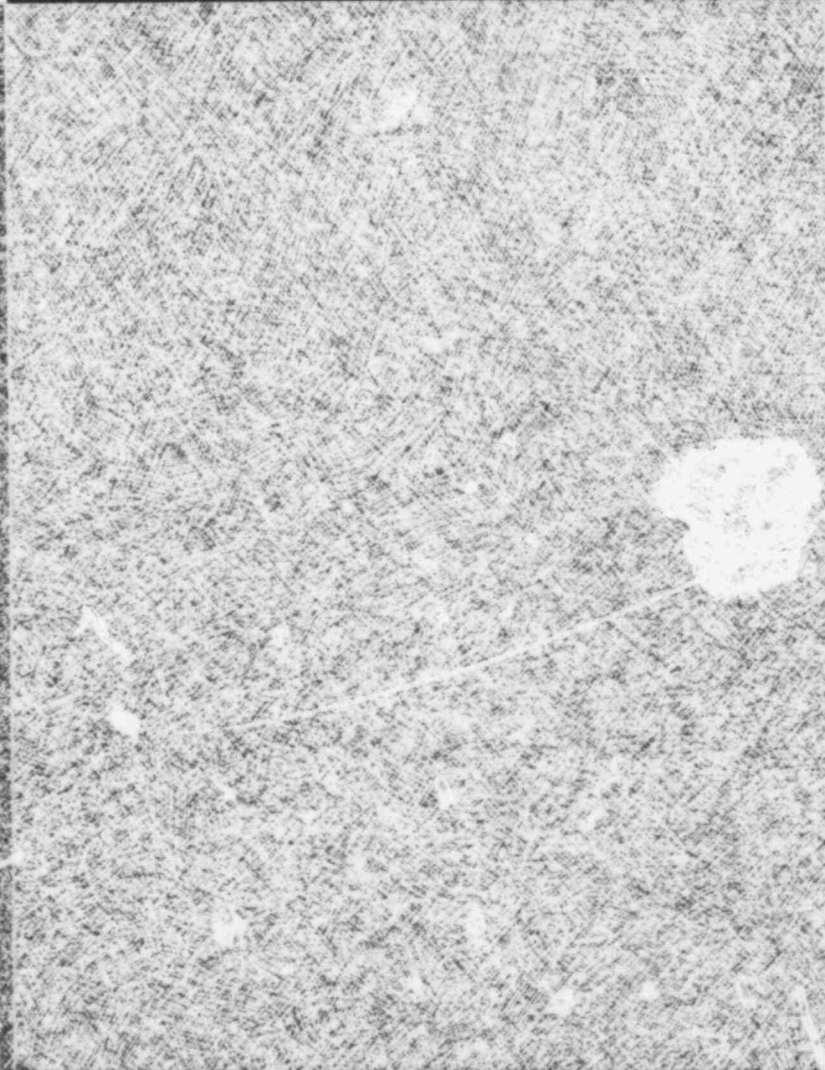
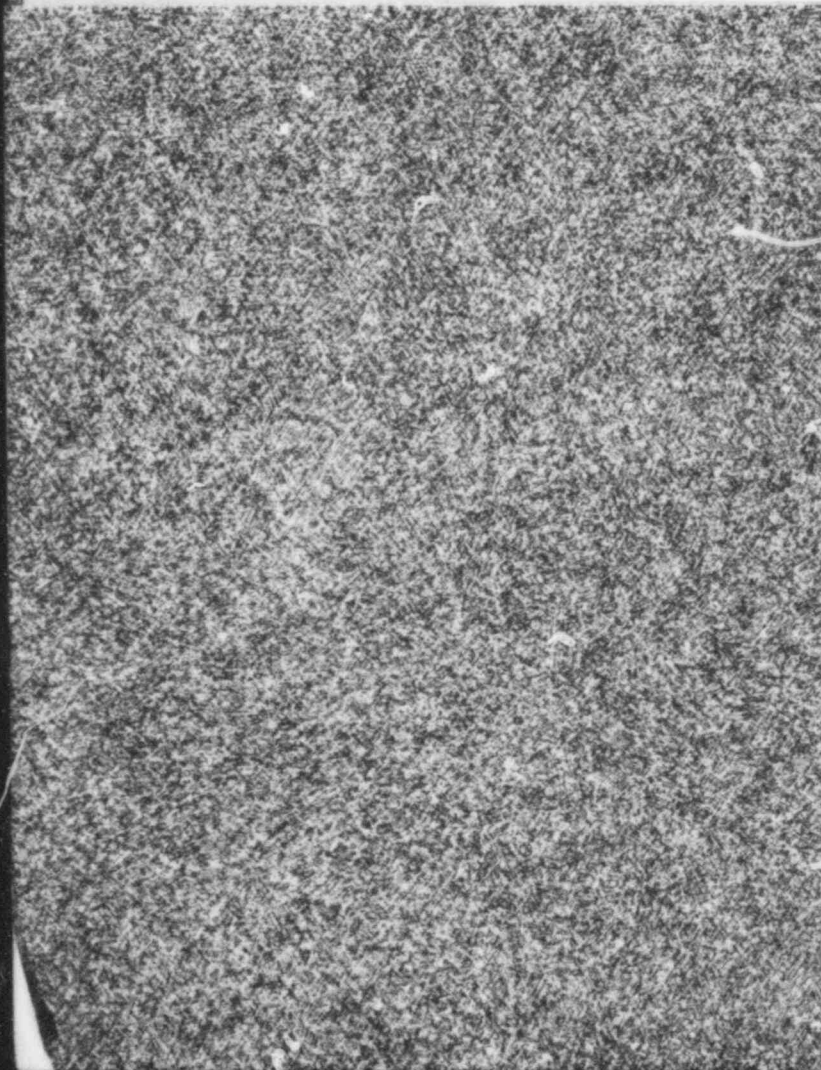
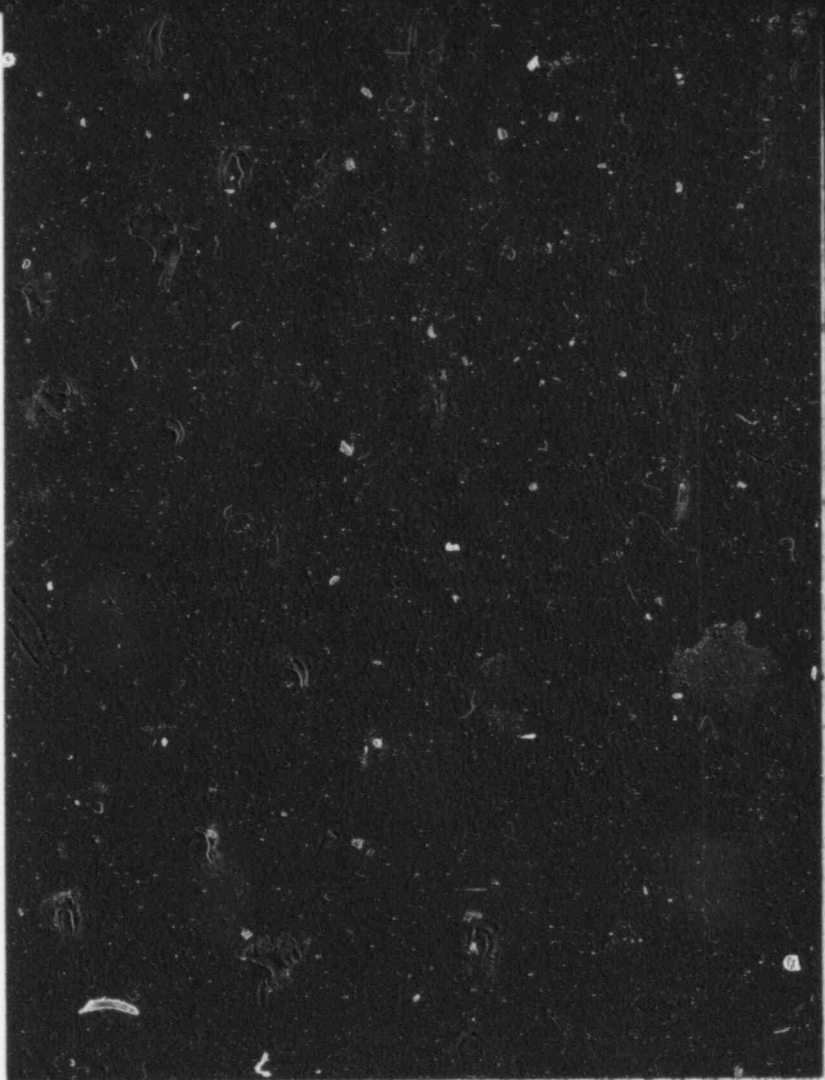
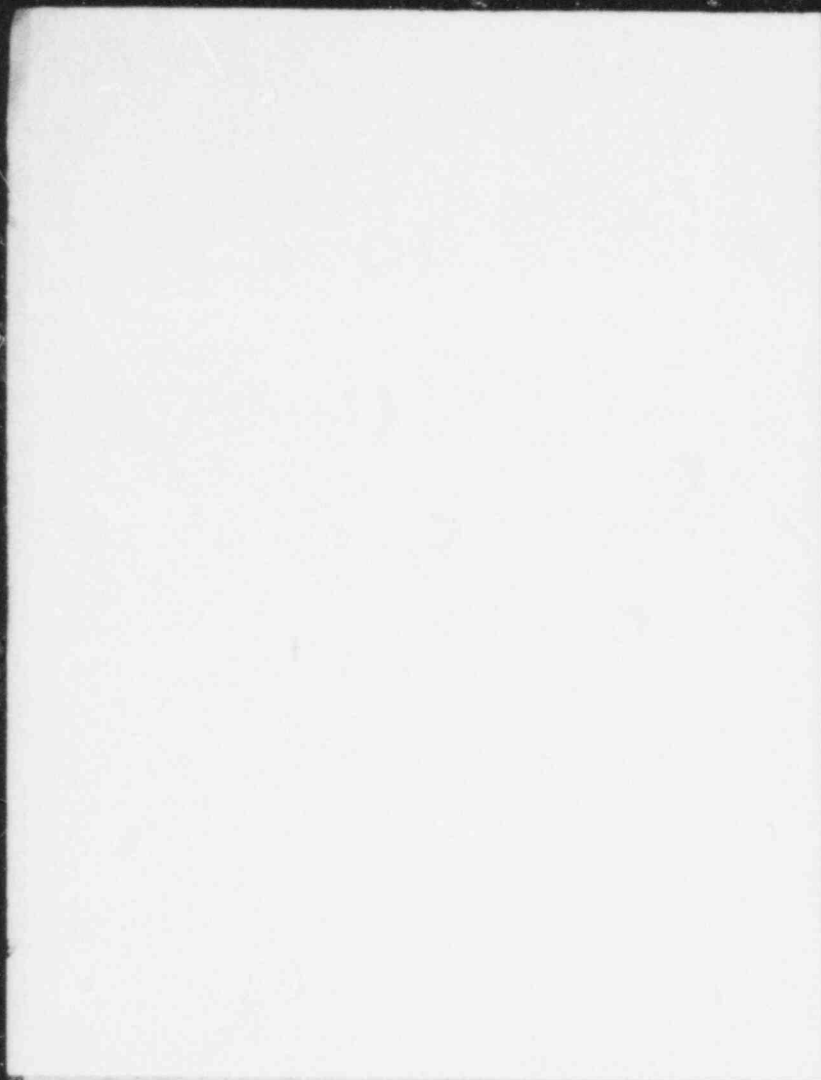
FIGURE NO. 7: Model 846-1 Readout Module Circuit Board Assembly

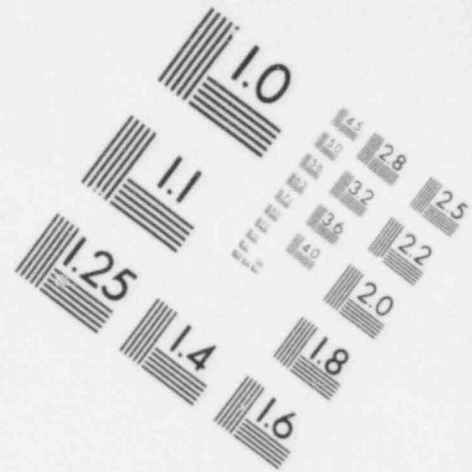
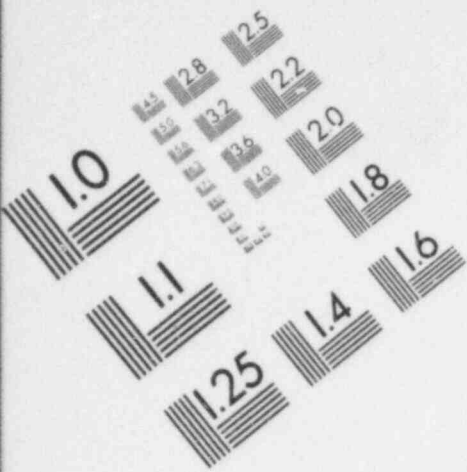
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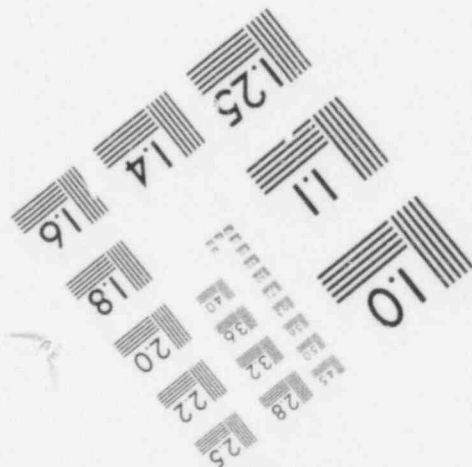
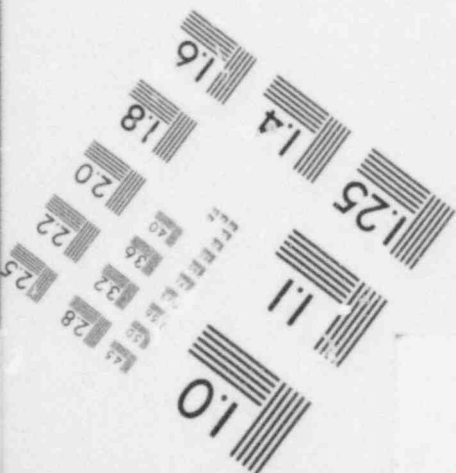
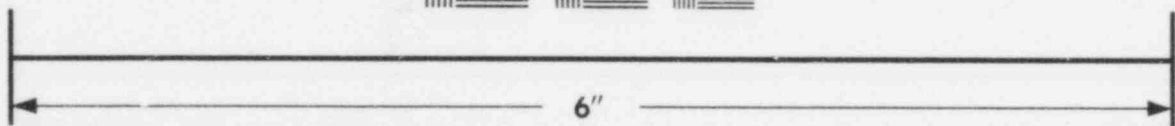
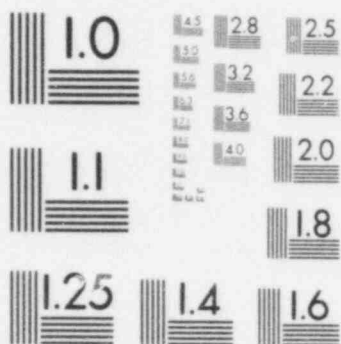
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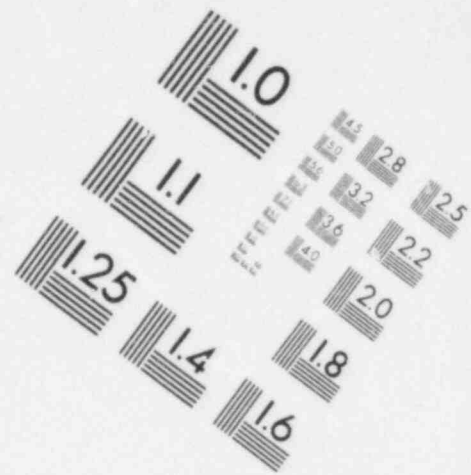
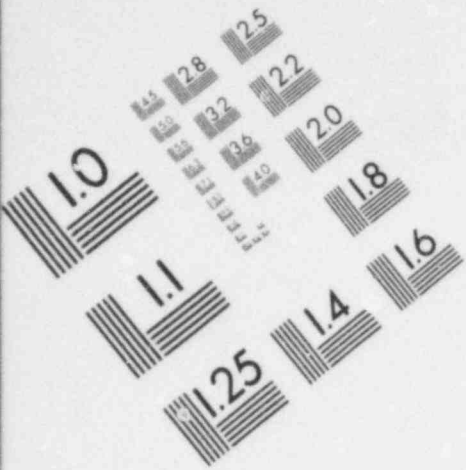




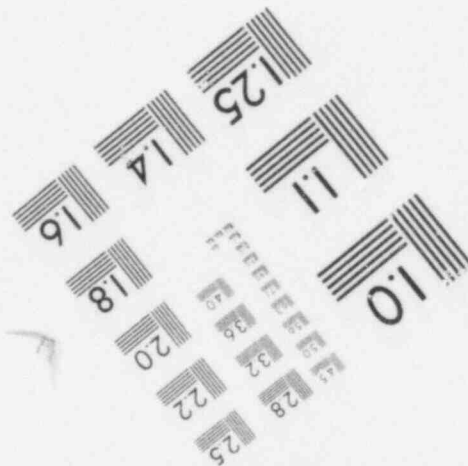
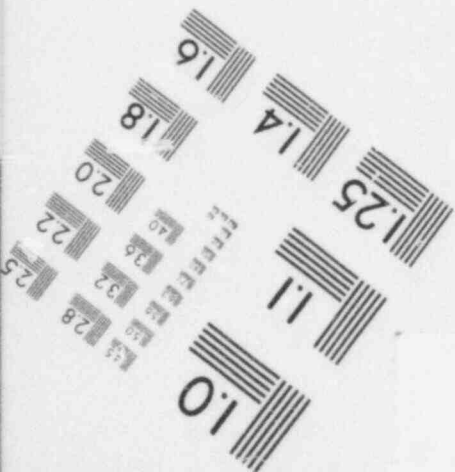
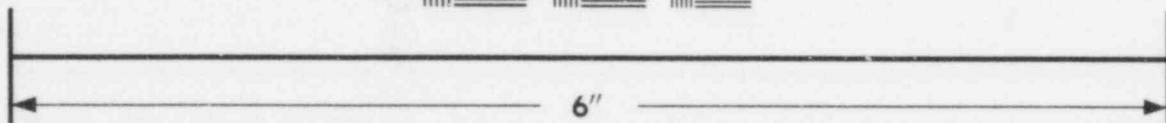


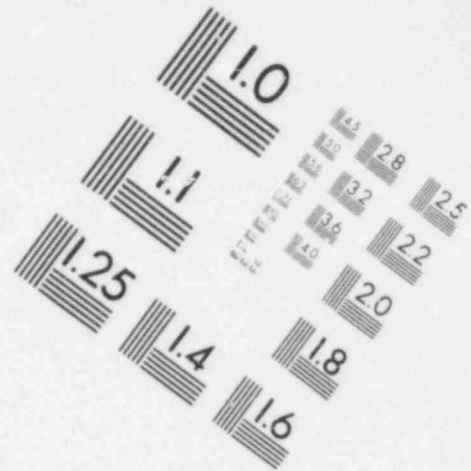
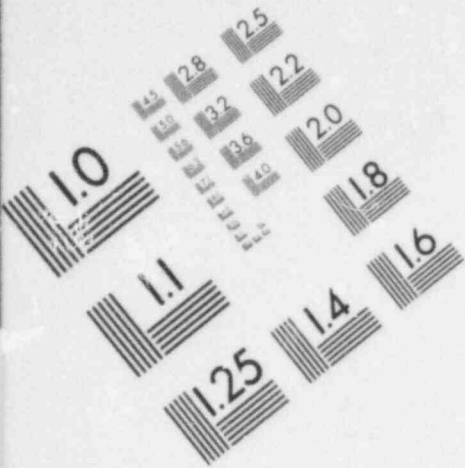
**IMAGE EVALUATION  
TEST TARGET (MT-3)**



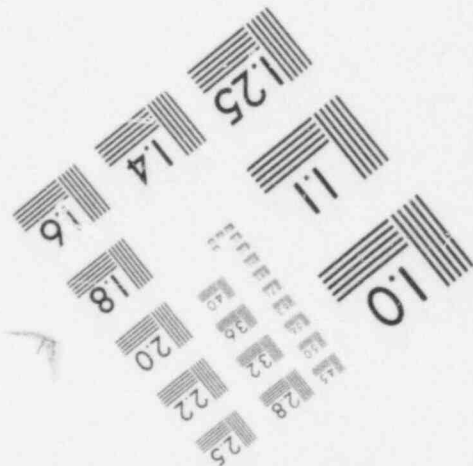
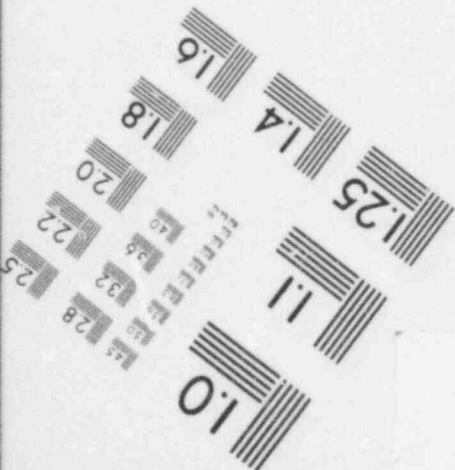
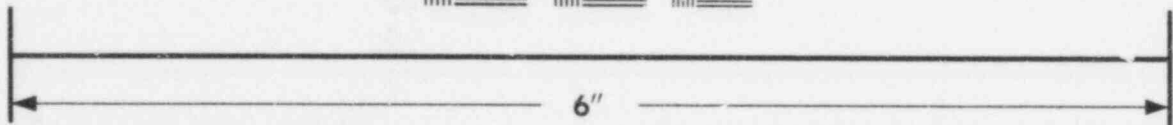
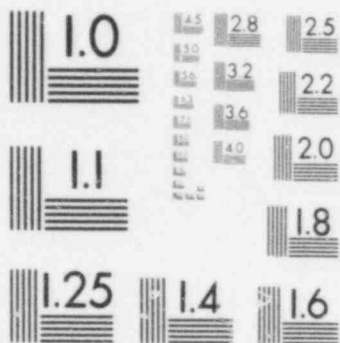


**IMAGE EVALUATION  
TEST TARGET (MT-3)**





**IMAGE EVALUATION  
TEST TARGET (MT-3)**



AREA RADIATION MONITORING CALIBRATION AND FUNCTIONAL TEST

TABLE 1

SLIDING LINK TERMINAL BLOCK CROSS REFERENCE

		(9.3.1)	(9.4.2)
HP-R-201	TB 101	8	6
HP-R-202	TB 102	8	6
HP-R-204	TB 103	8	6
HP-R-205	TB 104	8	6
HP-R-206	TB 105	8	6
HP-R-207	TB 106	8	6
HP-R-209	TB 107	8	6
HP-R-210	TB 108	8	6
HP-R-211	TB 109	8	6
HP-R-212	TB 110	8	6
HP-R-213	TB 111	8	6
HP-R-214	TB 112	5	7
HP-R-215	TB 113	8	6
HP-R-218	TB 114	8	6
HP-	TB 115	8	6
HP-R-232	TB 116	8	6
HP-R-233	TB 117	8	6
HP-R-234	TB 118	8	6
HP-R-3236	TB 119	8	6
HP-R-3238	TB 120	8	6
HP-R-3240	TB 121	8	6

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TMI UNIT II  
 TP 360/1C  
 Enclosure 3  
 Page 1 of 1

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\* 845 Series Readout & Detector

CHANNEL NO.	ALERT	HIGH	REMARKS
1. HP-R-201	0.5 MR/H	1.4 MR/H	No remote alarm module
2. HP-R-202	0.5 MR/H	2.0 MR/H	
3. HP-R-204	1.0 MR/H	2.0 MR/H	
4. HP-R-205	1.0 MR/H	2.0 MR/H	
5. HP-R-206	10.0 MR/H	20.0 MR/H	
6. HP-R-207	1.0 MR/H	2.0 MR/H	
7. HP-R-209	100.0 MR/H	1000.0 MR/H	No remote alarm module (RB evac. alarm)
8. HP-R-210	100.0 MR/H	1000.0 MR/H	No remote alarm module (LB evac. alarm)
9. HP-R-211	25.0 MR/H	50.0 MR/H	<del>RB evac. alarm</del> E-10
10. HP-R-212	25.0 MR/H	50.0 MR/H	<del>RB evac. alarm</del>
11. HP-R-213	25.0 MR/H	50.0 MR/H	<del>RB evac. alarm</del>
12. HP-R-214	25.0 MR/H	8000.0 MR/H	No remote alarm module * (RB evac. alarm)
13. HP-R-215	10.0 MR/H	20.0 MR/H	No remote alarm module
14. HP-R-218	25.0 MR/H	50.0 MR/H	
15. HP-R-231	500.0 MR/H	1000.0 MR/H	
16. HP-R-232	1.0 MR/H	2.0 MR/H	
17. HP-R-233	1.0 MR/H	2.0 MR/H	
18. HP-R-234	1.0 MR/H	2.0 MR/H	
19. HP-R-3236	10.0 MR/H	20.0 MR/H	
20. HP-R-3238	10.0 MR/H	20.0 MR/H	
21. HP-R-3240	10.0 MR/H	20.0 MR/H	

RMS AREA MONITOR ALARM SETPOINT LIST



RMS RECORDER CHANNEL ASSIGNMENTS

RMS CHANNEL	RECORDER CHANNEL	RECORDER
HP-R-201	1	Recorder HP-UR-1901
HP-R-202	2	
HP-R-204	3	
HP-R-205	4	
HP-R-206	5	
HP-R-207	6	
HP-R-209	7	
HP-R-210	8	
HP-R-211	9	
HP-R-212	10	
HP-R-213	11	
HP-R-214	12	
HP-R-215	1	Recorder HP-UR-1902
HP-R-218	2	
HP-R-231	3	
HP-R-232	4	
HP-R-233	5	
HP-R-234	6	
HP-R-236	7	
HP-R-3236	8	
HP-R-3238	9	
HP-R-3240	10	

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3613

BRIEFING CHECK LIST

PRIOR TO STARTING A TEST, THE GPU SHIFT TEST ENGINEER SHALL ASSURE HIMSELF THAT ALL ITEMS ON THIS CHECK LIST HAVE BEEN CONSIDERED AND THAT A PROPER BRIEFING HAS BEEN CONDUCTED.

TEST PROCEDURE TITLE: Radiation Monitoring System - Area Monitors  
TP 360/110 NO. 360/110

	<u>Init. - Date</u>
1. Test appears on the Test Plan.	<u>JLB 11/17/77</u>
2. Applicable TCN's incorporated in T/P.	<u>JLB 11/17/77</u>
3. All key personnel at briefing have indicated that they have read it.	<u>JLB 11/17/77</u>
4. All special precautions have been discussed.	<u>JLB 11/17/77</u>
5. All required test preparations have been made.	<u>JLB 11/17/77</u>
6. Adequate communications provided.	<u>JLB 11/17/77</u>
7. Necessary tools and instruments available.	<u>JLB 11/17/77</u>
Rev. 2/8. All required instruments in service. Check to assure calibration is valid.	<u>JLB N/A</u>
9. All applicable alarms in service.	<u>N/A</u>
10. Water quality/chemistry satisfactory.	<u>N/A</u>
11. All equipment (instruments, switches, valves, etc.) have been tagged out as required.	<u>JLB 11/17/77</u>
12. Any other tests running concurrently.	<u>JLB 11/17/77</u>
13. All key personnel have been instructed what to do in case of a casualty.	<u>JLB 11/17/77</u>
14. Special safety equipment available.	<u>JLB 11/17/77</u>
Rev. 1   15. List any test rigs installed for this T/P. Check to assure calibration is valid.	<u>JLB 11/17/77</u>
16. What steps will be taken to remove any test rigs installed in item 15.	<u>JLB 11/17/77</u>

746 004

17. Is current valve lineup status of systems satisfactory for conduct of this test.

JB 11/17/77

18. What steps will be taken to return systems to normal lineup following completion of test.

JB 11/17/77

19. Are all WA's cleared which would effect performance of this test?

JB 11/17/77

20. Enter type and results of briefings in STE's log.

JB 11/17/77

21. Class B briefing held with the following attending:

- R.S. Hutchison
- R. Hoyt
- J. Strick
- J. Harsh
- D. Weaver

*John A. Brunner*

746 005

UNIT II

Date 3-16-78

TO: R.P. Brownell, B&R  
G.P. Miller, Met-Ed  
L.C. Rogers, B&W

FROM: R.J. Toole

SUBJECT: Request for Approval of Test Results

ENCLOSURE: TP 360/10 RADIATION MONITORING SYSTEM TEST  
AREA MONITORS (REV0)

This procedure has been completed with the noted test exceptions and deficiencies.

Please review the results of this test for approval at the next TW meeting. #102

*for* *Carl E. Gatto*  
R.J. Toole  
GPU Test Superintendent

Enclosure

CC: R.J. Toole           wo/encl  
~~C.E. Gatto~~           w/encl  
M.B. Bezilla           w/encl  
P.A. Levine           w/ cl

THREE MILE ISLAND UNIT II  
TWG

NUMBER TP 360/1C

MTX 123.4

RADIATION MONITORING SYSTEM TEST-

CATEGORY A

AREA MONITORS

DRAFT Rev. 0

PREPARED: Cognizant Engineer William J. Fils Date 1/31/77

APPROVED: Lead Engineer James D. ... Date 5/13/77

APPROVED: Technical Engineer all at ... Date 5/23/77

PRELIMINARY REVIEW MEETING: Date N.A. MINUTES OF MEETING NUMBER N.A.

TWG APPROVAL FOR PERFORMANCE:

GPU TWG Representative all at ... Date 6/9/77

Met-Ed TWG Representative J. M. ... Date 6-9-77

NSSS TWG Representative L. C. ... Date 6/9/77

A-E TWG Representative R. P. ... Date 6/9/77

TEST RESULTS: Acceptable with the following test exceptions and deficiencies-  
E/D 1 thru 22

Technical Engineer Carl E. Gatto Date 3-16-78

TWG APPROVAL OF TEST RESULTS:

GPU TWG Representative \_\_\_\_\_ Date \_\_\_\_\_

Met-Ed TWG Representative \_\_\_\_\_ Date \_\_\_\_\_

NSSS TWG Representative \_\_\_\_\_ Date \_\_\_\_\_

A-E TWG Representative \_\_\_\_\_ Date \_\_\_\_\_

- ENCLOSURES:
1. Test Procedure Exception and Deficiency List
  2. Equipment and Data Measurement Point Descriptive Figures - Figures 1, 1A, 2, 2A, 3, 4, 4A, 5, 6, 7.
  3. Sliding link terminal block cross reference
  4. RMS Area Monitor Alarm Setpoint List
  5. RMS Record Channel Assignments

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1	0	23	0	45	0
2	0	24	0	46	0
3	0	25	0	47	0
4	0	26	0	48	0
5	0	27	0	49	0
6	0	28	0	50	0
7	0	29	0	51	0
8	0	30	0	52	0
9	0	31	0	53	0
10	0	32	0	54	0
11	0	33	0	55	0
12	0	34	0	56	0
13	0	35	0	57	0
14	0	36	0	58	0
15	0	37	0	59	0
16	0	38	0	60	0
17	0	39	0	61	0
18	0	40	0	62	0
19	0	41	0	63	0
20	0	42	0	64	0
21	0	43	0	65	0
22	0	44	0		

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TP 360/1C

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008



1.0 PURPOSE

1.1 Calibration

1.1.1 Verify calibration of the detectors and log rate meters are in accordance with the manufacturers calibration data.

1.1.2 Verify power supply and ratemeter voltages.

1.1.3 Set and verify setpoints and alarms.

1.1.4 Verify calibration of the RMS area monitor recorders.

1.2 Functional Testing of each channel and verify the proper operation of:

1.2.1 Local and control panel operation, indication, and alarm status.

1.2.2 Annunciator status.

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2.0 REFERENCES

2.1 Drawings

*JB* 2.1.1 Victoreen Dwg. No. 904924 Rev. C Area Radiation Monitor  
Wiring Diagram.

*JB* 2.1.2 Victoreen Dwg. No. 904550 Rev. D, <sup>de</sup>Elementary Diagram.

2.2 Vendor Manuals

2.2.1 B&R RMS Specification 2555-65 Amendment 7.

2.2.2 Victoreen Radiation Monitoring System Instruction  
Manuals.

2.2.3 Victoreen Instruction Manual for the 848-8 Field  
Calibrator with Adaptor for 855 series detectors.

2.2.4 Esterline Angus Instruction Manual for Model E1124E  
Multipoint Recorders.

2.3 FSAR Section 12.1 Amendment 56.

2.4 Metropolitan Edison Co. operating procedure number OP-2105-1.12 -  
Radiation Monitoring System Setpoint - Rev. 2.

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3.0 TIME REQUIRED

3.1 1 Shift - 3 Weeks, 2 Men.

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4.0 PREREQUISITES

4.1 Tests

4.1.1 TP 250/2 - Electrical Test - MTX 123.1.

E-1

Signature John A. Brumma Date 2/2/78

4.2 Construction Completion Status

4.2.1 Met-Ed has accepted the system for preoperational testing.

Signature John A. Brumma Date 11/17/77

4.3 Environmental Conditions

4.3.1 No special environmental conditions are required.

Signature John A. Brumma Date 11/17/77

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5.0 TEST EQUIPMENT

5.1 MIE #6 - Digital Voltmeter (Fluke Model 8100A or Equivalent)

5.2 MIE #254 - Field Calibrator Kit Model 848-8 With Adaptor for  
857-2 Detectors. (Unit 1 FCK and Unit 2 FCK).

5.3 MIE #6H - MV Source Digitec Cal rator or Equivalent.

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6.0 LIMITATIONS AND PRECAUTIONS

6.1 Exercise Care in Handling Detectors to Prevent Damage To:

Preamplifier Electronics  
Detector Cable  
Detector Cable Connectors

6.2 Exercise Care in Handling the Field Calibrator Kit (FCK).

Source exposure must be minimized by familiarizing ones self with the operation of the FCK.

With the source in the open position, there is no beam shielding in the front hemisphere of the calibrator. Check the warning decal on the top of the case for radiation levels. Whenever the FCK is not in the closed position, take all readings as quickly as possible to minimize personnel exposure in the area of the FCK. However, the radiation given off by the FCK may cause an indication or alarm on other nearby monitoring channels. This, as well as possible personnel exposure, should be kept in mind when performing this test procedure.

6.3 Exercise care when working at the terminal blocks as 600 VDC is present.

6.4 Ground link on voltmeter must not be closed while taking readings for Section 9.2.1.

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TP 360/1C  
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7.0 PLANT STATUS

7.1 This procedure does not include any special requirements or conditions related to plant status.

Signature John A. Brumma Date 11/7/77

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8.0 PREREQUISITE SYSTEM CONDITIONS

E-2  
8.1 All gamma radiation detectors and remote alarm units must be in their proper location. Complete data sheet no.1 in the following manner:

8.1.1 Fill in the serial no. for each detector and remote alarm listed on data sheet #1.

8.1.2 Check the appropriate column on data sheet 1 for correct location of detectors.

8.1.3 Check the appropriate column on data sheet no. 1 for correct detector orientation. The larger end of the detector should be facing downward.

8.1 - Data Sheet 1 - Completed

Signature J. A. Brunner Date 3/12/78

E-2  
8.2 At this time Met-Ed personnel should use labeling tape to label (eg. HP-R-201) on all components of each monitor channel listed on data sheet No. 1.

Signature John A. Brunner Date 3/8/78

8.3 All readout module function switches are in the OFF position. (See Enclosure 2 - Fig. 1).

Signature John A. Brunner Date 11/17/77

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8.0 PREREQUISITE SYSTEM CONDITIONS (Cont'd.)

8.4 The control room annunciator system must be operational for the RMS alarms.

E-3  
D-19

Signature John A. Brunner Date 3/9/78

8.5 Insure breaker 22 at Panel 2-12R is energized.

Signature John A. Brunner Date 11/17/77

8.6 Using reference 2.4 fill in the required setpoints on Enclosure 4.

E-3

Signature John A. Brunner Date 1/30/78

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9.0 TEST METHOD

9.1 Functional Testing (General)

9.1.1 The purpose of this part of the test procedure is to verify that the input voltage to the readout modules is within tolerance and to verify that the output voltages from the readout modules are within specifications. In addition, the power fail alarm system including the contact to the control room annunciator is tested.

9.1.2 All area gamma radiation readout modules and recorders are mounted in the control room on vertical panel 12. Apply power to all readout modules (channels HP-R-201 through HP-R-3240) by rotating each function selector switch from the "OFF" position to the "Operate" position. Refer to Enclosure 2 Fig. 1 for the location of this switch. Open the front of each recorder (HP-UR-1901 and HP-UR-1902) turn the power switch to the "ON" position and place the chart speed switch in the .5"/Hr. position.

Date the chart paper and identify the purpose of the test on the chart.

9.1.3 Allow the equipment to stabilize for a period of time not less than fifteen (15) minutes before proceeding with the test procedure.

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746-018

9.0 TEST METHOD. (Cont'd.)

9.1.4 Obtain twenty one (21) copies of data sheet No.2 and fillout the following for each channel.

Readout Module Model # \_\_\_\_\_

Readout Module Serial # \_\_\_\_\_

Section 9.1 Accomplished Sat.  Unsat. \_\_\_\_\_

Signature John A. Brunner Date 3/9/78

9.2 Voltage Checks

9.2.1 Using a digital voltmeter on the AC range, measure and record in Section 10.2.1 of data sheet No. 2 the AC input voltage to each readout module. Twenty one (21) identical data sheets are required. Refer to Enclosure 2 - Figures 2 and 2A for the proper hookup to measure this voltage.

CAUTION: THE JUMPER BETWEEN THE NEGATIVE INPUT TERMINAL AND THE GROUND TERMINAL ON THE VOLTMETER MUST NOT BE CONNECTED FOR THIS TEST.

9.2.1.1 Repeat section 9.2.1 until all (21) modules have been checked.

*gls* (HP-R-201) Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 12/23/77

(HP-R-202) Section 9.2.1 Accomplished Sat. \_\_\_\_\_ Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 12/23/77

*gls* (HP-R-204) Section 9.2.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brunner Date 1/8/78

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945 019

9.0 TEST METHOD (Cont'd.)

HP-R-205 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

HP-R-206 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 2/8/78

*JAL* HP-R-207 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/8/78

HP-R-209 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/26/78

HP-R-210 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/26/78

HP-R-211 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 2/8/78

HP-R-212 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 2/9/78

HP-R-213 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 2/8/78

*TJW* HP-R-214 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/9/78

*in* HP-R-215 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/21/78

HP-R-218 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 2/6/78

HP-R-231 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

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TMI UNIT II  
TP 360/1C  
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9.0 TEST METHOD (Cont'd.)

HP-R-232 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-233 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-234 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-3236 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-3238 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78

HP-R-3240 Section 9.2.1 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78

9.2.2 Place the digital voltmeter on the DC range using the voltmeter, measure and record in section 10.2.2 of data sheet No. 2 the power supply voltages generated by each readout module. These voltages are to be measured at the remote alarm unit (for all channels, except HP-R-201, 209, 210, 214, and 215) which do not have remote alarm units. To measure the voltages at the remote alarm unit, open the front of the unit and connect the voltmeter leads as shown in Enclosure 2 - Fig. No. 3. The ground lead can remain on TB1-2.

*E-1  
E-2  
E-3  
E-4  
E-5  
E-6  
E-7  
E-8*

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TP 360/1C  
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Duplicate Page 0

746 021

9.0 TEST METHOD (Cont'd.)

9.2.2.1 Repeat section 9.2.2 until all (16) modules have been checked

(HP-R-202) Section 9.2.2 Accomplished Sat.  Unsat.   
SAT  
753  
Signature John A. Burner Date 1/30/78

(HP-R-204) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Burner Date 3/4/78

(HP-R-205) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Burner Date 2/5/78

(HP-R-206) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Burner Date 2/5/78

(HP-R-207) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Burner Date 1/8/78

(HP-R-211) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Burner Date 3/1/78

(HP-R-212) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Burner Date 3/8/78

(HP-R-213) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Burner Date 2/8/78

(HP-R-218) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Burner Date 2/8/78

(HP-R-231) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Burner Date \_\_\_\_\_

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TMI UNIT II  
TP 360/1C  
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746 022

9.0 TEST METHOD (Cont'd.)

(HP-R-232) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-233) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

<sup>4</sup>  
(HP-R-234) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78

(HP-R-3236) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

(HP-R-3238) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/9/78

(HP-R-3240) Section 9.2.2 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

9.2.3 For the excepted channels listed in Section 9.2.2 the voltages are measured at the rear panel of the readout module in the control room. Refer to Enclosure 2 Fig. 2 for the proper hookup to measure these voltages. On module HP-R-201 measure the +22 VDC, +10 VDC, and the 600 VDC. Then pullout the module and measure the -6.8 VDC on the circuit board test point. (See Enclosure 2-Fig. 4). Record the readings in Section 10.2.3 of data sheet No. 2 .

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TP 360/1C  
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746 023

9.0 TEST METHOD (Cont'd.)

9.2.3.1 Repeat section 9.2.3 for HP-R-209, 210 and 215.

(HP-R-201) Section 9.2.3 Accomplished Sat.  Unsat.

Signature John A. Brumma Date 1/8/78

(HP-R-209) Section 9.2.3 Accomplished Sat.  Unsat.

Signature John A. Brumma Date 1/26/78

(HP-R-210) Section 9.2.3 Accomplished Sat.  Unsat.

Signature John A. Brumma Date 1/26/78

TJW (HP-R-215) Section 9.2.3 Accomplished Sat.  Unsat.

Signature John A. Brumma Date 1/27/78

9.2.4 For channel HP-R-214 the voltages are measured at the rear of the readout module (see Enclosure 2-Fig. 2A). Measure the +20 VDC, and the +14 VDC. Record the data on data sheet No. 2A (10.2.2).

Section 9.2.4 Accomplished Sat.  Unsat.

Signature John A. Brumma Date 1/27/78

9.3 Power Fail Alarm System

The power fail alarm system for area gamma radiation channels HP-R-201 through HP-R-3240 is tested by interrupting the electrical circuit which provides +10 volt power to the detectors (+14 volt power for HP-R-214). This is accomplished by unscrewing the shorting screw on the sliding link terminal blocks sufficiently to break the electrical circuit. These terminal blocks for each radiation

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145 024

9.0 TEST METHOD (Cont'd.)

9.3 (cont'd.)

channel are located in the main control room within panel 12 and are listed for cross reference in Enclosure 3.

9.3.1 Break the electrical circuit for channel HP-R-201 by unscrewing the appropriate screw listed in Enclosure 3.

9.3.2 Verify that the green "fail" lamp is extinguished on the appropriate readout module on vertical panel 12 in the control room. Record results on data sheet No. 2 (10.3.2).

9.3.3 Also verify that the main annunciator is armed with the audible alarm sounding and the annunciator window "RMS System Trouble" located on Panel 12 is flashing. Record the results on data sheet No. 2 (10.3.3).

9.3.4 Depress the annunciator "acknowledge" pushbutton. The annunciator light window should stop flashing and the audible alarm is silenced. Record the results on data sheet No. 2 (10.3.4).

9.3.5 Return the screw mentioned in step 9.3.1 above to its normal position. (Contacts together)

9.3.6 Verify that the fail lamp is now illuminated on

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TP 360/1C  
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D  
work-4

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746 025

9.0 TEST METHOD (Cont'd.)

9.3.6 (cont'd.)

appropriate readout module on vertical Panel 12. Record the results on Data Sheet 2 (10.3.6).

9.3.7 Verify the main annunciator is flashing and the audible alarm is sounding. Depress the annunciator acknowledge pushbutton and verify the alarm is cleared. Record the results on data sheet 2 (10.3.7).

9.3.8 Repeat section 9.3 for the remaining (20) readout modules.

D-4  
DA

- (HP-R-201) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/8/78
- (HP-R-202) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/8/78
- (HP-R-204) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-205) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/8/78
- (HP-R-206) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-207) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-209) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78

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TP 360/1C  
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9.0 TEST METHOD (Cont'd.)

- (HP-R-210) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78
- (HP-R-211) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-212) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-213) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-214) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 4/27/78
- <sup>TW</sup>  
<sub>D-4</sub> (HP-R-215) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/28/78
- (HP-R-218) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78
- (HP-R-231) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78
- <sup>E-6</sup>  
<sub>D-4</sub> (HP-R-232) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- <sub>D-4</sub> (HP-R-233) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-234) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- <sup>TW</sup> (HP-R-3236) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

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TP 360/1C  
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746 027

9.0 TEST METHOD (Cont'd.)

(HP-R-3238) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 2/9/78

(HP-R-3240) Section 9.3 Accomplished Sat.  Unsat.   
Signature John A. Bummer Date 3/9/78

+ 9.4 Calibration of Alarm Functions (alert) (for all channels except HP-R-214).

NOTE 1: For ease of performance steps 9.4, 9.5 and 9.6 should be performed as a single evolution and in sequence on each monitor. These steps may have to be repeated until all three (9.4, 9.5 and 9.6) are within tolerances.

2: All potentiometers except R-53 are located on the small vertical board and are accessible from the top see Enclosure 2 see Fig. 4A.

9.4.1 With A.C. Power disconnected from readout HP-R-201 place the alert alarm in the automatic reset mode by removing one end of <sup>(X to X)</sup> Jumper A, and one end of Jumper B (See Enclosure 2 Fig. 4).

9.4.2 Disconnect the signal input from the detector. This can be done by opening the sliding link of the customer interface terminal board and terminal number corresponding to the readout to be calibrated. Table 1 (9.4.2).

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746 028

9.0 TEST METHOD (Cont'd.)

9.4.3 Set the alarm setpoint potentiometer (R37) to the extreme clockwise position.

E-7  
9.4.4  
Delete  
Step

Set the alarm meter calibration potentiometer (R53) to the approximate mechanical center.

9.4.5 Adjust the readout module front panel meter mechanical zero to the first left hand graduation on the meter scale.

9.4.6 Plug the external adjustable (0-30 volt) power supply into the calibration input jack on the readout module front panel. The positive lead should be to the tip and the negative lead to the barrel of the connection jack.

9.4.7 Connect power to the readout and turn the function switch to operate.

9.4.8 Adjust the external power supply so the readout front panel meter reads exactly on the first left hand graduation on the scale.

9.4.9 Adjust the alarm calibration low end potentiometer <sup>R37</sup> <sub>(R54)</sub> on small board until:

E-9

The amber alert alarm light on the readout module just energizes.

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TP 360/1C  
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746 029

9.0 TEST METHOD (Cont'd.)

9.4.10 Lower, then vary the external power supply and observe that the alarm energizes at exactly the first graduation on the readout front panel meter scale. Repeat steps 9.4.8, 9.4.9 and 9.4.10 if necessary until proper zeroing is obtained. Record the results on data sheet No. 3 (10.4.10).

X 9.4.11 Set the alarm setpoint potentiometer (R37) to the extreme counter-clockwise position, and adjust the external power supply to exactly full scale on the readout front panel meter.

9.4.12 Adjust the alarm setpoint (R37) until the amber light just energizes.

9.4.13 Lower, then vary the external power supply and observe that the alert alarm energizes at exactly fullscale on the readout front panel meter. Repeat steps 9.4.11, 9.4.12 and 9.4.13 if necessary until the proper alarm action results. Enter results on Data Sheet No. 3(10.4.13).

9.4.14 Lower the external power supply to below the alarm setpoint and observe that the amber alert alarm light de-energizes. Record the results on data sheet No. 3(10.4.14).

9.4.15 Rotate the function switch to alarm and hold against the

*E-9 Delete step*

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9.0 TEST METHOD (Cont'd.)

9.4.15 (cont'd.)

spring return while depressing the amber button on the readout front panel. While holding these adjust alarm meter potentiometer (R53) so that the readout front panel meter reads exactly full scale.

9.4.16 Unplug the external power supply from the readout calibration jack.

9.4.17 Rotate the function switch to alarm and hold, while depressing the amber button on the front panel and adjust (R37) to the setpoint specified in Enclosure 4. Record the results on Data Sheet No. 3 (10.4.17).

NOTE: Checks for 9.4 will be signed off at the completion of section 9.6 when 9.4, 9.5 and 9.6 are complete.

9.5 Calibration of Alarm Functions (High)

NOTE: Potentiometers referred to relating to high alarm cal. are on the mother board and are accessed from the side. See Enclosure 2 Fig. 4.

9.5.1 Set the alarm setpoint potentiometer (R37) to the extreme clockwise position, and set the alarm meter calibration potentiometer (R53) to the approximate mechanical zero.

E-9

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746-031

9.0 TEST METHOD (Cont'd.)

9.5.2 If necessary, adjust the readout module front panel meter mechanical zero to the first left hand graduation on the meter scale. (This will require reperformance of 9.4).

9.5.3 Plug the external power supply into the calibration input jack on the readout module front panel. Positive goes to the tip and negative goes to the barrel of the jack.

9.5.4 Adjust the external power supply so the readout front panel meter reads exactly on the first left hand graduation on the scale.

*E-9  
Delete  
step*

9.5.5 Adjust the calibration low end potentiometer (R54) until the red high alarm light on the readout front panel just energizes. The high alarm relay should deenergize when the red light comes on.

9.5.6 Lower, then vary the external power supply and observe that the alarm energizes at exactly the first graduation on the readout front panel meter scale. Repeat steps 9.5.4, 9.5.5 and 9.5.6 until proper zeroing is accomplished. Record the results on data sheet No. 3(10.5.6).

9.5.7 Set the alarm setpoint potentiometer (R37) to the extreme counter-clockwise position. Adjust the external power supply to exactly full scale on the readout front panel meter.

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9.0 TEST METHOD (Cont'd.)

9.5.8 Adjust the alarm setpoint (R37) until the red high alarm light just energizes.

9.5.9 Lower, then vary the external power supply and observe that the high alarm energizes at exactly full scale on the readout front panel meter. Repeat steps 9.5.6 thru

9.5.9 until the proper alarm action occurs. Record the results on data sheet 3 (10.5.9).

9.5.10 Lower the external power supply to below the alarm setpoint and observe that the red high alarm light de-energizes. Record the results on data sheet No. 3 (10.5.10).

E-9  
Delete step  
9.5.11 Rotate the function switch to alarm and hold against the spring return while depressing the red button on the readout front panel and adjust the alarm meter potentiometer (R53) so that the readout front panel meter reads exactly fullscale. Then, unplug the external power supply from the readout calibration jack.

9.5.12 Rotate the function switch to alarm and hold against the spring return while depressing the red button on the readout front panel. Adjust the alarm setpoint potentiometer (R37) to the setpoint specified in Enclosure 4. Record the results on data sheet No. 3 (10.5.12).

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9.0 TEST METHOD (Cont'd.)

9.5.13 Replace the jumpers A & B removed in section 9.4.1 for this monitor.

NOTE: Checks for 9.5 will be signed off at the completion of section 9.6 when 9.4, 9.5 and 9.6 are complete.

9.6 Audible alarm and annunciator actuation

9.6.1 Depress the silence pushbutton on the front panel of the readout module being tested and reset the control room annunciator.

9.6.2 Plug the external power supply into the alarm cal. jack on the front panel and slowly increase the voltage until the amber alert light energizes.

D-4  
9.6.3 Verify that the control room RMS alarm is sounding and the control room annunciator marked 'RMS system trouble' is flashing. The remote alarm for that channel (if applicable) is sounding. Record the results on data sheet No. 3 (10.6.3).

9.6.4 Pushing the acknowledge pushbutton on Panel 12 will silence the control room audible alarm and the annunciator window will stop flashing and remain lit. Record the results on data sheet No. 3 (10.6.4).

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9.0 TEST M. JD (Cont'd.)

9.6.5 Pushing the silence pushbutton on the front of the readout module being tested should silence the remote audible alarm for the channel under test. Record the results on data sheet No. 3 (10.6.5).

9.6.6 Increase the external power supply until the high alarm light is energized. Also verify that the control room annunciator marked "RMS System Trouble" is flashing, and the remote audible alarm (if applicable) is sounding. Record the results on data sheet No. 3 (10.6.6).

9.6.7 Lower the external power supply to zero and unplug it from the readout module.

9.6.8 Push the acknowledge pushbutton and the silence pushbutton and verify that the RMS audible alarm (Panel 12), and the remote audible alarm are silenced, and the control room RMS annunciator "RMS System Trouble" clears. Record the results on data sheet No. 3 (10.6.8).

DA

Section 9.6 Accomplished Sat.  Unsat.  Date 1/30/78

Signature J. A. Baurman

9.6.9 Repeat sections 9.4, 9.5 and 9.6 for the remaining (19) readout modules.

HP-R-202 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.  Date 2/8/78

Signature J. A. Baurman

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9.0

TEST METHOD (Cont'd.)

HP-R-204 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78

HP-R-205 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-206 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-207 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-209 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/24/78

HP-R-210 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78

HP-R-211 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

HP-R-212 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

HP-R-213 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

D-A HP-R-215 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-218 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/5/78

HP-R-231 Sections 9.4, 9.5 and 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 2/5/78

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9.0 TEST METHOD (Cont'd.)

DA HP-R-232 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

DA HP-R-233 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-234 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78

HP-R-3236 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

HP-R-3238 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

HP-R-3240 Sections 9.4, 9.5 & 9.6 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/9/78

9.7 Recorder calibration (HP-UR-1901, HP-UR-1902)

9.7.1 Turn the function selector switch for readout module HP-R-201 to "OFF".

9.7.2 Verify proper zero alignment for recorder HP-UR-1901 by lifting the lead at TB-1 marked recorder and touching to GND on TB1 on readout module HP-R-201.

9.7.3 Verify that the recorder channel corresponding to the shorted output from the readout module will print the dot on the zero line of the readout chart. See Enclosure 5

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9.0 TEST METHOD (Cont'd.)

9.7.3 (cont'd.)

for readout channel No. vs. recorder channel cross ref.  
Record the results on data sheet No. 4 (10.7.3).

9.7.4 Remove recorder output lead from GND inject a 10 MV  
(full scale) signal between GND on TB1 and the wire  
lifted from rec.

9.7.5 Verify that the recorder channel corresponding to the  
readout module with the simulated full scale signal is  
printing at the full scale line on the chart paper. See  
Enclosure 5 for readout channel No. vs. recorder channel  
No. cross reference. Record the results on data sheet 4  
(10.7.5) and replace wire removed in 9.7.2.

9.7.6 Verify proper print wheel alignment by inspecting the  
chart paper for a clear printed dot with a legible  
channel No. just beside the dot. Record the results on  
data sheet No. 4 (10.7.6).

9.7.7 Verify proper recorder chart speed for the 5 speed  
positions available. Place the speed selector on the  
front of the recorder in the .5 inch/hr. position.

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9.0 TEST METHOD (Cont'd.)

9.7.8 Verify chart speed by measuring the travel in inches of a specific dot within a 1 hr. period. Record the results on data sheet No. 4 (10.7.8).

Section 9.7.8 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/28

9.7.8.1 With the chart speed switch in the 1 inch/hour position repeat step 9.7.8 and record the results on data sheet No. 4 (10.7.8.1).

Section 9.7.8.1 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/28

9.7.8.2 With the chart speed switch in the 2 inch/hour position repeat step 9.7.8 and record the results on data sheet No. 4 (10.7.8.2).

Section 9.7.8.2 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/28

9.7.8.3 With the chart speed switch in the 4 inch/hour position repeat step 9.7.8 and record the results on data sheet No. 4 (10.7.8.3).

Section 9.7.8.3 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brummer Date 1/30/28

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9.0 TEST METHOD (Cont'd.)

9.7.8.4 With the chart speed switch in the 8 inch/hr. position repeat step 9.7.8 and record the results on data sheet No.4 (10.7.8.4).

Section 9.7.8.4 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brumma Date 1/30/78

9.7.9 If any of the functions tested in section 9.7 do not function properly refer to the manufacturers manuals (Ref. 2.2.4) for adjustments.

*E-15* 9.7.10 Repeat steps 9.7.1 thru 9.7.6 for the remaining (20) readout modules. *HP-R-1902*

NOTE: On module HP-R-214 the jumper (9.7.2) goes between GND and 10 MV on TB1. The wire on 10 MV is removed in section 9.7.4.

Section 9.7.10 Accomplished Sat.  Unsat. \_\_\_\_\_  
Signature John A. Brumma Date 1/30/78

9.8 Background Radiation Reading

9.8.1 On Module HP-R-201 place the readout module function selector switch in the 'operate' position.

9.8.2 Read the radiation reading from the scale on the meter face and enter this information on data sheet No. 5 (10.8.2).

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9.0 TEST METHOD (Cont'd.)

9.8.3 Read the background radiation for the channel from the recorder print chart by observing the dot with a number corresponding to the channel being tested. See Enclosure 5-Table 3. Record this reading on data sheet No. 5 (10.8.3).

9.8.4 Repeat steps 9.8.1 thru 9.8.3 for the remaining (19) readout modules. (All except HP-R-214).

Section 9.8 Accomplished Sat.  Unst. \_\_\_\_\_

Signature

*John A. B...*

Date 3/8/78

CALIBRATION: WHEN TAKING BACKGROUND RADIATION READINGS, THE VICTOREEN FILED CALIBRATION KIT (FCK) MUST BE CLOSED AND AT LEAST TWENTY-FIVE (25) FEET FROM THE NEAREST DETECTOR.

9.9 Calibration of Detectors

9.9.1 Remove the detector for channel HP-R-201 from its wall mounting bracket.

9.9.2 Insert the detector into the Unit #2 Victoreen Field Calibrator Kit using the GM adaptor. Refer to Enclosure 2-Figures 5 and 6 for a description of the FCK and the mounting arrangement for the detector in the FCK.

9.9.3 Record in section 10.9.3 of data sheet No. 5 the radiation intensity produced by the FCK in each of its three positions; closed, intermediate, and open. Obtain this information

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9.0 TEST METHOD (Cont'd.)

9.9.3 (cont'd.)

from the decay chart which accompanies, or is attached to the FCK. Place this information in section 10.9.3 on all the channel data sheets No. 5.

NOTES: Source exposure must be minimized by familiarizing one's self with the operation of the FCK.

With the source in the open position, there is no beam shielding in the front hemisphere of the calibrator. Check the warning decal on the top of the case for radiation levels. Whenever the FCK is not in the closed position, take all readings as quick as possible so as to minimize personnel exposure in the area of the FCK. However, the radiation given off by the FCK may cause an indication or alarm on other nearby monitoring channels. This, as well as possible personnel exposure, should be kept in mind when performing this test procedure.

9.9.4 Record in section 10.9.4 of data sheet No. 5 the radiation readings on the readout module meter and corresponding recorder channel. The source knob must be in the closed position (full clockwise direction). Insert the key fully into the lock. Do not turn the key at this time.

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9.0 TEST METHOD (Cont'd.)

9.9.5 Slowly rotate the source knob on the FCK in a counterclockwise direction until it stops. This is the intermediate position. Record the radiation readings on the readout module meter face and corresponding recorder channel in section 10.9.5 of data sheet No. 5.

9.9.6 Now rotate the key fully clockwise and then rotate the source knob in the counterclockwise direction to the final stop position. This is the open position. Record the readings on the readout module meter and corresponding recorder channel in section 10.9.6 of data sheet No. 5.

9.9.7 Rotate the source knob on the FCK in the clockwise direction until the closed position is reached. Remove the key from the FCK at this time.

9.9.8 Replace the detector in its mounting.

9.9.9 On data sheet No. 5 calculate the net radiation reading by subtracting the background radiation reading from section 10.8.2 from each of the appropriate readings in sections 10.9.4, 10.9.5, and 10.9.6. Enter the results in section 10.9.9.

NOTE: When determining the net radiation, disregard the background radiation level if it is less than 5% of the measured radiation level in either the closed, intermediate or open positions.

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9.0 TEST METHOD (Cont'd.)

9.9.10 Obtain the Unit 1 FCK (MTE #254) and using the GM adaptor repeat steps 9.9.1 thru 9.9.9 to obtain baseline data with that FCK. Record this data on data sheet 5A for all detectors. Step 9.9.3 data for this calibrator will also be recorded on data sheet no. 5A.

9.9.11 Repeat steps 9.9.1 thru 9.9.10 for the remaining (19) detectors. (All except HP-R-214).

Section 9.9 Accomplished Sat.  Unsat.

Signature John A. Dymore Date 3/8/78

9.10 Test of internal check source.

9.10.1 Insure the FCK is at least 25 ft. from the detector under test.

9.10.2 Verify that the readout module selector switch is in the 'operate' position.

9.10.3 Activate the check source by depressing the green push-button. Record the value from the readout module meter on data sheet No. 5 Section 10.10.3. This reading should be higher than the background reading obtained in 10.8.2.

9.10.4 Repeat steps 9.10.1 thru 9.10.3 for the remaining (19) modules. (All except HP-R-214).

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9.0 TEST METHOD (Cont'd.)

- (HP-R-201) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-202) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-204) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/30/78
- (HP-R-205) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-206) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-207) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/8/78
- (HP-R-209) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78
- (HP-R-210) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 1/26/78
- (HP-R-211) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/4/78
- (HP-R-212) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/1/78
- (HP-R-213) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brunner Date 3/1/78

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9.0 TEST METHOD (Cont'd.)

- (HP-R-215) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/24/78
- (HP-R-218) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78
- (HP-R-231) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78
- (HP-R-232) Section 9.10 Accomplished Sat.  Unsat.   
Signature John H. Brummer Date 1/30/78
- (HP-R-233) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78
- (HP-R-234) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78
- (HP-R-3236) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 1/30/78
- (HP-R-3238) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78
- (HP-R-3240) Section 9.10 Accomplished Sat.  Unsat.   
Signature John A. Brummer Date 3/8/78

9.11 Background radiation reading and detector cal. for HP-R-214.

- 9.11.1 Place the readout module function switch in the 'ALL' position and read the radiation reading from the upper scale on the meter face and enter this information on data sheet No.6 (10.11.1).

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9.0 TEST METHOD (Cont'd.)

9.11.2 Determine the appropriate recorder channel corresponding to channel HP-R-214 from the template on the RMS recorder and read the background radiation from the printout chart. Record this reading on data sheet No. 6 (10.11.2).

E-12  
9.11.3 Remove the detector for channel HP-R-214 from its wall mounting bracket and insert it into the Unit 2 Field Calibrator Kit. See Enclosure 2 Figures 5 and 6. (without GM adaptor).

9.11.4 Record in section (10.11.4) of data sheet No. 6, the radiation intensity produced by the FCK in each of its three positions; closed, intermediate, and open. This information can be obtained on any data sheet No. 5 (10.9.3).

NOTES: Source exposure must be minimized by familiarizing one's self with the operation of the FCK.

With the source in the open position, there is no beam shielding in the front hemisphere of the calibrator. Check the warning decal on the top of the case for radiation levels. Whenever the FCK is not in the closed position, take all readings as quick as possible so as to minimize personnel exposure in the area of the FCK. However, the radiation given off by the FCK may cause an

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9.0 TEST METHOD (Cont'd.)

NOTES: (cont'd.)

indication or alarm on other nearby monitoring channels. This, as well as possible personnel exposure, should be kept in mind when performing this test procedure.

9.11.5 Record in Section 10.11.5 of data sheet no. 6 the radiation readings on the readout module meter and corresponding recorder channel. The source knob must be in the closed position (full clockwise direction). Insert the key fully into the lock. Do not turn the key at this time.

9.11.6 Slowly rotate the source knob on the FCK (see Enclosure 2-Fig. No. 5) in a counterclockwise direction until it stops. This is the intermediate position. Record the radiation readings on the readout module meter and corresponding recorder channel in Section 10.11.6 of data sheet No. 6.

9.11.7 Now rotate the key fully clockwise and then rotate the source knob in the counterclockwise direction to the final stop position. This is the open position. Record the readings on the readout module meter and corresponding recorder channel in section 10.11.7 of data sheet No. 6.

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9.0 TEST METHOD (Cont'd.)

9.11.8 Rotate the source knob on the FCK in the clockwise direction until the closed position is reached. Remove the key from the FCK at this time also.

9.11.9 On data sheet No. 6 calculate the net radiation by subtracting the background radiation reading in Section 10.11.1 from each of the appropriate readings in Sections 10.11.5, 6 & 7. Enter the results in section 10.11.9.

9.11.10 Obtain the Unit 1 FCK MTE # (254) and repeat Steps 9.11.1 thru 9.11.9 to obtain baseline data for that calibrator. Record this data on data sheet No. 6A.

Section 9.11 Accomplished Sat \_\_\_\_\_ Unsat \_\_\_\_\_  
Signature John A. Brumson Date 1/27/75

9.12 Alert and High Alarm Verification (HP-R-214).

9.12.1 Leave the detector for (HP-R-214) in the FCK with the source knob in closed position.

9.12.2 Place the readout module function selector switch in the All position.

9.12.3 At Panel 12 pull HP-R-214 readout module out of the main panel and slowly adjust potentiometer R30 (see Enclosure 2-Fig. No.7) clockwise until an alarm is received.

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9.0 TEST METHOD (Cont'd.)

9.12.4 Depress the "Alert" pushbutton and record the readout module meter reading on data sheet No. 7 (10.12.4).

9.12.5 Verify that the following actions have taken place:

- Amber alert light On
- 'RMS System Trouble' annunciator is flashing.

0-4 - RMS audible alarm is sounding

Record the results on data sheet No. 7 (10.12.5).

9.12.6 Depress the annunciator acknowledge pushbutton and the silence PB on the readout module. Verify the following actions take place:

- 'RMS System Trouble' annunciator stops flashing

0-4 - RMS audible alarm stops sounding

Record the results on data sheet No. 6 (10.12.6).

9.12.7 Adjust potentiometer R30 to the full counterclockwise position. The alert light should go Off, and the following actions should take place:

- 'RMS System Trouble' annunciator is flashing

0-4 - RMS audible alarm is sounding

Record the results on data sheet No. 6 (10.12.7).

9.12.8 Depress the annunciator acknowledge pushbutton and verify that the 'RMS System Trouble' annunciator clears and the RMS audible-alarm is silenced.

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9.0 TEST METHOD (Cont'd.)

9.12.9 Adjust potentiometer R20 (see Enclosure 2-fig. No. 7) counterclockwise until an alarm is received.

9.12.10 Depress the 'High' pushbutton and record the readout module meter reading on data sheet No. 7 (10.12.10).

9.12.11 Verify that the following actions have taken place:

- Red 'High' alarm light ON
- 'RMS System Trouble' annunciator is flashing and the RMS audible alarm is sounding.

D-4

Record the results on data sheet No. 7 (10.12.11).

9.12.12 Depress the annunciator acknowledge pushbutton and the silence P.B. on the readout module. Verify that the following actions take place:

- 'RMS System Trouble' annunciator stops flashing and the RMS audible alarm is silenced.

D-4

Record the results on data sheet No. 7 (10.12.12).

E-1 9.12.13 Adjust potentiometer <sup>20</sup>R30 to the full counterclockwise position. The 'High' alarm light should go off, and the following actions should take place:

- 'RMS System Trouble' annunciator is flashing and the RMS audible alarm is sounding.

D-4

Record the results on data sheet No. 7 (10.12.13).

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9.0 TEST METHOD (Cont'd.)

9.12.14 Depress the annunciator acknowledge pushbutton and verify that the 'RMS System Trouble' annunciator clears and the RMS audible alarm is silenced. Record the results on data sheet No. 7 (10.12.14).

~~E-FCM~~  
9.12.15 Remove detector from the FCK and place detector at least 25 feet from the FCK.

9.12.16 Activate the check source by interrupting the electrical circuit which provides +20 volt power to the detector for HP-R-214. This is accomplished by unscrewing the shorting screw on the sliding link terminal block. (See Enclosure 5 for correct TB No.).

9.12.17 Record the radiation reading of the check source on data sheet No. 7 (10.12.17).

9.12.18 Adjust potentiometer R30 clockwise until an alarm is received. Depress the alert pushbutton and record the readout module meter reading on Data Sheet No. 7 (10.12.18).

~~D-4~~ 9.12.19 Deactivate all audible alarms by pressing the silence PB and the main RMS annunciator acknowledge pushbutton.

9.12.20 Adjust potentiometer R30 to the full counterclockwise position.

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9.0 TEST METHOD (Cont'd.)

9.12.21 Adjust potentiometer R20 counterclockwise until an alarm is received. Then depress the 'High' pushbutton and record the readout module meter reading on data sheet No. 7 (10.12.21).

9.12.22 Deactivate all audible alarms by pressing the silence PB on the readout module and the main RMS annunciator acknowledge button.

9.12.23 Adjust potentiometer R20 to the full clockwise position.

9.12.24 Complete sections 10.12.24 on data sheet No. 7. If the readings are not within  $\pm 1$  minor scale division, maintenance must be performed.

Section 9.12 Accomplished Sat. \_\_\_\_\_ Unsat. \_\_\_\_\_

Signature John A. Bismore Date 1/27/78

9.13 Radiation Readings (HP-R-214)

9.13.1 Place the detector back in the FCK and turn the function switch to the ALL position. Insure the source knob on the FCK is still closed and record the radiation reading from the readout module meter in section (10.13.1) on data sheet No. 8. Also record in this section the radiation reading from the printout chart from recorder HP-UR-1901 channel 12.

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9.0 TEST METHOD (Cont'd.)

9.13.2 Record the radiation reading on the readout module HP-R-214 (lower scale) when the function selector switch is placed in each of the following ranges: " $10^2$ ," " $10^3$ ," and " $10^4$ ." Enter this information in Section 10.13.1 of Data Sheet 8. (closed). The source knob on the FCX must remain in the closed position for these readings. The remaining switch positions are tested later when there will be sufficient radiation to register on the readout module meter.

9.13.3 Place the key into the Field Calibrator Kit (FCX) and rotate the source knob counterclockwise into the intermediate position. Record the radiation readings on the readout module meter HP-R-214 in Section 10.13.1 of Data Sheet No. 8 (intermediate) with the readout module function selector switch in the "All" and the " $10^4$ " positions. Also record in this section, the radiation reading from the recorder channel which corresponds to the radiation channel HP-R-214.

9.13.4 Rotate the source knob on the FCX counterclockwise to the open position. Record the radiation readings on the readout module meter in Section 10.13.1 of Data Sheet No. 8 (open) with the readout module function selector switch in each of the following positions: "All," " $10^4$ ," " $10^5$ ," " $10^6$ ," and " $10^7$ ." Also record in this section the radiation reading

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9.0 TEST METHOD (Cont'd.)

9.13.4 (cont'd.)

from the recorder channel which corresponds to the radiation channel HP-R-214.

9.13.5 Rotate the source knob on the FCK in the clockwise direction into the close position and complete section 10.13.5 of data sheet No. 8 by subtracting the background radiation listed in section 10.11.1 of data sheet No. 6 from the data sheet No. 8 and listing the results on data sheet No. 8 (10.13.5).

9.13.6 Return the detector to its wall mount.

9.13.7 Verify system setpoints for module HP-R-214 by placing the function switch in the All position and depressing the amber 'Alert' button on the readout module.

9.13.8 Readjust potentiometer R30 to obtain a meter reading equal to that level listed in Enclosure 4. The accuracy of this adjustment is  $\pm 1/2$  minor scale division and is read on the upper scale of the readout module meter. Enter as left results on data sheet No. 8 (10.13.8).

9.13.9 Depress the RED HIGH ALARM button on module HP-R-214 and readjust potentiometer R20 to obtain a meter reading equal to the level shown in Enclosure 4. Enter the as left results on Data Sheet No. 8 (10.13.9).

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9.0 TEST METHOD (Cont'd.)

9.13.10 Push the readour module back into panel 12.

Section 9.13 Accomplished Sat \_\_\_\_\_ Unsat. \_\_\_\_\_

Signature John A. Bourne Date 1/27/78

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CHANNEL	DETECTOR OR REMOTE ALARM	RADIATION METER		MODEL NO.	SERIAL NO.	LOCATION OF DETECTORS OR REMOTE UNITS			CORRECT LOCATION		CORRECT ORIENTATION	
		YES	NO			BUILDING	FLOOR LEVEL (ft)	DESCRIPTION	YES	NO	YES	NO
HP-R-201	DET	H.A.	H.A.	857-2	35	Control & Service	331.5	South Wall				
HP-R-202	DET	H.A.	N.A.	857-2	324	Control & Service	305	North Wall - Near BOP Computer				
HP-R-202	RA	x		858-3	N/A	Control & Service	305	Near Detector				
HP-R-204	DET	N.A.	N.A.	857-2	358	Auxiliary	280.5	Southeast Corner near RB Emerg. Bat. Pmp IC				
HP-R-204	RA	x		858-3	N/A	Auxiliary	280.5	Near Detector				
HP-R-205	DET	N.A.	N.A.	857-2	367	Auxiliary	280.5	Adjacent Southside of Evaporator Ctrl. Pnl.				
HP-R-205	RA	x		858-3	N/A	Auxiliary	280.5	Near Detector				
HP-R-206	DET	N.A.	N.A.	857-2	377	Auxiliary	305	Adjacent Gas Analyzer				
HP-R-206	RA	x		858-3	N/A	Auxiliary	305	Near Detector				
HP-R-207	DET	N.A.	A.	857-2	337	Auxiliary	305	South wall - adjacent Int. Clg. pumps				
HP-R-207	RA	x		858-3	N/A	Auxiliary	305	Near Detector				
HP-R-209	DET	N.A.	N.A.	857-2	328/874	Rx. Bldg.	347.5	Fuel Handling Bridge North				
HP-R-210	DET	N.A.	N.A.	857-2	320	Rx. Bldg.	347.5	Fuel Handling Bridge South				
HP-R-211	DET	N.A.	N.A.	857-2	357	Rx. Bldg.	312	Southeast Quadrant Near Personnel Air Lock				
HP-R-211	RA	x		858-1	N/A	Rx. Bldg.	312	Near Detector				

Data Sheet No. 1  
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Signature

*John A. Bussone*

Date 3/5/76

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CHANNEL	DETECTOR OR REMOTE ALARM	RADIATION METER		MODEL NO.	SERIAL NO.	LOCATION OF DETECTORS OR REMOTE UNITS			CORRECT LOCATION		CORRECT ORIENTATION	
		YES	NO			BUILDING	FLOOR LEVEL (ft)	DESCRIPTION	YES	NO	YES	NO
		HP-R-212	DET			N.A.	N.A.	857-2	390	Rx. Bldg.	305	Southwest Quadrant near Equip. Hatch,
HP-R-212	R.A.	x		858-2 858-1	N/A	Rx. Bldg.	305	Near Detector	<i>AB</i>		<i>AB</i>	
HP-R-213	DET	N.A.	N.A.	857-2	326	Rx. Bldg.	347.5	Northwest Quadrant under Jib Crane	<i>AB</i>		<i>AB</i>	
HP-R-213	R.A.	x		858-3	N/A	Rx. Bldg.	347.5	Near Detector	<i>AB</i>		<i>AB</i>	
HP-R-214	DET	N.A.	N.A.	847-1		Rx. Bldg.	305	East wall under polar crane rail				
HP-R-215	DET	N.A.	N.A.	857-2	335	Fuel Handling	347.5	On Fuel Storage Handling Bridge	X		X	
HP-R-218	DET	N.A.	N.A.	857-2	361	Fuel Handling	305	NE Corner Waste Storage Area	<i>AB</i>		<i>AB</i>	
HP-R-218	R.A.	x		858-3	N/A	Fuel Handling	305	Near Door to Waste Storage Room	<i>AB</i>		<i>AB</i>	
HP-R-231	DET	N.A.	N.A.	857-2	346	Auxiliary	280.5	NE Corner Waste Storage Room	<i>AB</i>		<i>AB</i>	
HP-R-231	R.A.	x		858-3 858-1	N/A	Auxiliary	280.5	Near Detector	<i>AB</i>		<i>AB</i>	
HP-R-232	DET	N.A.	N.A.	857-2	331	Auxiliary	305	NE Corner Corridor Adjacent MCC 2-11 EB	<i>AB</i>		<i>AB</i>	
HP-R-232	R.A.	x		858-3	N/A	Auxiliary	305	Near Detector	<i>AB</i>		<i>AB</i>	
HP-R-233	DET	N.A.	N.A.	857-2	178	Auxiliary	305	Corridor just outside spent fuel filters	<i>AB</i>		<i>AB</i>	
HP-R-233	R.A.	x		858-3	N/A	Auxiliary	305	Near Detector	<i>AB</i>		<i>AB</i>	

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CHANNEL	DETECTOR OR RETRYE ALARM	RADIATION METER		MODEL NO.	SERIAL NO.	LOCATION OF DETECTORS OR REMOTE UNITS		CORRECT LOCATION		CORRECT ORIENTATION		
		YES	NO			BUILDING	FLOOR LEVEL (ft)	DESCRIPTION	YES	NO	YES	NO
HP-R-234	DET	N.A.	N.A.	857-2	256	Control & Serv.	280.5	Just opposite sewage ejection tank	Yes	Yes	Yes	Yes
HP-R-234	R.A.	x	N.A.	857-3	N/A	Control & Serv.	280.5	Near Detector	Yes	Yes	Yes	Yes
HP-R-3236	DET	N.A.	N.A.	857-2	357	Auxiliary	328	Adjacent West Side Rx Bldg. purge air exh. unit A	Yes	Yes	Yes	Yes
HP-R-3236	R.A.	x	N.A.	858-1 858-3	N/A	Auxiliary	328	Next column Mes. by CHALLENGER Sec. 4	Yes	Yes	Yes	Yes
HP-R-3238	DET	N.A.	N.A.	857-2	363	Auxiliary	328	Between Aux. Bldg. Exhaust Units	Yes	Yes	Yes	Yes
HP-R-3238	R.A.	x	N.A.	858-1 858-3	N/A	Auxiliary	328	By Entrances	Yes	Yes	Yes	Yes
HP-R-3240	DET	N.A.	N.A.	857-2	522	Auxiliary	328	Between Fuel Handling Bldg. Exhaust Units	Yes	Yes	Yes	Yes
HP-R-3240	R.A.	x	N.A.	858-1 858-3	4/p	Auxiliary	328	Near Entrance by Unit A	Yes	Yes	Yes	Yes

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*J. A. Burman*

Date *1/18*

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>118.2</u> VAC	117 $\pm 1.5$ VAC	JSS/FC Met Ed	12/25/77
10.2.2	Power Supply Voltages	<u>17.50</u> VDC	22 $\pm 0.3$ VDC	JSS/FC Met Ed	12/25/77
		<u>10.1</u> VDC	10 $\pm 0.1$ VDC	JSS/FC Met Ed	12/25/77
		<u>577.8</u> VDC	600 $\pm 16$ VDC	JSS/FC Met Ed	12/25/77
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\pm 0.5$ VDC	JSS/FC Met Ed	12/25/77
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Y</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/25/77
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Y</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/25/77
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Y</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/25/77
10.3.6	Green Fail Indicator Comes On	<u>Y</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/25/77
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Y</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/25/77
	Alarms Cleared	<u>Y</u> Yes <u>    </u> No	Yes	JSS Met Ed	12/25/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JJR</i> <i>MET ED</i>	12/29/77
10.4.13	Alert Full Scale	Energize at full scale <i>yes</i>	Yes	<i>JJR</i> <i>MET ED</i>	12/31/77
10.4.14	Alert Alarm Reset	Amber Light Out <i>yes</i>	Yes	<i>JJR</i> <i>MET ED</i>	12/31/77
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>0.5</u>	+0 -1 Minor Scale Division	<i>JJR</i> <i>MET ED</i>	12/31/77
10.5.6	High Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JJR</i> <i>MET ED</i>	12/31/77
10.5.9	High Alarm Full Scale	Energize at full scale <i>yes</i>	Yes	<i>JJR</i> <i>MET ED</i>	12/31/77
10.5.10	High Alarm Reset	Red Light Out <i>yes</i>	Yes	<i>JJR</i> <i>MET ED</i>	12/31/77
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1.4</u>	+0 -1 Minor Scale Division	<i>JJR</i> <i>MET ED</i>	12/31/77
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JJR</i> <i>MET ED</i>	12/31/77
	RMS Audible Alarm Sounding  D-4	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JJR</i> <i>MET ED</i>	1/27/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
0.6.3 cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	Remote Audible Alarm is sounding (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JHR METCO	12/31/77
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JHR METCO	12/31/77
10.6.6	High Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JHR METCO	12/31/77
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR METCO	12/31/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
8.2	Background Radiation Reading (Meter)	.1 mr/hr	N/A	JAB	Met-Ed	1/29/78
8.3	Background Radiation Reading (Recorder)	.1 mr/hr	N/A	JAB	Met-Ed	1/29/78
9.3	Radiation Input produced by FCX closed	52 mr/hr	N/A	JAB	Met-Ed	1/29/78
	Intermediate Open	382 mr/hr 1920 mr/hr	N/A N/A	JAB	Met-Ed	1/29/78
10.9.4	Measured Radiation Closed	Meter: 55 Recorder: 55	N/A	JAB	Met-Ed	1/29/78
10.9.5	Intermediate	Meter: 3.8 Recorder: 3.6	N/A	JAB	Met-Ed	1/21/78
10.9.6	Open	Meter: 1.9 Recorder: 1.7	N/A	JAB	Met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter: 55 Recorder: 55	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
	Intermediate	Meter: 3.8 Recorder: 3.6	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
	Open	Meter: 1.9 Recorder: 1.7	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/29/78
10.10.3	Check Source Reading	4.5 x10 mr/h	Greater than reading obtained in step 10.8.2	JAB	Met-Ed	1/29/78

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9.9.10) (Unit 1 FCK)

Description of Data Required	Data	Acceptance Criteria	Initials		Date
			Org.		
2 Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB	Mut-Ed	1/29/78
3 Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB	Mut-Ed	1/29/78
.3 Radiation Input produced by FCK closed	E-16	N/A			
Intermediate Open	E-16	N/A			
9.4 Measured Radiation Closed	Meter: $\frac{70}{10^0}$ mr/h Recorder: 70	N/A	JAB	Mut-Ed	1/29/78
9.5 Intermediate	Meter: $\frac{4.2}{10^2}$ mr/h Recorder: 4.2	N/A	JAB	Mut-Ed	1/29/78
9.6 Open	Meter: $\frac{2}{10^3}$ mr/h Recorder: 1.9	N/A	JAB	Mut-Ed	1/29/78
0.9.9 Net Radiation Closed	Meter: $\frac{70}{10^0}$ mr/h Recorder: 70	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Mut-Ed	1/29/78
Intermediate	Meter: $\frac{4.2}{10^2}$ mr/h Recorder: 4.2	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Mut-Ed	1/29/78
Open	Meter: $\frac{2}{10^3}$ mr/h Recorder: 1.9	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Mut-Ed	1/29/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
AC Input Voltage Check	<u>118.2</u> VAC	117 <sup>+15</sup> / <sub>-15</sub> VAC	JJ/FC	Met Ed	12/28/77
Power Supply Voltages	<u>4.76</u> VDC	22 <sup>+0.3</sup> / <sub>-0.3</sub> VDC	JJ/FC	Met Ed	12/28/77
	<u>10.05</u> VDC	10 <sup>+0.1</sup> / <sub>-0.1</sub> VDC	JJ/FC	Met Ed	12/28/77
	<u>593.1</u> VDC	600 <sup>+16</sup> / <sub>-16</sub> VDC	JJ/FC	Met Ed	12/28/77
3 Test Point Voltage	<u>-6.3</u> VDC	-6.8 <sup>+0.5</sup> / <sub>-0.5</sub> VDC	JJ/FC	Met Ed	12/28/77
3.2 Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JJ/FC	Met Ed	12/28/77
3.3 Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JJ/FC	Met Ed	12/28/77
3.4 Audible Alarm Cleared Light Window Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JJ/FC	Met Ed	12/28/77
3.6 Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JJ/FC	Met Ed	12/28/77
3.7 Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JJ/FC	Met Ed	12/28/77
Alarms Cleared	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JJ/FC	Met Ed	12/28/77

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Sp. No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10	Alert Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JAB</i>	<i>Mt-Ed</i>	12/29/77
13	Alert Full Scale	Energize at full scale <i>yes</i>	Yes	<i>Eah</i>	<i>Mt-Ed</i>	12-29-
14	Alert Alarm Reset	Amber Light Out <i>yes</i>	Yes	<i>Eah</i>	<i>Mt-Ed</i>	12-29-
4.17	Setpoint Value from Table 2 adjusted	Value <u>0.5</u>	+0 -1 Minor Scale Division	<i>Eah</i>		12-29-7
5.6	High Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>JAB</i>	<i>Mt-Ed</i>	12/29/77
5.9	High Alarm Full Scale	Energize at full scale <i>yes</i>	Yes	<i>JAB</i>	<i>Mt-Ed</i>	12/29/77
5.10	High Alarm Reset	Red Light Out <i>yes</i>	Yes	<i>JAB</i>	<i>Mt-Ed</i>	12/29/77
0.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	<i>JAB</i>	<i>Mt-Ed</i>	12/29/77
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JAB</i>	<i>Mt-Ed</i>	12/29/77
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>JAB</i>	<i>Mt-Ed</i>	12/29/77

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
0.6.3 out'd.)	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	JH HIE	1/25/75
	Remote Audible Alarm is sounding (if applicable)	Yes _____ No _____ N/A _____	Yes N/A	JH HIE	1/25/75
0.6.4	RMS Audible Alarm Reset	Yes _____ No _____	Yes	JH HIE	1/25/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes _____ No _____	Yes	JH HIE	1/25/75
0.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A _____	Yes N/A	JH HIE	1/25/75
0.6.6	High Alarm Light ON	Yes _____ No _____	Yes	JH HIE	1/25/75
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	JH HIE	1/25/75
	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	JH HIE	1/25/75
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A _____	Yes N/A	JH HIE	1/25/75
0.6.8	All Alarms Clear	Yes _____ No _____	Yes	JH HIE	1/25/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB Met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB Met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	55	N/A	JAB Met-Ed	1/29/78
	Intermediate Open	382 1920	N/A N/A	JAB Met-Ed JAB Met-Ed	1/29/78 1/29/78
10.9.4	Measured Radiation Closed	Meter: $55 \times 10^{-6}$ mr/h Recorder: 52	N/A	JAB Met-Ed	1/29/78
10.9.5	Intermediate	Meter: $3.9 \times 10^{-2}$ mr/h Recorder: 6	N/A	JAB Met-Ed JAB Met-Ed	1/29/78 1/29/78
10.9.6	Open	Meter: $2 \times 10^{-3}$ mr/h Recorder: 1.8	N/A	JAB Met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter: $55 \times 10^{-6}$ mr/h Recorder: 52	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Intermediate	Meter: $3.9 \times 10^{-2}$ mr/h Recorder: 3.6	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Open	Meter: $2 \times 10^{-3}$ mr/h Recorder: 1.8	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
10.10.3	Check Source Reading	$6 \times 10^{-6}$ mr/h	Greater than reading obtained in step 10.8.2	JAB Met-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials	
				Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mr/hr	N/A	JAB	1/24/7
10.8.3	Background Radiation Reading (Recorder)	.1 mr/hr	N/A	JAB	1/28/7
10.9.3	Radiation Input produced by FCK closed <i>E-16</i>		N/A		
	Intermediate Open <i>E-16</i>		N/A N/A		
10.9.4	Measured Radiation Closed <u>Meter</u> <u>Recorder</u>	<u>5.0</u> $\times 10^{-2}$ mr/h <u>4.5</u>	N/A	JAB	1/29/7
10.9.5	Intermediate <u>Meter</u> <u>Recorder</u>	<u>3.6</u> $\times 10^{-2}$ mr/h <u>3.2</u>	N/A	JAB	1/29/7
10.9.6	Open <u>Meter</u> <u>Recorder</u>	<u>2</u> $\times 10^{-3}$ mr/h <u>1.8</u>	N/A	JAB	1/29/7
10.9.9	Net Radiation Closed <i>E-16</i> <u>Meter</u> <u>Recorder</u>	<u>5.0</u> $\times 10^{-1}$ mr/h <u>4.5</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	1/29/7
	Intermediate <i>E-16</i> <u>Meter</u> <u>Recorder</u>	<u>5.6</u> $\times 10^{-2}$ mr/h <u>3.2</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	1/29/7
	Open <i>E-16</i> <u>Meter</u> <u>Recorder</u>	<u>2</u> $\times 10^{-3}$ mr/h <u>1.8</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	1/29/7

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>119.6</u> VAC	117 $\pm 1$ VAC	JR MET ED	1/30/78
10.2.2	Power Supply Voltages	<u>2.5</u> VDC	22 $\pm 0.3$ VDC	JR M-E	1/30/78
		<u>0.2</u> VDC	10 $\pm 0.1$ VDC	JR M-E	1/30/78
		<u>6.0</u> VDC	600 $\pm 16$ VDC	JR M-E	1/30/78
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\pm 0.5$ VDC	JR M-E	1/30/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	JR M-E	1/30/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JR M-E	1/30/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	JR M-E	1/30/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	JR M-E	1/30/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JR M-E	1/30/78
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	JR M-E	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JSI III-E	1/25/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	JSI III-E	1/25/75
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JSI III-E	1/25/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.2</u>	+0 -1 Minor Scale Division	JSI III-E	1/25/75
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JSI III-E	1/25/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JSI III-E	1/25/75
10.5.10	High Alarm Reset	Red Light Out	Yes	JSI III-E	1/25/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	JSI III-E	1/25/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI III-E	1/25/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI III-E	1/25/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JSI III E		1/25/75
	Remote Audible Alarm is sounding (if applicable)	Yes _____ No _____ N/A <u>X</u>	Yes  N/A	JSI III E		1/25/75
10.6.4	RMS Audible Alarm Reset	Yes <u>X</u> No _____	Yes	JSI III E		1/25/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>X</u> No _____	Yes	JSI III E		1/25/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A _____	Yes  N/A	JSI III E		1/25/75
10.6.6	High Alarm Light ON	Yes _____ No _____	Yes	JSI III E		1/25/75
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	JSI III E		1/25/75
	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	JSI III E		1/25/75
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A _____	Yes  N/A	JSI III E		1/25/75
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	JSI III E		1/25/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB met-Ed	1/29/70
10.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB met-Ed	1/29/70
10.9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB met-Ed	1/29/70
	Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB met-Ed	1/29/70
10.9.4	Measured Radiation Closed	Meter: $\frac{5.0}{x10^{-1}}$ mr/h Recorder: <u>5.2</u>	N/A	JAB met-Ed	1/29/70
10.9.5	Intermediate	Meter: $\frac{3.7}{x10^{-2}}$ mr/h Recorder: <u>3.9</u>	N/A	JAB met-Ed	1/29/70
10.9.6	Open	Meter: $\frac{1.9}{x10^{-3}}$ mr/h Recorder: <u>2.0</u>	N/A	JAB met-Ed	1/29/70
10.9.9	Net Radiation Closed	Meter: $\frac{5.0}{x10^{-1}}$ mr/h Recorder: <u>5.2</u> E-17	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-Ed	1/29/70
	Intermediate	Meter: $\frac{3.7}{x10^{-2}}$ mr/h Recorder: <u>3.9</u> E-17	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-Ed	1/29/70
	Open	Meter: $\frac{1.9}{x10^{-3}}$ mr/h Recorder: <u>2.0</u> E-17	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-Ed	1/29/70
10.10.3	Check Source Reading	$\frac{4.0}{x10^0}$ mr/h	Greater than reading obtained in step 10.8.2	JAB met-Ed	1/29/70

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
9.8.2	Background Radiation Reading (Meter)	.1 mR/hr	N/A	JAB	met-ed	1/29/78
9.8.3	Background Radiation Reading (Recorder)	.1 mR/hr	N/A	JAB	met-ed	1/29/78
9.9.3	Radiation Input produced by FCK closed E-14		N/A			
	Intermediate Open E-16		N/A N/A			
10.9.4	Measured Radiation Closed	<u>Meter</u> 6.0 <u>Recorder</u> 7.0	x10 <sup>-3</sup> mr/h N/A	JAB	met-ed	1/29/78
10.9.5	Intermediate	<u>Meter</u> 4.0 <u>Recorder</u> 4.8	x10 <sup>-2</sup> mr/h N/A	JAB	met-ed	1/29/78
10.9.6	Open	<u>Meter</u> 2.0 <u>Recorder</u> 2.1	x10 <sup>-3</sup> mr/h N/A	JAB	met-ed	1/29/78
10.9.9	Net Radiation Closed E-14	<u>Meter</u> 6.0 <u>Recorder</u> 7.0	x10 <sup>-3</sup> mr/h + 20% of 10.9.3 + 4% of 10.9.3	JAB	met-ed	1/29/78
	Intermediate E-16	<u>Meter</u> 4.0 <u>Recorder</u> 4.8	x10 <sup>-2</sup> mr/h + 20% of 10.9.3 + 4% of 10.9.3	JAB	met-ed	1/29/78
	Open E-14	<u>Meter</u> 2.0 <u>Recorder</u> 2.1	x10 <sup>-3</sup> mr/h + 20% of 10.9.3 + 4% of 10.9.3	JAB	met-ed	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
1.1	AC Input Voltage Check	<u>119.1</u> VAC	117 $\begin{matrix} +15 \\ -13 \end{matrix}$ VAC	JSI 111-E	1/31/78
1.2	Power Supply Voltages	<u>21.8</u> VDC	22 $\begin{matrix} +5+3 \\ -5-3 \end{matrix}$ VDC	JSI 111-E	1/31/78
		<u>9.95</u> VDC	10 $\begin{matrix} +0.5 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JSI 111-E	1/31/78
		<u>517</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JSI 111-E	1/31/78
1.3	Test Point Voltage	<u>-6.56</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JSI 111-E	1/31/78
1.2	Green Fail Indicator Lamp Goes Out.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JSI 111-E	1/31/78
1.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JSI 111-E	1/31/78
1.4	Audible Alarm Cleared Light Window Stops Flashing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JSI 111-E	1/31/78
1.6	Green Fail Indicator Comes On	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JSI 111-E	1/31/78
1.7	Main Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JSI 111-E	1/31/78
	Alarms Cleared	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	JSI 111-E	1/31/78

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
0 Alert Alarm Zero	Energize at 1st graduation <u>2.0</u>	Yes	JH ME		1/31/75
13 Alert Full Scale	Energize at full scale	Yes	JH ME		1/31/75
14 Alert Alarm Reset	Amber Light Out <u>(x)</u>	Yes	JH ME		1/31/75
.17 Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	JH ME		1/31/75
5.6 High Alarm Zero	Energize at 1st graduation	Yes	JH ME		1/31/75
.5.9 High Alarm Full Scale	Energize at full scale	Yes	JH ME		1/31/75
.5.10 High Alarm Reset	Red Light Out <u>(x)</u>	Yes	JH ME		1/31/75
0.5.12 Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	JH ME		1/31/75
10.6.3 Alert Alarm Light ON	Yes _____ No _____	Yes	JH ME		1/31/75
RMS Audible Alarm Sounding	Yes _____ No _____	Yes	JH ME		1/31/75

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
1. 'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	III E	1/31/75
Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JSI	III E	1/31/75
4 RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	III E	1/31/75
'RMS System Trouble' Annunciator Stops Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	III E	1/31/75
1.5 Remote Audible Alarm Silenced (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JSI	III E	1/31/75
6.6 High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	III E	1/31/75
RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	III E	1/31/75
'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	III E	1/31/75
Remote Audible Alarm Sounding if applicable	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JSI	III E	1/31/75
10.6.8 All Alarms Clear	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI	III E	1/31/75

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
Background Radiation Reading (Meter)	.2	N/A	M.E.		3/5/78
Background Radiation Reading (Recorder)	.2	N/A	M.E.		3/5/78
3 Radiation Input produced by FCK closed	.52	N/A	M.E.		3/5/78
Intermediate Open	382 1920	N/A N/A	M.E.		3/5/78
9.4 Measured Radiation Closed	Meter	x10 <sup>-6</sup> mr/h	N/A	M.E.	3/5/78
	Recorder				
9.5 Intermediate	Meter	x10 <sup>-6</sup> mr/h	N/A	M.E.	3/5/78
	Recorder				
9.6 Open	Meter	x10 <sup>-6</sup> mr/h	N/A	M.E.	3/5/78
	Recorder				
9.9 Net Radiation Closed	Meter	x10 <sup>-6</sup> mr/h	+ 20% of 10.9.3	M.E.	3/5/78
	Recorder		+ 4% of 10.9.3		
Intermediate	Meter	x10 <sup>-6</sup> mr/h	+ 20% of 10.9.3	M.E.	3/5/78
	Recorder		+ 4% of 10.9.3		
Open	Meter	x10 <sup>-6</sup> mr/h	+ 20% of 10.9.3	M.E.	3/5/78
	Recorder		+ 4% of 10.9.3		
10.10.3 Check Source Reading		x10 <sup>-6</sup> mr/h	Greater than reading obtained in step 10.3.2	M.E.	3/5/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
8.2	Background Radiation Reading (Meter)	.2	N/A	III-E	3/5/75
8.3	Background Radiation Reading (Recorder)	.2	N/A	III-E	3/5/75
9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed Meter Recorder	<u>    </u> <u>    </u> x10 <sup>-mr/h</sup>	N/A	III-E	3/5/75
10.9.5	Intermediate Meter Recorder	<u>    </u> <u>    </u> x10 <sup>-mr/h</sup>	N/A	III-E	3/5/75
10.9.6	Open Meter Recorder	<u>    </u> <u>    </u> x10 <sup>-mr/h</sup>	N/A	III-E	3/5/75
10.9.9	Net Radiation Closed E-16 Meter Recorder	<u>    </u> <u>    </u> x10 <sup>-mr/h</sup>	+ 20% of 10.9.3 + 4% of 10.9.3	III-E	3/5/75
	Intermediate E-16 Meter Recorder	<u>    </u> <u>    </u> x10 <sup>-mr/h</sup>	+ 20% of 10.9.3 + 4% of 10.9.3	III-E	3/5/75
	Open E-16 Meter Recorder	<u>    </u> <u>    </u> x10 <sup>-mr/h</sup>	+ 20% of 10.9.3 + 4% of 10.9.3	III-E	3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
0.2.1	AC Input Voltage Check	<u>117.6</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JSS III-E	1/31/75
0.2.2	Power Supply Voltages	<u>21.5</u> VDC	22 $\begin{matrix} +5 \\ -5 \end{matrix}$ $\begin{matrix} +3 \\ -3 \end{matrix}$ VDC	JSS III-E	1/31/75
		<u>1.2.2</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JSS III-E	1/31/75
		<u>600.2</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JSS III-E	1/31/75
10.2.3	Test Point Voltage	<u>-6.31</u> VDC	-6.3 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JSS III-E	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	JSS III-E	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JSS III-E	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	JSS III-E	1/31/75
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	JSS III-E	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JSS III-E	1/31/75
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	JSS III-E	1/31/75

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
0 Alert Alarm Zero	Energize at 1st graduation	Yes	JM	ME	1/31/75
13 Alert Full Scale	Energize at full scale	Yes	JM	ME	1/31/75
14 Alert Alarm Reset	Amber Light Out	Yes	JM	ME	1/31/75
.17 Setpoint Value from Table 2 adjusted	Value <u>17.2</u>	+0 -1 Minor Scale Division	JM	ME	1/31/75
5.6 High Alarm Zero	Energize at 1st graduation	Yes	JM	ME	1/31/75
5.9 High Alarm Full Scale	Energize at full scale	Yes	JM	ME	1/31/75
5.10 High Alarm Reset	Red Light Out	Yes	JM	ME	1/31/75
0.5.12 Setpoint Value from Table 2 adjusted	Value <u>22.2</u>	+0 -1 Minor Scale Division	JM	ME	1/31/75
10.6.3 Alert Alarm Light ON	Yes _____ No _____	Yes	JM	ME	1/31/75
RMS Audible Alarm Sounding	Yes _____ No _____	Yes	JM	ME	1/31/75

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
d.) 'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/31/75
Remote Audible Alarm is sounding (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JH MIE		1/31/75
4 RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/31/75
'RMS System Trouble' Annunciator Stops Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/31/75
6.5 Remote Audible Alarm Silenced (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH MIE		1/31/75
6.6 High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/31/75
RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/31/75
'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/31/75
Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH MIE		1/31/75
10.6.8 All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE		1/31/75

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ep o.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
3.2	Background Radiation Reading (Meter)	3	N/A		III-E	3/5/75
8.3	Background Radiation Reading (Recorder)	3	N/A		III-E	3/5/75
9.3	Radiation Input produced by FCK closed	52mr/h	N/A		III E	3/5/75
	Intermediate Open	382 1920	N/A N/A		III III E III III	3/5/75 3/5/75
0.9.4	Measured Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> N/A		III E	3/5/75
0.9.5	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> N/A		III E	3/5/75
10.9.6	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> N/A		III E	3/5/75
10.9.9	Net Radiation Closed	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3		III E	3/5/75
	Intermediate	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3		III E	3/5/75
	Open	<u>Meter</u> <u>Recorder</u>	<u>x10<sup>-3</sup> mr/h</u> + 20% of 10.9.3 + 4% of 10.9.3		III E	3/5/75
10.10.3	Check Source Reading		Greater than reading obtained in step 10.8.2		III E	3/5/75

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
8.2	Background Radiation Reading (Meter)	0.3 mR/hr	N/A	JSS	M. T. Ed	3/5/75
8.3	Background Radiation Reading (Recorder)	0.3 mR/hr	N/A	JSS	M. T. Ed	3/5/75
9.3	Radiation Input produced by FCK closed	E-16	N/A			
	Intermediate Open	E-16	N/A N/A			
10.9.4	Measured Radiation Closed	Meter Recorder	x10 <sup>-3</sup> mr/h N/A	JSS	M. T. Ed	3/5/75
10.9.5	Intermediate	Meter Recorder	x10 <sup>-3</sup> mr/h N/A	JSS	M. T. Ed	3/5/75
10.9.6	Open	Meter Recorder	x10 <sup>-3</sup> mr/h N/A	JSS	M. T. Ed	3/5/75
10.9.9	Net Radiation Closed	Meter Recorder	x10 <sup>-3</sup> mr/h + 20% of 10.9.3 + 4% of 10.9.3	JSS	M. T. Ed	3/5/75
	Intermediate	Meter Recorder	x10 <sup>-3</sup> mr/h + 20% of 10.9.3 + 4% of 10.9.3	JSS	M. T. Ed	3/5/75
	Open	Meter Recorder	x10 <sup>-3</sup> mr/h + 20% of 10.9.3 + 4% of 10.9.3	JSS	M. T. Ed	3/5/75

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Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.	
1 AC Input Voltage Check	118.76 VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JFR	MET ED.	1-1-76
2 Power Supply Voltages E-5 E-6	19.47 VDC	22 $\begin{matrix} +5+3 \\ -5-3 \end{matrix}$ VDC	JFR	MET ED.	1-3-76
	10.076 VDC	10 $\begin{matrix} +0.5 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	JFR	MET ED.	1-3-76
	595.3 VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JFR	MET ED.	1-3-76
2.3 Test Point Voltage	-6.86 -VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JFR	MET ED.	1-3-76
10.3.2 Green Fail Indicator Lamp Goes Out.	<u>YES</u> Yes No	Yes	JFR	MET ED.	1-3-76
10.3.3 Main RMS Annunciator Flashing and Audible Alarm Sounding D-4	<u>YES</u> Yes No	Yes	JFR	MET ED.	1-3-76
10.3.4 Audible Alarm Cleared Light Window Stops Flashing D-4	<u>YES</u> Yes No	Yes	JFR	MET ED.	1-3-76
10.3.6 Green Fail Indicator Comes On	<u>YES</u> Yes No	Yes	JFR	MET ED.	1-3-76
10.3.7 Main Annunciator Flashing and Audible Alarm Sounding D-4	<u>NO</u> Yes No	Yes	JAB	met-Ed	1/30/78
Alarms Cleared D-4	<u>NO</u> Yes No	Yes	JAB	met-Ed	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
.4.10	Alert Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>Carl</i> MET ED	1/3/78
.4.13	Alert Full Scale	Energize at full scale <i>yes</i>	Yes	<i>Carl</i> MET ED	1/3/78
.4.14	Alert Alarm Reset	Amber Light Out <i>yes</i>	Yes	<i>Carl</i> MET ED	1/3/78
.4.17	Setpoint Value from Table 2 adjusted	Value <i>1.0</i> <i>1/3/78</i>	+0 -1 Minor Scale Division	<i>HR</i> MET ED	1/3/78
.5.6	High Alarm Zero	Energize at 1st graduation <i>yes</i>	Yes	<i>HR</i> MET ED	1/3/78
.5.9	High Alarm Full Scale	Energize at full scale <i>yes</i>	Yes	<i>HR</i> MET ED	1/3/78
.5.10	High Alarm Reset	Red Light Out <i>yes</i>	Yes	<i>HR</i> MET ED	1/3/78
0.5.12	Setpoint Value from Table 2 adjusted	Value <i>2.0</i>	+0 -1 Minor Scale Division	<i>HR</i> MET ED	1/3/78
0.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<i>HR</i> MET ED	1/3/78
	RMS Audible Alarm Sounding <i>DA</i>	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	Yes	<i>JAB</i> MET ED	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
6.3	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AKR MET EO	1-3-78
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	AKR MET EO	1/31/78
6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AKR MET EO	1-3-78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AKR MET EO	1-3-78
6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	AKR MET EO	1/31/78
6.6	High Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AKR MET EO	1-3-78
	RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	AKR MET EO	1/31/78
	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AKR MET EO	1-3-78
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	AKR MET EO	1/31/78
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	AKR MET EO	1-3-78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
9.8.2	Background Radiation Reading (Meter)	2 mR/h	N/A	JSI	111-E	7/5/78
9.8.3	Background Radiation Reading (Recorder)	2 mR/h	N/A	JSI	111-E	7/5/78
9.9.3	Radiation Input produced by FCC closed	52	N/A	JSI	111-E	7/5/78
	Intermediate Open	552 147.5	N/A N/A	JSI	111-E	7/5/78
10.9.4	Measured Radiation Closed	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u>	N/A	JSI	111-E	7/5/78
10.9.5	Intermediate	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u>	N/A	JSI	111-E	7/5/78
10.9.6	Open	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u>	N/A	JSI	111-E	7/5/78
10.9.9	Net Radiation Closed	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u> E-17	+ 20% of 10.9.3 + 4% of 10.9.3	JSI	111-E	7/5/78
	Intermediate	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u> E-17	+ 20% of 10.9.3 + 4% of 10.9.3	JSI	111-E	7/5/78
	Open	<u>Meter</u> x10 <sup>-6</sup> mr/h <u>Recorder</u> E-17	+ 20% of 10.9.3 + 4% of 10.9.3	JSI	111-E	7/5/78
10.10.3	Check Source Reading	0 x10 <sup>-6</sup> mr/h	Greater than reading obtained in step 10.9.2	JSI	111-E	7/5/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
9.8.2	Background Radiation Reading (Meter)	<i>0.2 mR/h</i>	N/A	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>
9.8.3	Background Radiation Reading (Recorder)	<i>0.2 mR/h</i>	N/A	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>
9.9.3	Radiation Input produced by FCK closed <i>E-16</i>		N/A	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>
	Intermediate Open <i>E-16</i>		N/A N/A	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>
10.9.4	Measured Radiation <u>Meter</u> Closed <u>Recorder</u>	<i>0.2</i> $\times 10^{-3}$ mr/h <i>7.0</i>	N/A	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>
10.9.5	Intermediate <u>Meter</u> <u>Recorder</u>	<i>0.2</i> $\times 10^{-3}$ mr/h	N/A	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>
10.9.6	Open <u>Meter</u> <u>Recorder</u>	<i>0.2</i> $\times 10^{-3}$ mr/h	N/A	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>
10.9.9	Net Radiation <i>E-16</i> Closed <u>Meter</u> <u>Recorder</u>	<i>3.0</i> $\times 10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>
	Intermediate <i>E-16</i> <u>Meter</u> <u>Recorder</u>	<i>3.0</i> $\times 10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>
	Open <i>E-16</i> <u>Meter</u> <u>Recorder</u>	<i>3.0</i> $\times 10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	<i>JBS</i>	<i>III-F</i>	<i>3/5/75</i>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
0.2.1	AC Input Voltage Check	<del>116.05</del> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	JH noted	1/26/78
0.2.2	Power Supply Voltages	<del>19.0</del> VDC E-5 E-6	22 $\begin{matrix} +3 \\ -3 \end{matrix}$ VDC	JH noted	1/26/78
		<del>10.05</del> VDC E-6	10 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JH noted	1/26/78
		<del>598</del> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	JH noted	1/26/78
10.2.3	Test Point Voltage	<del>6.585</del> VDC -6.585	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	JH noted	1/26/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> Yes No	Yes	JH noted	1/26/78
	Alarms Cleared	<u>Yes</u> Yes No	Yes	JH noted	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED		1/25/78
4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW MET ED		1/25/78
4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW MET ED		1/25/78
4.17	Setpoint Value from Table 2 adjusted	Value <u>100</u>	+0 -1 Minor Scale Division	TJW MET ED		1/25/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED		1/25/78
0.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW MET ED		1/25/78
0.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW MET ED		1/25/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1000</u>	+0 -1 Minor Scale Division	TJW MET ED		1/25/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JTB MET ED		1/26/78
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JTB MET ED		1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Da
0.6.3 cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>1/27</u> No _____	Yes	ft noted	1/24/78
	Remote Audible Alarm is sounding (if applicable)	Yes _____ No _____ N/A <u>1/27</u>	Yes N/A	ft noted	1/24/78
0.6.4	RMS Audible Alarm Reset	Yes <u>1/27</u> No _____	Yes	ft noted	1/24/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>1/27</u> No _____	Yes	ft noted	1/24/78
0.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A <u>1/27</u>	Yes N/A	ft noted	1/24/78
0.6.6	High Alarm Light ON	Yes <u>1/27</u> No _____	Yes	ft noted	1/24/78
	RMS Audible Alarm Sounding	Yes <u>1/27</u> No _____	Yes	ft noted	1/24/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>1/27</u> No _____	Yes	ft noted	1/24/78
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A <u>1/27</u>	Yes N/A	ft noted	1/24/78
0.6.8	All Alarms Clear	Yes <u>1/27</u> No _____	Yes	ft noted	1/24/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
8.2	Background Radiation Reading (Meter)	.12	N/A	JAB	Met-Ed	1/29/78
8.3	Background Radiation Reading (Recorder)	.1	N/A	JAB	Met-Ed	1/29/78
9.3	Radiation Input produced by FCX closed	52 m/hr	N/A	JAB	Met-Ed	1/29/78
10.9.3	Intermediate Open	382	N/A	JAB	Met-Ed	1/29/78
		1920	N/A	JAB	Met-Ed	1/29/78
10.9.4	Measured Radiation Closed	Meter <u>50</u> x10 <sup>-</sup> mr/h	N/A	JAB	Met-Ed	1/29/78
		Recorder <u>52</u> 27.1m <del>50.0</del>				
10.9.5	Intermediate	Meter <u>350</u> x10 <sup>-</sup> mr/h	N/A	JAB	Met-Ed	1/29/78
		Recorder <u>360</u> 35.7m <del>35.0</del>				
10.9.6	Open	Meter <u>1400</u> x10 <sup>-</sup> mr/h	N/A	JAB	Met-Ed	1/29/78
		Recorder <u>1700</u> 42.6m <del>45.0</del>				
10.9.9	Net Radiation Closed	Meter <u>49.88</u> x10 <sup>-</sup> mr/h	+ 20% of 10.9.3	JAB	Met-Ed	1/29/78
		Recorder <u>51.88</u> <del>377.88</del>	+ 4% of 10.9.3	JAB	Met-Ed	1/29/78
E-18	Intermediate	Meter <u>1699.88</u> x10 <sup>-</sup> mr/h	+ 20% of 10.9.3	JAB	Met-Ed	1/29/78
		Recorder <u>1699.88</u> <del>357.88</del>	+ 4% of 10.9.3	JAB	Met-Ed	1/29/78
E-19	Open	Meter <u>1879.88</u> x10 <sup>-</sup> mr/h	+ 20% of 10.9.3	JAB	Met-Ed	1/29/78
		Recorder <u>1699.88</u>	+ 4% of 10.9.3	JAB	Met-Ed	1/29/78
10.10.3	Check Source Reading	<u>1.6</u> x10 mr/h	Greater than reading obtained in step 10.8.2	JAB	Met-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
0.8.2	Background Radiation Reading (Meter)	.25	N/A	JAB Met-Ed	1/24/78
0.8.3	Background Radiation Reading (Recorder)	.25	N/A	JAB Met-Ed	1/24/78
0.9.3	Radiation Input produced by FCK closed <i>E-16</i>		N/A		
	Intermediate Open <i>E-16</i>		N/A N/A		
10.9.4	Measured Radiation Closed Meter Recorder	$\frac{60}{x10^{-6} \text{mr/h}}$ $\frac{72}{28.3 \text{m}^2}$	N/A	JAB Met-Ed	1/24/78
10.9.5	Intermediate Meter Recorder	$\frac{400}{x10^{-6} \text{mr/h}}$ $\frac{450}{36.2 \text{m}^2}$	N/A	JAB Met-Ed	1/24/78
10.9.6	Open Meter Recorder	$\frac{2000}{x10^{-6} \text{mr/h}}$ $\frac{2000}{43.0 \text{m}^2}$	N/A	JAB Met-Ed	1/24/78
10.9.9	Net Radiation Closed <i>E-16</i> Meter Recorder	$\frac{57.75}{x10^{-6} \text{mr/h}}$ $\frac{71.75}{x10^{-6} \text{mr/h}}$	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/30/78
	Intermediate <i>E-16</i> Meter Recorder	$\frac{379.25}{x10^{-6} \text{mr/h}}$ $\frac{447.25}{x10^{-6} \text{mr/h}}$	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/30/78
	Open <i>E-16</i> Meter Recorder	$\frac{1799.75}{x10^{-6} \text{mr/h}}$ $\frac{1997.25}{x10^{-6} \text{mr/h}}$	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/30/78

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TMI UNIT 0  
 INST. CAL. DATA SHEET

MTX 00

ITEM PLMS  
 LOCATION Flow Control Valve  
 TOLERANCE \_\_\_\_\_ ENG. UNIT \_\_\_\_\_  
 OR \_\_\_\_\_  
 % OF SPAN \_\_\_\_\_  
 MAX. ERROR OF % OF SPAN \_\_\_\_\_  
 OR \_\_\_\_\_  
 MAX. ERROR ENG. UNITS \_\_\_\_\_  
 AUTOMATIC PRESSURE ERROR \_\_\_\_\_

INST. NO. 10-2-000  
 SERIAL NO. \_\_\_\_\_  
 MODEL OR TYPE \_\_\_\_\_  
 FUNCTION \_\_\_\_\_  
 RANGE \_\_\_\_\_  
 OUTPUT \_\_\_\_\_  
 ACTION \_\_\_\_\_

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REFERENCE DATA

SPECIAL DATA

CALIB.	1	2	3	4	5	6	7	8	9	10
1	0	5	10	15	20	25	30	35	40	45
2	0	5	10	15	20	25	30	35	40	45
3	0	5	10	15	20	25	30	35	40	45
4	0	5	10	15	20	25	30	35	40	45
5	0	5	10	15	20	25	30	35	40	45
6	0	5	10	15	20	25	30	35	40	45

REMARKS:

EQUIP. Flow Control Valve SER. NO. \_\_\_\_\_ TEST EQUIPMENT USED \_\_\_\_\_  
 LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_

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MACHINERY HISTORY ENTRY: DATE \_\_\_\_\_ INITIALS \_\_\_\_\_  
 PERFORMED BY J.B. Brown DATE 2/2/78 APPROVED BY J.B. Brown DATE 2/2/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
1.1	AC Input Voltage Check	<u>116.3</u> VAC	117 $\pm$ 1.5 VAC	<i>JH</i>	<i>noted</i>	1/26/78
2.2	Power Supply Voltages	<u>19.05</u> VDC	22 $\pm$ 0.5 VDC	<i>JH</i>	<i>noted</i>	1/26/78
		<u>10.015</u> VDC	10 $\pm$ 0.1 VDC	<i>JH</i>	<i>noted</i>	1/24/78
		<u>597.5</u> VDC	600 $\pm$ 16 VDC	<i>JH</i>	<i>noted</i>	1/26/78
2.3	Test Point Voltage	<u>-6.87</u> VDC	-6.8 $\pm$ 0.5 VDC	<i>JH</i>	<i>noted</i>	1/26/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> No	Yes	<i>JH</i>	<i>noted</i>	1/26/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	<i>JH</i>	<i>noted</i>	1/26/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> No	Yes	<i>JH</i>	<i>noted</i>	1/26/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> No	Yes	<i>JH</i>	<i>noted</i>	1/26/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No	Yes	<i>JH</i>	<i>noted</i>	1/26/78
	Alarms Cleared	<u>Yes</u> No	Yes	<i>JH</i>	<i>noted</i>	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW	METED	1/25/78
13	Alert Full Scale	Energize at full scale	Yes YES	TJW	METED	1/25/78
4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW	METED	1/25/78
4.17	Setpoint Value from Table 2 adjusted	Value <u>100</u>	+0 -1 Minor Scale Division	TJW	METED	1/25/78
5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW	METED	1/25/78
5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW	METED	1/25/78
5.10	High Alarm Reset	Red Light Out	Yes YES	TJW	METED	1/25/78
0.5.12	Setpoint Value from Table 2 adjusted	Value <u>1000</u>	+0 -1 Minor Scale Division	TJW	METED	1/25/78
10.6.3	Alert Alarm Light ON	Yes <u>Yes</u> No _____	Yes	JH	meted	1/26/78
	RMS Audible Alarm Sounding	Yes <u>Yes</u> No _____	Yes	JH	meted	1/26/78

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ep o.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
3 c'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	<i>JH</i>	<i>noted</i>	1/26/78
	Remote Audible Alarm is sounding (if applicable)	Yes _____ No _____ N/A <u>✓</u>	Yes N/A	<i>JH</i>	<i>noted</i>	1/26/78
4	RMS Audible Alarm Reset	Yes <u>✓</u> No _____	Yes	<i>JH</i>	<i>noted</i>	1/26/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>✓</u> No _____	Yes	<i>JH</i>	<i>noted</i>	1/26/78
6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A <u>✓</u>	Yes N/A	<i>JH</i>	<i>noted</i>	1/26/78
6.6	High Alarm Light ON	Yes <u>✓</u> No _____	Yes	<i>JH</i>	<i>noted</i>	1/26/78
	RMS Audible Alarm Sounding	Yes <u>✓</u> No _____	Yes	<i>JH</i>	<i>noted</i>	1/26/78
	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	<i>JH</i>	<i>noted</i>	1/26/78
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A <u>✓</u>	Yes N/A	<i>JH</i>	<i>noted</i>	1/26/78
0.6.8	All Alarms Clear	Yes <u>✓</u> No _____	Yes	<i>JH</i>	<i>noted</i>	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
0.8.2	Background Radiation Reading (Meter)	$1.2$ $20 \text{ m/hr}$	N/A	JAS	Med Ed	1/24/78
0.8.3	Background Radiation Reading (Recorder)	$.1 \text{ m/hr}$	N/A	JAS	Med Ed	1/24/78
10.9.3	Radiation Input produced by FCK closed	$52 \text{ m/hr}$	N/A	JAS	Med Ed	1/24/78
	Intermediate Open	$382 \text{ m/hr}$ $1920 \text{ m/hr}$	N/A N/A	JAS	Med Ed	1/24/78
10.9.4	Measured Radiation Closed	Meter $55$ $\times 10^{-3} \text{ mr/hr}$ Recorder $40$ $27.2 \text{ m/hr}$	N/A	JAS	Med Ed	1/24/78
10.9.5	Intermediate	Meter $350$ $\times 10^{-3} \text{ mr/hr}$ Recorder $300$ $26.2 \text{ m/hr}$	N/A	JAS	Med Ed	1/24/78
10.9.6	Open	Meter $1700$ $\times 10^{-3} \text{ mr/hr}$ Recorder $1000$ $43 \text{ m/hr}$	N/A	JAS	Med Ed	1/24/78
10.9.9	Net Radiation Closed	Meter $54.88$ $\times 10^{-3} \text{ mr/hr}$ Recorder $39.88$	$\pm 20\%$ of 10.9.3 $\pm 4\%$ of 10.9.3	JAS	Med Ed	1/24/78
	Intermediate	Meter $349.88$ $\times 10^{-3} \text{ mr/hr}$ Recorder $277.88$	$\pm 20\%$ of 10.9.3 $\pm 4\%$ of 10.9.3	JAS	Med Ed	1/24/78
	Open	Meter $1697.88$ $\times 10^{-3} \text{ mr/hr}$ Recorder $1994.98$	$\pm 20\%$ of 10.9.3 $\pm 4\%$ of 10.9.3	JAS	Med Ed	1/24/78
10.10.3	Check Source Reading	$1.5$ $\times 10 \text{ m/hr}$	Greater than reading obtained in step 10.8.2	JAS		1/24/78

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ep o.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
3.2	Background Radiation Reading (Meter)	.25	N/A	JAB	Met-Ed	1/29/70
8.3	Background Radiation Reading (Recorder)		N/A			
9.3	Radiation Input produced by FCK closed E-16		N/A			
	Intermediate Open E-16		N/A			
10.9.4	Measured Radiation Closed	Meter $\frac{60}{x10^{-6} \text{mr/h}}$ Recorder $\frac{60}{24.5 \text{mr}}$	N/A	JAB	Met-Ed	1/24/70
10.9.5	Intermediate	Meter $\frac{350}{x10^{-6} \text{mr/h}}$ Recorder $\frac{300}{36.6 \text{mr}}$	N/A	JAB	Met-Ed	1/29/70
10.9.6	Open	Meter $\frac{1800}{x10^{-6} \text{mr/h}}$ Recorder $\frac{1500}{43.6 \text{mr}}$	N/A	JAB	Met-Ed	1/29/70
10.9.9	Net Radiation Closed E-16	Meter $\frac{57.75}{x10^{-6} \text{mr/h}}$ Recorder $\frac{57.75}{}$	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/24/70
	Intermediate E-16	Meter $\frac{349.75}{x10^{-6} \text{mr/h}}$ Recorder $\frac{299.75}{}$	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/30/70
	Open E-16	Meter $\frac{1799.75}{x10^{-6} \text{mr/h}}$ Recorder $\frac{1499.75}{}$	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-Ed	1/30/70

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TMI UNIT 2  
 INST. CAL. DATA SHEET

MTX 23

SYSTEM Rms  
 LOCATION East Handing Bridge  
 TOLERANCE \_\_\_\_\_ ENG. UNIT \_\_\_\_\_  
 OR \_\_\_\_\_  
 % OF SPAN \_\_\_\_\_  
 MAX. ERROR OF % OF SPAN \_\_\_\_\_  
 OR \_\_\_\_\_  
 MAX. ERROR ENG. UNITS \_\_\_\_\_  
 STATIC PRESSURE ERROR \_\_\_\_\_

INST. NO. 27-R-210  
 SERIAL NO. \_\_\_\_\_  
 MODEL OR TYPE \_\_\_\_\_  
 FUNCTION \_\_\_\_\_  
 RANGE \_\_\_\_\_  
 OUTPUT \_\_\_\_\_  
 ACTION \_\_\_\_\_

REFERENCE DATA

**POOR ORIGINAL**

SPECIAL DATA

CALIB.	1	2	3	4	5	6	7	8	9	10
1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2
3	4	4	10	10	4	70	70.26	10	10	
4	6	6	10 <sup>2</sup>	10 <sup>2</sup>	710 <sup>1</sup>	70	70.15	10 <sup>2</sup>	10 <sup>2</sup>	
5	8	8	10 <sup>3</sup>	100 <sup>2</sup>	710 <sup>2</sup>	70	70.07	10 <sup>3</sup>	10 <sup>3</sup>	
6	10	10	10 <sup>4</sup>	500 <sup>3</sup>	710 <sup>3</sup>	70	70	10 <sup>4</sup>	10 <sup>4</sup>	

REMARKS:

TEST EQUIPMENT USED

EQUIP. Al 20 D11M SER. NO. 530310 LAST CAL. 2/2/72 CAL. FREQ. 12  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
 EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_

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MACHINERY HISTORY ENTRY: DATE \_\_\_\_\_ INITIALS \_\_\_\_\_  
 PERFORMED BY [Signature] DATE 2/2/75 APPROVED BY [Signature] DATE 2/2/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>11.8</u> VAC	117 $\pm 15$ VAC	JH M+E	1/31/75
10.2.2	Power Supply Voltages	<u>21.8</u> VDC	22 $\pm 3$ VDC	JH M-E	1/31/75
		<u>1.95</u> VDC	10 $\pm 0.1$ VDC	JH M-E	1/31/75
		<u>6.23</u> VDC	600 $\pm 16$ VDC	JH M-E	1/31/75
10.2.3	Test Point Voltage	<u>-4.56</u> VDC	-6.8 $\pm 0.5$ VDC	JH M-E	1/31/75
10.3.2	Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.6	Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75
	Alarms Cleared	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	JH M-E	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.4.10	Alert Alarm Zero	Energize at 1st graduation 1.00	Yes	JH ME		1/31/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	JH ME		1/31/75
10.4.14	Alert Alarm Reset	Amber Light Out 1.0	Yes	JH ME		1/31/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>25.0</u>	+0 -1 Minor Scale Division	JH ME		1/31/75
10.5.6	High Alarm Zero	Energize at 1st graduation 1.00	Yes	JH ME		1/31/75
10.5.9	High Alarm Full Scale	Energize at full scale 1.00	Yes	JH ME		1/31/75
10.5.10	High Alarm Reset	Red Light Out 1.00	Yes	JH ME		1/31/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>5.00</u>	+0 -1 Minor Scale Division	JH ME		1/31/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME		1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME		1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE		11/31/78
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes  N/A	JSI MIE		11/31/78
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE		11/31/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE		11/31/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes  N/A	JSI MIE		11/31/78
10.6.6	High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE		11/31/78
	RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE		11/31/78
	'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE		11/31/78
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes  N/A	JSI MIE		11/31/78
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MIE		11/31/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	15mr/hr	N/A	JSS Met Ed	2/3/78
10.8.3	Background Radiation Reading (Recorder)	15mr/hr	N/A	JSS Met Ed	2/3/78
10.9.3	Radiation Input produced by FCK closed	52mr/hr	N/A	JSS Met Ed	2/3/78
	Intermediate Open	582 mr/hr 1920 mr/hr	N/A N/A	JSS Met Ed	2/3/78
10.9.4	Measured Radiation Closed	Meter Recorder			
		<u>50</u> x10 <sup>-3</sup> mr/h	N/A	JSS Met Ed	2/3/78
10.9.5	Intermediate	Meter Recorder			
		<u>50</u> x10 <sup>-3</sup> mr/h	N/A	JSS Met Ed	2/3/78
10.9.6	Open	Meter Recorder			
		<u>50</u> x10 <sup>-3</sup> mr/h	N/A	JSS Met Ed	2/3/78
10.9.9	Net Radiation Closed	Meter Recorder			
		<u>2.1</u> x10 <sup>-3</sup> mr/h	+ 20% of 10.9.3 ± 4% of 10.9.3	JSS Met Ed	2/3/78
	Intermediate	Meter Recorder			
		<u>2.1</u> x10 <sup>-3</sup> mr/h	+ 20% of 10.9.3 ± 4% of 10.9.3	JSS Met Ed	2/3/78
	Open	Meter Recorder			
		<u>1.6</u> x10 <sup>-3</sup> mr/h	+ 20% of 10.9.3 ± 4% of 10.9.3	JSS Met Ed	2/3/78
10.3	Check Source Reading		Greater than reading obtained in 10.3.2	JSS Met Ed	2/3/78
		<u>3</u> x10 <sup>-3</sup> mr/h		JSS Met Ed	2/3/78

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Unit - FCK

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	0.15 mr/hr	N/A	[Signature] Met Ed	2/3/78
10.8.3	Background Radiation Reading (Recorder)	0.15 mr/hr	N/A	[Signature] Met Ed	2/3/78
10.9.3	Radiation Input produced by FCK closed		N/A		
	Intermediate Open		N/A		
10.9.4	Measured Radiation Meter Recorder	$\frac{1.5}{10} \times 10^{-3}$ mr/h	N/A	[Signature] Met Ed	2/3/78
10.9.5	Intermediate Meter Recorder	$\frac{3.0}{10} \times 10^{-3}$ mr/h	N/A	[Signature] Met Ed	2/3/78
10.9.6	Open Meter Recorder	$\frac{1.5}{10} \times 10^{-3}$ mr/h	N/A	[Signature] Met Ed	2/3/78
10.9.9	Net Radiation Closed	$\frac{1.5}{10} \times 10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	[Signature] Met Ed	2/3/78
	Intermediate	$\frac{1.5}{10} \times 10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	[Signature] Met Ed	2/3/78
	Open	$\frac{1.5}{10} \times 10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	[Signature] Met Ed	2/3/78
10.10.3	Check Source Reading	$\frac{1.5}{10} \times 10^{-3}$ mr/h	Greater than reading obtained in step 10.9.2	N/A	N/A

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>120</u> VAC	117 $\pm 15$ VAC	<u>III E</u>	<u>1/31/75</u>
10.2.2	Power Supply Voltages	<u>21.5</u> VDC	22 $\pm 5+3$ VDC	<u>III E</u>	<u>1/31/75</u>
		<u>12.32</u> VDC	10 $\pm 0.1$ VDC	<u>III E</u>	<u>1/31/75</u>
		<u>600</u> VDC	600 $\pm 16$ VDC	<u>III E</u>	<u>1/31/75</u>
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\pm 0.5$ VDC	<u>III E</u>	<u>1/31/75</u>
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	<u>III E</u>	<u>1/31/75</u>
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>III E</u>	<u>1/31/75</u>
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	<u>III E</u>	<u>1/31/75</u>
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	<u>III E</u>	<u>1/31/75</u>
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>III E</u>	<u>1/31/75</u>
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	<u>III E</u>	<u>1/31/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation <u>111E</u>	Yes	<u>7/11</u> <u>111E</u>	<u>7/11/73</u>
10.4.13	Alert Full Scale	Energize at full scale <u>111E</u>	Yes	<u>7/11</u> <u>111E</u>	<u>1/31/73</u>
10.4.14	Alert Alarm Reset	Amber Light Out <u>111E</u>	Yes	<u>7/11</u> <u>111E</u>	<u>1/31/73</u>
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>25.0</u>	+0 -1 Minor Scale Division	<u>7/11</u> <u>111E</u>	<u>1/31/73</u>
10.5.6	High Alarm Zero	Energize at 1st graduation <u>111E</u>	Yes	<u>7/11</u> <u>111E</u>	<u>7/11/73</u>
10.5.9	High Alarm Full Scale	Energize at full scale <u>111E</u>	Yes	<u>7/11</u> <u>111E</u>	<u>7/11/73</u>
10.5.10	High Alarm Reset	Red Light Out <u>111E</u>	Yes	<u>7/11</u> <u>111E</u>	<u>7/11/73</u>
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>50.0</u>	+0 -1 Minor Scale Division	<u>7/11</u> <u>111E</u>	<u>7/11/73</u>
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<u>7/11</u> <u>111E</u>	<u>7/11/73</u>
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	<u>7/11</u> <u>111E</u>	<u>7/11/73</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	12/1/78
	Remote Audible Alarm is sounding (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JH ME	12/1/78
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	12/1/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	12/1/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JH ME	12/1/78
10.6.6	High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	12/1/78
	RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	12/1/78
	'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	12/1/78
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JH ME	12/1/78
10.6.8	All Alarms Clear	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME	12/1/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2	N/A	JSS III-E	3/5/75
10.8.3	Background Radiation Reading (Recorder)	.2	N/A	JSS III-E	3/5/75
10.9.3	Radiation Input produced by FCK closed	52	N/A	JSS III-E	3/5/75
	Intermediate Open	53.2 112.0	N/A N/A	JSS III-E	3/5/75
10.9.4	Measured Radiation Closed	<u>Meter</u> <u>Recorder</u> x10 <sup>-4</sup> mr/h	N/A	JSS III-E	3/5/75
10.9.5	Intermediate	<u>Meter</u> <u>Recorder</u> x10 <sup>-4</sup> mr/h	N/A	JSS III-E	3/5/75
10.9.6	Open	<u>Meter</u> <u>Recorder</u> x10 <sup>-4</sup> mr/h	N/A	JSS III-E	3/5/75
10.9.9	Net Radiation Closed	<u>Meter</u> <u>Recorder</u> x10 <sup>-4</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	JSS III-E	3/5/75
	Intermediate	<u>Meter</u> <u>Recorder</u> x10 <sup>-4</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	JSS III-E	3/5/75
	Open	<u>Meter</u> <u>Recorder</u> x10 <sup>-4</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	JSS III-E	3/5/75
10.10.3	Check Source Reading	x10 <sup>-4</sup> mr/h	Greater than reading obtained in step 10.8.2	JSS III-E	3/5/75

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2	N/A	JSS 111-E	3/5/75
10.8.3	Background Radiation Reading (Recorder)	.2	N/A	JSS 111-E	3/5/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A	J	
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed Meter Recorder	<u>          </u> x10 <sup>-6</sup> mr/h	N/A	JSS 111-E	3/5/75
10.9.5	Intermediate Meter Recorder	<u>          </u> x10 <sup>-6</sup> mr/h	N/A	JSS 111-E	3/5/75
10.9.6	Open Meter Recorder	<u>          </u> x10 <sup>-6</sup> mr/h	N/A	JSS 111-E	3/5/75
10.9.9	Net Radiation Closed E-16 Meter Recorder	<u>          </u> x10 <sup>-6</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	JSS 111-E	3/5/75
	Intermediate E-16 Meter Recorder	<u>          </u> x10 <sup>-6</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	JSS 111-E	3/5/75
	Open E-16 Meter Recorder	<u>          </u> x10 <sup>-6</sup> mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	JSS 111-E	3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>119</u> VAC	117 $\pm$ $\frac{15}{15}$ VAC	<u>M-E</u>	<u>1/31/75</u>
10.2.2	Power Supply Voltages	<u>22.5</u> VDC	22 $\pm$ $\frac{3}{3}$ VDC	<u>M-E</u>	<u>1/31/75</u>
		<u>10.05</u> VDC	10 $\pm$ $\frac{0.1}{0.5}$ VDC	<u>M-E</u>	<u>1/31/75</u>
		<u>600</u> VDC	600 $\pm$ $\frac{16}{16}$ VDC	<u>M-E</u>	<u>1/31/75</u>
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\pm$ $\frac{0.5}{0.5}$ VDC	<u>M-E</u>	<u>1/31/75</u>
10.3.2	Green Fail Indicator Lamp Goes Out.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>M-E</u>	<u>1/31/75</u>
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>M-E</u>	<u>1/31/75</u>
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>M-E</u>	<u>1/31/75</u>
10.3.6	Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<u>M-E</u>	<u>1/31/75</u>
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>M-E</u>	<u>1/31/75</u>
	Alarms Cleared	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes	<u>M-E</u>	<u>1/31/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JJI	ME	11/21/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	JJI	ME	11/21/75
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JJI	ME	11/21/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>75.0</u>	+0 -1 Minor Scale Division	JJI	ME	11/21/75
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JJI	ME	11/21/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JJI	ME	11/21/75
10.5.10	High Alarm Reset	Red Light Out	Yes	JJI	ME	11/21/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>5.00</u>	+0 -1 Minor Scale Division	JJI	ME	11/21/75
10.6.3	Alert Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JJI	ME	11/21/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JJI	ME	11/21/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MCE	1/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JSI MCE	1/31/75
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MCE	1/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MCE	1/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JSI MCE	1/31/75
10.6.6	High Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MCE	1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MCE	1/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MCE	1/31/75
	Remote Audible Alarm Sounding if applicable	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Yes N/A	JSI MCE	1/31/75
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSI MCE	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials	
				Org.	Date
10.8.2	Background Radiation Reading (Meter)	0.2 mr/h	N/A		2/3/78
10.8.3	Background Radiation Reading (Recorder)	0.3 mr/h	N/A		2/3/78
10.9.3	Radiation Input produced by FCK closed	2 mr/h	N/A		2/3/78
	Intermediate Open	392 117 1920	N/A N/A		2/3/78
10.9.4	Measured Radiation Closed	Meter Recorder	N/A		2/3/78
10.9.5	Intermediate Recorder	Meter Recorder	N/A		2/3/78
10.9.6	Open Recorder	Meter Recorder	N/A		2/3/78
10.9.9	Net Radiation Closed	Meter Recorder	+ 20% of 10.9.3 + 4% of 10.9.3		2/3/78
	Intermediate Recorder	Meter Recorder	+ 20% of 10.9.3 + 4% of 10.9.3		2/3/78
	Open Recorder	Meter Recorder	+ 20% of 10.9.3 + 4% of 10.9.3		2/3/78
10.10.3	Check Source Reading	x10 <sup>3</sup> mr/h	Greater than reading obtained in step 10.8.2		2/3/78

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Unit 1 F...

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Orn.	Date
10.8.2	Background Radiation Reading (Meter)	2mr/hr	N/A	JSS Mated Ed	2/3/75
10.8.3	Background Radiation Reading (Recorder)	2mr/hr	N/A	JSS Mated Ed	2/3/75
10.9.3	Radiation Input produced by FCK closed	E-16	N/A		
	Intermediate Open	E-16	N/A N/A		
10.9.4	Measured Radiation				
	Closed	Meter Recorder	x10 <sup>-3</sup> mr/h N/A	JSS Mated Ed	2/3/75
10.9.5	Intermediate				
		Meter Recorder	x10 <sup>-3</sup> mr/h N/A	JSS Mated Ed	2/3/75
10.9.6	Open				
		Meter Recorder	x10 <sup>-3</sup> mr/h N/A	JSS Mated Ed	2/3/75
10.9.9	Net Radiation				
	Closed	E-16 Meter Recorder	6.0 x10 <sup>-3</sup> mr/h + 20% of 10.9.3 6.3 + 4% of 10.9.3	JSS Mated Ed	2/3/75
	Intermediate	E-16 Meter Recorder	3.4 x10 <sup>-3</sup> mr/h + 20% of 10.9.3 1.5 + 4% of 10.9.3	JSS Mated Ed	2/3/75
	Open	E-16 Meter Recorder	3.2 x10 <sup>-3</sup> mr/h + 20% of 10.9.3 3.5 + 4% of 10.9.3	JSS Mated Ed	2/3/75
0.10.3	Check Source Reading		Greater than x10 mr/h reading obtained in step 10.8.2	N/A	N/A

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.2.1	AC Input Voltage Check	<u>115.5</u> VAC	117 $\pm 15$ VAC	MEP ED	1/22/78
10.2.2	Power Supply Voltages	<u>17.16</u> VDC	22 $\pm 3$ VDC	MEP ED	1/22/78
		<u>10.07</u> VDC	10 $\pm 0.5$ VDC	MEP ED	1/22/78
		<u>595.1</u> VDC	600 $\pm 16$ VDC	MEP ED	1/22/78
10.2.3	Test Point Voltage	<u>-6.5</u> VDC	-6.8 $\pm 0.5$ VDC	MEP ED	1/22/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	MEP ED	1/22/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	MEP ED	1/22/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	MEP ED	1/22/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	MEP ED	1/22/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	MEP ED	1/22/78
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	MEP ED	1/22/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/27/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/27/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW MET ED	1/27/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>10</u>	+0 -1 Minor Scale Division	TJW MET ED	1/27/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED	1/27/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW MET ED	1/27/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW MET ED	1/27/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>30</u>	+0 -1 Minor Scale Division	TJW MET ED	1/27/78
10.6.3	Alert Alarm Light ON	Yes No <input checked="" type="checkbox"/>	Yes	JAB MET ED	1/30/78
	RMS Audible Alarm Sounding	Yes No <input checked="" type="checkbox"/>	Yes	JAB MET ED	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>Yes</u> No _____	Yes	TJW NET ED	1/27/78
	Remote Audible Alarm is sounding (if applicable) <span style="margin-left: 100px;">D-4</span>	Yes <u>✓</u> No _____ N/A <u>X</u>	Yes N/A	TJW NET ED	1/27/78
10.6.4	RMS Audible Alarm Reset	Yes <u>Yes</u> No _____	Yes	TJW NET ED	1/27/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>Yes</u> No _____	Yes	TJW NET ED	1/27/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A <u>X</u>	Yes N/A	TJW NET ED	1/27/78
10.6.6	High Alarm Light ON	Yes <u>Yes</u> No _____	Yes	TJW NET ED	1/27/78
	RMS Audible Alarm Sounding <span style="margin-left: 100px;">D-4</span>	Yes _____ No <u>No</u>	Yes	TJW NET ED	1/27/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>Yes</u> No _____	Yes	TJW NET ED	1/27/78
	Remote Audible Alarm Sounding if applicable	Yes <u>✓</u> No _____ N/A <u>X</u>	Yes N/A	TJW NET ED	1/27/78
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	TJW NET ED	1/27/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.28 mr/hr	N/A	JAB Met-EL	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.3 mr/hr	N/A	JAB Met-EL	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mr/hr	N/A	JAB Met-EL	1/29/78
	Intermediate Open	382 mr/hr 1920 mr/hr	N/A N/A	JAB Met-EL	1/29/78
10.9.4	Measured Radiation Closed	Meter <u>50</u> $\times 10^{-2}$ mr/h Recorder <u>50</u>	N/A	JAB Met-EL	1/29/78
10.9.5	Intermediate	Meter <u>380</u> $\times 10^{-2}$ mr/h Recorder <u>500</u>	N/A	JAB Met-EL	1/29/78
10.9.6	Open	Meter <u>2000.0</u> $\times 10^{-2}$ mr/h Recorder <u>2500</u>	N/A	JAB Met-EL	1/29/78
10.9.9	Net Radiation Closed	Meter <u>47.88</u> $\times 10^{-2}$ mr/h Recorder <u>47.84</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-EL	1/29/78
	Intermediate	Meter <u>377.88</u> $\times 10^{-2}$ mr/h Recorder <u>479.88</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-EL	1/29/78
	Open	Meter <u>1999.88</u> $\times 10^{-2}$ mr/h Recorder <u>2777.88</u>	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-EL	1/29/78
10.10.3	Check Source Reading	<u>4</u> $\times 10^{-2}$ mr/h	Greater than reading obtained in step 10.8.2	JAB Met-EL	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.12 - 1/2	N/A	JAB Met-Ed	1/24/70
10.8.3	Background Radiation Reading (Recorder)	.1	N/A	JAB Met-Ed	1/29/70
10.9.3	Radiation Input produced by FCK closed	E-14	N/A		
	Intermediate Open	E-16	N/A N/A		
10.9.4	Measured Radiation Closed	Meter 65 x10 <sup>-3</sup> mr/h Recorder 70	N/A	JAB Met-Ed	1/29/70
10.9.5	Intermediate	Meter 570 x10 <sup>-3</sup> mr/h Recorder 600	N/A	JAB Met-Ed	1/24/70
10.9.6	Open	Meter 2820 x10 <sup>-3</sup> mr/h Recorder 3000	N/A	JAB Met-Ed	1/29/70
10.9.9	Net Radiation Closed	Meter 69.88 x10 <sup>-3</sup> mr/h Recorder 69.88	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/30/70
	Intermediate	Meter 499.88 x10 <sup>-3</sup> mr/h Recorder 599.88	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/30/70
	Open	Meter 2999.88 x10 <sup>-3</sup> mr/h Recorder 2999.88	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/30/70

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TMI UNIT 2  
INST. CAL. DATA SHEET

MTX 175

SYSTEM R1115  
LOCATION FIELD - HANDLING  
TOLERANCE \_\_\_\_\_ ENG. UNIT \_\_\_\_\_  
OR \_\_\_\_\_  
% OF SPAN \_\_\_\_\_  
MAX. ERROR OF % OF SPAN \_\_\_\_\_  
OR \_\_\_\_\_  
MAX. ERROR ENG. UNITS \_\_\_\_\_  
STATIC PRESSURE ERROR \_\_\_\_\_

INST. NO. 412-R-2135  
SERIAL NO. \_\_\_\_\_  
MODEL OR TYPE \_\_\_\_\_  
FUNCTION \_\_\_\_\_  
RANGE \_\_\_\_\_  
OUTPUT \_\_\_\_\_  
ACTION \_\_\_\_\_

REFERENCE DATA

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SPECIAL DATA

CALIB.	1	2	3	4	5	6	7	8	9	10
1	0	0	1	1	1	1	1	1	1	1
2	2	2	1	1	2	2	2	2	2	2
3	4	4	10	10	4	20	20.35	10	10	10
4	6	6	10 <sup>2</sup>	40	40	20	20.40	10 <sup>2</sup>	10 <sup>2</sup>	10 <sup>2</sup>
5	5	8	10 <sup>2</sup>	40 <sup>2</sup>	80 <sup>2</sup>	40	40.50	10 <sup>2</sup>	10 <sup>2</sup>	10 <sup>2</sup>
6	10	10	10 <sup>2</sup>	40 <sup>2</sup>	80 <sup>2</sup>	50	50.20	10 <sup>2</sup>	10 <sup>2</sup>	10 <sup>2</sup>

REMARKS:

TEST EQUIPMENT USED

EQUIP. Fisher DMM SER. NO. 530310 LAST CAL. 12/1/77 CAL. FREQ. \_\_\_\_\_  
EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_  
EQUIP. \_\_\_\_\_ SER. NO. \_\_\_\_\_ LAST CAL. \_\_\_\_\_ CAL. FREQ. \_\_\_\_\_

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MACHINERY HISTORY ENTRY: DATE \_\_\_\_\_ INITIALS \_\_\_\_\_  
PERFORMED BY H. H. H. DATE 2/2/78 APPROVED BY J. B. B. DATE 2/2/78

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.2.1	AC Input Voltage Check	<u>117.8</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
10.2.2	Power Supply Voltages	<u>11.23</u> VDC	22 $\begin{matrix} +5+3 \\ -5-3 \end{matrix}$ VDC	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
		<u>1.98</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
		<u>7.78</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	<u>JH</u>	<u>M-E</u>	<u>1/31/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation ( )	Yes	JH MIE	1/31/75
10.4.13	Alert Full Scale	Energize at full scale ( )	Yes	JH MIE	1/31/75
10.4.14	Alert Alarm Reset	Amber Light Out ( )	Yes	JH MIE	1/31/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>25.0</u>	+0 -1 Minor Scale Division	JH MIE	1/31/75
10.5.6	High Alarm Zero	Energize at 1st graduation ( )	Yes	JH MIE	1/31/75
10.5.9	High Alarm Full Scale	Energize at full scale ( )	Yes	JH MIE	1/31/75
10.5.10	High Alarm Reset	Red Light Out ( )	Yes	JH MIE	1/31/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>25.0</u>	+0 -1 Minor Scale Division	JH MIE	1/31/75
<b>POOR ORIGINAL</b>					
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE	1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>/</u> No <u>    </u>	Yes	JII	III	1/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>/</u> No <u>    </u> N/A <u>    </u>	Yes N/A	JII	III	1/31/75
10.6.4	RMS Audible Alarm Reset	Yes <u>✓</u> No <u>    </u>	Yes	JII	III	1/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>/</u> No <u>    </u>	Yes	JII	III	1/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>/</u> No <u>    </u> N/A <u>    </u>	Yes N/A	JII	III	1/31/75
10.6.6	High Alarm Light ON	Yes <u>    </u> No <u>    </u>	Yes	JII	III	1/31/75
	RMS Audible Alarm Sounding	Yes <u>    </u> No <u>    </u>	Yes	JII	III	1/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>    </u> No <u>    </u>	Yes	JII	III	1/31/75
	Remote Audible Alarm Sounding if applicable	Yes <u>    </u> No <u>    </u> N/A <u>    </u>	Yes N/A	JII	III	1/31/75
10.6.8	All Alarms Clear	Yes <u>/</u> No <u>    </u>	Yes	JII	III	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2	N/A	<i>[Signature]</i> M-E	3/5/78
10.8.3	Background Radiation Reading (Recorder)	.2	N/A	<i>[Signature]</i> M-E	3/5/78
10.9.3	Radiation Input produced by FCK closed	50	N/A	<i>[Signature]</i> M-E	3/5/78
	Intermediate Open	380 1920	N/A N/A	<i>[Signature]</i> M-E	3/5/78
10.9.4	Measured Radiation Closed	<u>      </u> x10 <sup>-6</sup> mr/h <u>      </u> Recorder	N/A	<i>[Signature]</i> M-E	3/5/78
10.9.5	Intermediate	<u>      </u> x10 <sup>-6</sup> mr/h <u>      </u> Recorder	N/A	<i>[Signature]</i> M-E	3/5/78
10.9.6	Open	<u>      </u> x10 <sup>-6</sup> mr/h <u>      </u> Recorder	N/A	<i>[Signature]</i> M-E	3/5/78
10.9.9	Net Radiation Closed	<u>      </u> x10 <sup>-6</sup> mr/h <u>      </u> Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	<i>[Signature]</i> M-E	3/5/78
	Intermediate	<u>      </u> x10 <sup>-6</sup> mr/h <u>      </u> Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	<i>[Signature]</i> M-E	3/5/78
	Open	<u>      </u> x10 <sup>-6</sup> mr/h <u>      </u> Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	<i>[Signature]</i> M-E	3/5/78
10.10.3	Check Source Reading	<u>      </u> x10 <sup>-6</sup> mr/h	Greater than reading obtained in step 10.8.2	<i>[Signature]</i> M-E	3/5/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	0.2	N/A	JSS III-E	3/5/75
10.8.3	Background Radiation Reading (Recorder)	0.2	N/A	JSS III-E	3/5/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed Meter Recorder	$\frac{0.2}{10} \times 10^{-3}$ mr/h	N/A	JSS III-E	3/5/75
10.9.5	Intermediate Meter Recorder	$\frac{0.2}{10} \times 10^{-3}$ mr/h	N/A	JSS III-E	3/5/75
10.9.6	Open Meter Recorder	$\frac{0.2}{10} \times 10^{-3}$ mr/h	N/A	JSS III-E	3/5/75
10.9.9	Net Radiation Closed E-16 Meter Recorder	$\frac{0.2}{10} \times 10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	JSS III-E	3/5/75
	Intermediate E-16 Meter Recorder	$\frac{0.2}{10} \times 10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	JSS III-E	3/5/75
	Open E-16 Meter Recorder	$\frac{0.2}{10} \times 10^{-3}$ mr/h	+ 20% of 10.9.3 + 4% of 10.9.3	JSS III-E	3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>115</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	<u>JH</u> M-E	<u>1/31/75</u>
10.2.2	Power Supply Voltages	<u>22.5</u> VDC	22 $\begin{matrix} +0.8 \\ -0.3 \end{matrix}$ VDC	<u>JH</u> M-E	<u>1/31/75</u>
		<u>10.10</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.2 \end{matrix}$ VDC	<u>JH</u> M-E	<u>1/31/75</u>
		<u>577</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	<u>JH</u> M-E	<u>1/31/75</u>
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	<u>JH</u> M-E	<u>1/31/75</u>
10.3.2	Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<u>JH</u> M-E	<u>1/31/75</u>
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<u>JH</u> M-E	<u>1/31/75</u>
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<u>JH</u> M-E	<u>1/31/75</u>
10.3.6	Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<u>JH</u> M-E	<u>1/31/75</u>
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<u>JH</u> M-E	<u>1/31/75</u>
	Alarms Cleared	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<u>JH</u> M-E	<u>1/31/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JH MIE	1/31/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	JH MIE	1/31/75
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JH MIE	1/31/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>500</u>	+0 -1 Minor Scale Division	JH MIE	1/31/75
10.5.8	High Alarm Zero	Energize at 1st graduation	Yes	JH MIE	1/31/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JH MIE	1/31/75
10.5.10	High Alarm Reset	Red Light Out	Yes	JH MIE	1/31/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>1000</u>	+0 -1 Minor Scale Division	JH MIE	1/31/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE	1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH MIE	1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME		1/31/75
	Remote Audible Alarm is sounding (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH ME		1/31/75
10.6.4	RMS Audible Alarm Reset	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME		1/31/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME		1/31/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH ME		1/31/75
10.6.6	High Alarm Light ON	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME		1/31/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME		1/31/75
	'RMS System Trouble' Annunciator Flashing	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME		1/31/75
	Remote Audible Alarm Sounding if applicable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes N/A	JH ME		1/31/75
10.6.8	All Alarms Clear	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JH ME		1/31/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10.8.2	Background Radiation Reading (Meter)	.7	N/A	JJ	111.1	3/5/75
10.8.3	Background Radiation Reading (Recorder)	.4	N/A	JJ	111.1	3/5/75
10.9.3	Radiation Input produced by FCK closed	52	N/A	JJ	111.1	3/5/75
	Intermediate Open	352 1920	N/A N/A	JJ	111.1	3/5/75
10.9.4	Measured Radiation Closed	<u>          </u> x10 <sup>-4</sup> mr/h <u>          </u>	N/A	JJ	111.1	3/5/75
10.9.5	Intermediate Recorder	<u>          </u> x10 <sup>-4</sup> mr/h <u>          </u>	N/A	JJ	111.1	3/5/75
10.9.6	Open Recorder	<u>          </u> x10 <sup>-4</sup> mr/h <u>          </u>	N/A	JJ	111.1	3/5/75
10.9.9	Net Radiation Closed	<u>          </u> x10 <sup>-4</sup> mr/h <u>          </u>	+ 20% of 10.9.3 + 4% of 10.9.3	JJ	111.1	3/5/75
	Intermediate Recorder	<u>          </u> x10 <sup>-4</sup> mr/h <u>          </u>	+ 20% of 10.9.3 + 4% of 10.9.3	JJ	111.1	3/5/75
	Open Recorder	<u>          </u> x10 <sup>-4</sup> mr/h <u>          </u>	+ 20% of 10.9.3 + 4% of 10.9.3	JJ	111.1	3/5/75
10.10.3	Check Source Reading	<u>          </u> x10 mr/h	Greater than reading obtained in step 10.8.2	JJ	111.1	3/5/75

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
				Org.		
10.8.2	Background Radiation Reading (Meter)	.4	N/A		111-E	3/5/75
10.8.3	Background Radiation Reading (Recorder)	.4	N/A		111-E	3/5/75
10.9.3	Radiation Input produced by FCK closed <i>E-16</i>		N/A			
	Intermediate Open <i>E-16</i>		N/A N/A			
10.9.4	Measured Radiation <u>Meter</u> Closed <u>Recorder</u>	<u>x10<sup>-6</sup>mr/h</u>	N/A		111-E	3/5/75
10.9.5	Intermediate <u>Meter</u> <u>Recorder</u>	<u>x10<sup>-6</sup>mr/h</u>	N/A		111-E	3/5/75
10.9.6	Open <u>Meter</u> <u>Recorder</u>	<u>x10<sup>-6</sup>mr/h</u>	N/A		111-E	3/5/75
10.9.9	Net Radiation <u>Meter</u> Closed <u>Recorder</u> <i>E-16</i>	<u>x10<sup>-6</sup>mr/h</u>	+ 20% of 10.9.3 + 4% of 10.9.3		111-E	3/5/75
	Intermediate <u>Meter</u> <u>Recorder</u> <i>E-16</i>	<u>x10<sup>-6</sup>mr/h</u>	+ 20% of 10.9.3 + 4% of 10.9.3		111-E	3/5/75
	Open <u>Meter</u> <u>Recorder</u> <i>E-16</i>	<u>x10<sup>-6</sup>mr/h</u>	+ 20% of 10.9.3 + 4% of 10.9.3		111-E	3/5/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>116.5</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	TJU MET ED	1/24/76
10.2.2	Power Supply Voltages	<u>20.2</u> VDC	22 $\begin{matrix} +3.3 \\ -5.3 \end{matrix}$ VDC	TJU MET ED	1/28/76
		<u>10.1</u> VDC	10 $\begin{matrix} +1.1 \\ -0.1 \end{matrix}$ VDC	TJU MET ED	1/29/76
		<u>276.4</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	TJU MET ED	1/29/76
10.2.3	Test Point Voltage	<u>-6.55</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	TJU MET ED	1/29/76
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	TJU MET ED	1/29/76
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>X</u> No D-4 LIGHT IN NO SOUND	Yes	TJU MET ED	1/29/76
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	TJU MET ED	1/29/76
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	TJU MET ED	1/29/76
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>X</u> No D-4 TRIPPING AT NO ANNUNCIATOR	Yes	TJU MET ED	1/29/76
	Alarms Cleared	<u>X</u> Yes <u>No</u>	Yes	TJU MET ED	1/29/76

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJU MET ED	1/20/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJU MET ED	1/20/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJU MET ED	1/20/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	TJU MET ED	1/20/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJU MET ED	1/20/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJU MET ED	1/20/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJU MET ED	1/20/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	TJU MET ED	1/20/78
					#
10.6.3	Alert Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJU MET ED	1/25/78
	RMS Audible Alarm Sounding	Yes _____ No <u>YES</u> LIGHT - ON NO INDICATOR	Yes	TJU MET ED	1/25/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/22/70
	Remote Audible Alarm is sounding (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/22/70
10.6.4	RMS Audible Alarm Reset	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/22/70
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/22/70
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/22/70
10.6.6	High Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/22/70
	RMS Audible Alarm Sounding	Yes _____ No <u>X</u>	Yes N/A	TJW MET ED	1/22/70
	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/22/70
	Remote Audible Alarm Sounding if applicable	Yes _____ No <u>X</u> N/A _____	Yes N/A	TJW MET ED	1/22/70
10.6.8	All Alarms Clear	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/22/70

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB / Met-El	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB / Met-El	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB / Met-El	1/29/78
	Intermediate Open	382 mR/hr 1920 mR/hr	N/A N/A	JAB / Met-El	1/29/78
10.9.4	Measured Radiation Closed	Meter Recorder			
		30 x10 <sup>-6</sup> mr/h 55	N/A	JAB / Met-El	1/29/78
10.9.5	Intermediate	Meter Recorder			
		3.8 x10 <sup>-6</sup> mr/h 4.0	N/A	JAB / Met-El	1/29/78
10.9.6	Open	Meter Recorder			
		1.9 x10 <sup>-3</sup> mr/h 2.0	N/A	JAB / Met-El	1/29/78
10.9.9	Net Radiation Closed	Meter Recorder			
		5.0 x10 <sup>-6</sup> mr/h 5.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / Met-El	1/29/78
	Intermediate	Meter Recorder			
		3.8 x10 <sup>-6</sup> mr/h 4.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / Met-El	1/30/78
	Open	Meter Recorder			
		1.9 x10 <sup>-3</sup> mr/h 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB / Met-El	1/29/78
10.10.3	Check Source Reading	4.0 x10 <sup>-6</sup> mr/h	Greater than reading obtained in step 10.8.2	JAB / Met-El	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB Met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB Met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	E-16	N/A		
	Intermediate Open	E-16	N/A N/A		
10.9.4	Measured Radiation Meter Closed Recorder	6.0 x10 <sup>-2</sup> mr/h 6.0	N/A	JAB Met-Ed	1/29/78
10.9.5	Intermediate Meter Recorder	9.0 x10 <sup>-2</sup> mr/h 9.8	N/A	JAB Met-Ed	1/29/78
10.9.6	Open Meter Recorder	2.0 x10 <sup>-2</sup> mr/h 2.1	N/A	JAB Met-Ed	1/29/78
10.9.9	Net Radiation E-16 Meter Recorder	6.0 x10 <sup>-2</sup> mr/h 6.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Intermediate E-16 Meter Recorder	4.0 x10 <sup>-2</sup> mr/h 4.8	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78
	Open E-16 Meter Recorder	2.0 x10 <sup>-2</sup> mr/h 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-Ed	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>116.2</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	TJW MET ED	1/29/78
10.2.2	Power Supply Voltages	<u>19.09</u> VDC	22 $\begin{matrix} +3.3 \\ -3.3 \end{matrix}$ VDC	TJW MET ED	1/29/78
		<u>10.09</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	TJW MET ED	1/29/78
		<u>597.2</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	TJW MET ED	1/29/78
10.2.3	Test Point Voltage	<u>-6.75</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	TJW MET ED	1/29/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> No	Yes	TJW MET ED	1/29/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No D-4 LIGHT BUT NO AUDIBLE	Yes	TJW MET ED	1/29/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> No	Yes	TJW MET ED	1/29/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> No	Yes	TJW MET ED	1/29/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> No D-4 light but no audible	Yes	TJW MET ED	1/29/78
	Alarms Cleared	<u>Yes</u> No	Yes	TJW MET ED	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	JW MET CD	1/29/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	JW MET CD	1/29/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	JW MET CD	1/29/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	JW MET CD	1/29/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	JW MET CD	1/29/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	JW MET CD	1/29/78
10.5.10	High Alarm Reset	Amber Light Out	Yes YES	JW MET CD	1/29/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	JW MET CD	1/29/78
10.6.3	Alert Alarm Light ON	Yes <u>YES</u> No _____	Yes	JW MET CD	1/29/78
	RMS Audible Alarm Sounding	Yes _____ No <u>X</u> LIGHT BUT NO NOISE	Yes	JW MET CD	1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	Remote Audible Alarm is sounding (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/29/78
10.6.4	RMS Audible Alarm Reset	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/29/78
10.6.6	High Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	RMS Audible Alarm Sounding	Yes _____ No <u>X</u>	Yes	TJW MET ED	1/29/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	Remote Audible Alarm Sounding if applicable	Yes <u>YES</u> No <u>X</u> N/A _____	Yes N/A	TJW MET ED	1/29/78
10.6.8	All Alarms Clear	Yes <u>✓</u> No _____	Yes	TJW MET ED	2/1/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	.2 m <sup>4</sup> /hr	N/A	JAB	Met-El	1/30/78
10.8.3	Background Radiation Reading (Recorder)	.2 m <sup>4</sup> /hr	N/A	JAB	Met-El	1/30/78
10.9.3	Radiation Input produced by FCK closed	52 m <sup>4</sup> /hr	N/A	JAB	Met-El	1/30/78
	Intermediate Open	382 m <sup>4</sup> /hr 1920 m <sup>4</sup> /hr	N/A N/A	JAB	Met-El	1/30/78
10.9.4	Measured Radiation Closed	<u>Meter</u> 5.0 <u>Recorder</u> 5.5	N/A	JAB	Met-El	1/30/78
10.9.5	Intermediate	<u>Meter</u> 3.8 2 <u>Recorder</u> 4.0	N/A	JAB	Met-El	1/30/78
10.9.6	Open	<u>Meter</u> 1.8 3 <u>Recorder</u> 2.0	N/A	JAB	Met-El	1/30/78
10.9.9	Net Radiation Closed	<u>Meter</u> 5.0 1 <u>Recorder</u> 5.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-El	1/30/78
	Intermediate	<u>Meter</u> 3.8 2 <u>Recorder</u> 4.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-El	1/30/78
	Open	<u>Meter</u> 1.8 3 <u>Recorder</u> 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	Met-El	1/30/78
10.10.3	Check Source Reading	<u>5</u> x10 mr/h	Greater than reading obtained in step 10.8.2	JAB	Met-El	1/30/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	2 mR/hr	N/A	JB Met-El	1/30/71
10.8.3	Background Radiation Reading (Recorder)	2 mR/hr	N/A	JB Met-El	1/30/71
10.9.3	Radiation Input produced by FCK closed E-14		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed	Meter 6.0 x10 <sup>-1</sup> mr/h Recorder 6.8	N/A	JB Met-El	1/30/71
10.9.5	Intermediate	Meter 4.0 x10 <sup>-2</sup> mr/h Recorder 4.8	N/A	JB Met-El	1/30/71
10.9.6	Open	Meter 2.0 x10 <sup>-3</sup> mr/h Recorder 2.2	N/A	JB Met-El	1/30/71
10.9.9	Net Radiation Closed	Meter 6.0 x10 <sup>-1</sup> mr/h Recorder 6.8	+ 20% of 10.9.3 + 4% of 10.9.3	JB Met-El	1/30/71
	Intermediate	Meter 4.0 x10 <sup>-2</sup> mr/h Recorder 4.8	+ 20% of 10.9.3 + 4% of 10.9.3	JB Met-El	1/30/71
	Open	Meter 2.0 x10 <sup>-3</sup> mr/h Recorder 2.2	+ 20% of 10.9.3 + 4% of 10.9.3	JB Met-El	1/30/71

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials	Org.	Date
10.2.1	AC Input Voltage Check	<u>116.1</u> VAC	117 $\pm 15$ VAC	TJW	NET ED	1/29/78
10.2.2	Power Supply Voltages	<u>20.17</u> VDC	22 $\pm 3$ VDC	TJW	NET ED	1/29/78
		<u>10.11</u> VDC	10 $\pm 0.1$ VDC	TJW	NET ED	1/29/78
		<u>594.2</u> VDC	600 $\pm 16$ VDC	TJW	NET ED	1/29/78
10.2.3	Test Point Voltage	<u>-6.66</u> VDC	-6.8 $\pm 0.5$ VDC	TJW	NET ED	1/29/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	NET ED	1/29/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> Yes <u>No</u> No	Yes FLASHING OUT NO HORN	TJW	NET ED	1/29/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	NET ED	1/29/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	NET ED	1/29/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	NET ED	1/29/78
	Alarms Cleared	<u>Yes</u> Yes <u>No</u> No	Yes	TJW	NET ED	1/29/78

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Readout Rule No. 856-2  
Readout Serial No. 256  
Channel No. HP-R-237

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials	Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED		1/29/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW MET ED		1/29/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW MET ED		1/29/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>1.0</u>	+0 -1 Minor Scale Division	TJW MET ED		1/29/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW MET ED		1/29/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW MET ED		1/29/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW MET ED		1/29/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>2.0</u>	+0 -1 Minor Scale Division	TJW MET ED		1/29/78
10.6.3	Alert Alarm Light ON	Yes <u>Yes</u> No _____	Yes	TJW MET ED		1/29/78
	RMS Audible Alarm Sounding	Yes _____ No <u>X</u>	Yes	TJW MET ED		1/29/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	Remote Audible Alarm is sounding (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/29/78
10.6.4	RMS Audible Alarm Reset	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>YES</u> No _____ N/A _____	Yes N/A	TJW MET ED	1/29/78
10.6.6	High Alarm Light ON	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	RMS Audible Alarm Sounding	Yes <u>YES</u> No <u>NO</u>	Yes	TJW MET ED	1/29/78
	'RMS System Trouble' Annunciator Flashing	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78
	Remote Audible Alarm Sounding if applicable	Yes <u>YES</u> No <u>NO</u> N/A _____	Yes N/A	TJW MET ED	1/29/78
10.6.8	All Alarms Clear	Yes <u>YES</u> No _____	Yes	TJW MET ED	1/29/78

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Step No.	Description	Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)		204/hr	N/A	JAB met-CL	1/30/78
10.8.3	Background Radiation Reading (Recorder)		2 mR/hr	N/A	JAB met-EL	1/30/78
10.9.3	Radiation Input produced by FCK closed		52 mR/hr	N/A	JAB met-EL	1/30/78
	Intermediate Open		382 mR/hr 1720 mR/hr	N/A N/A	JAB met-EL	1/30/78
10.9.4	Measured Radiation Closed	Meter Recorder	5.0 x10 <sup>-3</sup> mr/h 5.5	N/A	JAB met-EL	1/30/78
10.9.5	Intermediate	Meter Recorder	3.8 x10 <sup>-3</sup> mr/h 3.8	N/A	JAB met-EL	1/30/78
10.9.6	Open	Meter Recorder	2.0 x10 <sup>-3</sup> mr/h 2.0	N/A	JAB met-EL	1/30/78
10.9.9	Net Radiation Closed	Meter Recorder	5.0 x10 <sup>-3</sup> mr/h 5.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-EL	1/30/78
	Intermediate	Meter Recorder	3.8 x10 <sup>-3</sup> mr/h 3.8	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-EL	1/30/78
	Open	Meter Recorder	2.0 x10 <sup>-3</sup> mr/h 2.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB met-EL	1/30/78
10.10.3	Check Source Reading		7 x10 <sup>-6</sup> mr/h	Greater than reading obtained in step 10.8.2	JAB met-EL	1/30/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials / Org.	Date
10.8.2	Background Radiation Reading (Meter)	2 mR/hr	N/A	JAB Met-El	1/30/75
10.8.3	Background Radiation Reading (Recorder)	2 mR/hr	N/A	JAB Met-El	1/30/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed Meter Recorder	6.0 x10 <sup>-1</sup> mr/h 6.5	N/A	JAB Met-El	1/30/75
10.9.5	Intermediate Meter Recorder	4.0 x10 <sup>-2</sup> mr/h 4.0	N/A	JAB Met-El	1/30/75
10.9.6	Open Meter Recorder	2.1 x10 <sup>-3</sup> mr/h 2.1	N/A	JAB Met-El	1/30/75
10.9.9	Net Radiation Closed Meter Recorder E-16	6.0 x10 <sup>-1</sup> mr/h 6.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-El	1/30/75
	Intermediate Meter Recorder E-16	4.0 x10 <sup>-2</sup> mr/h 4.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-El	1/30/75
	Open Meter Recorder E-16	2.1 x10 <sup>-3</sup> mr/h 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-El	1/30/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<del>117</del> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	<del>ME</del> ME	1/24/73
10.2.2	Power Supply Voltages	<del>22</del> VDC	22 $\begin{matrix} +5+3 \\ -5-3 \end{matrix}$ VDC	<del>ME</del> ME	1/24/73
		<del>10.05</del> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.3 \end{matrix}$ VDC	<del>ME</del> ME	1/26/73
		<del>600</del> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	<del>ME</del> ME	1/26/73
10.2.3	Test Point Voltage	<del>-6.8</del> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	<del>ME</del> ME	1/26/73
10.3.2	Green Fail Indicator Lamp Goes Out.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<del>ME</del> ME	1/26/73
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<del>ME</del> ME	1/26/73
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<del>ME</del> ME	1/26/73
10.3.6	Green Fail Indicator Comes On	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<del>ME</del> ME	1/26/73
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<del>ME</del> ME	1/26/73
	Alarms Cleared	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Yes	<del>ME</del> ME	1/26/73

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes YES	TJW NET ED	1/26/78
10.4.13	Alert Full Scale	Energize at full scale	Yes YES	TJW NET ED	1/26/78
10.4.14	Alert Alarm Reset	Amber Light Out	Yes YES	TJW NET ED	1/26/78
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>10</u>	+0 -1 Minor Scale Division	TJW NET ED	1/26/78
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes YES	TJW NET ED	1/26/78
10.5.9	High Alarm Full Scale	Energize at full scale	Yes YES	TJW NET ED	1/26/78
10.5.10	High Alarm Reset	Red Light Out	Yes YES	TJW NET ED	1/26/78
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>20</u>	+0 -1 Minor Scale Division	TJW NET ED	1/26/78
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	J. M. A. EL	3/15/78
	RMS Audible Alarm Sounding	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes	J. M. A. EL	3/15/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	<u>TME</u>	<u>2/1/75</u>
	Remote Audible Alarm is sounding (if applicable)	Yes <u>✓</u> No _____ N/A _____	Yes  N/A	<u>TME</u>	<u>2/1/75</u>
10.6.4	RMS Audible Alarm Reset	Yes <u>✓</u> No _____	Yes	<u>TME</u>	<u>2/1/75</u>
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>✓</u> No _____	Yes	<u>TME</u>	<u>2/1/75</u>
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes _____ No _____ N/A _____	Yes  N/A	<u>TME</u>	<u>2/1/75</u>
10.6.6	High Alarm Light ON	Yes _____ No _____	Yes	<u>TME</u>	<u>2/1/75</u>
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	<u>TME</u>	<u>2/1/75</u>
	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	<u>TME</u>	<u>2/1/75</u>
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A _____	Yes  N/A	<u>TME</u>	<u>2/1/75</u>
10.6.8	All Alarms Clear	Yes <u>✓</u> No _____	Yes	<u>TME</u>	<u>2/1/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.8.2	Background Radiation Reading (Meter)	.2 mR/hr	N/A	JAB	met-Ed	1/29/78
10.8.3	Background Radiation Reading (Recorder)	.2 mR/hr	N/A	JAB	met-Ed	1/29/78
10.9.3	Radiation Input produced by FCK closed	52 mR/hr	N/A	JAB	met-Ed	1/29/78
	Intermediate Open	382 mR/hr 1420 mR/hr	N/A N/A	JAB	met-Ed	1/29/78
10.9.4	Measured Radiation Closed	Meter Recorder	N/A	JAB	met-Ed	1/29/78
	Intermediate	Meter Recorder	N/A	JAB	met-Ed	1/29/78
10.9.6	Open	Meter Recorder	N/A	JAB	met-Ed	1/29/78
10.9.9	Net Radiation Closed	Meter E-17 Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/29/78
	Intermediate	Meter E-17 Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/30/78
	Open	Meter E-17 Recorder	+ 20% of 10.9.3 + 4% of 10.9.3	JAB	met-Ed	1/29/78
10.10.3	Check Source Reading	6 x10 <sup>-3</sup> mR/h	Greater than reading obtained in step 10.8.2	JAB	met-Ed	1/29/78

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(9.9.10) (Unit 1 FCK)

Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	.2 $m\mu/hr$	N/A	JAB Met-ED	1/30/78
10.8.3	Background Radiation Reading (Recorder)	.2 $m\mu/hr$	N/A	JAB Met-ED	1/30/78
10.9.3	Radiation Input produced by FCK closed <i>E-16</i>		N/A		
	Intermediate Open <i>E-16</i>		N/A N/A		
10.9.4	Measured Radiation Meter Closed Recorder	$\frac{7.0}{x10^{-1}}$ $mr/h$ 7.0	N/A	JAB Met-ED	1/30/78
10.9.5	Intermediate Meter Recorder	$\frac{4.5}{x10^{-2}}$ $mr/h$ 4.5	N/A	JAB Met-ED	1/30/78
10.9.6	Open Meter Recorder	$\frac{2.5}{x10^{-3}}$ $mr/h$ 2.1	N/A	JAB Met-ED	1/30/78
10.9.9	Net Radiation Closed <i>E-16</i>	$\frac{7.0}{x10^{-1}}$ $mr/h$ 7.0	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-ED	1/30/78
	Intermediate <i>E-16</i>	$\frac{4.5}{x10^{-2}}$ $mr/h$ 4.5	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-ED	1/30/78
	Open <i>E-16</i>	$\frac{2.5}{x10^{-3}}$ $mr/h$ 2.1	+ 20% of 10.9.3 + 4% of 10.9.3	JAB Met-ED	1/30/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.2.1	AC Input Voltage Check	<u>115</u> VAC	117 $\begin{matrix} +15 \\ -15 \end{matrix}$ VAC	<u>ME</u>	<u>2/2/75</u>
10.2.2	Power Supply Voltages	<u>-1.4</u> VDC	22 $\begin{matrix} +5+3 \\ -5-3 \end{matrix}$ VDC	<u>ME</u>	<u>2/2/75</u>
		<u>10.73</u> VDC	10 $\begin{matrix} +0.1 \\ -0.1 \\ -0.5 \end{matrix}$ VDC	<u>ME</u>	<u>2/1/75</u>
		<u>600</u> VDC	600 $\begin{matrix} +16 \\ -16 \end{matrix}$ VDC	<u>ME</u>	<u>2/1/75</u>
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{matrix} +0.5 \\ -0.5 \end{matrix}$ VDC	<u>ME</u>	<u>2/1/75</u>
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	<u>ME</u>	<u>2/1/75</u>
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>ME</u>	<u>2/1/75</u>
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	<u>ME</u>	<u>2/1/75</u>
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	<u>ME</u>	<u>2/1/75</u>
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	<u>ME</u>	<u>2/1/75</u>
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	<u>ME</u>	<u>2/1/75</u>

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JSS M.E	2/1/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	JSS M.E	2/1/75
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JSS M.E	2/1/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>10</u>	+0 -1 Minor Scale Division	JSS M.E	2/1/75
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JSS M.E	2/1/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JSS M.E	2/1/75
10.5.10	High Alarm Reset	Red Light Out	Yes	JSS M.E	2/1/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>10</u>	+0 -1 Minor Scale Division	JSS M.E	2/1/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSS M.E	2/1/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JSS M.E	2/1/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JW MIE	2/1/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>X</u> No _____ N/A <u>✓</u>	Yes N/A	JW MIE	2/1/75
10.6.4	RMS Audible Alarm Reset	Yes <u>X</u> No _____	Yes	JW MIE	2/1/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes <u>X</u> No _____	Yes	JW MIE	2/1/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>X</u> No _____ N/A <u>✓</u>	Yes N/A	JW MIE	2/1/75
10.6.6	High Alarm Light ON	Yes <u>X</u> No _____	Yes	JW MIE	2/1/75
	RMS Audible Alarm Sounding	Yes <u>X</u> No _____	Yes	JW MIE	2/1/75
	'RMS System Trouble' Annunciator Flashing	Yes <u>X</u> No _____	Yes	JW MIE	2/1/75
	Remote Audible Alarm Sounding if applicable	Yes <u>X</u> No _____ N/A <u>✓</u>	Yes N/A	JW MIE	2/1/75
10.6.8	All Alarms Clear	Yes <u>X</u> No _____	Yes	JW MIE	2/1/75

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Step	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.8.2	Background Radiation Reading (Meter)	0.2mr/hr	N/A	Met Ed	2/3/78
10.8.3	Background Radiation Reading (Recorder)	0.2mr/hr	N/A	Met Ed	2/3/78
10.9.3	Radiation Input produced by FCX closed	52mr/hr	N/A	Met Ed	2/3/78
	Intermediate Open	382mr/hr 1920 92mr/hr	N/A N/A	Met Ed	2/3/78
10.9.4	Measured Radiation Closed	Meter Recorder	x10 <sup>-7</sup> mr/hr N/A	Met Ed	2/3/75
10.9.5	Intermediate Recorder	Meter Recorder	x10 <sup>-7</sup> mr/hr N/A	Met Ed	2/3/75
10.9.6	Open Recorder	Meter Recorder	x10 <sup>-7</sup> mr/hr N/A	Met Ed	2/3/75
10.9.9	Net Radiation Closed	Meter Recorder	+ 20% of 10.9.3 x10 <sup>-7</sup> mr/hr + 4% of 10.9.3	Met Ed	2/3/75
	Intermediate Recorder	Meter Recorder	+ 20% of 10.9.3 x10 <sup>-7</sup> mr/hr + 4% of 10.9.3	Met Ed	2/3/75
	Open Recorder	Meter Recorder	+ 20% of 10.9.3 x10 <sup>-7</sup> mr/hr + 4% of 10.9.3	Met Ed	2/3/75
10.10.3	Check Source Reading	x10 <sup>-7</sup> mr/hr	Greater than reading obtained in Step 10.8.2	Met Ed	2/3/78

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Unit 1 FCK

Step	Description of Data Required	Data	Acceptance Criteria	Initial / Urg.	Date
10.8.2	Background Radiation Reading (Meter)	2.2m/h	N/A	Met Ed	2/3/75
10.8.3	Background Radiation Reading (Recorder)	2.2m/h	N/A	Met Ed	2/3/75
10.9.3	Radiation Input produced by FCK closed E-16		N/A		
	Intermediate Open E-16		N/A N/A		
10.9.4	Measured Radiation Closed Meter Recorder	5.2 x10 <sup>-3</sup> mr/h 5.2	N/A	Met Ed	2/3/75
10.9.5	Intermediate Meter Recorder	5.2 x10 <sup>-3</sup> mr/h 5.2	N/A	Met Ed	2/3/75
10.9.6	Open Meter Recorder	5.2 x10 <sup>-3</sup> mr/h 5.2	N/A	Met Ed	2/3/75
10.9.9	Net Radiation Closed E-16 Meter Recorder	5.2 x10 <sup>-3</sup> mr/h 5.2	+ 20% of 10.9.3 + 4% of 10.9.3	Met Ed	2/3/75
	Intermediate E-16 Meter Recorder	5.2 x10 <sup>-3</sup> mr/h 5.2	+ 20% of 10.9.3 + 4% of 10.9.3	Met Ed	2/3/75
	Open E-16 Meter Recorder	5.2 x10 <sup>-3</sup> mr/h 5.2	+ 20% of 10.9.3 + 4% of 10.9.3	Met Ed	2/3/75
10.10.3	Check Source Reading	x10 mr/h	Greater than reading obtained in step 10.8.2	N/A	N/A

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.2.1	AC Input Voltage Check	<u>117.5</u> VAC	117 $\begin{smallmatrix} +15 \\ -15 \end{smallmatrix}$ VAC	JJJ MIE		2/1/78
10.2.2	Power Supply Voltages	<u>22.0</u> VDC	22 $\begin{smallmatrix} +5.13 \\ -5-3 \end{smallmatrix}$ VDC	JJJ MIE		2/1/78
		<u>10.211</u> VDC	10 $\begin{smallmatrix} +8.1 \\ -0.1 \\ -0.2 \end{smallmatrix}$ VDC	JJJ MIE		2/1/78
		<u>391</u> VDC	600 $\begin{smallmatrix} +16 \\ -16 \end{smallmatrix}$ VDC	JJJ MIE		2/1/78
10.2.3	Test Point Voltage	<u>-6.8</u> VDC	-6.8 $\begin{smallmatrix} +0.5 \\ -0.5 \end{smallmatrix}$ VDC	JJJ MIE		2/1/78
10.3.2	Green Fail Indicator Lamp Goes Out.	<u>Yes</u> <u>No</u>	Yes	JJJ MIE		2/1/78
10.3.3	Main RMS Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JJJ MIE		2/1/78
10.3.4	Audible Alarm Cleared Light Window Stops Flashing	<u>Yes</u> <u>No</u>	Yes	JJJ MIE		2/1/78
10.3.6	Green Fail Indicator Comes On	<u>Yes</u> <u>No</u>	Yes	JJJ MIE		2/1/78
10.3.7	Main Annunciator Flashing and Audible Alarm Sounding	<u>Yes</u> <u>No</u>	Yes	JJJ MIE		2/1/78
	Alarms Cleared	<u>Yes</u> <u>No</u>	Yes	JJJ MIE		2/1/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.4.10	Alert Alarm Zero	Energize at 1st graduation	Yes	JJI MIE	2/1/75
10.4.13	Alert Full Scale	Energize at full scale	Yes	JJI MIE	2/1/75
10.4.14	Alert Alarm Reset	Amber Light Out	Yes	JJI MIE	2/1/75
10.4.17	Setpoint Value from Table 2 adjusted	Value <u>10</u>	+0 -1 Minor Scale Division	JJI MIE	2/1/75
10.5.6	High Alarm Zero	Energize at 1st graduation	Yes	JJI MIE	2/1/75
10.5.9	High Alarm Full Scale	Energize at full scale	Yes	JJI MIE	2/1/75
10.5.10	High Alarm Reset	Red Light Out	Yes	JJI MIE	2/1/75
10.5.12	Setpoint Value from Table 2 adjusted	Value <u>20</u>	+0 -1 Minor Scale Division	JJI MIE	2/1/75
10.6.3	Alert Alarm Light ON	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JJI MIE	2/1/75
	RMS Audible Alarm Sounding	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JJI MIE	2/1/75

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
10.6.3 (cont'd.)	'RMS System Trouble' Annunciator Flashing	Yes <u>✓</u> No _____	Yes	<u>MF</u>	<u>MF</u>	2/1/75
	Remote Audible Alarm is sounding (if applicable)	Yes <u>✓</u> No _____ N/A <u>✓</u>	Yes N/A	<u>MF</u>	<u>MF</u>	2/1/75
10.6.4	RMS Audible Alarm Reset	Yes <u>✓</u> No _____	Yes	<u>MF</u>	<u>MF</u>	2/1/75
	'RMS System Trouble' Annunciator Stops Flashing	Yes _____ No _____	Yes	<u>MF</u>	<u>MF</u>	2/1/75
10.6.5	Remote Audible Alarm Silenced (if applicable)	Yes <u>✓</u> No _____ N/A _____	Yes N/A	<u>MF</u>	<u>MF</u>	2/1/75
10.6.6	High Alarm Light ON	Yes _____ No _____	Yes	<u>MF</u>	<u>MF</u>	2/1/75
	RMS Audible Alarm Sounding	Yes _____ No _____	Yes	<u>MF</u>	<u>MF</u>	2/1/75
	'RMS System Trouble' Annunciator Flashing	Yes _____ No _____	Yes	<u>MF</u>	<u>MF</u>	2/1/75
	Remote Audible Alarm Sounding if applicable	Yes _____ No _____ N/A _____	Yes N/A	<u>MF</u>	<u>MF</u>	2/1/75
10.6.8	All Alarms Clear	Yes _____ No _____	Yes	<u>MF</u>	<u>MF</u>	2/1/75

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Step	Description of Data Required	Data	Acceptance Criteria	Initials Orn	Date
9.8.2	Background Radiation Reading (Meter)	0.1 mr/hr	N/A	JJ Met Ed	2/3/78
9.8.3	Background Radiation Reading (Recorder)	0.1 mr/hr	N/A	JJ Met Ed	2/3/78
9.9.3	Radiation Input produced by FCK closed	5.2 mr/hr	N/A	JJ Met Ed	2/3/78
	Intermediate Open	380 mr/hr 1920 mr/hr	N/A N/A	JJ Met Ed	2/3/78
10.9.4	Measured Radiation Closed	Meter $\frac{5.5}{x10^{-2}}$ mr/h Recorder 5.5	N/A	JJ Met Ed	2/3/78
10.9.5	Intermediate	Meter $\frac{3.5}{x10^{-2}}$ mr/h Recorder 4.0	N/A	JJ Met Ed	2/3/78
10.9.6	Open	Meter $\frac{1.0}{x10^{-2}}$ mr/h Recorder 2.7	N/A	JJ Met Ed	2/3/78
10.9.9	Net Radiation Closed	Meter $\frac{3.1}{x10^{-2}}$ mr/h Recorder 5.5	+ 20% of 10.9.3 = 4% of 10.9.3	JJ Met Ed	2/3/78
	Intermediate	Meter $\frac{3.0}{x10^{-2}}$ mr/h Recorder 4.0	+ 20% of 10.9.3 = 4% of 10.9.3	JJ Met Ed	2/3/78
	Open	Meter $\frac{1.0}{x10^{-2}}$ mr/h Recorder 2.2	+ 20% of 10.9.3 = 4% of 10.9.3	JJ Met Ed	2/3/78
10.10.3	Check Source Reading	$\frac{5}{x10^{-2}}$ mr/h	greater than reading obtained in step 10.9.3	JJ Met Ed	2/3/78

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UNIT 7 FCK

	Description of Data Required	Data	Acceptance Criteria	Initials Org	Date
2.2	Background Radiation Reading (Meter)	0.175/hr	N/A	JSL Mated	2/3/75
3.3	Background Radiation Reading (Recorder)	0.175/hr	N/A	JSL Mated	2/3/75
9.3	Radiation Input produced by FCK closed	E-16	N/A		
	Intermediate Open	E-16	N/A N/A		
9.4	Measured Radiation Closed	Meter: $\frac{2.5}{x10^3}$ mr/h Recorder: 7.0	N/A	JSL Mated	2/3/75
0.9.5	Intermediate	Meter: $\frac{2.0}{x10^3}$ mr/h Recorder: 4.5	N/A	JSL Mated	2/3/75
0.9.6	Open	Meter: $\frac{2.0}{x10^3}$ mr/h Recorder: 2.1	N/A	JSL Mated	2/3/75
10.9.9	Net Radiation Closed	Meter: $\frac{2.5}{x10^3}$ mr/h Recorder: 7.0	+ 20% of 10.9.3 + 4% of 10.9.3	JSL Mated	2/3/75
	Intermediate	Meter: $\frac{4.5}{x10^3}$ mr/h Recorder: 4.5	+ 20% of 10.9.3 + 4% of 10.9.3	JSL Mated	2/3/75
	Open	Meter: $\frac{2.0}{x10^3}$ mr/h Recorder: 2.1	+ 20% of 0.9.3 + 4% of 10.9.3	JSL Mated	2/3/75
10.10.3	Check Source Reading	$\frac{1}{x10}$ mr/h	Greater than reading obtained in step 10.9.2	N/A	N/A

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Readout Module No.                       
 Readout Serial No.                       
 Channel No. HP-R-201 E-15  
 Recorder HP-UR-1901

ep no.	Description of Data Required	Data	Acceptance Criteria	Initials		Date
					Org.	
7.3	Recorder Channel for HP-R-201 prints dot on zero line	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	+ one minor - div.	JHR	METED	1-1-78
7.5	Recorder channel for HP-R-201 prints dot on Fs line	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	+ one minor - div.	JHR	METED	1-1-78
7.6	Proper Print wheel alignment	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Clear dot & channel No.	JHR	METED	1-1-78
7.8	Chart speed in the 5"/hr. position E-7	.5"	N/A	JHR	METED	1-1-78
7.8.1	1"/hr. position	1"	N/A	JHR	METED	1-1-78
7.8.2	2"/hr. position	1.63" 1.64"	N/A	JHR	METED	1-1-78
7.8.3	4"/hr. position	3 15/16"	N/A	JHR	METED	1-1-78
7.8.4	8"/hr. position	7 31/32"	N/A	JHR	METED	1-2-78
7.9	All remaining recorder channels operate properly	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes	JHR	METED	1/26/78

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Step No.	Description of Data Required	Data	Acceptance Criteria	Initials Org.	Date
10.7.3	Recorder Channel for HP-R- <sup>215</sup> 201 prints dot on zero line	Yes <input checked="" type="checkbox"/> No _____	+ one minor - div.	JFB Met-CL	1/30/78
10.7.5	Recorder channel for HP-R- <sup>215</sup> 201 prints dot on Fs line	Yes <input checked="" type="checkbox"/> No _____	+ one minor - div.	JFB Met-EL	1/30/78
10.7.6	Proper Print wheel alignment	Yes <input checked="" type="checkbox"/> No _____	Clear dot & channel No.	JFB Met/EL	1/30/78
10.7.8	Chart speed in the <sup>E-7</sup> 5"/hr. position	.5"/HR	N/A	TJW MET ED	1/29/78
10.7.8.1	1"/hr. position	.9"/HR	N/A	TJW MET ED	1/29/78
10.7.8.2	2"/hr. position	1 7/8"/HR	N/A	TJW MET ED	1/29/78
10.7.8.3	4"/hr. position	4 1/4"/HR	N/A	JFB Met-CL	1/31/78
10.7.8.4	8"/hr. position	8"/HR	N/A	TJW MET ED	1/29/78
10.7.9	All remaining recorder channels operate properly	Yes <input checked="" type="checkbox"/> No _____	Yes	JFB Met-CL	1/31/78

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7993

Readout Module No. 7993

Readout Serial No. 796

Channel No. HP-R-214

4.5 mR/hr Background

DATA SHEET NO. 8

D-13  
Recorder Full Scale is 10<sup>5</sup> mR/hr

10.13.1 Radiation Readings (uncorrected) mr/h

FCR POSITION	READOUT MODULE FUNCTION SWITCH POSITION							RECORDER	INITIALS/ORG.	DATE
	ALL	10 <sup>2</sup>	10 <sup>3</sup>	10 <sup>4</sup>	10 <sup>5</sup>	10 <sup>6</sup>	10 <sup>7</sup>			
CLOSED	3.5 x 10 <sup>-1</sup>	3.5 x 10 <sup>-1</sup>	3.5 x 10 <sup>-1</sup>	1.0 x 10 <sup>-1</sup>	N/A	N/A	N/A	10 <sup>-1</sup>	10 <sup>-1</sup>	1/27/76
INTERMEDIATE	3.5 x 10 <sup>-1</sup>	N/A	N/A	5.0 x 10 <sup>-2</sup>	N/A	N/A	N/A	10 <sup>-1</sup>	10 <sup>-1</sup>	1/27/76
OPEN	3.5 x 10 <sup>-1</sup>	N/A	N/A	4.0 x 10 <sup>-3</sup>	4.0 x 10 <sup>-3</sup>	4.0 x 10 <sup>-3</sup>	4.0 x 10 <sup>-3</sup>	10 <sup>-1</sup>	10 <sup>-1</sup>	1/27/76

10.13.5 Radiation Readings (corrected) mr/h (Readings in 10.13.1 - background)

FCR POSITION	READOUT MODULE FUNCTION SWITCH POSITION							RECORDER	INITIALS/ORG.	DATE
	ALL	10 <sup>2</sup>	10 <sup>3</sup>	10 <sup>4</sup>	10 <sup>5</sup>	10 <sup>6</sup>	10 <sup>7</sup>			
CLOSED	3.5 x 10 <sup>-1</sup>	3.5 x 10 <sup>-1</sup>	3.5 x 10 <sup>-1</sup>	1.0 x 10 <sup>-1</sup>	N/A	N/A	N/A	10 <sup>-1</sup>	10 <sup>-1</sup>	1/27/76
INTERMEDIATE	3.5 x 10 <sup>-1</sup>	N/A	N/A	5.0 x 10 <sup>-2</sup>	N/A	N/A	N/A	10 <sup>-1</sup>	10 <sup>-1</sup>	1/27/76
OPEN	3.5 x 10 <sup>-1</sup>	N/A	N/A	4.0 x 10 <sup>-3</sup>	4.0 x 10 <sup>-3</sup>	4.0 x 10 <sup>-3</sup>	4.0 x 10 <sup>-3</sup>	10 <sup>-1</sup>	10 <sup>-1</sup>	1/27/76

10.13.8 Alert Setpoint 3.5 x 10<sup>-1</sup> as left setpoint 3.5 x 10<sup>-1</sup> ± 1/2 minor division.

10.13.9 High Setpoint 3.5 x 10<sup>-1</sup> as left setpoint 3.5 x 10<sup>-1</sup> ± 1/2 minor division.

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11.0 ACCEPTANCE CRITERIA

11.1 Acceptance criteria will be found on the data sheets in  
Section 10.

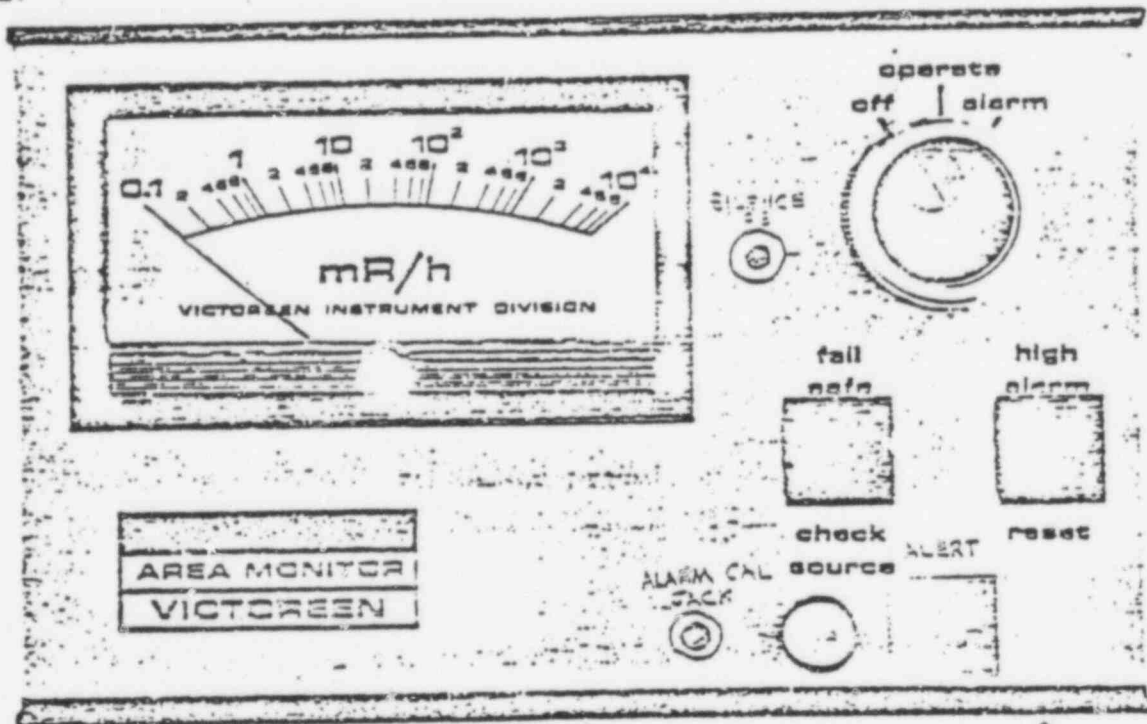
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FIGURE 1 857-2 READOUT MODULE



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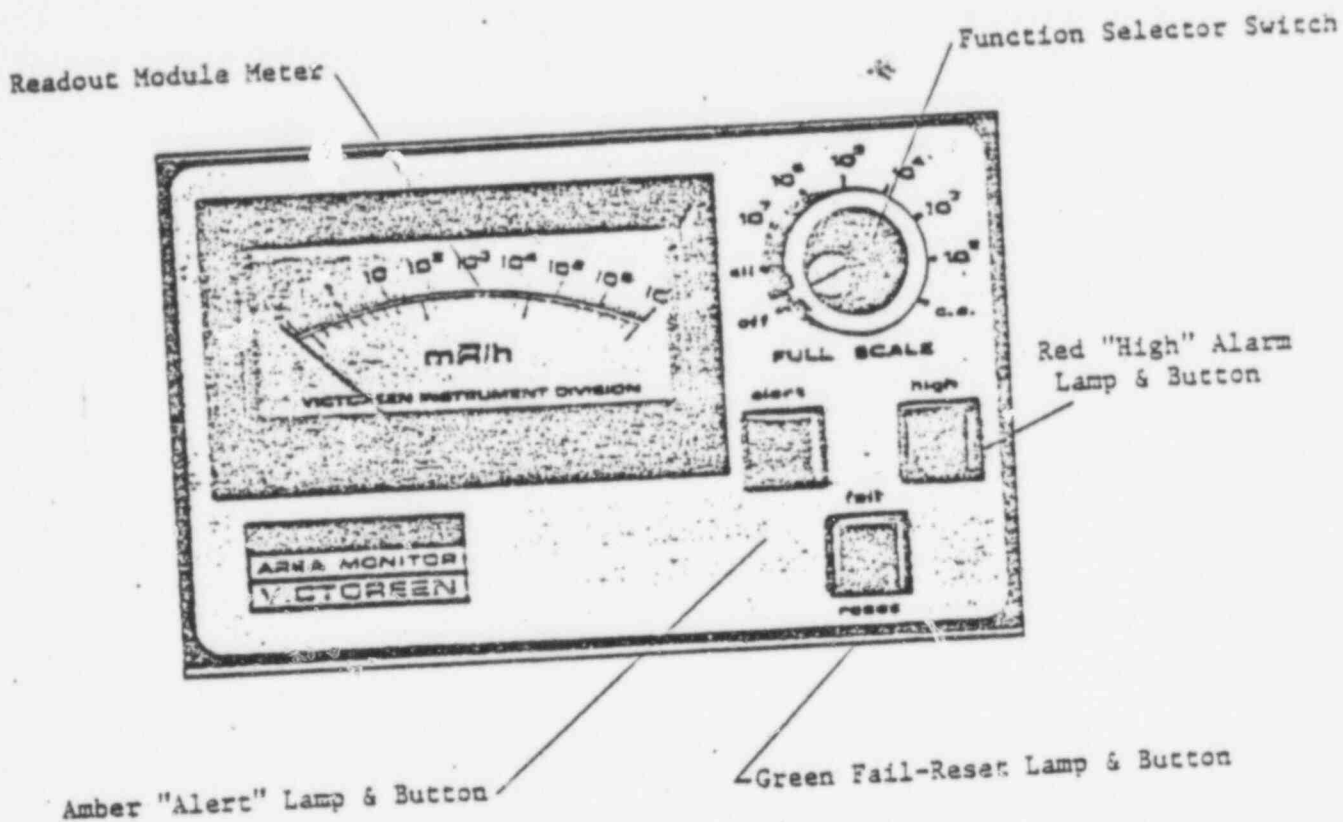
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FIGURE 1A MODEL 84601 READOUT MODULE (HF-R-214)



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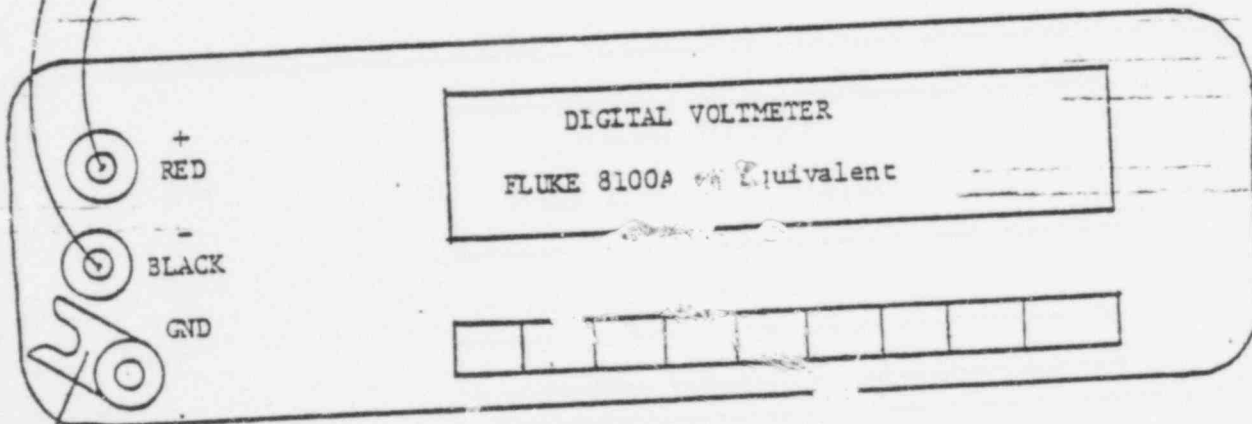
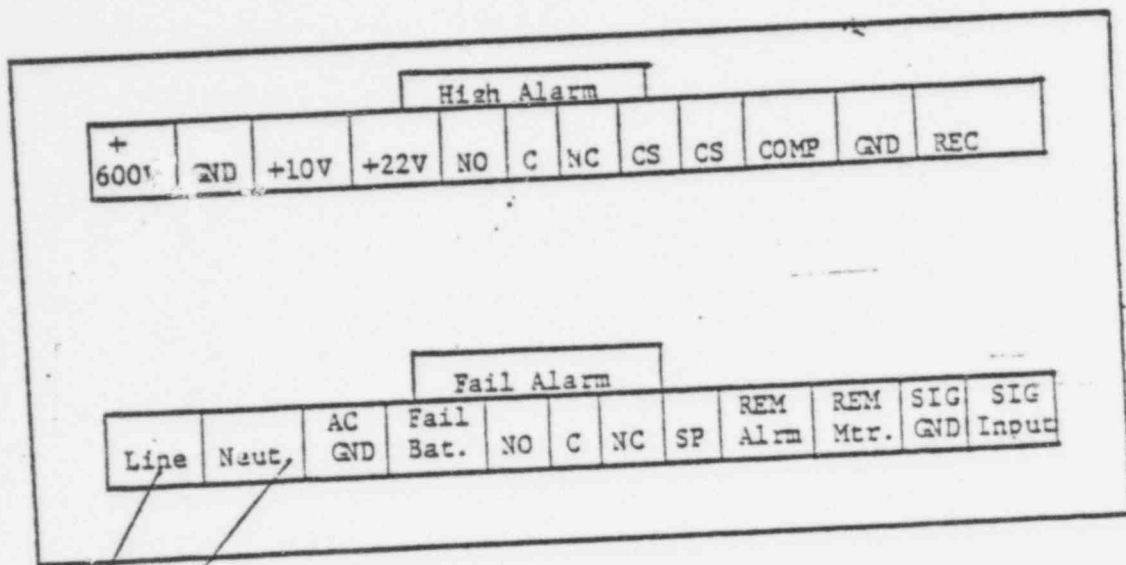
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READOUT MODULE, MODEL 856-2 REAR VIEW



Jumper remove between GND and (-) lead

Figure 2 Diagram, A.C. Voltage Measurement on the Readout module

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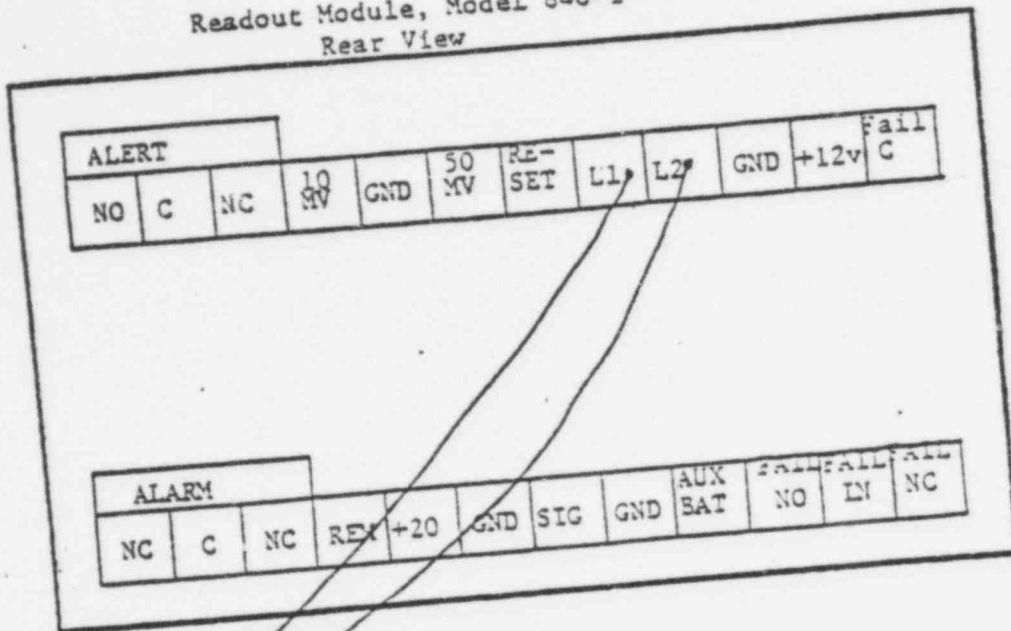
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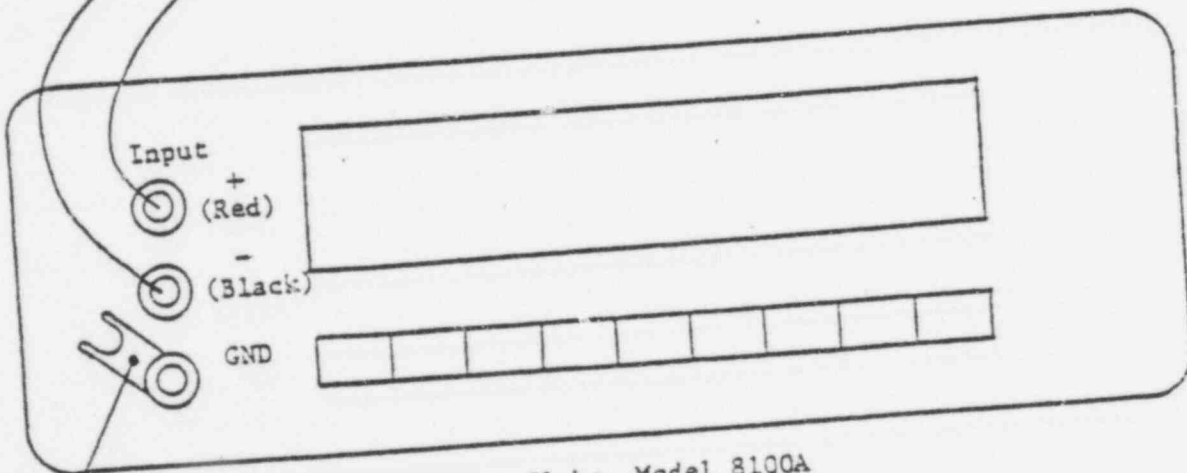
(HP-R-214)

Readout Module, Model 846-1  
Rear View



Black lead

Red lead



Digital Voltmeter - Fluke, Model 8100A

Jumper Remove between GND and (-) lead.

FIGURE NO. 2A: Diagram, A.C. Voltage Measurement on the Readout Module

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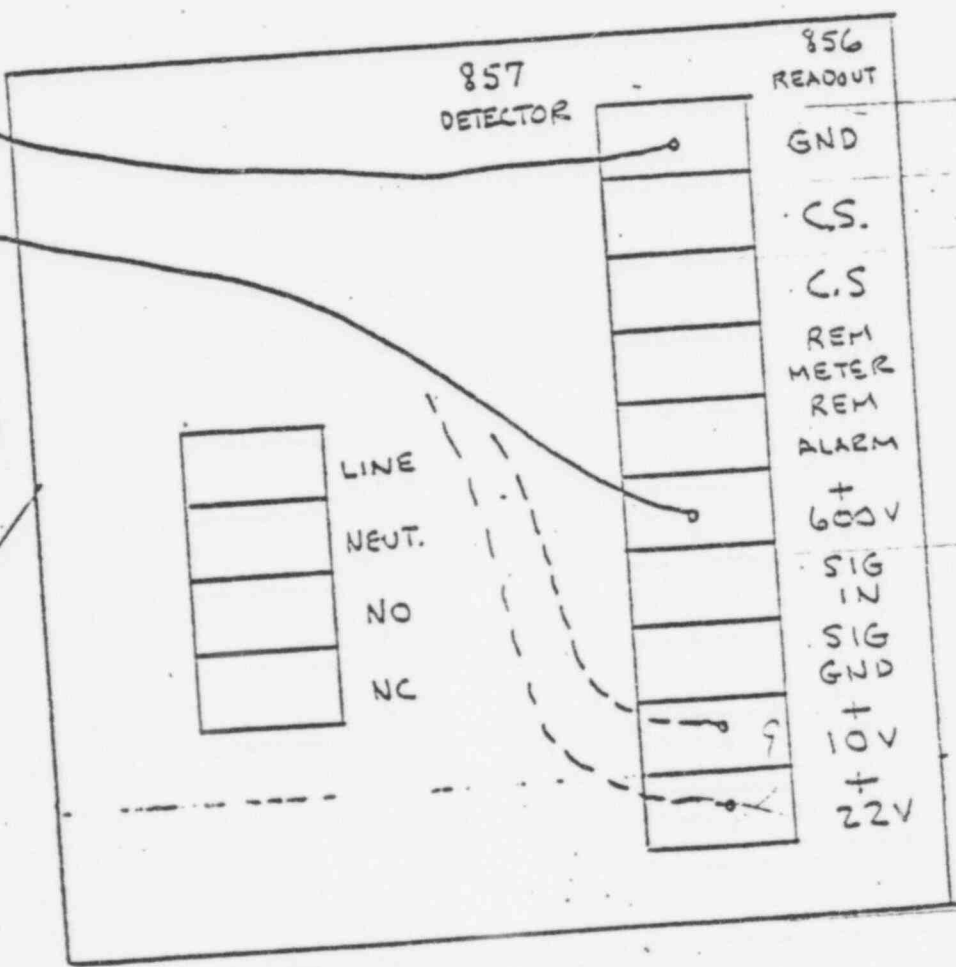
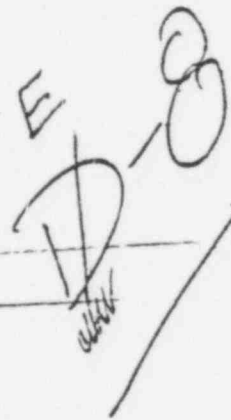
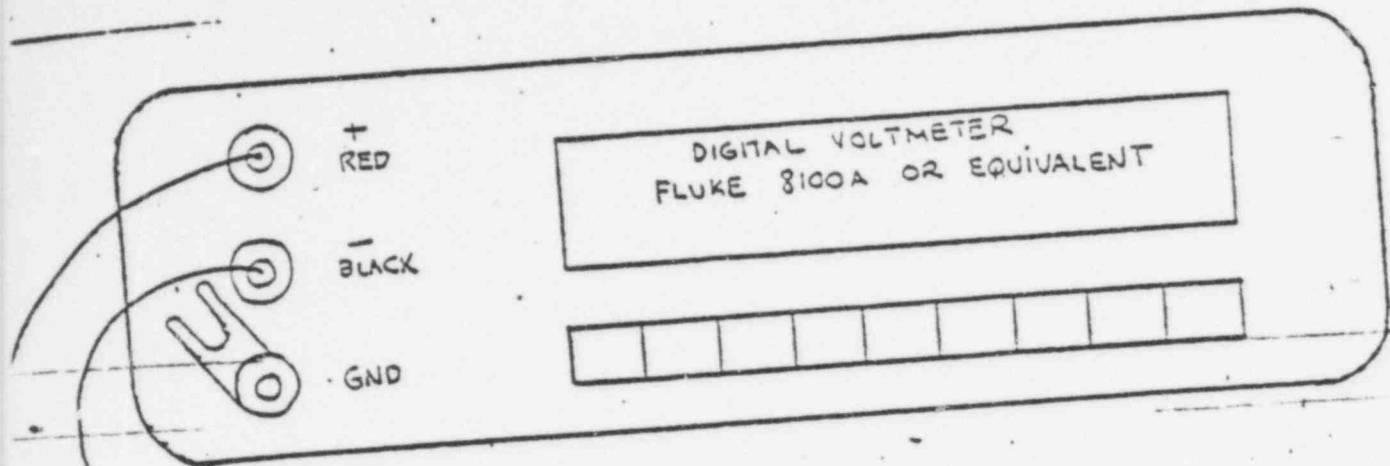


FIGURE NO. 3 POWER SUPPLY VOLTAGE MEASUREMENTS ON THE REMOTE ALARM UNIT

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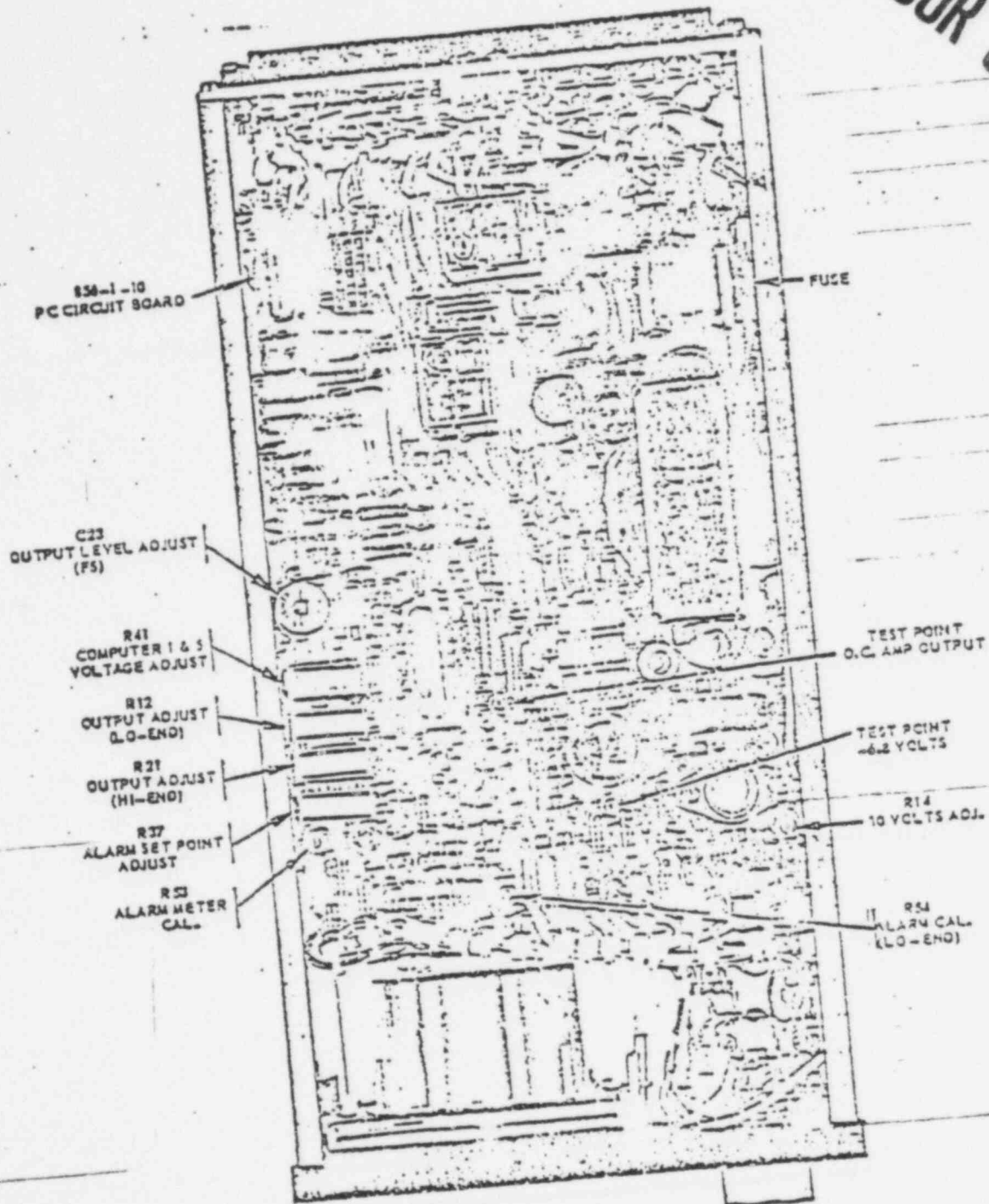


Figure 4. Interior View of Readout Module

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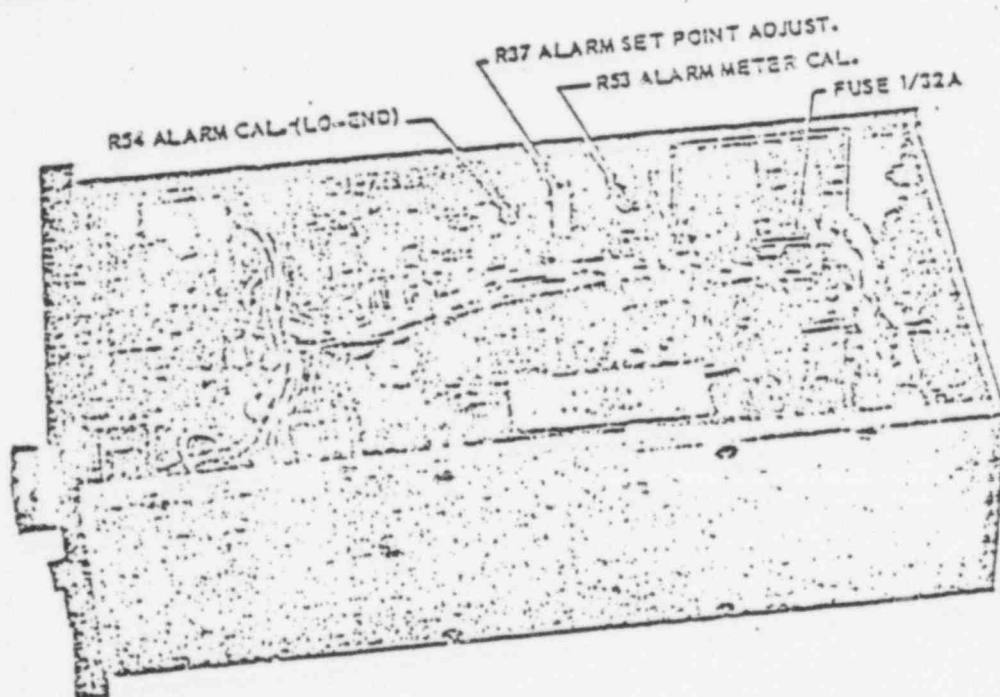
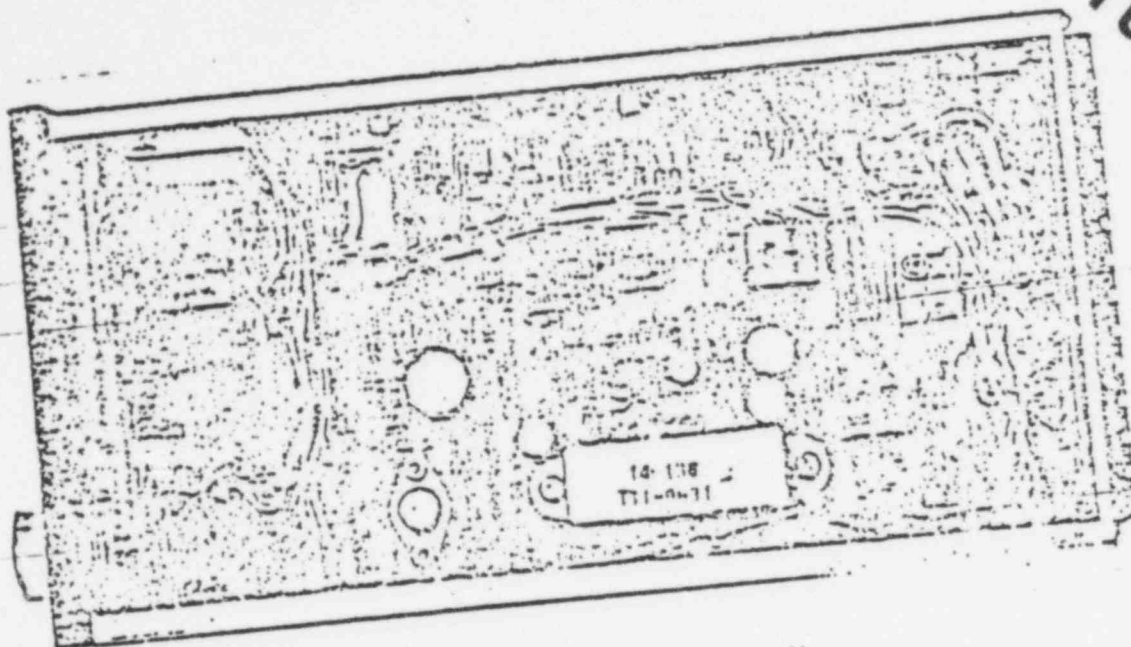


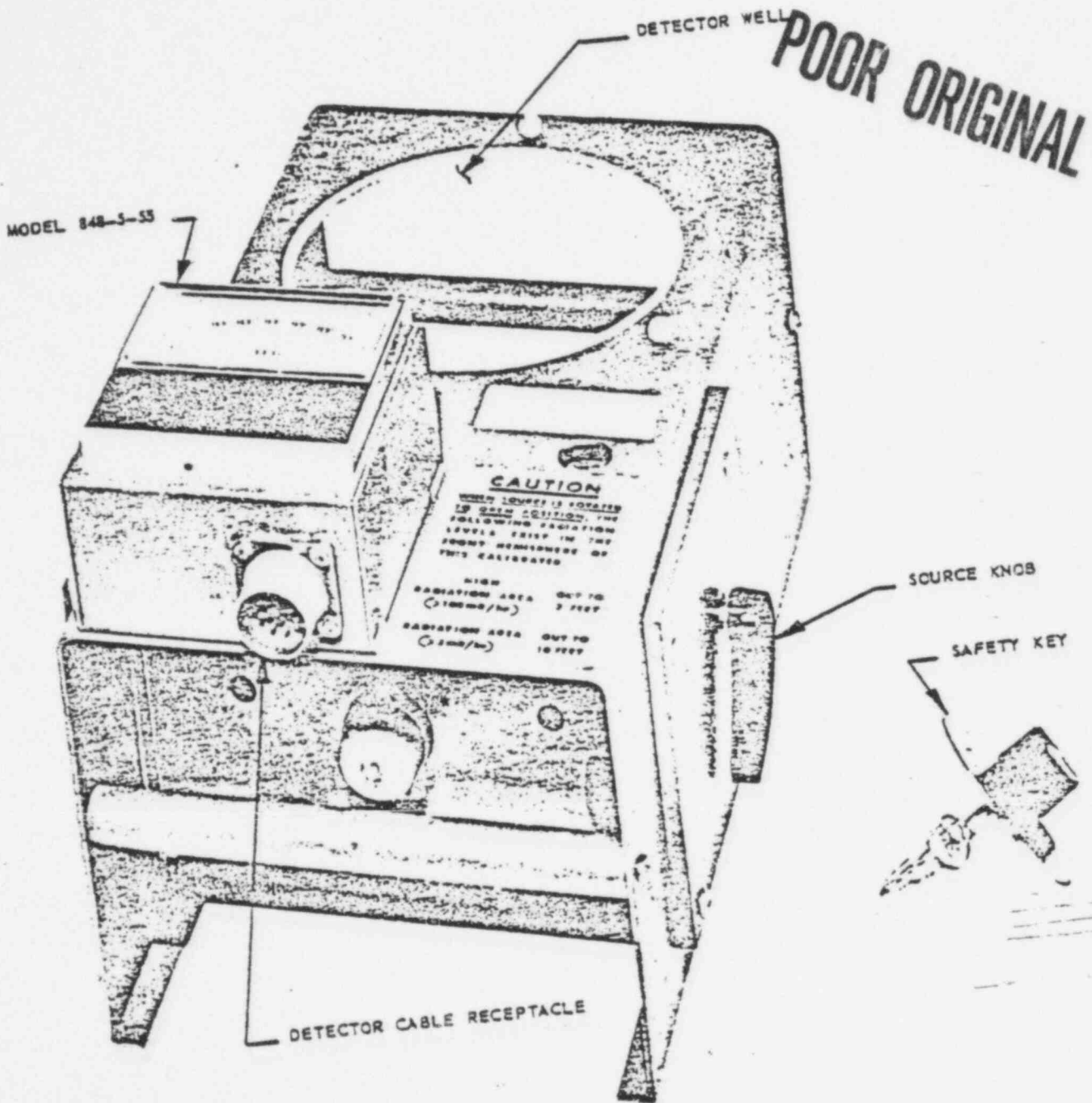
Figure 4A: Interior Views of Readout Module

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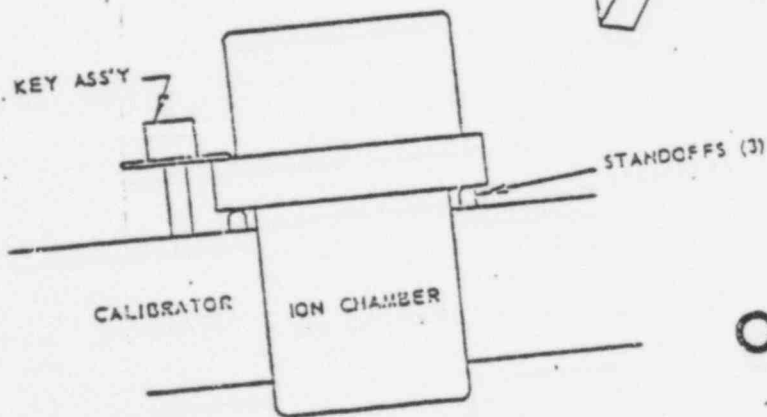
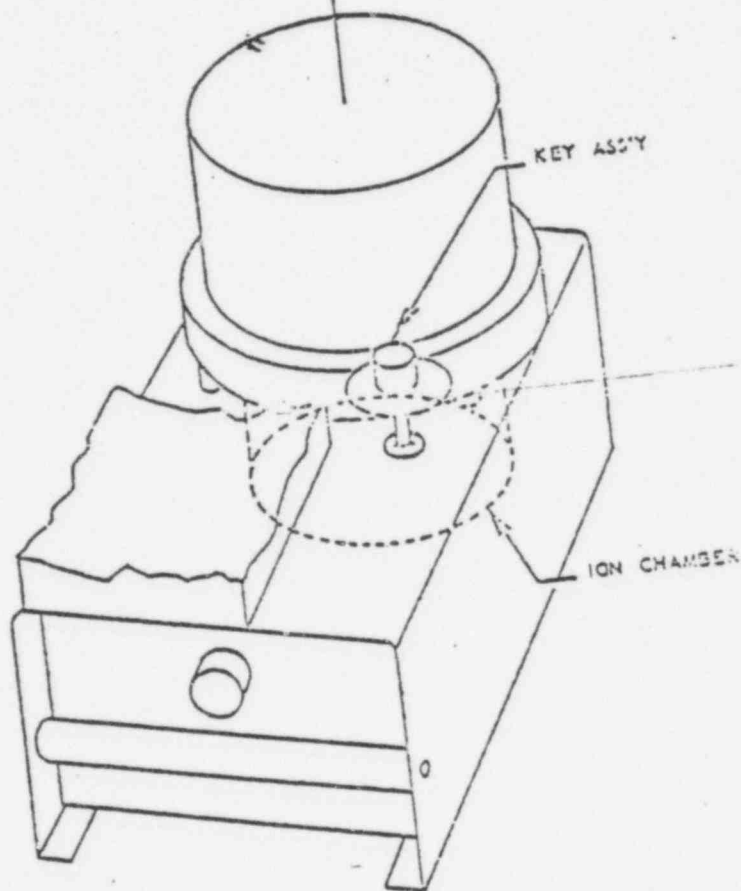
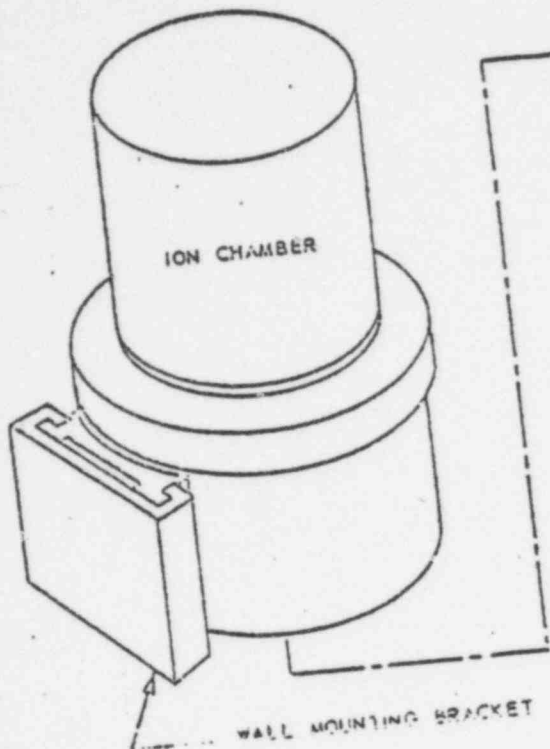
TMI UNIT II  
 TP 360/1C  
 Enclosure 2  
 Page 8 of 10

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FIGURE NO. 5: Model 848-8 Field Calibration Kit

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FIGURE NO. 6: Mounting Arrangement of Detector in Calibrator  
TMI UNIT II  
TP 350/1C  
Enclosure 2  
Page 9 of 10

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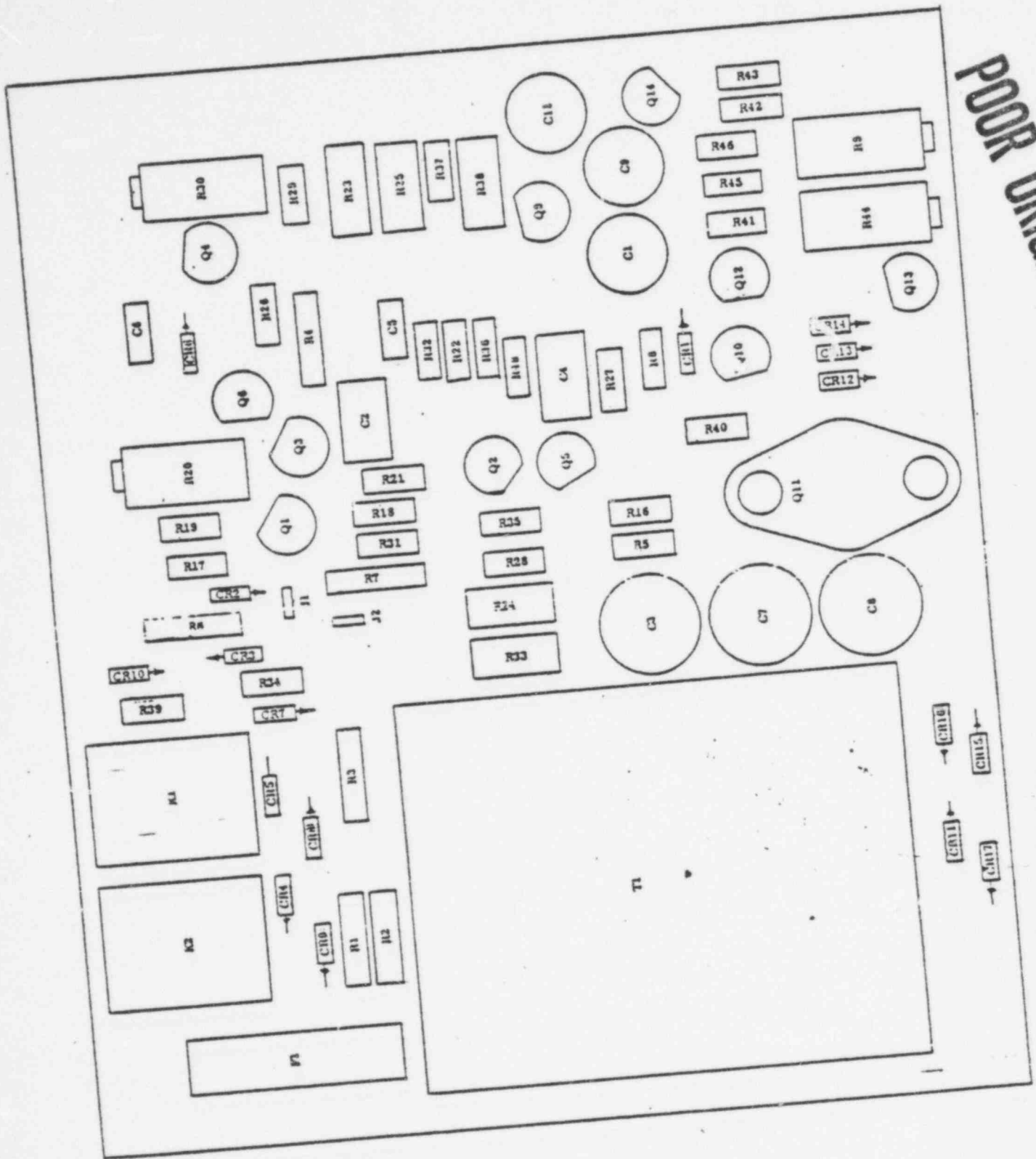


FIGURE NO. 7: Model 846-1 Readout Module Circuit Board Assembly  
 TMI UNIT II  
 TP 360/LC  
 Enclosure 2  
 Page 10 of 10

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UNIT II  
TEST RESULTS DISTRIBUTION LIST

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Date April 3, 1978  
Procedure No. TP 360/1C

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#1

TEST PROCEDURE EXCEPTION AND DEFICIENCY LIST

Rev. 1

ENCLOSURE 1 OF TP 360/1C

COVER PAGE

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The exception and deficiency consists of the following pages: 1, 2, 3, 4

E/D	Par.	Description/Initial/Date	Justification/Resolution	Justified/Completed Signoff	Date
E	4.1	Incomplete wire checkout therefore 4.1 can not be signed off JAB 11/17/77	Wire checkouts completed by Met-Ed as individual instrument strings are energized. JAB 11/17/77	JAB	2/2/77
E	8.1 8.2	Not necessary to begin energizing strings which have be checked out and meet step requirements. JAB 11/17/77	Initials on data sheet will provide status of monitors which have been checked for completion on an individual basis. no labeling required. JAB 11/17/77	JAB	2/2/77
E	8.4 8.6	Not necessary to energize monitor to allow for proper burnin time of string prior to calibration JAB 11/17/77	Completed End. 4 as required for calibration.	JAB	1/20/77
0 E	9.3.3 9.3.7 10.3 9.6.3 9.6.8 10.4	Audible alarm not functional alarm light works off same contact closure and alarm light functional. JAB 11/29/77	Since alarm light functional working off same contact, when audible alarm energized will check per 7.6. energized audible alarm twenty times for each parameter checked. JAB 11/21/77	JAB	1/29/77
5 E	9.2.2 10.2	22 Volts does not go to local readout. JAB 12/3/77	Read 22 Volts at rear of Panel 12 readmeter. JAB 12/3/77	JAB	12/3/77
6 E	10.2 9.2.2	Voltage tolerances not IAW Manufacturers spec. JAB 12/3/77	Manufacturer specs as per 2.2 - 6.8VDC ± 0.5Vdc +10VDC ± 0.5Vdc 22Vdc ± 3Vdc. JAB 12/3/77	JAB	12/3/77
7 E	10.7.8	Type 5"hr should be 0.5"hr JAB 12/3/77	12.5"hr is one of 5 recorder speeds. 5"hr does not exist. JAB 12/3/77	JAB	12/21/77

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ENCLOSURE 1 OF TP \_\_\_\_\_

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The exception and deficiency consists of the following pages: *A,*

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Signoff	Justified/ Completed Date
8	<i>E</i> <i>D</i> <i>W</i>	9.2.2 Encl. 2 Fig. 3	Fig 3 of Enclosure 2 is incorrect. <i>JAB 1/8/78</i>	In order to ensure that the proper connection is made when taking readings refer to Victorian Tech. Manual for correct location of terminal point described. <i>JAB 1/8/78</i>	<i>JAB</i>	1/30/78
9	<i>E</i>	9.4.4 7.4.9	R53 4R54 should not be adjusted unless replaced in accord with Vic. <i>JAB 1/26/78</i>	Adjustment R37 to vary about high alarm setpoints	<i>JAB</i>	1/26/78
10	<i>E</i>	Encl. 4	R.B. Exec. Alarm not off HP. R-209, 210, 205 <i>JAB 1/26/78</i>	Design deletion by B+R <i>JAB 1/26/78</i>	<i>JAB</i>	1/26/78
11	<i>E</i>	9.9.3	No projected reading 1/27/78	Done to establish baseline data	<i>JAB</i>	1/27/78
12	<i>E</i>	9.11.3	This is not a wall mounted device. <i>JAB 1/27/78</i>	Detector located in pit on top of elevator shaft. Detector should just be replaced in pit. <i>JAB 1/27/78</i>	<i>JAB</i>	1/27/78
13	<i>D</i>	9.11.5 6.7.7 10.13	Scale only goes to 10 <sup>4</sup> on recorder. <i>JAB 1/27/78</i>	Victorian to supply updated scale .1 to 10 <sup>4</sup> and .1 to 10 <sup>7</sup> for HP recorder. <i>JAB</i> Submitted Work Request 2761	<i>JAB</i> <i>JAB</i>	3/10/78

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POOR ORIGINAL

Justified/  
Completed

No	E/D	Par.	Description/Initial/Date	Justification/Resolution	Signoff	Date
14	D	9.4 15 16	Alert Alarm light and High Alarm light not operable in control room. JTB 1/27/78	Issued GPU PR2607 to correct problem with alarm light. Completed.	JTB	2/1/78
15	E	10.7	Data Sheet Title incorrect. JTB 1/25/78	Title should be for recorder not specific channel. Data Sheet for HP-UR-1902 should show H.P.R. 214 for 10.7.3.	JTB	1/30/78
16	E	9.9.9 9.9.3	Should be no acceptance criteria for Unit/FCK and no expected readings. JTB 1/30/78	Since this data is taken for baseline only and no calibration adjustments are made there is no expected reading and therefore there should be no acceptance criteria on readings.	JTB	1/30/78
17	E	9.9.9	Recorder accuracy as compared to 10.9.3 incorrect. JTB 1/30/78	The recorder as compared to meter is much more accurate. However the accuracy in readings should be 15% of reading not 10% percent of reading since one is reading a log scale. Based on a linear scale 4% of reading would have been sufficient.	JTB	1/30/78
18	E	9.9.9 for 215 209 210	Recorder accuracy as compared to 10.9.3 incorrect. JTB 1/30/78	These three monitors are field located with CR recording. To perform this step requires two people reading log scale to provide data. While taking data will not record output of potentiometer was read in order to provide more accurate data. Based on two individuals reading log scale accuracy should be approx. ±30%. See F-20	JTB	1/30/78
	D	7.3.3 7.3.7 10.5.3 7.6.3 9.6.8 10.1.2	Control Room audible alarm volume extremely loud and necessary consequences regarding volume for the recording instrument have not been fully calibrated. JTB 1/30/78	Issued PR 2606 to correct volume problem. Audible alarm level adjusted due to high born control room. Submitted Work Request 2762	JTB	3/1/78

Justified/  
Completed

No.	E/D	Par.	Description/Initial/Date	Justification/Resolution	Signoff	Date												
20	E	E-18	<p>In order to support justification of E-18 a voltage signal was injected into the log input of potentiometer. Reads was taken on the local meter (potentiometer), remote meter and record for comparison. Note all overhead record inputs received simultaneously from log pump circuit.</p> <p>JHB 2/2/78</p>	<p>Electronic cable data sheets added to above data sheets present in 9.9.9 for each potentiometer to support justification of E-18.</p>	JHB	2/2/78												
21	E	9.9.9	<p>The stated accuracy of the records is 2% based on a linear scale. When transposed to a log scale within a range of 0.1 m/sec to 10<sup>3</sup> m/sec the acceptable accuracy is 30% of the log value.</p> <p>JHB 2/2/78</p>	<p>Changes expected readings to a range of 0.1 to 10<sup>3</sup> for 0.1 to 10<sup>3</sup> m/sec axis records scale is not complete and found this within tolerance.</p> <table border="1"> <tr> <td>0.1 to 10<sup>3</sup> m/sec</td> <td>2% Transposed</td> </tr> <tr> <td>recorder pen position</td> <td>0.1 to 10<sup>3</sup></td> </tr> <tr> <td>reading</td> <td>0.1 to 10<sup>3</sup></td> </tr> <tr> <td>17 closed</td> <td>22</td> </tr> <tr> <td>40 inter.</td> <td>570</td> </tr> <tr> <td>55 open</td> <td>3900</td> </tr> </table>	0.1 to 10 <sup>3</sup> m/sec	2% Transposed	recorder pen position	0.1 to 10 <sup>3</sup>	reading	0.1 to 10 <sup>3</sup>	17 closed	22	40 inter.	570	55 open	3900	JHB	2/2/78
0.1 to 10 <sup>3</sup> m/sec	2% Transposed																	
recorder pen position	0.1 to 10 <sup>3</sup>																	
reading	0.1 to 10 <sup>3</sup>																	
17 closed	22																	
40 inter.	570																	
55 open	3900																	
22	E		<p>Incorrect Orientation</p> <p>JHB 2/2/78</p>	<p>corrected per S&amp;L drawing</p>	JHB	3/5/78												

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AREA RADIATION MONITORING CALIBRATION AND FUNCTIONAL TEST

TABLE 1

SLIDING LINK TERMINAL BLOCK CROSS REFERENCE

		(9.3.1)	(9.4.2)
HP-R-201	TB 101	8	6
HP-R-202	TB 102	8	6
HP-R-204	TB 103	8	6
HP-R-205	TB 104	8	6
HP-R-206	TB 105	8	6
HP-R-207	TB 106	8	6
HP-R-209	TB 107	8	6
HP-R-210	TB 108	8	6
HP-R-211	TB 109	8	6
HP-R-212	TB 110	8	6
HP-R-213	TB 111	8	6
HP-R-214	TB 112	5	7
HP-R-215	TB 113	8	6
HP-R-218	TB 114	8	6
HP-R-231	TB 115	8	6
HP-R-232	TB 116	8	6
HP-R-233	TB 117	8	6
HP-R-234	TB 118	8	6
HP-R-3236	TB 119	8	6
HP-R-3238	TB 120	8	6
HP-R-3240	TB 121	8	6

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TMI UNIT II  
 TP 360/1C  
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TMI UNIT II  
TP 360/IC  
Enclosure 4  
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\* 845 Series Readout & Detector

CHANNEL NO.	ALERT	HIGH	REMARKS
1. HP-R-201	0.5 MR/H	1.4 MR/H	No remote alarm module
2. HP-R-202	0.5 MR/H	2.0 MR/H	
3. HP-R-204	1.0 MR/H	2.0 MR/H	
4. HP-R-205	1.0 MR/H	2.0 MR/H	
5. HP-R-206	10.0 MR/H	20.0 MR/H	
6. HP-R-207	1.0 MR/H	2.0 MR/H	
7. HP-R-209	100.0 MR/H	1000.0 MR/H	No remote alarm module (RB evac. alarm)
8. HP-R-210	100.0 MR/H	1000.0 MR/H	No remote alarm module (RB evac. alarm)
9. HP-R-211	25.0 MR/H	50.0 MR/H	<del>RB evac. alarm</del> E-12
10. HP-R-212	25.0 MR/H	50.0 MR/H	<del>RB evac. alarm</del>
11. HP-R-213	25.0 MR/H	50.0 MR/H	<del>RB evac. alarm</del>
12. HP-R-214	25.0 MR/H	800.0 MR/H	No remote alarm module * (RB evac. alarm)
13. HP-R-215	10.0 MR/H	20.0 MR/H	No remote alarm module
14. HP-R-218	25.0 MR/H	50.0 MR/H	
15. HP-R-231	500.0 MR/H	1000.0 MR/H	
16. HP-R-232	1.0 MR/H	2.0 MR/H	
17. HP-R-233	1.0 MR/H	2.0 MR/H	
18. HP-R-234	1.0 MR/H	2.0 MR/H	
19. HP-R-3236	10.0 MR/H	20.0 MR/H	
20. HP-R-3238	10.0 MR/H	20.0 MR/H	
21. HP-R-3240	10.0 MR/H	20.0 MR/H	

RMS AREA MONITOR ALARM SETPOINT LIST

RMS RECORDER CHANNEL ASSIGNMENTS

RMS CHANNEL	RECORDER CHANNEL	RECORDER
HP-R-201	1	Recorder HP-UR-1901
HP-R-202	2	
HP-R-204	3	
HP-R-205	4	
HP-R-206	5	
HP-R-207	6	
HP-R-209	7	
HP-R-210	8	
HP-R-211	9	
HP-R-212	10	
HP-R-213	11	
HP-R-214	12	
HP-R-215	1	Recorder HP-UR-1902
HP-R-218	2	
HP-R-231	3	
HP-R-232	4	
HP-R-233	5	
HP-R-234	6	
HP-R-236	7	
HP-R-3236	8	
HP-R-3238	9	
HP-R-3240	10	

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UNIT II  
TP 360/1C  
Enclosure 5  
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