CALIBRATION RECORDS

FOR INSTRUMENTS USED FOR

RADIOLOGICAL SURVEYS

JUNE 27, 2000

VOLUME 6 OF 7

WESTINGHOUSE ELECTRIC CORPORATION

BLAIRSVILLE, PA

CALIBRATION RECORDS

FOR INSTRUMENTS USED FOR

RADIOLOGICAL SURVEYS

TABLE OF CONTENTS

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Purpose

The Westinghouse Blairsville Site utilized nuclear materials during the period of the mid to late 1950's to the early part of the 1960's. Work was performed both under licenses with the atomic Energy Commission and for the Bettis Atomic Power Laboratory. Although all work ceased during the 1960's, subsequent radiological surveys and investigations, starting in 1993, established that some residual radioactivity, primarily in underground piping and subsurface soil contamination, existed on the site. During the period of 1993 through the present, additional remediation work and radiological surveys have been conducted to establish that the site can be released for unrestricted use. This series of reports documents the results of the final status radiological surveys subsequent to the various remediation efforts.

Scope

This report compiles information on the calibration of the radiological survey instruments, which were used to measure the radiation levels presented in the other reports issued for this project. In each report, which documents a final radiological survey, the data sheets that record the measured radiation levels also provide specific information with respect to the specific instrument used to make the measurement. This report provides the necessary information to establish the entire calibration history of each specific instrument. These instruments have been used for the Westinghouse sites at Blairsville, Cheswick, and Forest Hills (now Viacom, Inc.). Therefore these calibration records are applicable to all these sites.

Discussion

All instruments used for radiological surveys on this project were calibrated on a frequency depending on the specific instrument. The calibration history for every instrument used on the project is summarized in appendix A, which cover the years 1993 through 1999. These summaries also provide a reference to a "Code Number." Included with this report in Appendix B are sheets labeled "Code Number 1" through "Code Number 70." Each of these "codes" incorporates the calibration records as appropriate for the specific instrument.

The certification sheets for each of the source standards used by the project to calibrate the instruments for conversion of CPM to DPM are included in Appendix C. Other calibrations were performed at other licensed operations as noted by the calibration records and no information on Source Certification is provided here.

CALIBRATION RECORDS

FOR INSTRUMENTS USED FOR

RADIOLOGICAL SURVEYS

List of Volume Contents

CODE NUMBER 26

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.#
Work Order # I-99-03-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210AL Serial #

Calibration Method ^{137}Cs Pulser s/n 301
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	Reset	100 CPM	All Calibrations Btn. + & - 10%
2		200	Mechanical Zero	200	
3		400		395	Battery: OK
4					
5	X10	1K		1K	Mechanical Zero: OK
		2K		2K	
		4K		3.95K	Reset: OK
8					
9	X100	10K		10K	Response: OK
10		20K		20K	
11		40K		39.5K	Audio: OK
12					
13					Alarm: OK
14					
15					^{99}Tc Efficiency = 12.6%
16					
17					1 mR/hr ≅ 3.1K CPM in ^{137}Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 03-24-99
Next Calibration Due: 06-24-99

I certify that the above information is correct:
Administrative Coordinator — Date: 03-24-99

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-12-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210AL Serial # _____

Calibration Method Pulser s/n 120935
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					High Voltage = 906 Volts
16					
17					^{99}Tc Efficiency = 12.6%
18					
19					1 mR/hr = 3.1K CPM in ^{137}Cs field
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by _____ (Signed)
Calibration Date: 12-14-98
Next Calibration Due: 03-14-99

I certify that the above information is correct:
_____ 12-14-98
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-07-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210Al Serial #

Calibration Method ^{99}Tc Pulser s/n 101500
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	39K	39K	Audio: Ok
12					
13					Alarm: OK
14					
15					^{99}Tc Efficiency = 12.6%
16					
17					1 mR/hr ≅ 3.1K CPM in ^{137}Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 08-04-98
Next Calibration Due: 11-04-98

I certify that the above information is correct:
Administrative Coordinator
08-04-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-03-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210 Serial # _____

Calibration Method ^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256
Pulser s/n 301

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	105 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	205	200	
3		400	405	395	Battery: OK
4					
5	X10	1K	1.5K	1K	Mechanical Zero: OK
6		2K	2.3K	2K	
7		4K	4.4K	3.9K	Reset: OK
8					
9	X100	10K	11K	10K	Response: OK
10		20K	22K	20K	
11		40K	44K	39K	Audio: OK
12					
13					Alarm: OK
14					
15					^{99}Tc Efficiency = 12.6%
16					
17					1 mR/hr = 3.2K CPM in ^{137}Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 04-03-98
Next Calibration Due: 07-03-98

I certify that the above information is correct:
Theresa M Allen — 04-03-98
Administrative Coordinator — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210AL Serial #

Calibration Method ~~99~~Tc Pulser s/n 101500
~~137~~Cs s/n S1256
~~137~~Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10.5K	10.5K	Reset: OK
10		20K	21K	21K	
11		40K	42K	42K	Alarm: OK
12					
13					Speaker: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					1 mR/hr = 3.4K CPM in ~~137~~Cs field
18					
19					~~99~~Tc Efficiency = 13.3%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 12-01-97
Next Calibration Due: 03-01-98

I certify that the above information is correct:
Administrative Coordinator
12-01-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-06-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210 Serial # _____

Calibration Method ^{137}Cs Pulser s/n 301
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	205	205	
3		400	405	405	Battery: OK
4					
5	X10	1K	1.1K	1K	Mechanical Zero: OK
6		2K	2.1K	2K	
7		4K	4.25K	3.9K	Reset: OK
8					
9	X100	10K	10.5K	10K	Response: OK
10		20K	21.5K	20K	
11		40K	42K	39.5K	Audio: OK
12					
13					Alarm: OK
14					
15					1 mR/hr = 3.3K CPM in ^{137}Cs field
16					
17					^{99}Tc Efficiency = 13.3%
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 07-16-97
Next Calibration Due: 10-16-97

I certify that the above information is correct:
Administrative Coordinator
07-16-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-12-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210 Serial #

Calibration Method Pulser s/n 318
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	80 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	160	200	
3		400	320	395	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	3.9K	3.9K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	39.5K	39.5K	Audio: OK
12					
13					1 mR/hr ≈ 3.3K CPM in ^{137}Cs field
14					
15					^{99}Tc Efficiency = 13.3%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-09-97
Next Calibration Due: 04-09-97

I certify that the above information is correct:
Teresa M Orr 01-09-97
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-08-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210 Serial # _____

Calibration Method Pulser s/n 301
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	105 CPM	105 CPM	All Calibrations Btn. + & - 10%
2		200	205	205	
3		400	400	400	Battery: OK
4					
5	X10	1K	1.1K	1K	Mechanical Zero: OK
6		2K	2.2K	2K	
7		4K	4.15K	3.9K	Reset: OK
8					
9	X100	10K	10.5K	10.5K	Response: OK
10		20K	20.5K	20.5K	
11		40K	39.5K	39.5K	Audio: OK
12					^{99}Tc Efficiency = 13.3%
13					
14					1 mR/hr ≈ 3.2K CPM in ^{137}Cs field
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 08-30-96
Next Calibration Due: 11-30-96

I certify that the above information is correct:
Administrative Coordinator 08-30-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-04-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial #

Calibration Method Pulser s/n 101500
^{230}Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	205	205	
3		400	410	410	Mechanical Zero: OK
4					AC Only
5	X10	1K	1K	1K	Reset: OK
6		2K	2K	2K	Audio: OK
7		4K	4.05K	4.05K	Alarm: OK
8					HV = 1270Volts
9	X100	10K	10K	10K	
10		20K	20.5K	20.5K	Check source ≅ 24K CPM
11		40K	41K	41K	
12					^{230}Th Efficiency = 12.6%
13	X1K	100K	100K	100K	
14		200K	200K	200K	
15		400K	400K	400K	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 04-09-97
Next Calibration Due: 07-09-97

I certify that the above information is correct:
Administrative Coordinator — 04-09-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-12-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial #

Calibration Method ^{230}Th Pulser s/n 318
^{230}Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	410	410	Battery: N/A
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4.05K	4.05K	Reset: OK
8					
9	X100	10K	10K	10K	Audio: OK
10		20K	20.5K	20.5K	
11		40K	41.5K	41.5K	Alarm: OK
12					
13	X1K	100K	100K	100K	Check source reads ≅ 23K CPM
14		200K	200K	200K	^{230}Th Efficiency = 12.6%
15		400K	400K	400K	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-09-97
Next Calibration Due: 04-09-97

I certify that the above information is correct:
Administrative Coordinator
01-09-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-08-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial #

Calibration Method ^{230}Th Pulser s/n 101500
^{230}Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	195	195	
3		400	400	400	Battery: N/A
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	1.95K	1.95K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	19.5K	19.5K	
11		40K	40K	40K	Speaker: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1268 Volts
14		200K	195K	195K	
15		400K	400K	400K	^{230}Th Efficiency = 12.1%
16					
17					Check source ^{239}Pu ≈ 23K CPM
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 09-04-96
Next Calibration Due: 12-04-96

I certify that the above information is correct:
Administrative Coordinator
09-04-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-06-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial #

Calibration Method 230Pulser s/n 101500
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	195	195	
3		400	400	400	Battery: N/A
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	1.95K	1.95K	
7		4K	4K	4K	Audio: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	19.5K	19.5K	
11		40K	40K	40K	high Voltage = 1275 Volts
12					
13	X1K	100K	100K	100K	Check soruce reads ≈ 23K CPM
14		200K	195K	195K	
15		400K	400K	400K	230Th Efficiency = 12.1%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 05-30-96
Next Calibration Due: 08-30-96

I certify that the above information is correct:
Administrative Coordinator
05-30-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-03-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210AL Serial #

Calibration Method Pulser s/n 120935
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Alarm: OK
12					
13					Speaker: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					1 mR/hr ≈ 3.2K CPM in ^{137}Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 03-11-96
Next Calibration Due: 06-11-96

I certify that the above information is correct:
Administrative Coordinator
03-11-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MM-14027-S
Work Order # I-95-11-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model SPG-14 Serial Number 4469
External Probe(s) HP210AL Serial # _____

Calibration Method Pulser s/n 200
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1.1K	1K	Mechanical Zero: OK
6		2K	2.2K	2K	
7		4K	4.4K	4K	Response: OK
8					
9	X100	10K	10.5K	10K	Reset: OK
10		20K	21K	20K	
11		40K	42K	40K	Alarm: OK
12					
13					Test Pulse = 3.6K CPM
14					
15					Speaker: OK
16					
17					1 mR/hr @ 3.3K CPM in ^{137}Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 12-05-95
Next Calibration Due: 03-05-96

I certify that the above information is correct:
_____ 12-05-95
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-08-211

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) _____ Serial # _____

Calibration Method 137Cs Pulser s/n 101500
137Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery Check: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Test Pulse = 3.6K CPM
14					
15					Alarm: OK
16					
17					1 mR/hr ≈ 3.5K CPM in 137Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 08-24-95
Next Calibration Due: 11-24-95

I certify that the above information is correct:
_____ Administrative Coordinator
08-24-95 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-05-220

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210AL Serial # _____

Calibration Method ^{137}Cs Pulser s/n 101500
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	110 CPM	100 CPM	All Calibrations btn. + & - 10%
2		200	220	200	
3		400	440	400	Battery: OK
4					
5	X10	1K	1.1K	1K	Mechanical Zero: OK
6		2K	2.2K	2K	
7		4K	4.4K	4K	Response: OK
8					
9	X100	10K	10.5K	10K	Reset: OK
10		20K	21K	20K	
11		40K	42K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulser = 3.6K CPM
16					
17					1 mR/hr ≈ 3.5K CPM in ^{137}Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 05-16-95
Next Calibration Due: 08-16-95

I certify that the above information is correct:
_____ 05-16-95
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-94-11-218

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210 Serial # _____

Calibration Method ^{137}Cs Pulser s/n 101500
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	105 CPM	105 CPM	All Calibrations Btn. + & - 10%
2		200	215	215	
3		400	420	420	Battery Check: OK
4					
5	X10	1K	1.05K	1.05K	Mechanical Zero: OK
6		2K	2.15K	2.15K	
7		4K	4.2K	4.2K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20.5K	20.5K	
11		40K	40K	40K	Alarm: OK
12					
13					Speaker: OK
14					
15					1 mR/hr = 3.5K CPM in ^{137}Cs field
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 11-29-94
Next Calibration Due: 02-28-95

I certify that the above information is correct:
_____ Administrative Coordinator
11-29-94 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-06-231

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210 Serial #

Calibration Method Pulser s/n 301
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery Check: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	3.9K	3.9K	Alarm: OK
8					
9	X100	10K	10K	10K	Audio: OK
10		20K	20K	29K	
11		40K	39K	39K	Reset: OK
12					
13					Response: OK
14					
15					1 mR/hr = 3500 CPM in ^{137}Cs fiel
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 06-28-94
Next Calibration Due: 09-28-94

I certify that the above information is correct:
Theresa M. DeBar — Administrative Coordinator
06-28-94 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 4469
External Probe(s) HP210 Serial #

Calibration Method Pulser s/n 318
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	Initial	100 CPM	All Calibrations Btn. + & - 10%
2		200	Calibration	205	
3		400		400	Battery Check: OK
4					
5	X10	1K		1.05K	Mechanical Zero: OK
6		2K		2.15K	
7		4K		4.2K	Response: OK
8					
9	X100	10K		10.5K	Audio: OK
10		20K		21K	
11		40K		40.5K	Test Pulse = 3.8K CPM
12					
13					Alarm: OK
14					
15					1 mR/hr = 3.7K CPM in ^{137}Cs field
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 03-07-94
Next Calibration Due: 06-07-94

I certify that the above information is correct:
Administrative Coordinator
03-07-94
Date

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
WEC	
AVE "A" + WEST ST.	SAME
PITTSBURGH PA 15230	

CONTACT: L. Smith PHONE: ( ) DATE: 11/23/13 P.O.# MA 89320-S

Receiving Comments:

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. EBERLINE Model # RM-14 Serial # 1169

Detector 11 Model # HP-210AC Serial # EXTERNAL

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: JHB

scale	source	reading	scale	source	reading	scale	source	reading
	~~mR/hr~~ cpm			~~mR/hr~~ cpm			~~mR/hr~~ cpm	
	100	101		1000	1000		10 000	100 00
X1			X10			X100		
	400	400		4000	4000		40 000	40100

Calibration Source: [X] GAMMA [ ] ALPHA [ ] BETA [X] ELECTRONIC [ ] OTHER

Description: [X] ra-226 [ ] cs-137 [ ] pu-239 [ ] sr-90 [X] mp-1

RESPONSE GRAPH N/A

TEMP/HUMIDITY 69.7°F/ 33 %

PROBE EFFICIENCIES

Alpha ~ % Beta ~ %

Check Source Reading N/A

Battery Check Reading 350 cpm

Detector Angle PERPENDICULAR

Corrections N/A ±10% ELECTRONIC

Maintenance & Comments BATT OK AUDIO OK ALARM OK HV OK

COUNT RATE EFF = 3900 cpm / mR/hr

CALIBRATION		40.00	
LABOR			
MATERIALS &			
SALES			
SHIPPING	UPS	(1) UNIT	13.17

QA Dept. JB Warranty

Shipping UPS Date 11/23/13

Pick-Up Date / /

This Certificate Expires In 3 Months

Re-Calibrate On Or Before 2/23/14

Job ID #

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
IUEC Ave. A & West 9. Ligh., IA 15118	SAME

CONTACT: J. Flanigon PHONE: ( ) ____ DATE: 4/13/93 P.O.# MA2933005

Receiving Comments: Calibration.

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. Eberline Model # RM-14 Serial # 4469
Detector " Model # HP-210AL Serial # P0GM

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: J. Douglas

scale	source	reading	scale	source	reading	scale	source	reading
	~~mR/hr~~ cpm			~~mR/hr~~ cpm			~~mR/hr~~ cpm	
	100	100		1000	1010		10000	10000
X1	400	405	X10	4000	4050	X100	40000	39900
	Eff	≅ 3900	cpm/	mR/HR	RA-226 Gamma			

Calibration Source: [X] GAMMA [ ] ALPHA [ ] BETA [X] ELECTRONIC [ ] OTHER

Description: [X] ra-226 [ ] cs-137 [ ] pu-239 [ ] sr-90 [X] mp-1/510

RESPONSE GRAPH N/A

TEMP/HUMIDITY 73.7°F/ 35 %

PROBE EFFICIENCIES N/A
Alpha ____ % Beta ____ %
Check Source Reading N/A
Battery Check Reading 340 cpm
Detector Angle Perpendicular
Corrections N/A ± 10% Electronic

Maintenance & Comments Charged Battery OK, HV-OK.
Tested, Inspected & Calibrated

CALIBRATION	Montreal		40.00
LABOR			
MATERIALS &			
SALES			
SHIPPING	UPS	(4) Units	14.00

QA Dept. SW Warranty ____
Shipping UPS Date 4/13/93
Pick-Up ____ Date / /
This Certificate Expires In 3 Months
Re-Calibrate On Or Before 7/13/93
Job ID # 52125

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

MA89328

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
W. E. C. Forest Hills Site Ave. A, 4 West St. Pgh, PA 15112	SAME

CONTACT: T. Flanigan PHONE: (—) 371-4151 DATE: 1/12/93 P.O.# MA893285S

Receiving Comments: Calibration.

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. Eberline Model # RM-14 Serial # 4469
Detector " Model # HP-210 Serial # PW6M

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: J. Douglas

scale	source	reading	scale	source	reading	scale	source	reading
	~~mR/hr~~ cpm			~~mR/hr~~ cpm			~~mR/hr~~ cpm	
				1000	1000		10000	10000
	100	100	X10	11000	11050	X100	40000	41000
X1	400	1104						
	Eff ≅	3900	cpm/MR/HR	Ra-226		Gamma		

Calibration Source: [X] GAMMA [ ] ALPHA [ ] BETA [X] ELECTRONIC [ ] OTHER

Description: [X] ra-226 [ ] cs-137 [ ] pu-239 [ ] sr-90 [X] mp-1/500

RESPONSE GRAPH N/A

PROBE EFFICIENCIES N/A

Alpha ____ % Beta ____ %
Check Source Reading ( ) N/A
Battery Check Reading 860 cpm
Detector Angle perpendicular
Corrections N/A ± 10% / Exp. 1

TEMP/HUMIDITY 70.5°F / 23 %

Maintenance & Comments Charged Battery OK, HV-OK.

Tested Inspected & Calibrated

CALIBRATION	Contract		40.00
LABOR			
MATERIALS & SALES			
SHIPPING	UPS	—	—

QA Dept. JH Warranty ____
Shipping UPS Date 1/12/93
Pick-Up ____ Date ____
This Certificate Expires In 6 Months
Re-Calibrate On Or Before 7/12/93
Job ID # 51963

JBS 1-13-93

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

Rec'd.
9-30-92
U.P.S.
186-596

Applied HEALTH PHYSICS inc.
2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

39#

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
Westinghouse Corp.	SAME
Forest Hills Site	
Ave. A & West St.	
Pgh., PA 15112	

CONTACT: Jim Flanigan PHONE: (—) — — DATE: 9/28/92 P.O.# 51-03026-H

Receiving Comments: Calibration.

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. Eberline Model # RM-14 Serial # 4469
Detector 11 Model # HP-210 Serial # 10KM

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: J. Douglas

scale	source	reading	scale	source	reading	scale	source	reading
	~~mR/hr~~ cpm			~~mR/hr~~ cpm			~~mR/hr~~ cpm	
	100	100	X10	1000	1000	X100	10,000	10000
XL	1/100	400		1/100	4000		40,000	39500

EH & S 3200 cpm / mR/HR for RA-226 Gamma

Calibration Source: [X] GAMMA [ ] ALPHA [ ] BETA [X] ELECTRONIC [ ] OTHER

Description: [X] ra-226 [ ] cs-137 [ ] pu-239 [ ] sr-90 [X] mp-1/500 [ ]

RESPONSE GRAPH N/A

TEMP/HUMIDITY 73.5 °F/ 49 %

PROBE EFFICIENCIES N/A
Alpha — % Beta — %
Check Source Reading N/A
Battery Check Reading 360 cpm
Detector Angle Perpendicular
Corrections N/A ± 10% Elect.

Maintenance & Comments Charged Battery OK, HV-OK @ 900 Volts.

Tested, Inspected & Calibrated

CALIBRATION	Contract	—	40.00
LABOR			
MATERIALS & SALES			
SHIPPING	UPS	(1) Units	## 15.39

QA Dept. DS Warranty —
Shipping UPS Date 9/28/92
Pick-Up — Date — —
This Certificate Expires In 6 Months
Re-Calibrate On Or Before 3/28/93
Job ID # 51758

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

Portable Instrumentation Inventory and Calibration

Instrument Type RM-14 with HP210 AL Probe Serial # 4469

Inventory Date	Location	Calibration Date
9-28-92	H.P. Office	9-28-92
Taken out of service for calibration 12-28-92		
1-12-93	Applied H. Physics	1-12-93
Returned to Service 1-15-93		
4-13-93	H.P. Office	4-13-93

Inventory Date	Location	Calibration Date

CODE NUMBER 27

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-98-09-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial # _____

Calibration Method ^{230}Th Pulser s/n 120935
^{230}Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: N/A AC ONLY
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1272 Volts
14		200K	200K	200K	
15		400K	400K	400K	^{230}Th Efficiency = 11.5%
16					
17					Check source reads = 23K CPM
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by _____ (Signed)
Calibration Date: 10-26-98
Next Calibration Due: 01-26-99

I certify that the above information is correct:
_____ Administrative Coordinator
10-26-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-06-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial #

Calibration Method 230Pulser s/n 101500
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	405	405	Battery: N/A (AC only)
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Speaker: OK
10		20K	20.5K	20.5K	
11		40K	41K	41K	Alarm: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1272 Volts
14		200K	200K	200K	
15		400K	400K	400K	230Th Efficiency = 11.5%
16					
17					check source reads = 22K CPM
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 06-10-98
Next Calibration Due: 10-10-98

I certify that the above information is correct:
Administrative Coordinator
06-10-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-03-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial # _____

Calibration Method 230Pulser s/n 301
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	405	405	Battery: N/A AC Only
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Audio: OK
10		20K	20K	20K	
11		40K	42K	42K	Alarm: OK
12					
13	X1K	100K	100K	100K	230Th Efficiency = 11.5%
14		200K	200K	200K	
15		400K	400K	400K	Check source reads ≈ 26K CPM
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owen
(Signed)
Calibration Date: 04-03-98
Next Calibration Due: 07-03-98

I certify that the above information is correct:
Administrative Coordinator — 04-03-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial # _____

Calibration Method ^{230}Th Pulser s/n 101500
^{230}Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	410	410	Mechanical Zero: OK
4					
5	X10	1K	1K	1K	Reset: OK
6		2K	2K	2K	
7		4K	4.05K	4.05K	Alarm: OK
8					
9	X100	10K	10K	10K	High Voltage = 1270 Votls
10		20K	20K	20K	
11		40K	41K	41K	Speaker: OK
12					
13	X1K	100K	100K	100K	Check source reads = 26K CPM
14		200K	200K	200K	
15		400K	400K	400K	^{230}Th Efficiency = 12.1%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 12-01-97
Next Calibration Due: 06-01-98

I certify that the above information is correct:
_____ Administrative Coordinator
12-01-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-01-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial #

Calibration Method 230 Pulser s/n 318
Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: N/A AC Only
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Audio: OK
10		20K	20K	20K	
11		40K	40K	40K	Alarm: OK
12					
13	X1K	100K	100K	100K	^{99}Tc Efficiency = 12.1%
14		200K	200K	200K	
15		400K	400K	400K	Check source reads ~25K CPM on contact
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-24-96
Next Calibration Due: 04-24-96

I certify that the above information is correct:
Theresa M. Miller
Administrative Coordinator
01-24-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20 Serial Number 1986
External Probe(s) AC-3-7 Serial #

Calibration Method 230Pulser s/n 101500
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: AC ONLY
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1275 Volts
14		200K	200K	200K	
15		400K	400K	400K	230Th Efficiency = 12.1%
16					
17					239Pu Check Source reads ~ 25K CPM
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 09-27-95
Next Calibration Due: 12-27-95

I certify that the above information is correct:
Administrative Coordinator 09-27-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-06-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3-7 Serial #

Calibration Method ~~230~~Th Pulser s/n 101500
~~230~~Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Mechanical Zero: OK
4					
5	X10	1K	1K	1K	AC Only - No Battery
6		2K	1.95K	1.95K	
7		4K	4K	4K	Alarm: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40.5K	40.5K	Speaker: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1275 Volts
14		200K	195K	195K	
15		400K	400K	400K	~~230~~Th Efficiency = 12.6%
16					
17					~~239~~Pu Check source ≈ 23K CPM
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 06-05-95
Next Calibration Due: 09-05-95

I certify that the above information is correct:
[signature]
Administrative Coordinator

06-05-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-94-12-225

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3 Serial #

Calibration Method 230Pulser s/n 318
Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	95 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	190	200	
3		400	390	400	Battery Check: N/A
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Audio: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	High Voltage = 1280 Volts
12					
13	X1K	100K	100K	100K	230Th Efficiency = 12.6%
14		200K	200K	200K	
15		400K	400K	400K	Check source reads = 25K CPM
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-09-95
Next Calibration Due: 04-09-95

I certify that the above information is correct:
Theresa M DeBas — 01-09-95
Administrative Coordinator — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-08-218

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20 Serial Number 1986
External Probe(s) AC-3 Serial #

Calibration Method 230 Pulser s/n 101500
Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	95 CPM	95 CPM	All Calibrations Btn. + & - 10%
2		200	192	192	
3		400	390	390	Mechanical Zero: OK
4					
5	X10	1K	950	950	Speaker: OK
6		2K	1.92K	1.92K	
7		4K	3.9K	3.9K	Alarm: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40.5K	40.5K	High Voltage = 1275 Volts
12					
13	X1K	100K	98K	98K	
14		200K	195K	195K	
15		400K	400K	400K	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 08-16-94
Next Calibration Due: 11-16-94

I certify that the above information is correct:
Administrative Coordinator
08-16-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-05-222

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20 Serial Number 1986
External Probe(s) AC-3 Serial #

Calibration Method 230Pulser s/n 101500
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	95 CPM	95 CPM	All Calibrations Btn. + & - 10%
2		200	190	190	
3		400	390	390	Battery Check: N?A
4					
5	X10	1K	950	950	Mechanical Zero: OK
6		2K	1.9K	1.9K	
7		4K	3.95K	3.95K	Speaker: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	20K	20K	
11		40K	40K	40K	Reset: OK
12					
13	X1K	100K	95K	95K	Check soruce = 23K CPM
14		200K	190K	190K	
15		400K	400K	400K	230Th Efficiency = 13.2%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 05-11-94
Next Calibration Due: 08-11-94

I certify that the above information is correct:
[signature] 05-11-94
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

#27

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14016-H
Work Order # I-94-01-224

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1986
External Probe(s) AC-3 Serial #

Calibration Method 230Pulser s/n 318
230Th s/n 11623
Electrostatic s/n ES-17225

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	95 CPM	95 CPM	All Calibrations Btn. + & - 10%
2		200	190	190	
3		400	390	390	Battery Check: N/A AC Only
4					
5	X10	1K	950	950	Mechanical Zero: OK
6		2K	1.9K	1.9K	
7		4K	3.95K	3.95K	Reset: OK
8					
9	X100	10K	10K	10K	Audio: OK
10		20K	20K	20K	
11		40K	41K	41K	Alarm: OK
12					
13	X1K	100K	95K	95K	High Voltage = 1280 Volts
14		200K	190K	140K	
15		400K	398K	398K	230Th Efficinecy = 13.2%
16					
17					Check source reads = 23K CPM
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 01-31-94
Next Calibration Due: 04-30-94

I certify that the above information is correct:
[signature] 01-31-94
Administrative Coordinator Date

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
WEC Ave. "A" & West St. Kahn PA 15017	SAME

CONTACT: L. Smith PHONE: (——) —— DATE: 10/8/93 P.O.# MA29328-S

Receiving Comments: Calibration.

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. Eberline Model # RM-20-1 Serial # 1986
Detector " Model # HC-3 Serial # 407610

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: J. Douglas

scale	source	reading	scale	source	reading	scale	source	reading
	mR/hr cpm			mR/hr cpm			mR/hr	
	100	98		10000	9995			
X1	400	392	X10	40000	40000			
	1000	995		100000	99995			
X10	4000	3995	X100	400000	400000			

Rec 10-13-93 UPS 186-596 13#

Calibration Source: [ ] GAMMA [X] ALPHA [ ] BETA [X] ELECTRONIC [ ] OTHER

Description: [ ] ra-226 [ ] cs-137 [X] pu-239 [ ] sr-90 [X] mp-1 (Sw) [ ]

RESPONSE GRAPH N/A

TEMP/HUMIDITY 70.1°F/ 37 %

PROBE EFFICIENCIES Ave. Here to Tec 2π

Alpha 21 % Beta —— %
Check Source Reading 15000 cpm
Battery Check Reading N/A
Detector Angle perpendicular
Corrections N/A ±10% Electronic

Maintenance & Comments No Battery Operation, Audio-OK, Alarm-OK, HV Set @ 1350 IS = 8 mV, Mech Window on HC-3 has' shock Repair spots / No Light Leaks. Tested, Inspected & Calibrated

CALIBRATION	Contract		40.00
LABOR			
MATERIALS &			
SALES			
SHIPPING	UPS	0 Units	#11.39

QA Dept. SD Warranty ——
Shipping UPS Date 10/8/93
Pick-Up —— Date —/—/—
This Certificate Expires In 3 Months
Re-Calibrate On Or Before 1/8/94
Job ID # 52079

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

H&S FORM #1106
LRD - 5/88

COUNTRATE METER CALIBRATION
HP PROCEDURE 12

CALIBRATED BY L. SMITH

INSTRUMENT MODEL : ☐ RM-14 ☐ RM-15 ☐ RM-19 ☒ RM-20-1

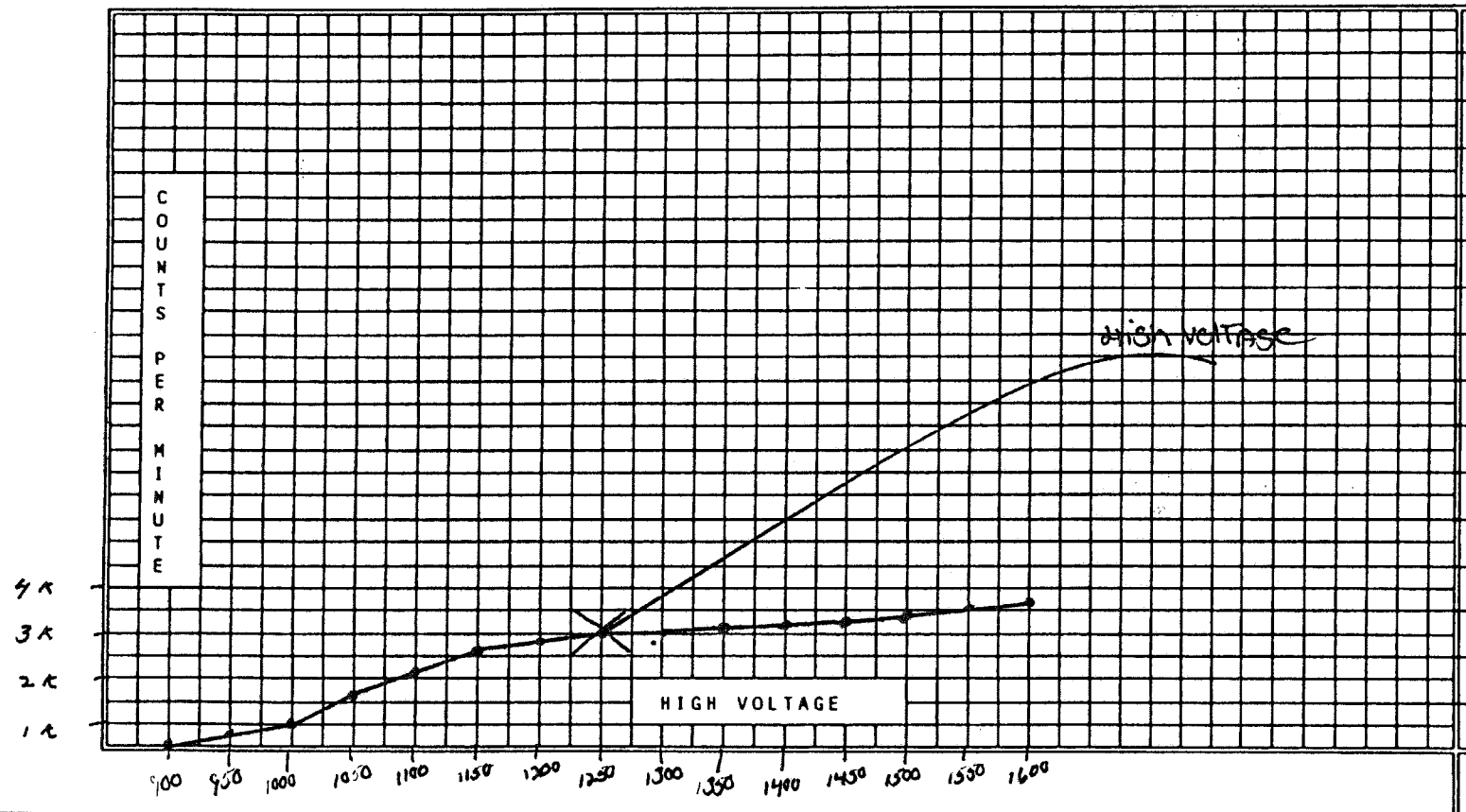
PROBE : ☐ HP-177C ☐ HP-260 ☐ HP-240 ☒ AC-3

LOCATION LARSC | SERIAL NO. 1986 | CAP. NO.

WINDOW : ☐ 1.5 mg/cm² ☐ 7 mg/cm² ☐ 30 mg/cm²

SOURCE NUMBER & ACTIVITY : ☐ Pu 239 NO. DPM ☑ Pu 239 NO. 5308 DPM ☐ Cs 137 NO. 84-15 DPM

☐ OTHER ☐ Cs 137 NO. 234 9.78 mCi ☐ Sr 90 NO. 9129 13,200 DPM ☐ Bi 210 2.63*10-5 mCi



HV	CTS	HV	CTS
900	0		
950	400		
1000	1000		
1050	1700		
1100	2300		
1150	2700		
1200	2800		
1250	3000		
1300	3000		
1350	3200		
1400	3100		
1450	3100		
1500	3400		
1550	3500		
1600	3600		

QUARTERLY CHECKS

	DATE	HV	1st SOURCE NO. / CTS	2nd SOURCE NO. / CTS	SCALE
1st	10-12-92	1250	7345 - 200	7346 - 22,500	x10 / x100
2nd	1-12-93	1250	7345 - 200	7346 - 22,000	x10 / x100
3rd	4-14-93	1250	7345 - 200	7346 - 22,500	x10 / x100
4th	7-19-93	1250	7345 - 200	7346 - 21,500	x10 / x100

ANNUAL PLATEAU DATA

DATE	10-12-92
SOURCE NO.	5308
OPERATING VOLTS	1250
INSTRU. BKG.	45 cpm
ALARM SET POINT	100 cpm

CODE NUMBER 28

REPORT #001

(28)

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-04-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1987
External Probe(s) AC-3-7 Serial #

Calibration Method 230Pulser s/n 101500
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	405	405	Battery: N/A (AC Only)
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4.05K	4.05K	Reset: OK
8					
9	X100	10K	10K	10K	Speaker: OK
10		20K	20K	20K	
11		40K	40.5K	40.5K	Alarm: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1132 Volts
14		200K	200K	200K	
15		400K	405K	405K	230Th Efficiency = 10.9%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 05-11-98
Next Calibration Due: 08-11-98

I certify that the above information is correct:
_____ Administrative Coordinator
05-11-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-01-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1987
External Probe(s) AC-3-7 Serial #

Calibration Method 230Pulser s/n 101500
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	410	410	Battery: AC Only
4					
5	X10	1K	1K	1K	Reset: OK
6		2K	2K	2K	
7		4K	4.05K	4.05K	Audio: OK
8					
9	X100	10K	10K	10K	HV = 1133 Volts
10		20K	20K	20K	
11		40K	40.5K	40.5K	Alarm: OK
12					
13	X1K	100K	100K	100K	230Th Efficiency = 10.6%
14		200K	200K	200K	
15		400K	400K	400K	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 01-26-98
Next Calibration Due: 04-26-98

I certify that the above information is correct:
Administrative Coordinator
01-26-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1987
External Probe(s) AC-3-7 Serial #

Calibration Method ~~230~~ Pulser s/n 301
Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	405	405	Battery: N/A AC Only
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	~~230~~ Th Efficiency = 10.1%
14		200K	200K	200K	
15		400K	400K	400K	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 09-22-97
Next Calibration Due: 12-22-97

I certify that the above information is correct:
Administrative Coordinator — 09-22-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1987
External Probe(s) AC-3-7 Serial #

Calibration Method 230Pulser s/n 101500
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	405	405	Battery: N/A AC Only
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Audio: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Alarm: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1135 Volts
14		200K	200K	200K	
15		400K	400K	400K	230Th Efficiency = 12.1%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 03-04-97
Next Calibration Due: 06-04-97

I certify that the above information is correct:
Administrative Coordinator
03-04-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-08-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1987
External Probe(s) AC-3-7 Serial #

Calibration Method ^{230}Th Pulser s/n 101500
^{230}Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: N/A
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1132 Volts
14		200K	200K	200K	
15		400K	400K	400K	^{230}Th Efficiency = 12.1%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 09-04-96
Next Calibration Due: 12-04-96

I certify that the above information is correct:
Administrative Coordinator
09-04-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-06-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1987
External Probe(s) AC-3-7 Serial #

Calibration Method ~~230~~Pulser s/n 101500
~~230~~Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response: Before Calib.	Instrument Response: After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	410	405	Battery: N/A
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Audio: OK
10		20K	20K	20K	
11		40K	40K	40K	Alarm: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1138 Volts
14		200K	200K	200K	
15		400K	400K	400K	~~230~~Th Efficiency = 12.9%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 05-30-96
Next Calibration Due: 08-30-96

I certify that the above information is correct:
Administrative Coordinator — Date: 05-30-96

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1987
External Probe(s) AC-3-7 Serial #

Calibration Method 230Pulser s/n 298 & 12093
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	405	405	Battery: AC Only
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Alarm: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1135 Volts
14		200K	200K	200K	
15		400K	400K	400K	230Th Efficiency = 12.9%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 01-10-96
Next Calibration Due: 04-10-96

I certify that the above information is correct:
Administrative Coordinator
01-10-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20 Serial Number 1987
External Probe(s) AC-3-7 Serial #

Calibration Method 230 Pulser s/n 101500
230 Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: AC ONLY
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1138 Volts
14		200K	200K	200K	
15		400K	400K	400K	230 Th Efficiency = 12.9%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed) 09-27-95
Calibration Date: 09-27-95
Next Calibration Due: 12-27-95

I certify that the above information is correct:
Administrative Coordinator 09-27-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-06-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1987
External Probe(s) AC-3-7 Serial #

Calibration Method 230Pulser s/n 101500
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	405	405	Mechanical Zero: OK
4					
5	X10	1K	1K	1K	AC only, no battery
6		2K	2K	2K	
7		4K	4K	4K	Alarm: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13	X1K	100K	100K	100K	High Voltage = 1138 Volts
14		200K	200K	200K	
15		400K	400K	400K	230Th Efficiency = 12.9%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 06-05-95
Next Calibration Due: 09-05-95

I certify that the above information is correct:
Administrative Coordinator
06-05-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-08-218

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20-1 Serial Number 1987
External Probe(s) AC-3 Serial #

Calibration Method ~~230~~Pulser s/n 101500
~~230~~Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Mechancial Zero: OK
4					
5	X10	1K	1K	1K	Reset: OK
6		2K	2K	2K	
7		4K	4K	4K	Audio: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	20K	20K	
11		40K	40K	40K	High Voltage = 1135 Volts
12					
13	X1K	100K	100K	100K	~~230~~Th Efficiency = 13.2%
14		200K	200K	200K	
15		400K	400K	400K	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 08-26-94
Next Calibration Due: 11-26-94

I certify that the above information is correct: [signature]
Administrative Coordinator
08-26-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: ~~Avenue~~ A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-05-222

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20 Serial Number 1987
External Probe(s) AC-3 Serial #

Calibration Method 230Pulser s/n 298
230Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery Check: N/A
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Audio: OK
10		20K	20K	20K	
11		40K	40K	40K	Alarm: OK
12					
13	X1K	100K	100K	100K	230Th Efficiency = 13.2%
14		200K	200K	200K	
15		400K	400K	400K	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 05-11-94
Next Calibration Due: 08-11-94

I certify that the above information is correct:
Administrative Coordinator
05-11-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

#28

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric
Customer Address: ~~Av~~enue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14016-H
Work Order # I-94-01-224

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-20 Serial Number 1987
External Probe(s) AC-3 Serial #

Calibration Method ~~230~~Pulser s/n 318
~~230~~Th s/n 11623
Electrostatic s/n ES-17225

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	Adjusted	100 CPM	All Calibrations Btn. + & - 10%
2		200	Mechanical	200	
3		400	Zero	400	Battery Check: N/A AC Only
4					
5	X10	1K		1K	Mechanical Zero: OK
6		2K		2K	
7		4K		4K	Audio: OK
8					
9	X100	10K		10K	Alarm: OK
10		20K		20K	
11		40K		40K	High Voltage = 1250 Volts
12					
13	X1K	100K		100K	~~230~~Th Efficiency = 13.2%
14		200K		200K	
15		400K		400K	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 01-31-94
Next Calibration Due: 04-30-94

I certify ~~that~~ the above information is correct: [signature]
Administrative Coordinator — 01-31-94 Date

! IH[illegible] FORM !
! #1106 !
! LRD - 5/88 !

COUNTRATE METER CALIBRATION
HP PROCEDURE 12

CALIBRATED BY: [illegible] Shaffer

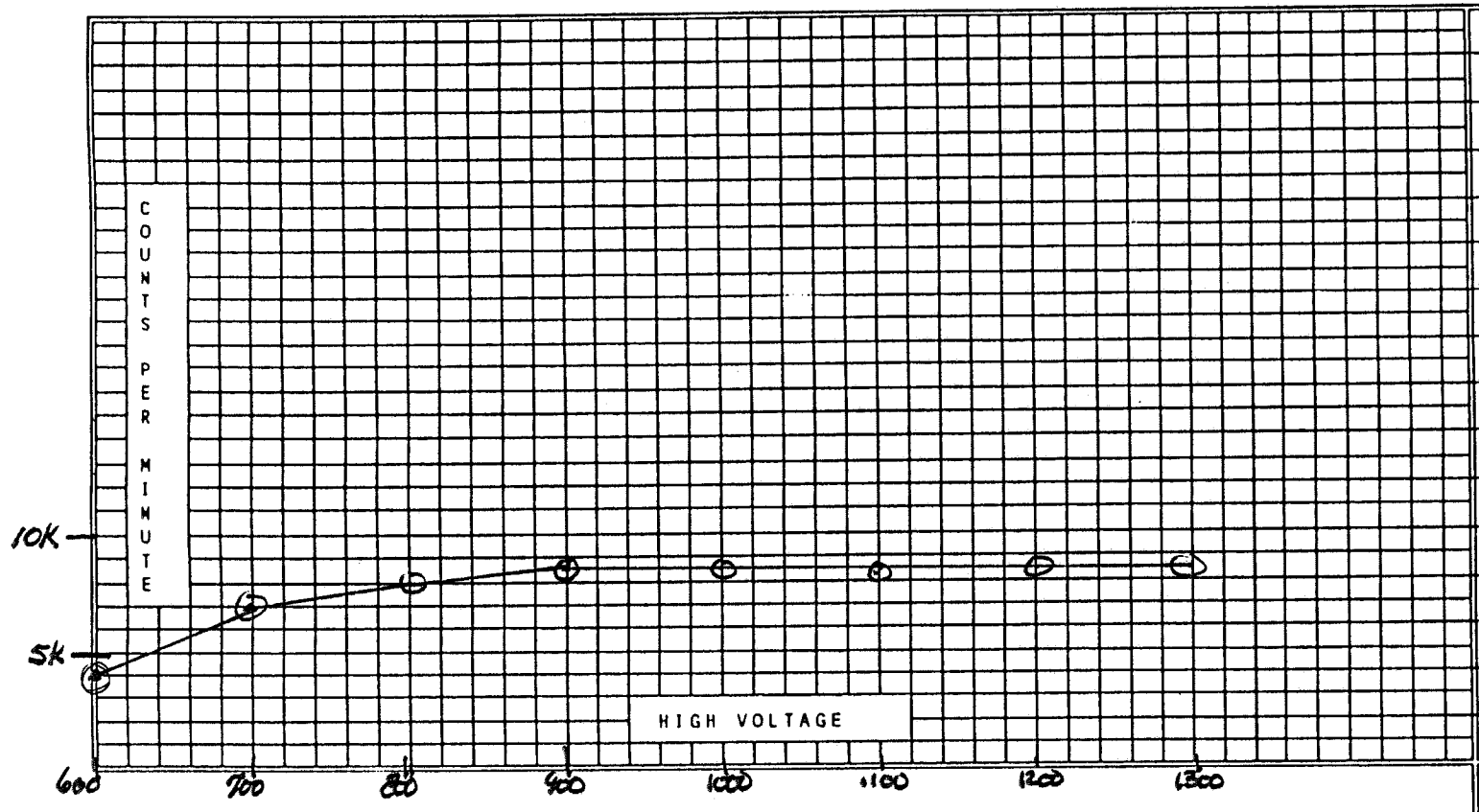
INSTRUMENT MODEL : ☐ RM-14 ☐ RM-15 ☐ RM-19 ☒ RM-20-1

PROBE : ☐ HP-177C ☒ HP-260 ☐ HP-240 ☐ AC-3

LOCATION: LARGE | SERIAL NO.: 1987 | CAP. NO.:

WINDOW : ☐ 1.5 mg/cm² ☐ 7 mg/cm² ☐ 30 mg/cm²

SOURCE NUMBER & ACTIVITY :
☐ Pu 239 NO. 243 37,400 DPM ☐ Pu 239 NO.242 5750 DPM ☐ Cs 137 NO.84-15 DPM
☒ OTHER Cs137 84.9 31,738 DPM ☐ Cs 137 NO. 234 9.78 mCi ☐ Sr 90 NO. 9129 13,200 DPM ☐ Bi 210 2.63*10-5 mCi



HV	CTS	HV	CTS
600	4000		
700	7000		
800	8000		
900	8500		
1000	8500		
1100	8500		
1200	8500		
1300	8500		

QUARTERLY CHECKS

	DATE	HV	1st SOURCE NO. / CTS	2nd SOURCE NO. / CTS	SCALE
1st	2/2/93	900	763/84 :	764/84 :	X10/X100
2nd		900	763/84 :	764/84 :	X10/X100
3rd					
4th					

ANNUAL PLATEAU DATA

DATE	2/2/93
SOURCE NO.	84-9
OPERATING VOLTS	900
INSTRU. BKG.	40-60
ALARM SET POINT	400

CODE NUMBER 29

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

#29

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-96-06-209

INSTRUMENT INFORMATION

Instrument Manufacturer DCA
Model 3032-2 Serial Number 190-884
External Probe(s) X Serial #

Calibration Method ^{137}Cs s/n 10263 200mCi
^{137}Cs s/n 20020 400Ci

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	INTERNAL				All Calibrations Btn. + & - 10%
2	X1	2 mR/hr	2 mR/hr	2 mR/hr	
3		5	5	5	Battery: OK
4		20	18	18	
5					Mechanical Zero: OK
6	X100	200	200	200	
7		500	490	490	Audio: OK
8		2,000	1,900	1,900	
9					
10	EXTERNAL	1 mR/hr	1.8K CPM	1.8K CPM	
11	For Info				
12	only				
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 07-01-96
Next Calibration Due: 10-01-96

I certify that the above information is correct:
Administrative Coordinator
07-01-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

#29

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric Corp.
Customer Address: ~~Avenue~~ A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14016-H
Work Order # I-94-01-224

INSTRUMENT INFORMATION

Instrument Manufacturer DCA
Model 3032-2 Serial Number 190-884
External Probe(s) EWGM Serial #
Calibration Method ^{137}Cs s/n 10263 200mC
Pulser s/n 318

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	INTERNAL				All Calibrations Btn. + & - 10%
2	X1	2 mR/hr	2 mR/hr	2 mR/hr	
3		5	5	5	Battery Check: OK
4		20	20	20	
5					Mechanical Zero: OK
6	X100	200	210	210	
7		500	500	500	Audio: OK
8		1,000	920	920	
9					
10	EXTERNAL				
11	X1	200 CPM	220 CPM	220 CPM	External Tube
12		400	420	420	1 mR/hr ≅ 1.7K CPM in ^{137}Cs field
13		1K	1K	1K	
14					
15	X100	20K	22K	22K	
16		40K	42K	42K	
17		100K	100K	100K	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 01-31-94
Next Calibration Due: 04-30-94

I certify that the above information is correct:
Administrative Coordinator
01-31-94
Date

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
WESTINGHOUSE ELEC. CORP	
ENERGY CENTER	
NORTHERN PIKE ROAD	
MONROEVILLE, PA. 15146	

CONTACT: LARRY SMITH PHONE: ( ) DATE: 10/26/93 P.O.# NA-9320-S

Receiving Comments: LOOSE WIRE ON PROBE

Instrument Received:	Within Toler. ±10%	±10-20%	Out Toler.	X	Requires Repair

Mfg. Inst. DYMETER Model # 3032-2 Serial # 190-884

Detector " Model # - Serial # INT & EXT 6M

	X	CALIBRATION	X	REPAIR		SALE		LOAN	By:

scale	source	reading	scale	source	reading	scale	source	reading
INT 6M	mR/hr		EXT 6M	mR/hr	CPM		mR/hr	
			X1	1	800			
X1	2	2.2						
	4.2	9.0						
X100	196	200	X100	4	75000			
	800	796						

Calibration Source:	X	GAMMA		ALPHA		BETA		ELECTRONIC		OTHER
Description:	X	ra-226		cs-137		pu-239		sr-90		mp-1

RESPONSE GRAPH N/A

TEMP/HUMIDITY 70.9°F/ 16 %

PROBE EFFICIENCIES

Alpha — % Beta — %

Check Source Reading N/A

Battery Check Reading 50 - R/HR

Detector Angle PERPENDICULAR

Corrections N/A ± 10% TO 1R/HR

Maintenance & Comments REPLACED (1) 9V, HV - OK AUDIO - OK

REPAIRED LOOSE WIRE ON EXT - 6M

CALIBRATION			40.00
LABOR	1/4 HR	40.00/HR	10.00
MATERIALS	(1) 9V	3.00 EA	3.00
&			
SALES			
SHIPPING	UPS	(1) UNIT	7.17

QA Dept. SJB Warranty

Shipping UPS Date 10/27/93

Pick-Up Date 3/ /

This Certificate Expires In __ Months

Re-Calibrate On Or Before 1/27/94

Job ID #

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

L. SMITH
RAD-LAB

UPS 7-22-93 2#

Applied HEALTH PHYSICS inc.

12986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
Westinghouse Corp. Ave. "A" & West St. Pgh, PA 15112	SAME

CONTACT: L. Smith PHONE: (—) — DATE: 7/20/93 P.O.# MA89308-S

Receiving Comments: Calibration.

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. Dosimeter Model # 3032-2 Serial # 190-884
Detector Int & Ext GMs Model # — Serial # —

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: J. Douglas

scale	source	reading	scale	source	reading	scale	source	reading
Int GM	mR/hr	mR/h	Ext GM	mR/hr	cpm		mR/hr	
	2	2.1						
X1	9.2	9.4	X1	.4	800			
	196	195					JUL 22 1993	
X100	800	790	X100	4	75000			

Calibration Source: [X] GAMMA [ ] ALPHA [ ] BETA [ ] ELECTRONIC [ ] OTHER

Description: [X] ra-226 [ ] cs-137 [ ] pu-239 [ ] sr-90 [ ] mp-1

RESPONSE GRAPH N/A

TEMP/HUMIDITY 72.0°F/ 47 %

PROBE EFFICIENCIES N/A
Alpha — % Beta — %
Check Source Reading N/A
Battery Check Reading 50+ mR/HR
Detector Angle Perpendicular
Corrections N/A ± 10% to 1-R/HR

Maintenance & Comments Battery OK, HV-OK, Audio-OK, cpm-OK.

Tested, Inspected & Calibrated

CALIBRATION	Contract		40.00
LABOR			
MATERIALS & SALES			
SHIPPING	UPS	(1) Unit	4.30

QA Dept. JD Warranty —
Shipping UPS Date 7/20/93
Pick-Up — Date — / —
This Certificate Expires In 3 Months
Re-Calibrate On Or Before 10/20/93
Job ID # 52385

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

X4651

MA893285

MA893285

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
110 E C Ave. A & West St. Pgh, PA 15112	SAME

PUT IN LAB

CONTACT: J. Flanigan PHONE: (—) — DATE: 4/13/93 P.O.# MA893285

Receiving Comments: Calibration.

Instrument Received:	X	Within Toler. ±10%		±10-20%		Out Toler.		Requires Repair

Mfg. Inst. Dosimeter Corp. Model # 3032-2 Serial # 190-884

Detector Int & Ext Dets Model # — Serial # —

	X	CALIBRATION		REPAIR		SALE		LOAN By: S. Douglas

scale	source	reading	scale	source	reading	scale	source	reading
Int Det.	mR/hr	mR/HR	Ext Det.	mR/hr	CPM		mR/hr	
	2	2.2						
X1	9.2	9.9	X1	.4	750			
X100	196	199	X100	40	25000			
	200	790						

UPS 4-14-93 21# 6092 25 7386 00

Calibration Source:	X	GAMMA		ALPHA		BETA		ELECTRONIC		OTHER
Description:	X	ra-226		cs-137		pu-239		sr-90		mp-1

RESPONSE GRAPH N/A

TEMP/HUMIDITY 73.9°F/ 35 %

PROBE EFFICIENCIES N/A

Alpha — % Beta — %

Check Source Reading N/A

Battery Check Reading 50+ mR/HR

Detector Angle Perpendicular

Corrections N/A ± 10% to 1 mR/HR

Maintenance & Comments Battery OK, HV-OK, Audio-OK, rpm-OK

Tested, Inspected & Calibrated

CALIBRATION	Contract		40.00
LABOR			
MATERIALS & SALES			
SHIPPING	UPS	—	—

QA Dept. QA Warranty —

Shipping UPS Date 4/13/93

Pick-Up — Date — / —

This Certificate Expires In 3 Months

Re-Calibrate On Or Before 7/13/93

Job ID # 52155

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
W. E. C. Forest Hills Site Ave. A & Wood St.	SAME

CONTACT: J. Flanigan PHONE: (—) 374-1451 DATE: 1/12/93 P.O.# MA893055

Receiving Comments: Calibration.

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. Dosimeter Model # 3032-2 Serial # 190-884
Detector Int/Ext GMs Model # — Serial # —

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: J. Douglas

scale	source	reading	scale	source	reading	scale	source	reading
Int GM	mR/hr	mR/HR	Ext GM	mR/hr	cpm		mR/hr	
X1	2	2.1	X1	.4	790			
	9.2	9.6						
X100	196	190	X100	40	76000			
	800	780						

Calibration Source: [X] GAMMA [ ] ALPHA [ ] BETA [ ] ELECTRONIC [ ] OTHER

Description: [X] ra-226 [ ] cs-137 [ ] pu-239 [ ] sr-90 [ ] mp-1

RESPONSE GRAPH N/A

TEMP/HUMIDITY 70.5°F/ 33 %

PROBE EFFICIENCIES N/A
Alpha — % Beta — %
Check Source Reading N/A
Battery Check Reading 50 mR/HR
Detector Angle Perpendicular
Corrections N/A ± 10%

Maintenance & Comments Battery OK, HV-OK, MM-OK.
Tested, Inspected & Calibrated

CALIBRATION	Contract		40.00
LABOR			
MATERIALS &			
SALES			
SHIPPING	UPS	—	—

QA Dept. JD Warranty —
Shipping UPS Date 1/12/93
Pick-Up — Date —/—/—
This Certificate Expires In 6 Months
Re-Calibrate On Or Before 7/12/93
Job ID # 51963

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
Westinghouse Corp.	SAME
Forest Hills Ohio	
Ave. A. & West St.	
Pgh., PA 15112	

CONTACT: Jim Flanigan PHONE: (—) ——— DATE: 9/28/92 P.O.# 64-03026-11

Receiving Comments: Calibration.

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. DosimetAR Model # 3032-2 Serial # 196-824

Detector Int/Ext 6ms Model # ——— Serial # ———

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: J. Douglas

scale	source	reading	scale	source	reading	scale	source	reading
Ra-226	mR/hr	mR/HR	Elect	~~mR/hr~~ cpm	cpm	Ra-226	mR/hr	cpm
XL	2 9.2	2.1 9.6	XL	200 1000	900 1050	X1	.4	300
X100	196 800	190 795	X100	20000 100000	20000 100500	X10	40	97000
Int 6M			Elect			Ext 6M		

Calibration Source: [X] GAMMA [ ] ALPHA [ ] BETA [X] ELECTRONIC [ ] OTHER

Description: [X] ra-226 [ ] cs-137 [ ] pu-239 [ ] sr-90 [X] mp-1 /rec [ ]

RESPONSE GRAPH N/A

TEMP/HUMIDITY 75.4 °F/ 47 %

PROBE EFFICIENCIES N/A

Alpha ——— % Beta ——— %

Check Source Reading N/A

Battery Check Reading 50 mR/HR

Detector Angle Perpendicular

Corrections N/A ± 10%

Maintenance & Comments Battery OK, HV-OK, Audio-OK.

Tested, Inspected & Calibrated

CALIBRATION	Contract		110.00
LABOR			
MATERIALS & SALES			
SHIPPING	UPS	———	———

QA Dept. SB Warranty ———

Shipping UPS Date 9/28/92

Pick-Up ——— Date ———

This Certificate Expires In 6 Months

Re-Calibrate On Or Before 3/28/93

Job ID # 51758

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

Portable Instrumentation Inventory and Calibration

Instrument Type Mini Conrad

Serial # 190-884

Inventory Date	Location	Calibration Date
9-28-92	H.P.Office	9-28-92
Taken out of service for calibration 12-28-92		
1-12-93	Applied H.Physics	1-12-93
Returned	to Service	1-15-93
4-13-93	H.P.Office	4-13-93

Inventory Date	Location	Calibration Date

CODE NUMBER 30

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.#
Work Order # I-99-03-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial #

Calibration Method ^{137}Cs Pulser s/n 301
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	395	395	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
		2K	2K	2K	
		4K	3.95K	3.95K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	39K	39K	Audio: OK
12					
13					Alarm: OK
14					
15					^{99}Tc Efficiency = 11.2%
16					
17					1 mR/hr @ 3.1K CPM in ^{137}Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 03-24-99
Next Calibration Due: 06-24-99

I certify that the above information is correct:
Administrative Coordinator
03-24-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial #

Calibration Method Pulser s/n 101500
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					1 mR/hr = 3.1K CPM in ^{137}Cs field
16					
17					^{99}Tc Efficiency = 10.5%
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 12-17-98
Next Calibration Due: 03-17-99

I certify that the above information is correct:
Administrative Coordinator
12-17-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-09-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial #

Calibration Method ^{137}Cs Pulser s/n 101500
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4.05K	4.05K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					^{99}Tc Efficiency = 10.6%
16					
17					1 mR/hr ≈ 3.2K CPM in ^{137}Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 09-14-98
Next Calibration Due: 12-14-98

I certify that the above information is correct:
Administrative Coordinator
09-14-98
Date

(39)

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-04-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial #

Calibration Method ^{137}Cs Pulser s/n 101500
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					^{99}Tc Efficiency = 10.7%
18					
19					1 mR/hr ≈ 3.2K CPM in ^{137}Cs field
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 05-11-98
Next Calibration Due: 08-11-98

I certify that the above information is correct:
Administrative Coordinator
05-11-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-01-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial # _____

Calibration Method ~~99~~Tc Pulser s/n 101500
~~137~~Cs s/n 20020 400Ci

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13					Alarm: OK
14					
15					1 mR/hr = 3.1K CPM in ~~137~~Cs field
16					
17					~~99~~Tc Efficiency = 10.5%
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 01-26-98
Next Calibration Due: 04-26-98

I certify that the above information is correct:
_____ 01-26-98
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-07-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial # _____

Calibration Method 137Cs Pulser s/n 301
137Cs s/n 10263 200mCi
99Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4.05K	4.05K	Reset: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	20K	20K	
11		40K	39.5K	39.5K	Response: OK
12					
13					Audio: OK
14					
15					99Tc Efficiency = 10.9%
16					
17					1 mR/hr ~ 3.1K CPM in 137Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 08-20-97
Next Calibration Due: 11-20-97

I certify that the above information is correct:
Administrative Coordinator
08-20-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O.Box 3700
Pittsburgh, PA 15230

Customer P.O.# I-97-04-209
Work Order # MB-14027-S

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP-210A Serial # _____

Calibration Method Pulser s/n 101500
^{137}Cs s/n 10263 200mCi
^{99}Tc s-1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Mechanical Zero: OK
4					
5	X10	1K	1K	1K	Battery: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13					Test Pulse = 3.6K CPM
14					
15					Alarm: OK
16					
17					^{99}Tc Efficiency = 10.8%
18					
19					1 mR/hr $\simeq$ 3K CPM in ^{137}Cs field
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 04-14-97
Next Calibration Due: 07-14-97

I certify that the above information is correct:
_____ Administrative Coordinator
04-14-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-12-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210 Serial # Pulser s/n 318

Calibration Method ^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	390	390	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	3.9K	3.9K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	39K	39K	Audio: OK
12					1 mR/hr = 3.1K CPM in ^{137}Cs field
13					
14					^{99}Tc Efficiency = 10.5%
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-09-97
Next Calibration Due: 04-09-97

I certify that the above information is correct:
Teresa McCall 01-09-97
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-96-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial # _____

Calibration Method Pulser s/n 101500
~~137~~Cs s/n 10263 200mCi
~~99~~Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					1 mR/hr ≅ 3.2K CPM in ~~137~~Cs field
18					
19					~~99~~Tc Efficiency = 10.9%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-10-96
Next Calibration Due: 12-10-96

I certify that the above information is correct:
_____ Administrative Coordinator
09-10-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-06-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial # _____

Calibration Method ^{99}Tc Pulser s/n 101500
^{137}Cs s/n S1256
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					1 mR/hr ≅ 3.2K CPM in ^{137}Cs field
18					
19					^{99}Tc Efficiency = 10.9%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 05-30-96
Next Calibration Due: 08-30-96

I certify that the above information is correct:
_____ Administrative Coordinator
05-30-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial # _____

Calibration Method ^{99}Tc Pulser s/n 298
^{137}Cs s/n S1256
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	3.9K	3.9K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13					Alarm: OK
14					
15					Teset Pulse: 3.5K CPM
16					
17					1 mR/hr ≈ 3.1K CPM in ^{137}Cs field
18					
19					^{99}Tc Efficiency = 10.9%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 01-10-96
Next Calibration Due: 04-10-96

I certify that the above information is correct:
_____ Administrative Coordinator
01-10-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) _____ Serial # _____

Calibration Method ^{137}Cs Pulser s/n 101500
^{99}Tc s/n 10263 200mCi
S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Alarm: OK
12					
13					Speaker: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					1 mR/hr ≅ 3.1K CPM in ^{137}Cs field
18					
19					^{99}Tc Efficiency = 11.2%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-27-95
Next Calibration Due: 12-27-95

I certify that the above information is correct:
_____ 09-27-95
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-03-213

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210 Serial # _____

Calibration Method ^{99}Tc Pulser s/n 101500
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	Adjust	100 CPM	All Calibrations Btn. + & - 10%
2		200	Mechanical	200	
3		400	Zero	400	Battery Check: OK
4					
5	X10	1K		1K	Mechanical Zero: OK
6		2K		2K	
7		4K		4K	Response: OK
8					
9	X100	10K		10K	Reset: OK
10		20K		20K	
11		40K		40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					1 mR/hr ≅ 3.3K CPM in ^{137}Cs field
18					
19					^{99}Tc Efficiency = 10.9%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 04-05-95
Next Calibration Due: 07-05-95

I certify that the above information is correct:
_____ Administrative Coordinator
04-05-95 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: ~~P.~~O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-94-11-218

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210 Serial #

Calibration Method ^{137}Cs Pulser s/n 101500
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery Check: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Alarm: OK
12					
13					1 mR/hr = 3.5K CPM in ^{137}Cs field
14					
15					^{99}Tc Efficiency = 10.9%
16					
17					Speaker: OK
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 11-29-94
Next Calibration Due: 02-28-95

I certify that the above information is correct:
Administrative Coordinator
11-29-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-06-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial #

Calibration Method ~~99~~Pulser s/n 101500
~~99~~Tc s/n S1256
~~137~~Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery Check: OK
4					
5	X10	1K	1K	1K	Mechanical zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					1 mR/hr ≅ 3.2K CPM in ~~137~~Cs field
18					
19					~~99~~Tc Efficiency = 11.2%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 06-05-95
Next Calibration Due: 09-05-95

I certify that the above information is correct:
Administrative Coordinator
06-05-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-08-218

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210 Serial #

Calibration Method ^{99}Tc Pulser s/n 101500
^{99}Tc s/n S1256
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	405	405	Battery Check: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4.05K	4.05K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40.5K	40.5K	Alarm: OK
12					
13					Audio: OK
14					^{99}Tc Efficiency = 11.0%
15					
16					1 mR/hr = 3.3K CPM in ^{137}Cs field
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 08-11-94
Next Calibration Due: 11-11-94

I certify that the above information is correct:
Administrative Coordinator
08-11-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-05-222

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210 Serial #

Calibration Method ^{137}Cs Pulser s/n 298
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n 1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery Check: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Audio: OK
8					
9	X100	10K	10K	10K	Alarm: OK
10		20K	20K	20K	
11		40K	40K	40K	Response: OK
12					
13					Reset: OK
14					
15					^{99}Tc Efficiency = 11.9%
16					
17					1 mR/hr = 3.4K CPM in ^{137}Cs field
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 05-11-94
Next Calibration Due: 08-11-94

I certify that the above information is correct:
Theresa M. DeBas — Administrative Coordinator
05-11-94 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

#30

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric
Customer Address: ~~Avenue~~ A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14016-H
Work Order # I-94-01-224

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 7588
External Probe(s) HP210AL Serial #

Calibration Method ~~99~~Tc s/n 318
~~137~~Cs s/n S1256
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	Replaced	100 CPM	All Calibrations Btn. + & - 10%
2		200	Meter Movement	200	
3		400		400	Battery Check: OK
4					
5	X10	1K		1K	Mechanical Zero: OK
6		2K		2K	
7		4K		4K	Audio: OK
8					
9	X100	10K		10K	Reset: OK
10		20K		20K	
11		40K		40K	Alarm: OK
12					
13					3.6K CPM Test Pulse = 3.6K CPM
14					
15					1 mR/hr = 3.4K CPM in ~~137~~Cs field
16					
17					~~99~~Tc Efficiency = 11.2%
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 01-31-94
Next Calibration Due: 04-30-94

I certify that ~~the~~ above information is correct:
Administrative Coordinator
01-31-94
Date

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

DEC 2 1993

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
WEC AVE "A" & WEST ST PITTSBURGH PA 15230	SAME

CONTACT: L. SMITH PHONE: ( ) DATE: 12/1/93 P.O. # MA89320-S

Receiving Comments: UNIT LEFT ON, BAD BATTERY

Instrument Received:	X	Within Toler. ±10%		±10-20%		Out Toler.		Requires Repair

Mfg. Inst. EBERLINE Model # RM-14 Serial # 7580

Detector " Model # HP-210 AL Serial # 5TTP1004

	X	CALIBRATION		REPAIR		SALE		LOAN	By:

scale	source	reading	scale	source	reading	scale	source	reading
	~~mR/hr~~ cpm			~~mR/hr~~ cpm			~~mR/hr~~ cpm	
X1	100	100	X10	1000	1000	X100	10,000	10000
	400	400		4000	4000		40,000	40,000

COUNT RATE EFF = 4000 cpm/mR/HR

Rec 12/2/93 UPS 186-590 8#

Calibration Source:	X	GAMMA		ALPHA		BETA	X	ELECTRONIC		OTHER
Description:	X	ra-226		cs-137		pu-239		sr-90	X	mp-1500

RESPONSE GRAPH N/A

TEMP/HUMIDITY 71.4°F/29 %

PROBE EFFICIENCIES

Alpha — % Beta — %

Check Source Reading N/A

Battery Check Reading 380 cpm

Detector Angle PERPENDICULAR

Corrections N/A ± 10% ELECTRONIC

Maintenance & Comments REPLACED BATTERY AUTO OK
ALARM OK HV OK @ 900 V

CALIBRATION			40.00
LABOR			
MATERIALS	① PS60	12.50 ea	12.50
&			
SALES			
SHIPPING	UPS	① UNIT	13.34

QA Dept. JB Warranty

Shipping UPS Date 12/1/93

Pick-Up Date / /

This Certificate Expires In 3 Months

Re-Calibrate On Or Before 3/1/94

Job ID #

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

CODE NUMBER 31

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-03-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-2 Serial Number 1522
External Probe(s) AC-3-7 Serial # 7A #2

Calibration Method 239Pulser s/n 120935
239Pu s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	200 CPM	2.00 + 02 CPM	2.00 + 02 CPM	All Calibrations Btn. + & - 10%
2		800	8.00 + 02	8.00 + 02	
3					DT = 6.63 - 08
4		2K	2.00 + 03	2.00 + 03	CC = 1.00 + 00
5		8K	8.00 + 03	8.00 + 03	
6					Input Sensitivity ≅ 10mV
7		20K	2.00 + 04	2.00 + 04	
8		80K	8.01 + 04	8.01 + 04	High Voltage = 798 Volts
9					
10		200K	2.01 + 05	2.01 + 05	239Pu Efficiency = 17.8%
11		800K	8.04 + 05	8.04 + 05	
12					
13		2M	2.01 + 06	2.01 + 06	
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 03-11-96
Next Calibration Due: 06-11-96

I certify that the above information is correct:
Administrative Coordinator
03-11-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-2 Serial Number 1522
External Probe(s) AC-3-7 Serial # 7A (#2)

Calibration Method 239 Pulser s/n 101500
Pu s/n 7649

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	200 CPM	2.00 + 02 CPM	2.00 + 02 CPM	All Calibrations Btn. + & - 10%
2		800	8.00 + 02	8.00 + 02	
3					Battery: OK
4		2K	2.00 + 03	2.00 + 03	
5		8K	8.00 + 03	8.00 + 03	Reset: OK
6					
7		20K	2.00 + 04	2.00 + 04	Ligth: OK
8		80K	8.00 + 04	8.00 + 04	
9					Speaker: OK
10		200K	2.00 + 05	2.00 + 05	
11		800K	8.00 + 05	8.00 + 05	DT = 6.63 - 08
12					CC = 1.00 + 00
13		2M	2.00 + 06	2.00 + 06	
14					Input Sensitivity ≃ 10mV
15					
16					High Voltage = 798 Volts
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 09-27-95
Next Calibration Due: 12-27-95

I certify that the above information is correct:
Administrative Coordinator
09-27-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-05-220

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-2 Serial Number 01522
External Probe(s) AC-7 Serial # 7A

Calibration Method ^{239}Pusler s/n 101500
^{239}Pu s/n 7649

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	200 CPM	200 CPM	200 CPM	All Calibrations Btn. + & - 10%
2		800	803	803	
3					DT = 6.63 - 08
4		2K	2.01K	2.01K	
5		8K	8.03K	8.03K	CC = 1.00 + 00
6					
7		20K	20K	20K	High Voltage = 795 Volts
8		80K	80.4K	80.4K	
9					Input Sensitivity ≈ 10mV
10		200K	201K	201K	
11		800K	804K	804K	Alarm: OK
12					
13		2M	2.01M	2.01M	^{239}Pu Efficiency = 18.3%
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 05-16-95
Next Calibration Due: 08-16-95

I certify that the above information is correct:
Administrative Coordinator
05-16-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-02-213

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP Serial Number 01522 #2
External Probe(s) AC-3 Serial # 7A
HP270
Calibration Method ~~239~~Pulser s/n 101500
~~239~~Pu s/n 7649 50,800DP

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	200 CPM	200 CPM	200 CPM	All Calibrations Btn. + & - 10%
2		800	800	800	
3					DT = 6.63 - 08
4		2K	2K	2K	CC = 1.00 + 00
5		8K	8K	8K	High Voltage = 794 Volts
6					
7		20K	20K	20K	Input Sensitivity = 10mV
8		80K	80.2K	80.2K	
9					~~239~~Pu Efficineyc = 18.3%
10		200K	200K	200K	
11		800K	802K	802K	
12					
13		2 M	2.01 M	2.01 M	
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 02-15-95
Next Calibration Due: 05-15-95

I certify that the above information is correct:
Theresa M Elbin
Administrative Coordinator
02-15-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

(31)

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-10-218

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-2 Serial Number 01522
External Probe(s) AC-3 Serial # 7A (2

Calibration Method ^{239}Pulser s/n 101500
^{239}Pu s/n 7649

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	200 CPM	Replace	200 CPM	All Calibrations Btn. + & - 10%
2		400	Phosphour &	800	
3			Mylar		DT = 6.63 - 08
4		2K		2K	
5		8K		8K	CC = 1.00 + 00
6					
7		20K		20K	High Voltage = 800 Volts
8		80K		80K	
9					Input Sensitivity = 10 mV
10		200K		200K	
11		800K		800K	^{239}Pu Efficiency = 18.3%
12					
13		2 M		2 M	
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 11-09-94
Next Calibration Due: 02-09-95

I certify that the above information is correct:
Administrative Coordinator — 11-09-94 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-08-218

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-2 Serial Number 01522
External Probe(s) AC-3 Serial # _____

Calibration Method ^{239}Pulser s/n 101500
^{239}Pu s/n 7649

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	200 CPM	200 CPM	200 CPM	All Calibrations Btn. + & - 10%
2		800	800	800	
3					DT = 6.63 - 08
4		2K	2K	2K	
5		8K	8K	8K	CC = 1.00 + 00
6					
7		20K	20K	20K	High Voltage = 795 Volts
8		80K	80K	80K	
9					Input Sensitivity = 10 mV
10		200K	200K	200K	
11		800K	801K	801K	^{239}Pu Efficiency = 18.8%
12					
13		2M	2M	2M	
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 08-11-94
Next Calibration Due: 11-11-94

I certify that the above information is correct:
_____ 08-11-94
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-04-227

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-2 Serial Number 01522
External Probe(s) AC-3 Serial # 7A

Calibration Method ^{239}Pulser s/n 101500
^{239}Pu s/n 7649

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response: Before Calib.	Instrument Response: After Calib.	Comment
1	N/A	200 CPM	Initial	200 CPM	All Calibrations Btn. + & - 10%
2		800	Calibration	800	
3			with this probe		DT = 6.63 - 08
4		2K		2K	
5		8K		8K	CC = 1.00 + 00
6					
7		20K		20K	HV = 800 Volts
8		80K		80K	
9					Input sensitivity = 10 mV
10		200K		200K	
11		800K		801K	^{239}Pu Efficiency = 19.1%
12					
13		2M		2.01 M	
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 05-03-94
Next Calibration Due: 08-03-94

I certify that the above information is correct:
[signature]
Administrative Coordinator
05-03-94
Date

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
WESTINGHOUSE ELEC. COR.	
AVE "A" & WEST ST	
PITTSBURGH PA 15230	

CONTACT: L. SMITH PHONE: ( ) DATE: 1/18/94 P.O.# MA89326-S

Receiving Comments:

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. EBERLINE Model # ESP-1 Serial # 1522

Detector _____ Model # ALPHA Serial # 7A

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: [signature]

scale	source	reading	scale	source	reading	scale	source	reading
	~~mR/hr~~ CPM			~~mR/hr~~ CPM			mR/hr	
ON	100	100	ON	1000	1001	ON	10000	10033
	400	401		4000	3992		40000	40126

Calibration Source: [ ] GAMMA [X] ALPHA [ ] BETA [ ] ELECTRONIC [ ] OTHER

Description: [ ] ra-226 [ ] cs-137 [X] pu-239 [ ] sr-90 [X] mp-1500

RESPONSE GRAPH N/A

TEMP/HUMIDITY 68 °F/ 27 %

PROBE EFFICIENCIES
Alpha 37 % Beta — %
Check Source Reading N/A
Battery Check Reading N/A
Detector Angle PERPENDICULAR
Corrections N/A ± 10%

Maintenance & Comments REPLACED (6) C CELLS

CALIBRATION			40.00
LABOR			
MATERIALS	(6) C CELLS	1.25 EA	7.50
&			
SALES			
SHIPPING	UPS	(1) UNIT	13.51

QA Dept. [signature] Warranty
Shipping UPS Date 1/18/94
Pick-Up _____ Date / /
This Certificate Expires In 3 Months
Re-Calibrate On Or Before 4/18/94
Job ID #

Ref 9P 1-20 UPS 186-596 9#

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

IH & S FORM #209
FOREST HILLS SITE

ESP-2 ALPHA SCINTILLATION
(AC-3 PROBE) CALIBRATION

ESP-2 S/N: 1522	CODE #: 31	DATE: 1-24-94

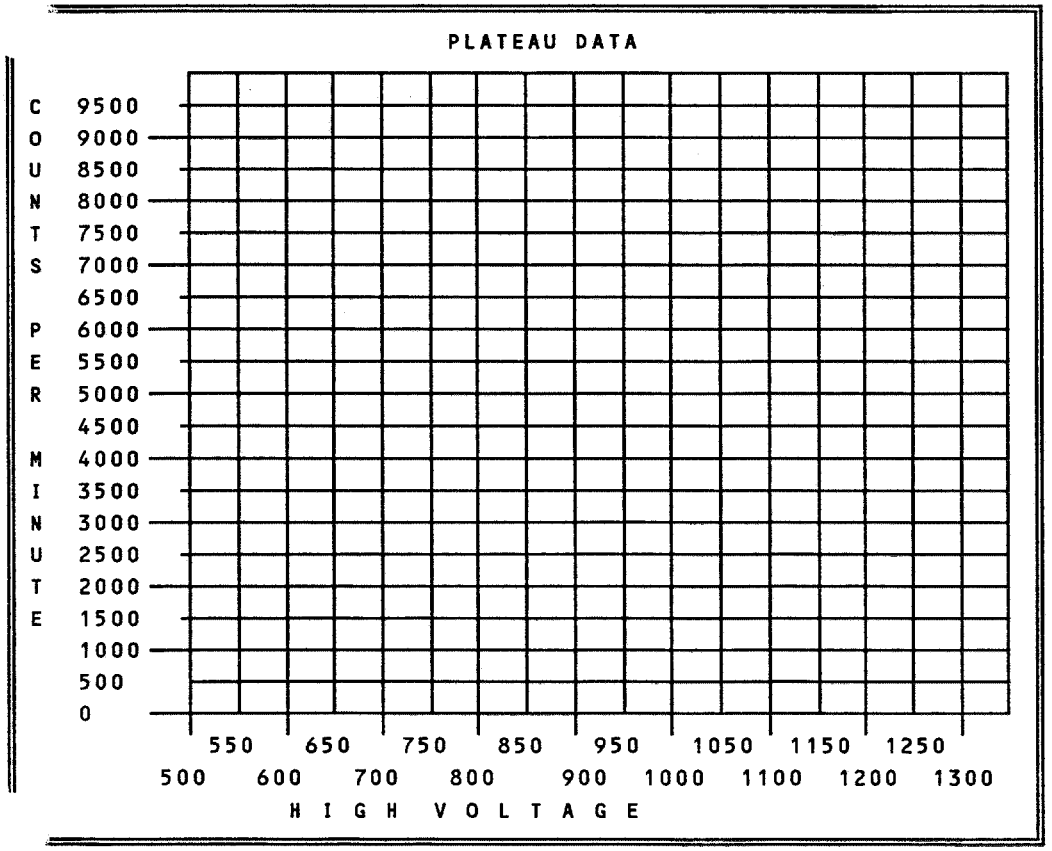
ALPHA EFFICIENCY DATA (Net cpm / dpm = Eff)(Correction Factor = 1 / Eff)

PROBE #	SOURCE #	ACTIVITY	TOTAL CTS	TIME	GROSS CPM	BKG. CPM	NET CPM
7-A	5308	31283 dpm	21600	5 min	4320	0	4320
	7346	230974 dpm	153000	5 min	30600	0	30600
7-B	5308	31283 dpm		min			
	7346	230974 dpm		min			

NET CPM	EFF	C.F.	AVG. EFF	AVG. C.F.
4320	20%	5.0	20%	5.0
30600	20%	5.0		

PLATEAU DATA

H. V.	7-A COUNTS	7-B COUNTS
500		
550		
600		
650		
700		
750		
800	N/A	
850		
900		
950		
1000		
1050		
1100		
1150		
1200		
1250		
1300		



CALIBRATED BY: Larry Lott
SIGNATURE: Larry Lott

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
Westinghouse (BAPL), Ave. "A" & West St. Bldg. 712	SAME

CONTACT: L. Smith PHONE: (—) 229-3614 DATE: 9/13/93 P.O.# MA29328

Receiving Comments: Repair Faces of (2) AC-3 / Sale of (2) PW6MS / Sale of (1) Cable E1C0 to MHV.

Instrument Received: | Within Toler. ±10% | ±10-20% | Out Toler. | X Requires Repair

Mfg. Inst. LMT / EICO Model # 2200 / EHP-1 Serial # 25204 / 760

Detector Eberline Model # AC-3 Serial # 7A & 7C

	X	CALIBRATION	X	REPAIR	X	SALE		LOAN By: J. Douglas

~~scale~~	~~source~~	~~reading~~	~~scale~~	~~source~~	~~reading~~	scale	source	reading
	~~mR/hr~~	35%		~~mR/hr~~	35%		mR/hr	
HI 7A	IS ≅ 2mV		HI 7B	IC ≅ 2mV				
	HV ≅ 700			HV ≅ 880				
	See: Plateau Data							

Calibration Source:		GAMMA	X	ALPHA		BETA	X	ELECTRONIC		OTHER
Description:		ra-226		cs-137	X	pu-239		sr-90	X	mp-1 (Soc)

RESPONSE GRAPH N/A

TEMP/HUMIDITY 69.1 °F/ 41 %

PROBE EFFICIENCIES OTT

Alpha ≅ 30 / 35 % Beta ____ %

Check Source Reading N/A

Battery Check Reading N/A

Detector Angle Perpendicular

Corrections N/A ± 10% Elect.

Maintenance & Comments Repaired (2) AC-3 with (2) AC3FK, Sale (2) N1002/0262 GMS #1493 / #1556, Sale (1) Cable CA-18-60

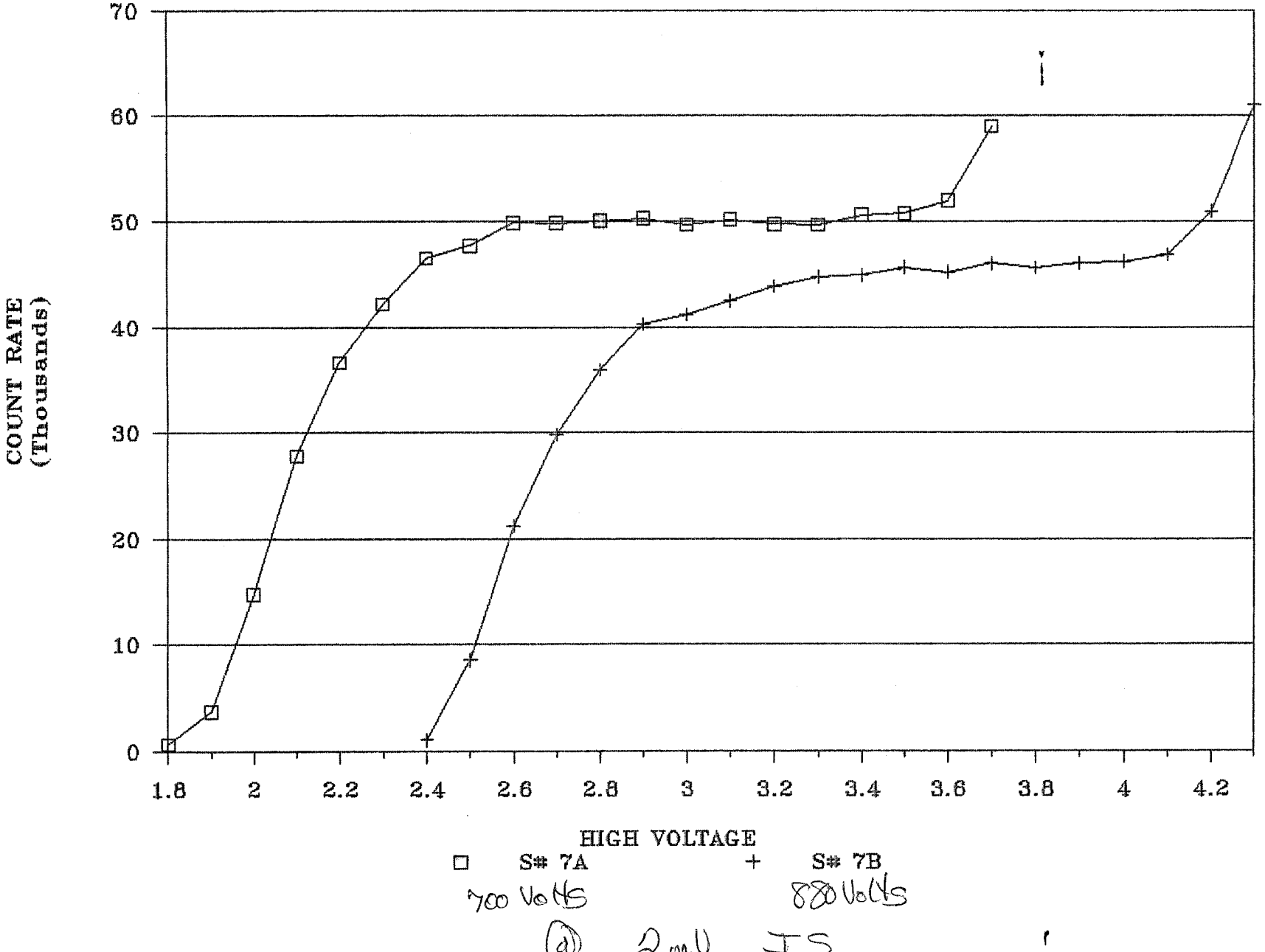
Tested, Inspected & Calibrated

CALIBRATION	(2) Hours	20.00/HR	40.00	QA Dept. JB	Warranty 90 DAYS
LABOR	(1) HR	40.00/HR	40.00	Shipping UPS	Date 9/13/93
MATERIALS	(2) AC3FK	62.50	125.00	Pick-Up ____	Date / /
&	(2) Detector	New GMS	220.00	This Certificate Expires In 3 Months	
SALES	(1) CA-18-60	Cable	62.50	Re-Calibrate On Or Before 12/13/93	
SHIPPING	UPS	(5) Units	# 8.23	Job ID # 52503	

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

WEC 9/13/93

AC-3 PROBES



700 Volts

880 Volts

@ 2mV IS

IH & S FORM #209
FOREST HILLS SITE

ESP-2 ALPHA SCINTILLATION (AC-3 PROBE) CALIBRATION

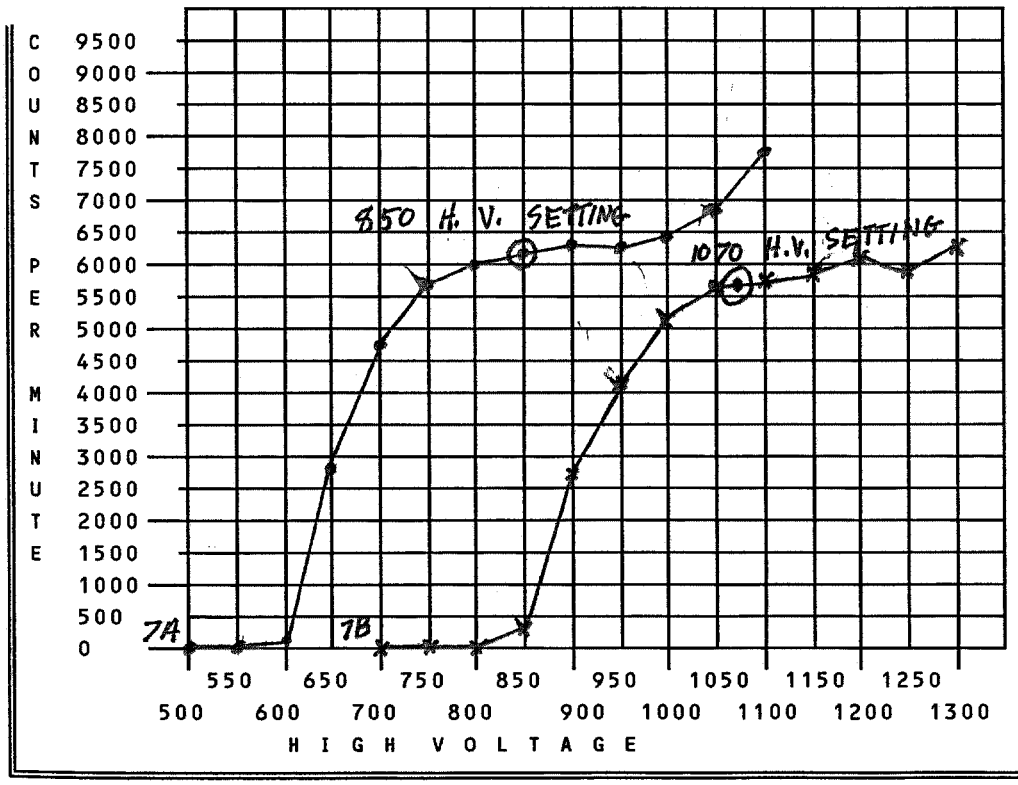
ESP-2 S/N: 1522	CODE #: 31 & 32	DATE: 9-15-93

ALPHA EFFICIENCY DATA (Net cpm / dpm = Eff)(Correction Factor = 1 / Eff)

PROBE #	SOURCE #	ACTIVITY	TOTAL CTS	TIME	GROSS CPM	BKG. CPM	NET CPM
7-A	5308	31283 dpm	30700	5 min	6140	6.6	6133.4
	7346	230974 dpm	222000	5 min	44400	6.6	44393.4
7-B	5308	31283 dpm	28500	5 min	5700	2	5698
	7346	230974 dpm	207000	5 min	41400	2	41398

NET CPM	EFF	C.F.	AVG. EFF	AVG. C.F.
6133.4	19.6%	5.1	19.4%	5.2
44393.4	19.2%	5.2		
5698	18.2%	5.5	18.1%	5.6
41398	17.9%	5.6		

PLATEAU DATA



PLATEAU DATA		
H. V.	7-A COUNTS	7-B COUNTS
500	0	
550	0	
600	5	
650	2930	
700	4760	0
750	5680	0
800	6000	0
850	6090	360
900	6370	2700
950	6300	4070
1000	6490	5090
1050	6840	5570
1100	7620	5790
1150		5960
1200		6020
1250		5950
1300		6210

CALIBRATED BY: Todd Brautigam

SIGNATURE: Todd Brautigam

CODE NUMBER 32

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.#
Work Order # I-99-03-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method ~~137~~Cs Pulser s/n 101500
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
		2K	2K	2K	
		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	200K	200K	
15		400K	400K	400K	High Voltage = 735 Volts
16					
17	LOG	400	400	400	Threshold = 100 = 10mV
18		4K	4K	4K	
19		40K	40K	40K	Window = OUT
20		400K	380K	380K	
21					1 mR/hr ≈ 219K CPM in ~~137~~Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 03-24-99
Next Calibration Due: 06-24-99

I certify that the above information is correct:
Administrative Coordinator — Date 03-24-99

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.#
Work Order # I-99-03-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	
4		1K	1,000	1,000	
5		2K	2,000	2,000	
		4K	4,001	4,001	
		10K	10,017	10,017	
8		20K	20,064	20,064	
9		40K	40,118	40,118	
10		100K	100,118	100,118	
11		200K	200,616	200,616	
12		400K	401,463	401,463	
13					
14	SCALER				
15	0.1 MIN	40K	4,012	4,012	
16	0.2	40K	8,025	8,025	
17	0.5	40K	20,066	20,066	
18	1	40K	40,127	40,127	
19	2	40K	80,222	80,222	
20	5	40K	200,575	200,575	
21	10	40K	400,754	400,754	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 03-24-99
Next Calibration Due: 06-24-99

(I certify that the above information is correct:
Administrative Coordinator
03-24-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method ^{137}Cs Pulser s/n 120935
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATEMETER				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	
3		200	200	200	Battery: OK
4		400	400	400	
5					Mechanical Zero: OK
	X10	1K	1K	1K	
7		2K	2K	2K	Reset: OK
8		4K	4K	4K	
9					Response: OK
10	X100	10K	10K	10K	
11		20K	20K	20K	Audio: OK
12		40K	40K	40K	
13					Window: OUT
14	X1K	100K	100K	100K	
15		200K	200K	200K	High Voltage = 739 Volts
16		400K	400K	400K	
17					Input Sensitivity = 10mV
18	LOG	400	400	400	
19		4K	4K	4K	Threshold = 100 = 10mV
20		40K	40K	40K	
21		400K	380K	380K	1 mR/hr = 221K CPM in ^{137}Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owen (Signed)
Calibration Date: 01-11-99
Next Calibration Due: 04-11-99

I certify that the above information is correct:
Administrative Coordinator
01-11-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 120935

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	102 CPM	102 CPM	All Calibrations Btn. + & - 10%
2		200	202	202	
3		400	400	400	
4		1K	1,001	1,001	
5		2K	2,001	2,001	
		4K	4,012	4,012	
7		10K	9,988	9,988	
8		20K	20,006	20,006	
9		40K	40,049	40,049	
10		100K	99,993	99,993	
11		200K	200,274	200,274	
12		400K	400,518	400,518	
13					
14	SCALER				
15	0.1 MIN	40K	4,009	4,009	
16	0.2	40K	8,017	8,017	
17	0.5	40K	20,046	20,046	
18	1	40K	40,093	40,093	
19	2	40K	80,194	80,194	
20	5	40K	200,501	200,501	
21	10	40K	401,028	401,028	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-11-99
Next Calibration Due: 04-11-99

I certify that the above information is correct:
Administrative Coordinator
01-11-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-07-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 301
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	200K	200K	
15		400K	400K	400K	Window: OUT
16					
17	SCALER				High Voltage = 730 Volts
18	0.1	40K	3,999 CPM	3,999 CPM	
19	0.2	40K	7,998	7,998	1 mR/hr ≈ 222K CPM in ^{137}Cs field
20	0.5	40K	19,996	19,996	
21	1	40K	39,991	39,991	
22	2	40K	79,982	79,982	
23	5	40K	199,955	199,955	
	10	40K	399,910	399,910	

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 08-04-98
Next Calibration Due: 11-04-98

I certify that the above information is correct:
Administrative Coordinator
08-04-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-07-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 301

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2	X1	200	198	198	
3		400	398	398	
4					
5	X10	1K	996	996	
6		2K	2,000	2,000	
7		4K	3,998	3,998	
8					
9	X100	10K	9,995	9,995	
10		20K	19,995	19,995	
11		40K	39,989	39,989	
12					
13	X1K	100K	99,976	99,976	
14		200K	199,957	199,957	
15		400K	399,910	399,910	
16					
17	LOG	400	400	400	
18		4K	4K	4K	
19		40K	40K	40K	
20		400K	370K	370K	
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 08-04-98
Next Calibration Due: 11-04-98

I certify that the above information is correct:
Administrative Coordinator
08-04-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-04-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method 137Cs Pulser s/n 101500
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	200K	200K	
15		400K	400K	400K	High Voltage = 735 Volts
16					
17	LOG	400	400	400	Threshold = 100 = 10mV
18		4K	4K	4K	
19		40K	40K	40K	Window: OUT
20		400K	400K	400K	
21					1 mR/hr = 222K CPM in 137Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 04-23-98
Next Calibration Due: 07-23-98

I certify that the above information is correct:
Administrative Coordinator
04-23-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-04-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	
4		1K	1,000	1,000	
5		2K	2,000	2,000	
6		4K	4,000	4,000	
7		10K	10,010	10,010	
8		20K	20,025	20,025	
9		40K	40,075	40,075	
10		100K	100,150	100,150	
11		200K	200,220	200,220	
12		400K	400,850	400,850	
13					
14	SCALER				
15	0.1 MIN	40K	4,006	4,006	
16	0.2	40K	8,011	8,011	
17	0.5	40K	20,028	20,028	
18	1	40K	40,059	40,059	
19	2	40K	80,123	80,123	
20	5	40K	200,335	200,335	
21	10	40K	400,746	400,746	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 04-23-98
Next Calibration Due: 07-23-98

I certify that the above information is correct:
Administrative Coordinator
04-23-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2	RATE	200	200	200	
3		400	400	400	
4		1K	1,000	1,000	
5		2K	2,000	2,000	
6		4K	4,000	4,000	
7		10K	10,011	10,011	
8		20K	20,032	20,032	
9		40K	40,041	40,041	
10		100K	100,178	100,178	
11		200K	200,285	200,285	
12		400K	400,338	400,338	
13					
14	SCALER				
15	0.1 MIN	40K	4,000	4,000	
16	0.2 MIN	40K	8,001	8,001	
17	0.5	40K	20,006	20,006	
18	1	40K	40,021	40,021	
19	2	40K	80,072	80,072	
20	5	40K	200,197	200,197	
21	10	40K	400,475	400,475	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: 12-31-97 (Signed)
Calibration Date:
Next Calibration Due: 03-31-98

I certify that the above information is correct:
Administrative Coordinator
12-31-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method ^{137}Cs Pulser s/n 101500
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13					Lamp: OK
14	X1K	100K	100K	100K	
15		200K	200K	200K	High Voltage = 735 Volts
16		400K	400K	400K	
17					Threshold = 100 = 10mV
18	LOG	400	400	400	
19		4K	4K	4K	Window = OUT
20		40K	40K	40K	
21		400K	400K	400K	1 mR/hr = 221K CPM in ^{137}Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 12-31-97
Next Calibration Due: 03-31-98

I certify that the above information is correct:
Administrative Coordinator
12-31-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-07-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2	RATE	200	201	201	
3		400	401	401	
4		1K	998	998	
5		2K	2,001	2,001	
6		4K	4,002	4,002	
7		10K	10,006	10,006	
8		20K	20,009	20,009	
9		40K	40,002	40,002	
10		100K	99,994	9,994	
11		200K	199,969	199,969	
12		400K	399,925	399,925	
13					
14	SCALER				
15	0.1 MIN	40K	3,999	3,999	
16	0.2	40K	7,998	7,998	
17	0.5	40K	19,996	19,996	
18	1	40K	39,991	39,991	
19	2	40K	79,983	79,983	
20	5	40K	199,956	199,956	
21	10	40K	399,912	399,912	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 08-20-97
Next Calibration Due: 11-20-97

I certify that the above information is correct:
Administrative Coordinator — Date: 08-20-97

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-07-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-10 Serial # 112262

Calibration Method ^{137}Cs Pulser s/n 101500
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATEMETER				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	Battery: OK
3		200	200	200	
4		400	400	400	Mehanical Zero: OK
5					
6	X10	1K	1K	1K	Reset: OK
7		2K	2K	2K	
8		4K	4K	4K	Response: OK
9					
10	X100	10K	10K	10K	Audio: OK
11		20K	20K	20K	
12		40K	40K	40K	Window: OUT
13					
14	X1K	100K	100K	100K	High Voltage = 734
15		200K	200K	200K	
16		400K	400K	400K	Input Sensitivity = 24mV
17					
18	LOG	400	400	400	Threshold = 100 = 24mV
19		4K	4K	4K	
20		40K	40K	40K	1 mR/hr = 212K CPM facing source
21		400K	380K	380K	in ^{137}Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 08-20-97
Next Calibration Due: 11-20-97

I certify that the above information is correct:
Administrative Coordinator — 08-20-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 318
Pulser s/n 101500
^{137}Cs s/n 10263

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Mechanical Zero: OK
4					
5	X10	1K	1K	1K	Battery: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	200K	200K	
15		400K	400K	400K	High Voltage = 734 Volts
16					
17	LOG	400	400	400	Thres = 100 $\cong$ 10 mV
18		4K	4K	4K	
19		40K	40K	40K	Window: OUT
20		400K	380K	380K	
21					1 mR/hr ^{137}Cs $\cong$ 220 KCPM
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens
(Signed)
Calibration Date: 03-31-97
Next Calibration Due: 07-01-97

I certify that the above information is correct:
Tim Lawson — 03-31-97
Administrative Coordinator — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 318

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	Digital	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2	Rate	200	200	200	
3		400	398	398	
4		1K	1,001	1,001	
5		2K	2,001	2,001	
6		4K	4,012	4,012	
7		10K	10,007	10,007	
8		20K	20,005	20,005	
9		40K	39,987	39,987	
10		100K	99,982	99,982	
11		200K	199,968	199,968	
12		400K	399,918	399,918	
13					
14	Scaler				
15	0.1 min	40K CPM	3,999	3,999	
16	0.2	40K	7,998	7,998	
17	0.5	40K	19,996	19,996	
18	1	40K	39,991	39,991	
19	2	40K	79,982	79,982	
20	5	40K	199,956	199,956	
21	10	40K	399,912	399,912	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens
(Signed)
Calibration Date: 03-31-97
Next Calibration Due: 07-01-97

I certify that the above information is correct:
Tim Lowe
Administrative Coordinator
03-31-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: 1000 Cheswick Avenue
Cheswick, PA 15024

Customer P.O.#
Work Order # I-96-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method 137Cs Pulser s/n 101500
137Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4L	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	200K	200K	
15		400K	400K	400K	High Voltage = 725 Volts
16					
17	LOG	400	400	400	Threshold = 100 = 10mV
18		4K	4K	4K	
19		40K	40K	40K	Window = OUT
20		400K	380K	380K	
21					1 mR/hr ≅ 219K CPM in 137Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 11-04-96
Next Calibration Due: 02-04-97

I certify that the above information is correct:
Administrative Coordinator — 11-04-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: 1000 Cheswick Avenue
Cheswick, PA 15024

Customer P.O.#
Work Order # I-96-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	
4		1K	1,000	1,000	
5		2K	2,000	2,000	
6		4K	4,000	4,000	
7		10K	10,011	10,011	
8		20K	20,026	20,026	
9		40K	40,055	40,055	
10		100K	100,075	100,075	
11		200K	200,089	200,089	
12		400K	400,111	400,111	
13					
14	SCALER				
15	0.1 MIN	40K	4,001	4,001	
16	0.2	40K	8,001	8,001	
17	0.5	40K	20,005	20,005	
18	1	40K	40,011	40,011	
19	2	40K	80,028	80,028	
20	5	40K	200,084	200,084	
21	10	40K	400,177	400,177	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 11-04-96
Next Calibration Due: 02-04-97

I certify that the above information is correct:
Administrative Coordinator
11-04-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

CODE 32

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: ~~P.O.~~ Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-08-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method ~~137~~Pulser s/n 101500
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
		2K	2K	2K	
		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	200K	200K	
15		400K	400K	400K	High Voltage = 730 Volts
16					
17	LOG	400	400	400	Threshold = 100 ≈ 10mV
18		4K	4K	4K	
19		40K	40K	40K	Window = OUT
20		400K	380K	380K	
21					1 mR/hr ≈ 214K CPM in ^{137}Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 08-05-96
Next Calibration Due: 11-05-96

I certify that the above information is correct:
Administrative Coordinator
08-05-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: 1000 Cheswick Avenue
Cheswick, PA 15024

Customer P.O.#
Work Order # I-96-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method ~~137~~ Pulser s/n 101500
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4L	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	200K	200K	
15		400K	400K	400K	High Voltage = 725 Volts
16					
17	LOG	400	400	400	Threshold = 100 = 10mV
18		4K	4K	4K	
19		40K	40K	40K	Window = OUT
20		400K	380K	380K	
21					1 mR/hr ≅ 219K CPM in ^{137}Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 11-04-96
Next Calibration Due: 02-04-97

I certify that the above information is correct:
Administrative Coordinator
11-04-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: 1000 Cheswick Avenue
Cheswick, PA 15024

Customer P.O.#
Work Order # I-96-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	
4		1K	1,000	1,000	
5		2K	2,000	2,000	
6		4K	4,000	4,000	
7		10K	10,011	10,011	
8		20K	20,026	20,026	
9		40K	40,055	40,055	
10		100K	100,075	100,075	
11		200K	200,089	200,089	
12		400K	400,111	400,111	
13					
14	SCALER				
15	0.1 MIN	40K	4,001	4,001	
16	0.2	40K	8,001	8,001	
17	0.5	40K	20,005	20,005	
18	1	40K	40,011	40,011	
19	2	40K	80,028	80,028	
20	5	40K	200,084	200,084	
21	10	40K	400,177	400,177	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 11-04-96
Next Calibration Due: 02-04-97

I certify that the above information is correct:
Administrative Coordinator
11-04-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

(CODE 32)

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-08-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
		2K	2K	2K	
		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	200K	200K	
15		400K	400K	400K	High Voltage = 730 Volts
16					
17	LOG	400	400	400	Threshold = 100 ≈ 10mV
18		4K	4K	4K	
19		40K	40K	40K	Window = OUT
20		400K	380K	380K	
21					1 mR/hr ≈ 214K CPM in ^{137}Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 08-05-96
Next Calibration Due: 11-05-96

I certify that the above information is correct:
Administrative Coordinator
08-05-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: ~~P.O.~~ Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-08-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 125429
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	
4		1K	1,000	1,000	
5		2K	2,000	2,000	
		4K	4,000	4,000	
		10K	10,002	10,002	
8		20K	20,007	20,007	
9		40K	40,006	40,006	
10		100K	100,012	100,012	
11		200K	200,040	200,040	
12		400K	400,041	400,041	
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 08-05-96
Next Calibration Due: 11-05-96

I certify that the above information is correct:
[signature]
Administrative Coordinator
08-05-96
Date

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
Westinghouse C&FD.	SAME
Ave "A" & West St.	
Bldg. 1 PA 15112	

CONTACT: Larry Smith PHONE: (—) 734-2674 DATE: 9/30/98 P.O.# MA99225

Receiving Comments: Calibration, Sale @ Probes / (1) 5-6' Cable

Instrument Received: [X] Within Toler. ±10% [ ] ±10-20% [ ] Out Toler. [ ] Requires Repair

Mfg. Inst. Ludlum Model # 2221 Serial # 91943

Detector 11 Model # 44-3 Serial # 6555

[X] CALIBRATION [ ] REPAIR [ ] SALE [ ] LOAN By: J. Douglas

scale	source	reading	scale	source	reading	scale	source	reading
	~~mR/hr~~ cpm	cpm		~~mR/hr~~ cpm	cpm		~~mR/hr~~ cpm	cpm
X1	100	99	X100	10000	9927	Log	200	199
	400	410		40000	39951		2000	1993
							20000	19998
							200000	199950
X10	1000	993	X1000	100000	99265			
	4000	3994		400000	399268	Eff 44-3	1 mR/h	24K
							Digital	400

Calibration Source: [X] GAMMA [ ] ALPHA [ ] BETA [ ] ELECTRONIC [ ] OTHER

Description: [X] ra-226 [ ] cs-137 [ ] pu-239 [ ] sr-90 [ ] mp-1

RESPONSE GRAPH N/A

TEMP/HUMIDITY 72.0°F/ 53 %

PROBE EFFICIENCIES N/A

Alpha ——— % Beta ——— %

Check Source Reading N/A

Battery Check Reading 6.0 Volts

Detector Angle Parallel

Corrections N/A ± 10% Electronic

Maintenance & Comments Replaced (4) Diodes, HV-OK, (6) resistors, HV ≅ 100, 7.5 = 4mV, 10 HV out, Audio OK, Timer-OK, other items # 44-2 to do Shipped 1-2 weeks. Tested, Inspected & Calibrated

CALIBRATION	Contract	Cal	40.00
LABOR			
MATERIALS & SALES	(1) 5-6'	Cable	35.00
	(1) 44-2	HHP	240.00
SHIPPING	UPS	(1) Unit	#12.14

QA Dept. JJD Warranty 90 DAYS

Shipping UPS Date 9/30/98

Pick-Up ——— Date —/—/—

This Certificate Expires In 3 Months

Re-Calibrate On Or Before 12/30/98

Job ID # 53545

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

CODE NUMBER 33

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-05-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method 137Cs Pulser s/n 298
Cs s/n 10263 200mCi
Electrostatic s/n ES-8295

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	
3		200	198	198	
4		400	399	399	
5					
6	X10	1K	1,000	1,000	
7		2K	2,000	2,000	
8		4K	4,000	4,000	
9					
10	X100	10K	9,999	9,999	
11		20K	19,998	19,998	
12		40K	39,998	39,998	
13					
14	X1K	100K	100,000	100,000	
15		200K	200,005	200,005	
16		400K	399,993	399,993	
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Smythe (Signed)
Calibration Date: 05-28-96
Next Calibration Due: 08-28-96

I certify that the above information is correct:
Administrative Coordinator
05-28-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-05-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 298
^{137}Cs Electrostatic ES-8295 s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATEMETER				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	
3		200	200	200	Battery: OK
4		400	400	400	
5					Mechanical Zero: OK
6	X10	1K	1K	1K	
7		2K	2K	2K	Response: OK
8		4K	4K	4K	
9					Zero: OK
10	X100	10K	10K	10K	
11		20K	20K	20K	Window: OUT
12		40K	40K	40K	
13					Audio: OK
14	X1K	100K	100K	100K	
15		200K	200K	200K	Lamp: OK
16		400K	400K	400K	
17					High Voltage: 730 Volts
18	LOG	400	400	400	
19		4K	4K	4K	Threshold = 100 ≃ 10mV
20		40K	38K	38K	
21		400K	390K	390K	1 mR/hr ≃ 217K CPM in ^{137}Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 05-28-96
Next Calibration Due: 08-28-96

I certify that the above information is correct:
Administrative Coordinator
05-28-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-01-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method ~~137~~Cs Pulser s/n 120935
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	3.95K	3.95K	Response: OK
8					
9	X10	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	39.5K	39.5K	Window - OUT
12					
13	X100	100K	100K	100K	Audio: OK
14		200K	200K	200K	
15		400K	395K	395K	Lamp: OK
16					
17	LOG	400	400	400	High Voltage = 731 Volts
18		4K	4K	4K	
19		40K	40K	40K	Threshold = 100 ≅ 10mV
20		400K	400K	400K	
21					1 mR/hr = 221K CPM in ~~137~~Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-24-96
Next Calibration Due: 04-24-96

I certify that the above information is correct:
Administrative Coordinator — Date: 01-24-96

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Window: OUT
12					
13	X1K	100K	100K	100K	Audio: OK
14		200K	200K	200K	
15		400K	400K	400K	Lamp: OK
16					
17	LOG	400	400	400	High Voltage = 739 Volts
18		4K	4K	4K	
19		40K	40K	40K	Threshold = 100 ≅ 10mV
20		400K	400K	400K	
21					1 mR/hr ≅ 227K CPM in ^{137}Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 09-27-95
Next Calibration Due: 12-27-95

I certify that the above information is correct:
Administrative Coordinator
09-27-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	
4		1K	1,000	1,000	
5		2K	2,000	2,000	
6		4K	4,000	4,000	
7		10K	9,968	9,960	
8		20K	19,988	19,988	
9		40K	39,984	39,984	
10		100K	96,600	99,600	
11		200K	199,799	199,799	
12		400K	399,880	399,880	
13					
14	SCALER				
15	0.1 MIN	40K	4,001	4,001	
16					
17	0.2	40K	8,000	8,000	
18					
19	0.5	40K	20,006	20,006	
20					
21	1	40K	40,014	40,014	
22	2	40K	80,051	80,051	
23	5	40K	200,135	200,135	
	10	40K	400,286	400,286	

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 09-27-95
Next Calibration Due: 12-27-95

I certify that the above information is correct:
[signature] Administrative Coordinator
09-27-95 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-06-211

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method ^{137}Cs Pulser s/n 101500
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Threshold = 100 ≅ 10mV
10		20K	20K	20K	
11		40K	40K	40K	Window: OUT
12					
13	X1K	100K	100K	100K	Audio: OK
14		200K	200K	200K	
15		400K	400K	400K	Lamp: OK
16					
17	LOG	400	400	400	1 mR/hr ≅ 226K CPM in ^{137}Cs field
18		4K	4K	4K	
19		40K	40K	40K	High Voltage = 740 Volts
20		400K	400K	400K	
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 06-01-95
Next Calibration Due: 09-01-95

I certify that the above information is correct:
Administrative Coordinator
06-01-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# I-95-06-211
Work Order # MB-14027-S

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	
4		1K	1,004	1,004	
5		2K	2,006	2,006	
6		4K	4,008	4,008	
7		10K	10,031	10,031	
8		20K	20,053	20,053	
9		40K	40,121	40,121	
10		100K	100,025	100,025	
11		200K	200,561	200,561	
12		400K	401,246	401,246	
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 06-01-95
Next Calibration Due: 09-01-95

I certify that the above information is correct:
Administrative Coordinator
06-01-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-06-211

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	SCALER				All Calibrations Btn. + & - 10%
2	0.1 MIN	40K CPM	4,010 CPM	4,010 CPM	
3					
4	0.2	40K	8,023	8k023	
5					
6	0.5	40K	20,065	20,065	
7					
8	1	40K	40,138	40,138	
9					
10	2	40K	80,232	80,232	
11					
12	5	40K	200,607	200,607	
13					
14	10	40K	401,289	401,289	
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 06-01-95
Next Calibration Due: 09-01-95

I certify that the above information is correct:
Administrative Coordinator
06-01-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-02-212

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method ^{137}Cs s/n 10263 200mCi
Pulser s/n 298
Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATE METER				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	
3		200	200	200	Battery Check: OK
4		400	400	400	
5					Mechanical Zero: OK
6	X10	1K	1K	1K	
7		2K	2K	2K	Response: OK
8		4K	4K	4K	
9					Zero: OK
10	X100	10K	10K	10K	
11		20K	20K	20K	Audio: OK
12		40K	40K	40K	
13					Lamp: OK
14	X1K	100K	100K	100K	
15		200K	200K	200K	Window: OUT
16		400K	400K	400K	
17					High Voltage = 750 Volts
18	LOG	400	400	400	
19		4K	4K	4K	Threshold = 233 = 10mV
20		40K	40K	40K	
21		400K	380K	380K	1 mR/hr = 235K CPM in ^{137}Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James L. Christopher (Signed)
Calibration Date: 02-27-95
Next Calibration Due: 05-27-95

I certify that the above information is correct:
Theresa M. DeBor — Administrative Coordinator — 02-27-95 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-02-212

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	
3		200	200	200	
4		400	400	400	
5					
6	X10	1K	1,000	1,000	
7		2K	1,995	1,995	
8		4K	3,998	3,998	
9					
10	X100	10K	10,000	10,000	
11		20K	20,000	20,000	
12		40K	40,001	40,001	
13					
14	X1K	100K	100,002	100,002	
15		200K	200,009	200,009	
16		400K	400,018	400,018	
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 02-27-95
Next Calibration Due: 05-27-95

I certify that the above information is correct:
Theresa M. Reber — Administrative Coordinator
02-27-95 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-02-212

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	SCALER MIN				All Calibrations Btn. + & - 10%
2	0.1 MIN	40K CPM	4,001 CPM	4,001 CPM	
3					
4	0.2	40K	8,001	8,001	
5					
6	0.5	40K	20,002	20,002	
7					
8	1	40K	40,002	40,002	
9					
10	2	40K	80,004	80,004	
11					
12	5	40K	200,013	200,013	
13					
14	10	40K	400,023	400,023	
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 02-27-95
Next Calibration Due: 05-27-95

I certify that the above information is correct:
Theresa Mathers — Administrative Coordinator
02-27-95 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

(33)

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-11-218

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method ~~137~~Pulser s/n 101500
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery Check: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Zero: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	200K	200K	
15		400K	400K	400K	High Voltage = 760 Volts
16					
17	LOG	400	400	400	Threshold = 232 = 10 mV
18		4K	4K	4K	
19		40K	40K	40K	Window = OUT
20		400K	400K	400K	
21					1 mR/hr = 195K CPM in ~~137~~Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 11-09-94
Next Calibration Due: 02-09-95

I certify that the above information is correct:
Administrative Coordinator
11-09-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-11-218

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	SCALER				All Calibrations Btn. + & - 10%
2	0.1 MIN	40K CPM	3,995 CPM	3,995 CPM	
3					
4	0.2	40K	7,991	7,991	
5					
6	0.5	40K	19,976	19,976	
7					
8	1	40K	39,954	39,954	
9					
10	2	40K	79,914	79,914	
11					
12	5	40K	199,799	199,799	
13					
14	10	40K	399,669	399,669	
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 11-09-94
Next Calibration Due: 02-09-95

I certify that the above information is correct:
[signature]
Administrative Coordinator
11-09-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-11-218

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	
4		1K	1,000	1,000	
5		2K	2,000	2,000	
6		4K	3,997	3,997	
7		10K	9,939	9,939	
8		20K	19,966	19,966	
9		40K	39,960	39,960	
10		100K	99,399	99,399	
11		200K	199,580	199,580	
12		400K	399,640	399,640	
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 11-09-94
Next Calibration Due: 02-09-95

I certify that the above information is correct:
Administrative Coordinator
11-09-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-94-08-213

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 301
^{137}Cs s/n 10263 200mCi
Electrostatic s/n ES-8295

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATEMETER				All Calibrations Btn. + & - 10%
2	XI	100 CPM	100 CPM	100 CPM	
3		200	200	200	Battery Check: OK
4		400	400	400	
5					Mechanical Zero: OK
6	X10	1K	1K	1K	
7		2K	2K	2K	response: OK
8		4K	4K	4K	
9					Reset: OK
10	X100	10K	10K	10K	
11		20K	20K	20K	Audio: OK
12		40K	40K	40K	
13					Lamp: OK
14	X1K	100K	100K	100K	
15		200K	200K	200K	High Voltage = 760 Volts
16		400K	400K	400K	
17					Threshold = 230
18	LOG	400	400	400	INput Sensitivity = 10 mV
19		4K	4K	4K	
20		40K	38K	38K	Window = OUT
21		400K	390K	390K	
22					1 mR/hr = 200K CPM in ^{137}Cs field
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James L. Christopher (Signed)
Calibration Date: 08-04-94
Next Calibration Due: 11-04-94

I certify that the above information is correct:
Administrative Coordinator — 08-04-94 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-94-08-213

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 301

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	
3		200	200	200	
4		400	400	400	
5					
6	X10	1K	1,000	1,000	
7		2K	2,000	2,000	
8		4K	4,000	4,000	
9					
10	X100	10K	10,000	10,000	
11		20K	19,996	19,996	
12		40K	40,000	40,000	
13					
14	X1K	100K	100,000	100,000	
15		200K	200,014	200,014	
16		400K	400,027	400,027	
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James L Christopher (Signed)
Calibration Date: 08-04-94
Next Calibration Due: 11-04-94

I certify that the above information is correct:
Administrative Coordinator — Date: 08-04-94

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-94-08-213

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 301

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	SCALER MIN				All Calibrations Btn. + & - 10%
2	0.1	40K CPM	4,001 CPM	4,001 CPM	
3					
4	0.2	40K	8,000	8,000	
5					
6	0.5	40K	20,001	20,001	
7					
8	1	40K	40,002	40,002	
9					
10	2	40K	80,005	80,005	
11					
12	5	40K	200,013	200,013	
13					
14	10	40K	400,025	400,025	
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 08-04-94
Next Calibration Due: 11-04-95

I certify that the above information is correct:
Theresa Miller 08-04-94
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-04-216

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method ^{137}Cs Pulser s/n 301
^{137}Cs s/n 10263 200mCi
Electrostatic s/n ES-8295

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATEMETER				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	
3		200	200	200	Battery Check: OK
4		400	400	400	
5					Mechanical Zero: OK
6	X10	1K	1K	1K	
7		2K	2K	2K	Response: OK
8		4K	4K	4K	
9					Audio: OK
10	X100	10K	10K	10K	
11		20K	20K	20K	Lamp: OK
12		40K	40K	40K	
13					Window = OUT
14	X1K	100K	100K	100K	
15		200K	200K	200K	
16		400K	400K	400K	Threshold = 230
17					
18	LOG	400	410	410	Input Sensitivity = 10mV
19		4K	4K	4K	
20		40K	38K	38K	High Voltage = 820 Volts
21		400K	390K	390K	
22					1 mR/hr = 198K CPM in ^{137}Cs field
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 04-18-94
Next Calibration Due: 07-18-94

I certify that the above information is correct:
Theresa M. [illegible] — 04-18-94
Administrative Coordinator — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-04-216

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 301

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	SCALER MIN				All Calibrations Btn. + & - 10%
2	0.1 MIN	40K CPM	4,000 CPM	4,000 CPM	
3					
4	0.2	40K	8,001	8,001	
5					
6	0.5	40K	20,001	20,001	
7					
8	1	40K	40,002	40,002	
9					
10	2	40K	80,005	80,005	
11					
12	5	40K	200,012	200,012	
13					
14	10	40K	400,026	400,026	
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christoph (Signed)
Calibration Date: 04-18-94
Next Calibration Due: 07-18-94

I certify that the above information is correct:
Theresa M. DeB — Administrative Coordinator
04-18-94 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-04-216

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 112262

Calibration Method Pulser s/n 301

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	
3		200	201	201	
4		400	398	398	
5					
6	X10	1K	998	998	
7		2K	2,000	2,000	
8		4K	3,998	3,998	
9					
10	X100	10K	9,999	9,999	
11		20K	19,998	19,998	
12		40K	40,003	40,003	
13					
14	X1K	100K	100,008	100,008	
15		200K	200,006	200,006	
16		400K	400,023	400,023	
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 04-18-94
Next Calibration Due: 07-18-94

I certify that the above information is correct:
Theresa M. DeBar 04-18-94
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

#33

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14016-H
Work Order # I-94-01-224

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 106177

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DISPLAY				All Calibrations Btn. + & - 10%
2		100 CPM	100 CPM	100 CPM	
3		200	200	200	
4		400	400	400	
5		1K	1,000	1,000	
6		2K	2,007	2,007	
7		4K	4,017	4,017	
8		10K	9,949	9,949	
9		20K	19,978	19,978	
10		40K	40,167	40,167	
11		100K	99,480	99,480	
12		200K	199,743	199,743	
13		400K	401,595	401,595	
14					
15	SCALER				
16	0.1 MIN	20K CPM	2,000	2,000	
17	0.2	20K	4,001	4,001	
18	0.5	20K	10,004	10,004	
19	1	20K	20,010	20,010	
20	2	20K	40,022	40,022	
21	5	20K	100,010	100,010	
22	10	20K	199,648	199,648	
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 01-31-94
Next Calibration Due: 04-30-94

I certify that the above information is correct:
Administrative Coordinator — Date: 01-31-94

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: ~~Avenue~~ A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14016-H
Work Order # I-94-01-224

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 91943
External Probe(s) 44-2 Serial # 106177

Calibration Method 137Cs Pulser s/n 101500
137Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	205	205	
3		400	405	405	Mechanical Zero: OK
4					
5	X10	1K	1K	1K	Battery Check: OK
6		2K	2.05K	2.05K	
7		4K	4.05K	4.05K	Audio: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20.5K	20.5K	
11		40K	40.5K	40.5K	Zero: OK
12					
13	X1K	100K	100K	100K	Lamp: OK
14		200K	205K	205K	
15		400K	405K	405K	Threshold = 230
16					
17	LOG	400	440	440	Input Sensitivity = 10 mV
18		4K	4.4K	4.4K	
19		40K	44K	44K	Window: OUT
20		400K	440K	440K	
21					High Voltage = 900 Volts
22					
23					1 mR/hr = 206K CPM in 137Cs field

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 01-31-94
Next Calibration Due: 04-30-94

I certify that the above information is correct:
[signature] 01-31-94
Administrative Coordinator — Date

Applied HEALTH PHYSICS inc.

2986 Industrial Blvd. — Bethel Park, Pa. 15102 — Phone 412 — 835-9555 — Fax No. 412 — 835-9559

CERTIFICATE OF CALIBRATION

SHIPPING ADDRESS	BILLING ADDRESS (If Different)
WESC Ave. "A" & West St. Ligh., PA 15113	JAME

CONTACT: C. Smith PHONE: (—) 29-3677 DATE: 10/14/93 P.O.# MA89328-S

Receiving Comments: Calibration.

Instrument Received:	X	Within Toler. ±10%		±10-20%		Out Toler.		Requires Repair

Mfg. Inst. Ludlum Model # 2221 Serial # 91943
Detector " Model # 44-9 Serial # 166177

	X	CALIBRATION		REPAIR		SALE		LOAN By: D. Bowden

scale	source	reading	scale	source	reading	scale	source	reading
	~~mR/hr~~ cpm	cpm		~~mR/hr~~ cpm	cpm		~~mR/hr~~ cpm	cpm
X1	100	98	X100	10000	9253	Log	200	199
	400	398		40000	39679		5000	1989
							20000	19797
	1000	987	X1000	100000	98476		200000	199163
X10	4000	3967		400000	397146			
Eff	≅ 410,000 cpm/mR/h		Ra-226 Gamma!			@ 5000 cpm background		

Rec 10-15-93 EB UPS 186.96

Calibration Source:	X	GAMMA		ALPHA		BETA	X	ELECTRONIC		OTHER
Description:	X	ra-226		cs-137		pu-239		sr-90	X	mp-1 (500)

RESPONSE GRAPH N/A

TEMP/HUMIDITY 72.0°F/ 39 %

PROBE EFFICIENCIES N/A

Alpha — % Beta — %
Check Source Reading N/A
Battery Check Reading 6.1 Volts
Detector Angle Parallel
Corrections N/A ± 10% Flat.

Maintenance & Comments Replaced (4) D Cells, HV-ok @ 900, Th ≅ 100, 10=4mV, Audio-OK, Timer-OK, Win-out.

Tested, Inspected & Calibrated

CALIBRATION	Contract	—	110.00	QA Dept.	Warranty —
LABOR	Mag!		30.00	Shipping UPS	Date 10/14/93
MATERIALS	(4) D Cells	P. avg	4.00	Pick-Up —	Date — / — / —
&				This Certificate Expires In 12 Months	
SALES				Re-Calibrate On Or Before 1/14/94	
SHIPPING	UPS	1 Unit	7.14	Job ID # 59585	

NOTICE: Applied Health Physics, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology under Nuclear Regulatory Commission License #37-09135-01 and PA State License #PA-0228. This calibration system conforms to the requirements of NRC regulation 10-CFR-34, 10-CFR-35, MIL-STD 45662A and ANSI-STD N323-1978.

CODE NUMBER 34

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-9A-02-B
s/n MDI 1176K

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	2 CFM	2 CFM	2 CFM	All Calibrations Btn. + & - 10%
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 12-17-98
Next Calibration Due: 06-17-99

I certify that the above information is correct:
Administrative Coordinator
12-17-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-06-209

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	2 CFM	2.5 CFM	2 CFM	All Calibrations Btn. + & - 10%
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens
(Signed)
Calibration Date: 06-09-98
Next Calibration Due: 12-09-98

I certify that the above information is correct:
Administrative Coordinator
06-09-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-9A-02-B
s/n MDI1176K
Gra Lab Timer s/n 001

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	2 CFM	2 CFM	2 CFM	All Calibrations Btn. + & - 10%
2					
3					Calibrated with Gelman 47mm A/E
4					Glass Fiber Filter Paper
5					
6					Timer: OK
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 12-04-97
Next Calibration Due: 06-04-98

I certify that the above information is correct:
_____ Administrative Coordinator
12-04-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz 505-8
ME 2764
GRA-LAB Timer 001

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	2 CFM	Regulator Stuck-Flow meter stuck	2 CFM	All Calibrations Btn. + & - 10%
2					
3					Calibrated with customer supplied Filter paper.
4					
5					
6					Timer: OK
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens
(Signed)
Calibration Date: 04-01-97
Next Calibration Due: 10-01-97

I certify that the above information is correct:
Tim Lowe
Administrative Coordinator
04-01-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-12-210

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	2 CFM	1.8 CFM	2 CFM	All Calibrations Btn. + & - 10%
2					
3					calibrated with customer filter
4					paper
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 12-19-95
Next Calibration Due: 06-19-96

I certify that the above information is correct:
Administrative Coordinator
12-19-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-04-220

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	2 CFM	1.9 CFM	2 CFM	All Calibrations Btn. + & - 10%
2					
3					Calibrated with customer supplied filter paper
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 05-16-95
Next Calibration Due: 11-16-95

I certify that the above information is correct:
Administrative Coordinator
05-16-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: 1000 Cheswick Avenue
Cheswick, PA 15024

Customer P.O.# MB-14027-S
Work Order # I-96-07-208

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	2 CFM	2.4 CFM	2 CFM	All Calibrations Btn. + & - 10%
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 07-11-96
Next Calibration Due: 11-01-97

I certify that the above information is correct:
Administrative Coordinator
07-11-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westhinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-94-12-219

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-276

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	2 CFM	2 CFM	2 CFM	All Calibrations Btn. + & - 10%
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 12-20-94
Next Calibration Due: 06-20-95

I certify that the above information is correct:
Administrative Coordinator
12-20-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-05-222

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	2 CFM	2 CFM	2 CFM	All Calibrations Btn. + & - 10%
2					
3					calibrated with customer supplied
4					filter paper
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 05-11-94
Next Calibration Due: 11-11-94

I certify that the above information is correct:
Thomas M. DeBlasio — Administrative Coordinator
05-11-94 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric Corp.
Customer Address: 1 West Street
East Pittsburgh, PA 15112

Customer P.O.# MB14016H
Work Order # I-93-10-241

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	2 CFM	2.4 CFM	2 CFM	All Calibrations Btn. + & - 10%
2					2 CFM = 16.5" Hg
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 10-19-93
Next Calibration Due: 04-19-94

I certify that the above information is correct:
_____ 10-19-93
Administrative Coordinator Date

CODE NUMBER 35

REPORT #001

CALIBRATION RECORDS

FOR INSTRUMENTS USED FOR

RADIOLOGICAL SURVEYS

JUNE 27, 2000

VOLUME 7 OF 7

WESTINGHOUSE ELECTRIC CORPORATION

BLAIRSVILLE, PA

CALIBRATION RECORDS

FOR INSTRUMENTS USED FOR

RADIOLOGICAL SURVEYS

TABLE OF CONTENTS

CALIBRATION RECORDS

FOR INSTRUMENTS USED FOR

RADIOLOGICAL SURVEYS

Purpose

The Westinghouse Blairsville Site utilized nuclear materials during the period of the mid to late 1950's to the early part of the 1960's. Work was performed both under licenses with the atomic Energy Commission and for the Bettis Atomic Power Laboratory. Although all work ceased during the 1960's, subsequent radiological surveys and investigations, starting in 1993, established that some residual radioactivity, primarily in underground piping and subsurface soil contamination, existed on the site. During the period of 1993 through the present, additional remediation work and radiological surveys have been conducted to establish that the site can be released for unrestricted use. This series of reports documents the results of the final status radiological surveys subsequent to the various remediation efforts.

Scope

This report compiles information on the calibration of the radiological survey instruments, which were used to measure the radiation levels presented in the other reports issued for this project. In each report, which documents a final radiological survey, the data sheets that record the measured radiation levels also provide specific information with respect to the specific instrument used to make the measurement. This report provides the necessary information to establish the entire calibration history of each specific instrument. These instruments have been used for the Westinghouse sites at Blairsville, Cheswick, and Forest Hills (now Viacom, Inc.). Therefore these calibration records are applicable to all these sites.

Discussion

All instruments used for radiological surveys on this project were calibrated on a frequency depending on the specific instrument. The calibration history for every instrument used on the project is summarized in appendix A, which cover the years 1993 through 1999. These summaries also provide a reference to a "Code Number." Included with this report in Appendix B are sheets labeled "Code Number 1" through "Code Number 70." Each of these "codes" incorporates the calibration records as appropriate for the specific instrument.

The certification sheets for each of the source standards used by the project to calibrate the instruments for conversion of CPM to DPM are included in Appendix C. Other calibrations were performed at other licensed operations as noted by the calibration records and no information on Source Certification is provided here.

CALIBRATION RECORDS

FOR INSTRUMENTS USED FOR

RADIOLOGICAL SURVEYS

List of Volume Contents

CODE NUMBER 36

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6994
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-9A-02-B
s/n MDI 1176K

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	VARIABLE	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	
4					
5		3	3	3	
6					
7		4	4	4	
8					
9	HIGH	4.9	4.9	4.9	
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 12-17-98
Next Calibration Due: 06-17-99

I certify that the above information is correct:
Administrative Coordinator
12-17-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-11-208

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6994
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-9A-02-8
s/n MDI1176K

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	VARIABLE	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	
4					
5		3	3.2	3.2	
6					
7	HIGH	5.1	5.1	5.1	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument)

Instrument Calibrated by: Janet Christop (Signed)
Calibration Date: 12-04-97
Next Calibration Due: 06-04-98

I certify that the above information is correct:
Administrative Coordinator
12-04-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H809V1 Serial Number 6994
External Probe(s) _____ Serial # _____

Calibration Method Kurz 505-9A-02-B
MDI 1176K

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	Variable	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	
4					
5		3	3	3	
6					
7					
8					
9	High	5.1	5.1	5.1	
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owen
(Signed)
Calibration Date: 04-01-97
Next Calibration Due: 10-01-97

I certify that the above information is correct:
Tim Brown — 04-01-97
Administrative Coordinator — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-07-209

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6994
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	VARIABLE	1 CFM	Replace Eye Bolt	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2		2	Calibrated with 47mm A/E Filter paper, no charcoal or other filter media used
4					
5		3		3	
6					
7	HIGH	4.7		4.7	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 07-23-96
Next Calibration Due: 01-23-97

I certify that the above information is correct:
Administrative Coordinator — 07-23-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-95-11-210

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6994
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	1.9	2	Calibrated with customer supplied filter paper
4					
5		3	2.9	3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 12-05-95
Next Calibration Due: 06-05-96

I certify that the above information is correct:
_____ Administrative Coordinator
12-05-95 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-05-220

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6994
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	Calibrated with customer supplied filter paper
4					
5		3	3	3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 05-16-95
Next Calibration Due: 11-16-95

I certify that the above information is correct:
Theresa Miller
Administrative Coordinator
05-16-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsubrgh, PA 15221

Customer P.O.# MP-14027-S
Work Order # I-94-07-223

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6994
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	
4					
5		3	3	3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 07-25-94
Next Calibration Due: 01-25-95

I certify that the above information is correct:
Theresa McCabe — Administrative Coordinator — 07-25-94 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric Corp.
Customer Address: Forest Hill Site
Avenue A & West Street
Pittsburgh, PA 15221
Customer P.O.# MB-14016-H
Work Order # I-94-01-219

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6994
External Probe(s) _____ Serial # _____
Calibration Method Kurz Model 505-8 s/n ME-276

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	INITIAL CALIBRATION	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2		2	
4					
5		3		3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-13-94
Next Calibration Due: 07-13-94

I certify that the above information is correct:
Teresa McDell
Administrative Coordinator
01-13-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric
Customer Address: Forest Hills Site
Pittsburgh, PA 15221

Customer P.O.# BM-14016-H
Work Order # I-94-01-224

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6992
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	< 1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	1.5	2	
4					
5		3	2.5	3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-24-94
Next Calibration Due: 07-24-94

I certify that the above information is correct:
Administrative Coordinator — Date: 01-24-94

CODE NUMBER 37

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric Corp.
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14016-H
Work Order # I-94-01-224

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6996
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	< 1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	< 1	2	
4					
5		3	1.5	3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-24-94
Next Calibration Due: 07-24-94

I certify that the above information is correct:
Theresa M DeBoos 01-24-94
Administrative Coordinator Date

CODE NUMBER 38

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6997
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-9A-02-B s/n MDI1176K

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	VARIABLE	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	
4					
5		3	3	3	
6					
7		4	4	4	
8					
9	HIGH	4.7	4.7	4.7	
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 12-17-98
Next Calibration Due: 06-17-99

I certify that the above information is correct:
Administrative Coordinator
12-17-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-02-208

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6997
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-9A-02-B s/n MDI1176K

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	VARIABLE	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	
4					
5		3	3	3	
6					
7	HIGH	5.4	5.4	5.4	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 02-12-98
Next Calibration Due: 08-12-98

I certify that the above information is correct:
Administrative Coordinator
02-12-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-07-209

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6997
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-276

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	VARIABLE	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	Calibrated with 47mm A/E Filter
4					paper, no other charcoal or other
5		3	3	3	filter media used
6					
7	HIGH	4.3	4.3	4.3	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 07-23-96
Next Calibration Due: 01-23-97

I certify that the above information is correct:
Administrative Coordinator
07-23-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-95-11-210

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6997
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response: Before Calib.	Instrument Response: After Calib.	Comment
1	N/A	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	
4					
5		3	3	3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 12-05-95
Next Calibration Due: 06-05-96

I certify that the above information is correct:
_____ Administrative Coordinator
12-05-95 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-05-220

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6997
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	< 1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	1.8	2	Calibrated with customer supplied supplied filter paper
4					
5		3	2.8	3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 05-16-95
Next Calibration Due: 11-16-95

I certify that the above information is correct:
Teresa M. DeBos — Administrative Coordinator — 05-16-95 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-07-223

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6997
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3		2	2	2	
4					
5		3	3	3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 07-25-94
Next Calibration Due: 01-25-95

I certify that the above information is correct:
Administrative Coordinator
07-25-94
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse Electric Corp
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14016-H
Work Order # I-94-01-219

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model H-809 V1 Serial Number 6997
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-276

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	1 CFM	Repair	1 CFM	All Calibrations btn. + & - 10%
2			Broken Flow		
3		2	Tube	2	
4					
5		3		3	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 01-13-94
Next Calibration Due: 07-13-94

I certify that the above information is correct:
Theresa M. [illegible] — 01-13-94
Administrative Coordinator — Date

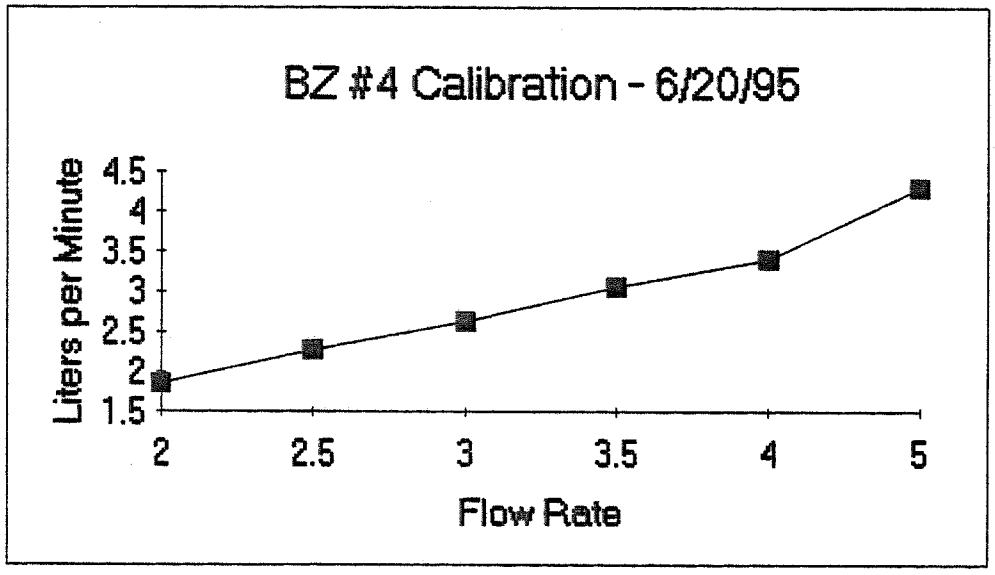
CODE NUMBER 39

REPORT #001

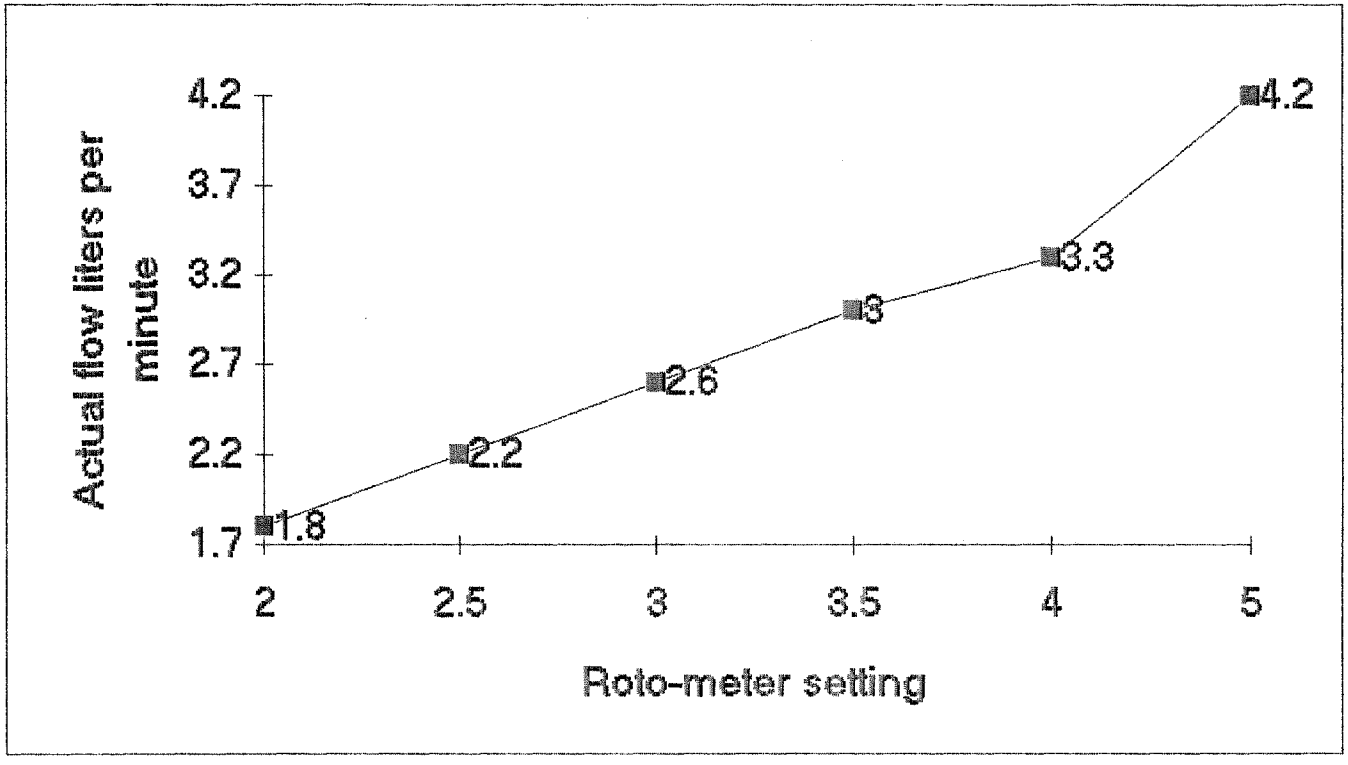
Breathing Zone Ai. Sampler Calibrations

BZ #4

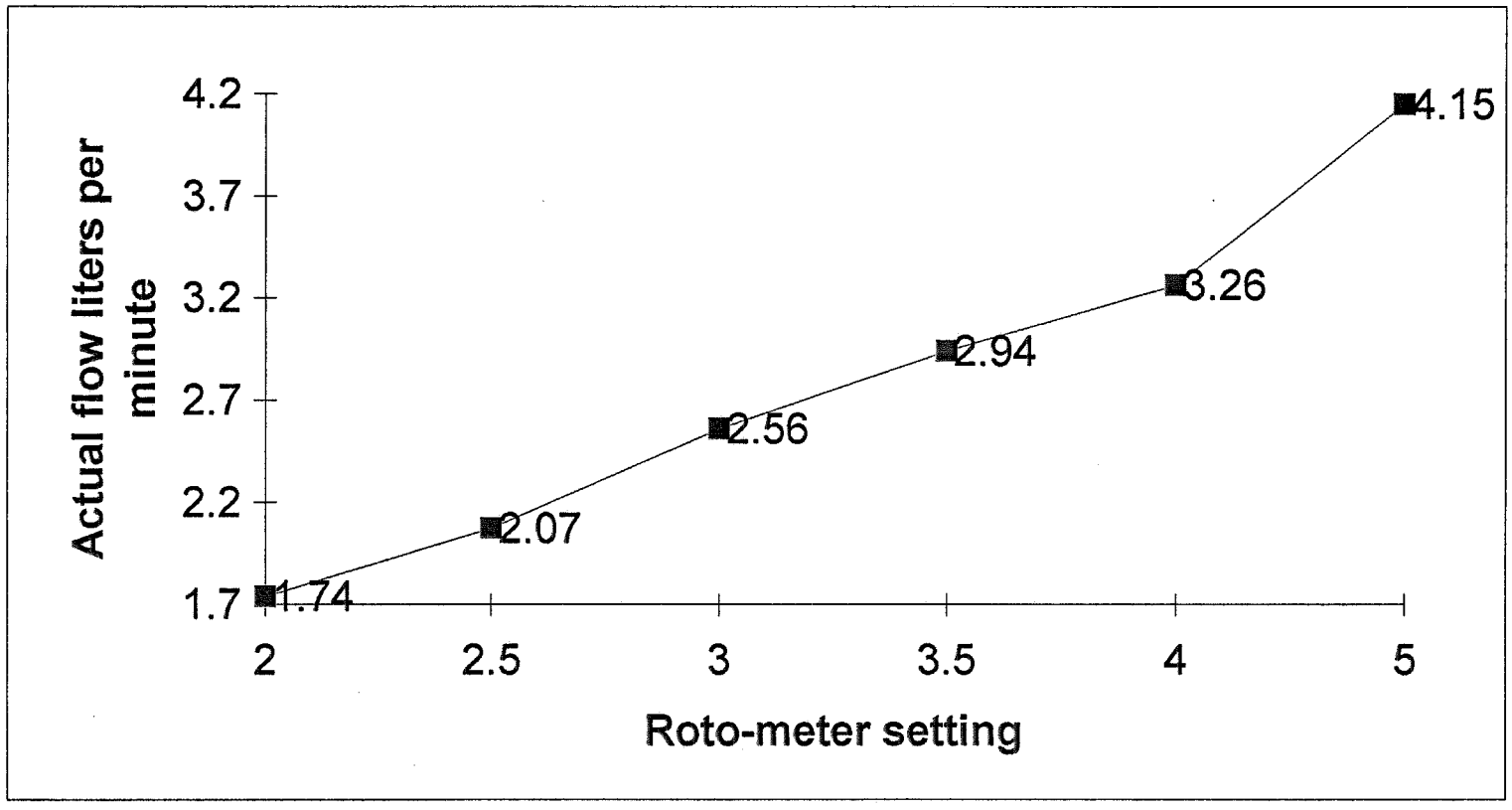
Flow	LPM
2	1.86
2.5	2.28
3	2.63
3.5	3.06
4	3.4
5	4.3



Calibration Date:	8/30/94		BZ Sampler #4			
Rotameter setting	2	2.5	3	3.5	4	5
Actual flow LPM	1.8	2.2	2.6	3	3.3	4.2



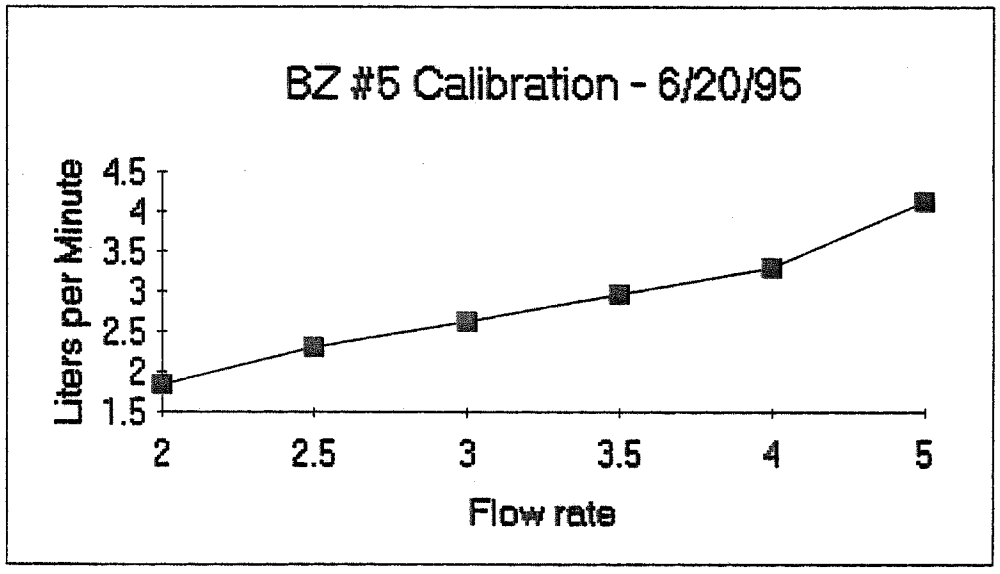
Calibration Date:	1/18/94	BZ Sampler #4				
Rotameter setting	2	2.5	3	3.5	4	5
Actual flow LPM	1.74	2.07	2.56	2.94	3.26	4.15



Breathing Zone Air Sampler Calibrations

BZ #5

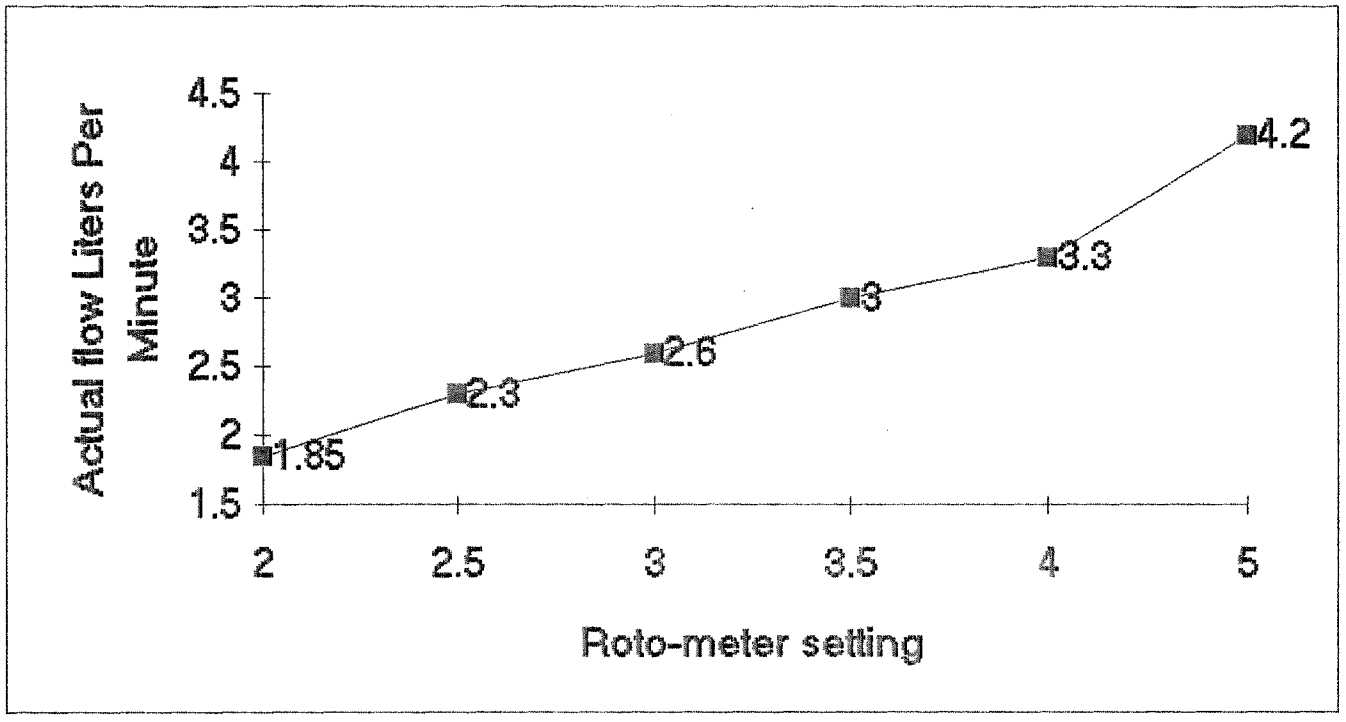
Flow	LPM
2	1.84
2.5	2.31
3	2.63
3.5	2.97
4	3.3
5	4.14



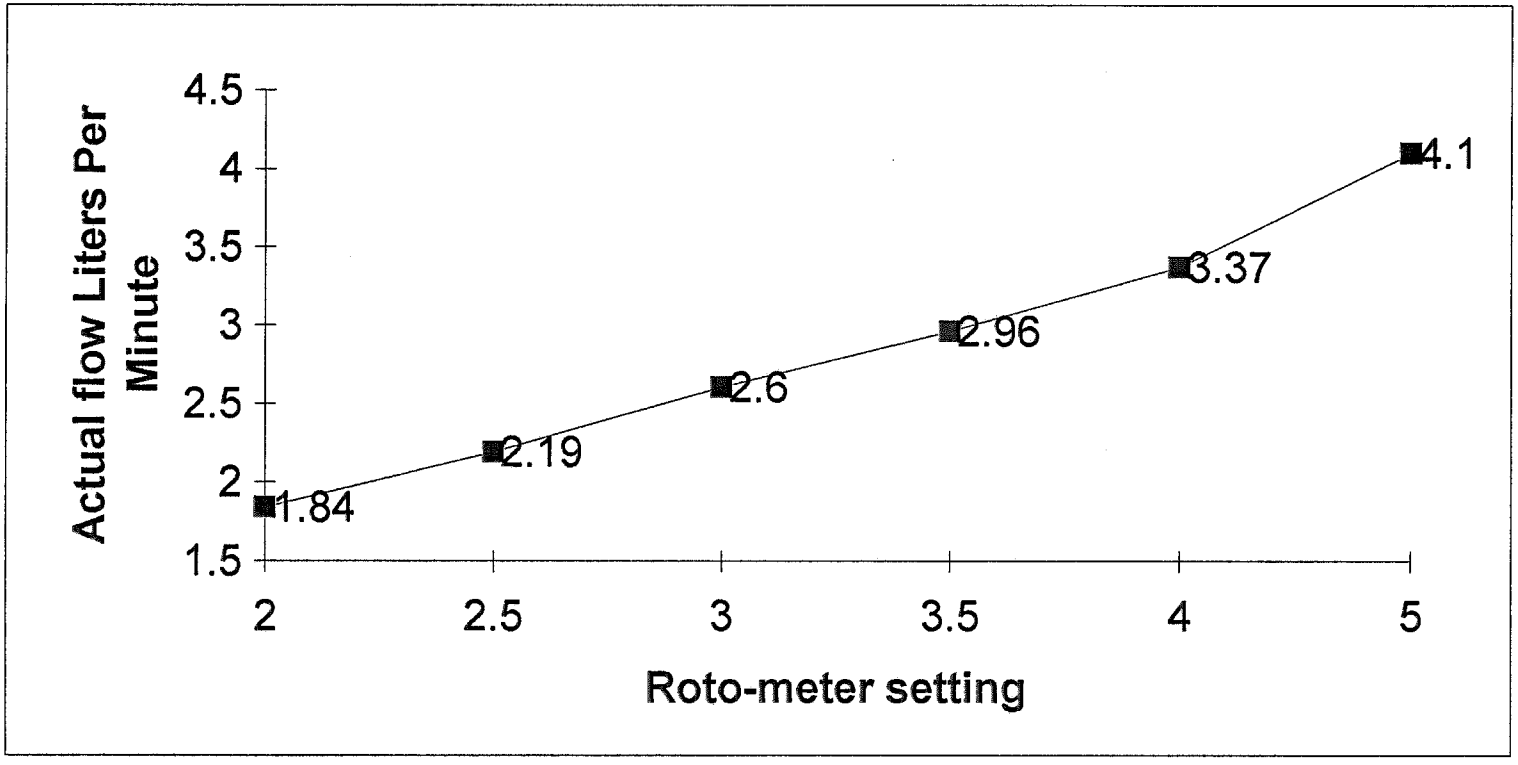
CODE NUMBER 40

REPORT #001

Calibration Date:	8/30/94		BZ Sampler #5			
Rotameter setting	2	2.5	3	3.5	4	5
Actual flow LPM	1.85	2.3	2.6	3	3.3	4.2



Calibration Date:	1/18/94		BZ Sampler #5			
Rotameter setting	2	2.5	3	3.5	4	5
Actual flow LPM	1.84	2.19	2.6	2.96	3.37	4.1



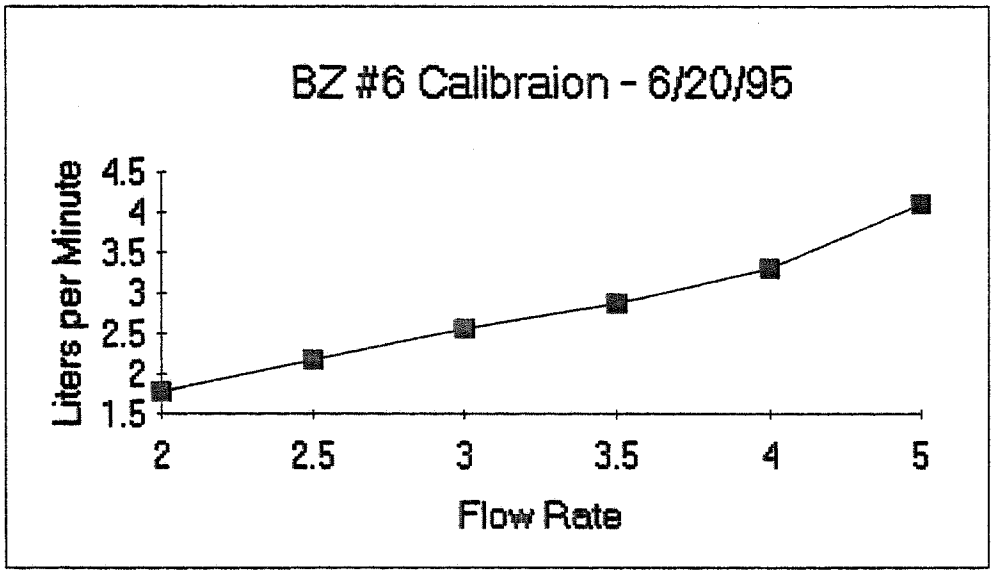
CODE NUMBER 41

REPORT #001

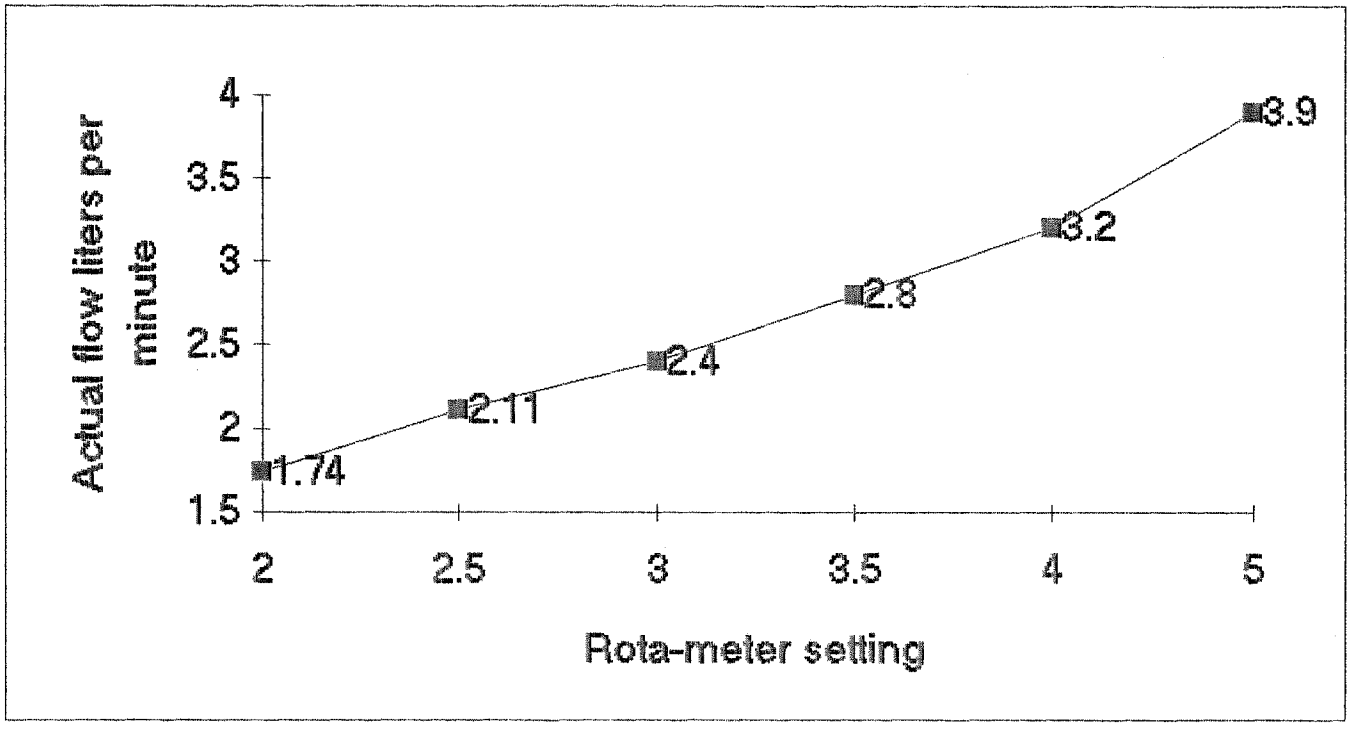
Breathing Zone Ai. Sampler Calibrations

BZ #6

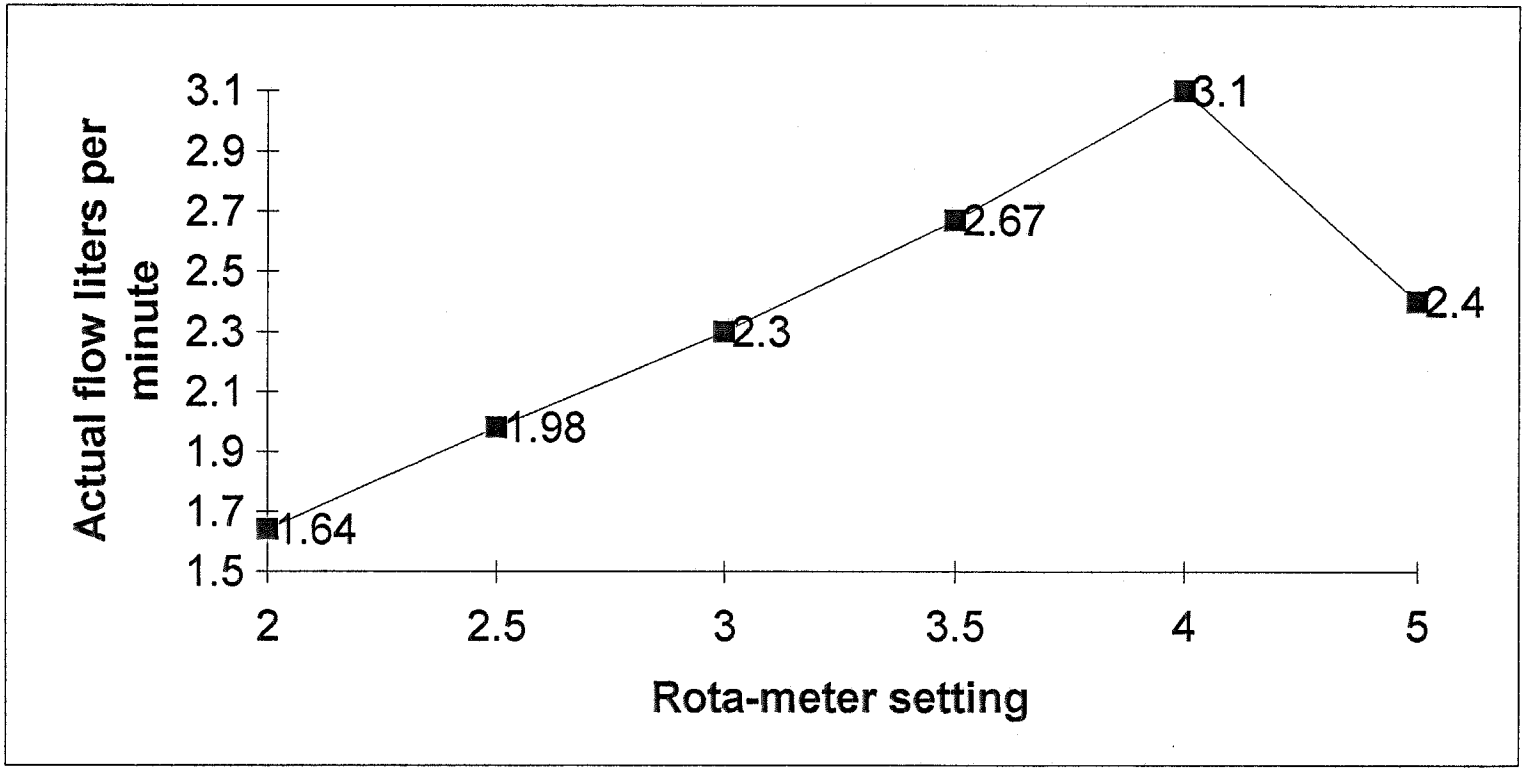
Flow	LPM
2	1.78
2.5	2.18
3	2.56
3.5	2.87
4	3.3
5	4.1



Calibration Date:	8/30/94		BZ Sampler #6			
Rotameter setting	2	2.5	3	3.5	4	5
Actual flow LPM	1.74	2.11	2.4	2.8	3.2	3.9



Calibration Date:	1/18/94		BZ Sampler #6			
Rotameter setting	2	2.5	3	3.5	4	5
Actual flow LPM	1.64	1.98	2.3	2.67	3.1	2.4



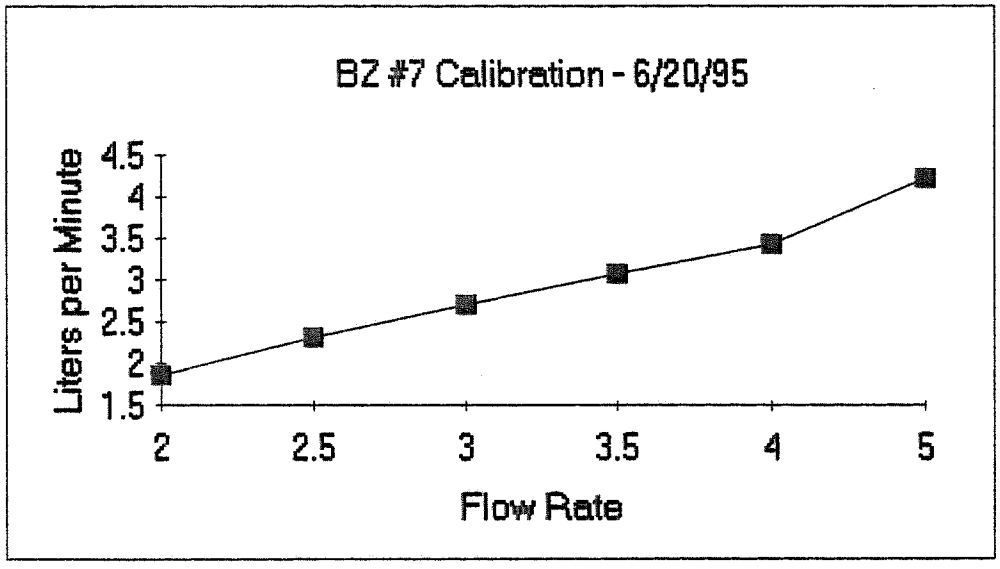
CODE NUMBER 42

REPORT #001

Breathing Zone Air Sampler Calibrations

BZ #7

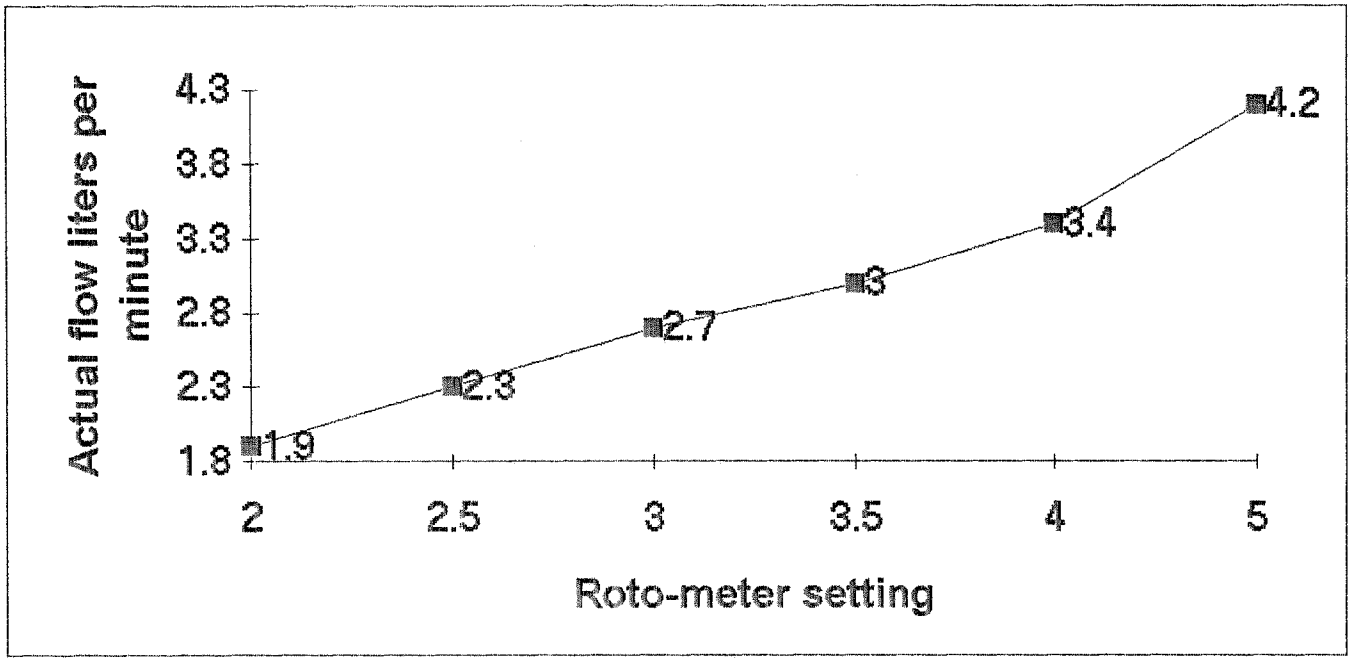
Flow	LPM
2	1.86
2.5	2.31
3	2.7
3.5	3.07
4	3.43
5	4.22



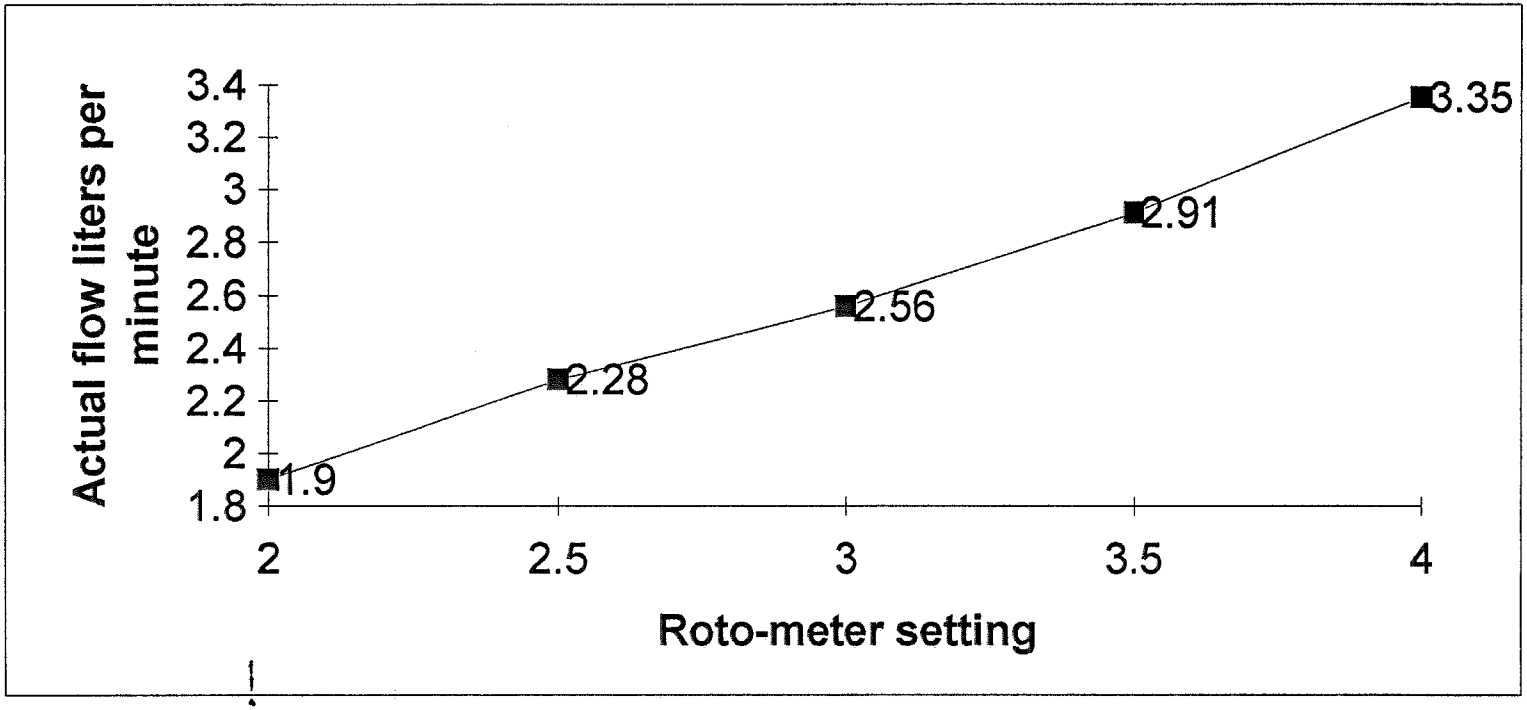
CODE NUMBER 43

REPORT #001

Calibration Date:	8/30/94	BZ Sampler #8				
Rotameter setting	2	2.5	3	3.5	4	5
Actual flow LPM	1.9	2.3	2.7	3	3.4	4.2



Calibration Date:	1/18/94		BZ Sampler #8		
Rotameter setting	2	2.5	3	3.5	4
Actual flow LPM	1.9	2.28	2.56	2.91	3.35



CODE NUMBER 44

REPORT #001

IH & S Form #C-210
Cheswick Site

BETA EFFICIENCY

Page of

INSTRUMENT: (E-520)	Serial Number: 4195	Code Number: 44

SOURCE INFORMATION

CHECK IF USED	SOURCE NUMBERS	ACTIVITY (DPM)	SOURCE TYPE
✓	761/84	162	TC-99
✓	762/84	1310	TC-99
✓	763/84	18700	TC-99
✓	764/84	146000	TC-99

BETA CALIBRATION

SOURCE NUMBER	ACTIVITY DPM	INST. RANGE	TOLERANCE	READING GROSS CPM	BKG. CPM	READING NET CPM	EFFICIENCY
761/84	162	X.01	± 10%	60	30	30	18.5
762/84	1310	X.1	± 10%	220	30	190	14.5
763/84	18700	X1	± 10%	5000	30	4970	26.6
764/84	146000	X10	± 10%	55000	30	54970	37.7

COMMENTS:

EFFICIENCY 24.3 %
CF: 4.11

CALIBRATED BY: Larry Smith	SIGNATURE:	DATE: 3-25-99

IH & S Form #C-210
Cheswick Site

BETA EFFICIENCY

Page **of**

INSTRUMENT: (E-520)	Serial Number: 4195	Code Number: 44

SOURCE INFORMATION

CHECK IF USED	SOURCE NUMBERS	ACTIVITY (DPM)	SOURCE TYPE
✓	761/84	162	TC-99
✓	762/84	1310	TC-99
✓	763/84	18700	TC-99
✓	764/84	146000	TC-99

BETA CALIBRATION

SOURCE NUMBER	ACTIVITY DPM	INST. RANGE	TOLERANCE	READING GROSS CPM	BKG. CPM	READING NET CPM	EFFICIENCY
761/84	162	X.01	±10%	60	30	30	18.5
762/84	1310	X.1	±10%	300	30	270	20.6
763/84	18700	X 1	±10%	5000	30	4970	26.5
764/84	146000	X 10	±10%	60,000	30	59,970	41.1

COMMENTS:

AVG. EFF: 26.7 %

CALIBRATED BY: Larry Smith	SIGNATURE:	DATE: 12-21-98

IH & S Form #C-210
Cheswick Site

BETA EFFICIENCY

INSTRUMENT: (E-520)	Serial Number: 4195	Code Number: 44

SOURCE INFORMATION

CHECK IF USED	SOURCE NUMBERS	ACTIVITY (DPM)	SOURCE TYPE
✓	761/84	162	TC-99
✓	762/84	1310	TC-99
✓	763/84	18700	TC-99
✓	764/84	146000	TC-99

BETA CALIBRATION

SOURCE NUMBER	ACTIVITY DPM	INST. RANGE	TOLERANCE	READING GROSS CPM	BKG. CPM	READING NET CPM	EFFICIENCY
761	162	x.01	±10%	50	30	20	12.3%
762	1310	x.1	±10%	350	30	320	24.4%
763	18700	x1	±10%	5000	30	4970	26.6%
764	146000	x10	±10%	60000	30	59970	41%

COMMENTS:

AVG EFF 26%
CF = 3.85

CALIBRATED BY: Larry Smith	SIGNATURE: Larry Smith	DATE: 9-14-98

IH & S Form #C-210
Cheswick Site

BETA EFFICIENCY

Page of

INSTRUMENT: (E-520)	Serial Number: 4195	Code Number: 44

SOURCE INFORMATION

CHECK IF USED	SOURCE NUMBERS	ACTIVITY (DPM)	SOURCE TYPE
	761/84	162	TC-99
	762/84	1310	TC-99
	763/84	18700	TC-99
	764/84	146000	TC-99

BETA CALIBRATION

SOURCE NUMBER	ACTIVITY DPM	INST. RANGE	TOLERANCE	READING GROSS CPM	BKG. CPM	READING NET CPM	EFFICIENCY
761/84	161.9	x.01	± 10	70	40	30	18.5%
762/84	1309.9	x.1	± 10	370	40	330	25.2%
763/84	18699	x 1.0	± 10	5800	40	5760	30.8%
764/84	145994	x 10	± 10	62,000	40	61,960	42.4%

COMMENTS: AVG. EFF. = 29.2%
C.F. = 3.4

CALIBRATED BY: CARMEN VERGARI	SIGNATURE: Carmen Vergari	DATE: 5/12/98

IH & S Form #C-210
Cheswick Site

BETA EFFICIENCY

INSTRUMENT: (E-520)	Serial Number: 4195	Code Number: 44

SOURCE INFORMATION

CHECK IF USED	SOURCE NUMBERS	ACTIVITY (DPM)	SOURCE TYPE
✓	761/84	162	TC-99
✓	762/84	1310	TC-99
✓	763/84	18700	TC-99
✓	764/84	146000	TC-99

BETA CALIBRATION

SOURCE NUMBER	ACTIVITY DPM	INST. RANGE	TOLERANCE	READING GROSS CPM	BKG. CPM	READING NET CPM	EFFICIENCY
761/84	161.9	x.01	± 10	70	40	30	18.5%
762/84	1309.9	x.10	± 10	350	40	310	23.7%
763/84	18699	x 1.0	± 10	6000	40	5960	32.1%
764/84	145994	x 10	± 10	60,000	40	59,960	41.1%

COMMENTS: AVG. EFF. = 28.8%

C.F. = 3.5

CALIBRATED BY: C. VERGARI	SIGNATURE: Carmen Vergari	DATE: 1/28/98

CODE NUMBER 45

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-03-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model MP-2 Serial Number 125
External Probe(s) _____ Serial # _____

Calibration Method O-Scope s/n H703906

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	3 mV	1 mV	1.09 mV	1 mV	Instrument was intercomparied to
2		2	2.10	2	O-Scope which is NIST traceable,
3					Biard was used as a readout for
4	10 mV	2	2.18	2.08	frequency
5		8	8.04	7.56	
6					Battery: OK
7	30 mV	10	10.5	10.2	
8		20	20.2	19.0	Mechanical Zero: OK
9					
10	100 mV	20	21.6	20.8	
11		80	80.6	75.6	
12					
13	0.3 V	0.1 V	0.105 V	0.102 V	
14		0.2	0.202	0.193	
15					
16	1	0.2	0.218	0.208	
17		0.8	0.820	0.785	
18					
19	3	1	1.128	1.070	
20		2	2.066	1.974	
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 03-08-96
Next Calibration Due: 03-08-97

I certify that the above information is correct:
_____ 03-08-96
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-03-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model MP-2 Serial Number 125
External Probe(s) _____ Serial # _____

Calibration Method Baird s/n 150

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	1.6 CPM	16 CPM	16 CPM	10 Minute Count
2					
3	X1	2	2	2	1 Minute Counts
4		4	4	4	
5		16	16	16	
6	X10	20	20	20	
7		40	40	40	
8		160	160	160	
9	X100	200	200	200	
10		400	400	400	
11		1.6K	1,599	1,599	
12	X1K	2K	1,999	1,999	
13		4K	3,999	3,999	
14		16K	15,995	15,995	
15	X10K	20K	19,995	19,995	
16		40K	39,988	39,988	
17		160K	159,966	159,966	
18	X100K	200K	199,953	199,953	
19		400K	399,925	399,925	
20		800K	799,728	799,728	
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 03-08-96
Next Calibration Due: 03-08-97

I certify that the above information is correct:
_____ Administrative Coordinator
03-08-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-49-06-231

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model MP-2 Serial Number 125
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 301
Scope 465 s/n B275338
Baird s/n 150

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	3 mV	1 mV		1 mV	This instrument was intercompared
2		2		2	to a MP-1 and Scope which are both
3					NIST traceable; the Baird was used
4	10 mV	2		2	as a readout for frequency
5		8		8	
6					
7	30 mV	10		10	
8		20		20	
9					
10	100 mV	20		20	
11		80		77	
12					
13	0.3 V	100		102	
14		200		200	
15					
16	1 V	200		210	
17		800		780	
18					
19	3 V	1,000		1,050	
20		2,000		2,000	
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 06-28-94
Next Calibration Due: 06-28-95

I certify that the above information is correct:
Theresa M DeBaud — Administrative Coordinator
06-28-94 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-06-231

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model MP-2 Serial Number 125
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 301

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	1.6 CPM		1.6 CPM	10 Minute Count
2					
3	X1	2		2	1 Minute Counts
4		4		4	
5		16		16	
6	X10	20		20	
7		40		40	
8		160		160	
9	X100	200		200	
10		400		400	
11		1,600		1,600	
12					
13	X1K	2K		2,000	
14		4K		4,001	
15		16K		16,004	
16	X10K	20K		20,001	
17		40K		40,010	
18		160K		160,021	
19	X100K	200K		200,021	
20		400K		400,038	
21		800K		800,090	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 06-28-94
Next Calibration Due: 06-28-95

I certify that the above information is correct:
Theresa M DeLuca — Administrative Coordinator
06-28-94 — Date

CODE NUMBER 46

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-03-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model MS-1 Serial Number 173
External Probe(s) _____ Serial # _____

Calibration Method 137Pulser s/n 120935
Cs s/n 53015

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	0.1 MIN	40K CPM	4,000 CPM	4,000 CPM	All Calibrations Btn. + & - 10%
2					
3	1 MIN	40K	40,110	40,110	Test: OFF
4					
5	10 MIN	40K	400,835	400,835	Window: OUT
6					
7					Threshold @ 10 mV = 3.54 on dial
8					
9					High Voltage = 1200 Volts
10					7.88 on dial
11					
12					CH1 Squared performed to insure
13					stability of SPA-3 probe
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 03-11-96
Next Calibration Due: 06-11-96

I certify that the above information is correct:
Administrative Coordinator
03-11-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

ELECTRONIC CALIBRATION

Electronic Calibration

1. Test Instrument	See	5. Time Base	
2. Pulse Rate	Cal	6. Counting Time	
3. Amplitude	Cert.	7. High Voltage	
4. Time Period	↳	8. Counts	

Background Determination

9. Instrument Model	MS-1 / SPA-3	15. Time Period	N/A
10. Serial Number	173	16. Time Base	
11. Location	Pgh, PA	17. Counting Time	
12. Date	3-11-96	18. Purge Time	N/A
13. Time	0920	19. Type of Radiation	☐ Alpha ☐ Beta
14. Test By	RRM	20. Background	N/A @ 1200 V (7.88 on Dial)

Efficiency Determination

21. Source & S/N	Cs^{137} 5395	26. Average Count Rate $\left(\frac{\text{sum total A}}{10}\right)$	= 1208.4 CPM
22. Source DPM	N/A		
23. Time Base	1	27. $2\sigma\ (2\sqrt{\text{average count rate}})$	= 69.5
24. Time Period	x1	28. Chi Square Number $\left(\frac{\text{sum total C}}{\text{line 26}}\right)$	= 6.9
25. Counting Time	1 MIN	29. Chi Square Fit (2-22)	= ☒ Yes
		If "NO" Contact Foreman	☐ No
		30. Net Count Rate (line 26-line 20)	N/A
		31. Efficiency:	
		$\frac{\text{Net CPM (line 30)}}{\text{Source DPM (line 22)}}$ X 100=	N/A

Trial #	CPM (A)	Difference from Ave. Count (B)	Difference Squared (C)
1	1185	23.4	547.6
2	1210	1.6	2.6
3	1206	2.4	5.8
4	1223	14.6	213.2
5	1253	44.6	1989.2
6	1161	47.4	2246.8
7	1214	5.6	31.4
8	1211	2.6	6.8
9	1170	38.4	1474.6
10	1251	42.6	1814.8

TOTALS:
A 12084
B n/a
C 8332.8

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. 3700
Pittsburgh, PA 15221

Customer P.O.# NB-14027-S
Work Order # I-95-11-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model NB-1 Serial Number 173
External Probe(s) SPA-3 Serial # [illegible]

Calibration Method [illegible] Pulser s/n 298 & 120935
[illegible] Cs s/n 32015

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	0.1 MIN	40K CPM	3,998 CPM	3,998 CPM	All Calibrations Btn. + & - 10%
2					
3	1 MIN	40K	39,988	39,988	Test: OFF
4					
5	10 MIN	40K	399,947	399,947	Window: OUT
7					Threshold = 10mV = 5.34 on dial
8					
9					High Voltage = 1200 Volts
10					7.88 on dial
11					
12					see attached sheet for additional
13					information
14					
15					CHl performed to insure stability
16					of SPA-3 probe
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] 12-05-95 (Signed)
Calibration Date: 12-05-95
Next Calibration Due: 03-05-96

I certify that the above information is correct:
[signature] 12-05-95
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

ELECTRONIC CALIBRATION

Electronic Calibration

1. Test Instrument: SEE
2. Pulse Rate: CAL
3. Amplitude: CERT.
4. Time Period: ↳
5. Time Base:
6. Counting Time:
7. High Voltage:
8. Counts:

Background Determination

9. Instrument Model: MS-1 / SPA-3
10. Serial Number: 173
11. Location: PGH, PA
12. Date: 12-5-95
13. Time: 0830
14. Test By: RBM
15. Time Period: N/A
16. Time Base:
17. Counting Time:
18. Purge Time: N/A
19. Type of Radiation: [ ] Alpha [ ] Beta
20. Background: N/A @ 1200 V
7.88 ON DIAL

Efficiency Determination

21. Source & S/N: Cs^{137} 53015
22. Source DPM: N/A
23. Time Base: 1
24. Time Period: X1
25. Counting Time: 1 MIN
26. Average Count Rate $\left(\frac{\text{sum total A}}{10}\right)$ = 1329.3 CPM
27. 2σ $(2\sqrt{\text{average count rate}})$ = 72.9
28. Chi Square Number $\left(\frac{\text{sum total C}}{\text{line 26}}\right)$ = 1616
29. Chi Square Fit (2-22) = [X] Yes
If "NO" Contact Foreman [ ] No
30. Net Count Rate (line 26-line 20) N/A
31. Efficiency:

$\frac{\text{Net CPM (line 30)}}{\text{Source DPM (line 22)}} \times 100 =$ N/A

Trial #	CPM (A)	Difference from Ave. Count (B)	Difference Squared (C)
1	1393	63.7	4057.7
2	1363	33.7	1135.7
3	1310	19.3	372.5
4	1344	14.7	216.1
5	1262	67.3	4529.3
6	1390	60.7	3684.5
7	1300	29.3	858.5
8	1274	55.3	3058.1
9	1374	44.7	1998.1
..	17852	417.3	21463.7

TOTALS
A 1329
B n/a

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-08-211

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model MS-1 Serial Number 173
External Probe(s) SPA-3 Serial # _____

Calibration Method 137Pulser s/n 101500
Cs s/n S3015

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	0.1 MIN	40K CPM	4,002 CPM	4,002 CPM	All Calibrations Btn. + & - 10%
2					
3	1	40K	40,041	40,041	Test: OFF
4					
5	10	40K	400,484	400,484	Window: OUT
6					
7					Threshold ~ 10mV = 6.10 on dial
8					
9					High Voltage = 1200 Volts = 7.84 on dial
10					
11					
12					CH1 Performed to insure stability of SPA-3 Probe
13					
14					
15					See attached sheet for additional information
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 08-24-95
Next Calibration Due: 11-24-95

I certify that the above information is correct:
_____ Administrative Coordinator
08-24-95 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

ELECTRONIC CALIBRATION

Electronic Calibration

1. Test Instrument: See
2. Pulse Rate: Cal
3. Amplitude: Cert.
4. Time Period: Cert
5. Time Base:
6. Counting Time:
7. High Voltage:
8. Counts:

Background Determination

9. Instrument Model: MS-1/SPA-3
10. Serial Number: 173
11. Location: Pgh, PA
12. Date: 8-24-95
13. Time: 0900
14. Test By: RRM
15. Time Period: N/A
16. Time Base:
17. Counting Time:
18. Purge Time:
19. Type of Radiation: [N/A] Alpha [N/A] Beta
20. Background: N/A @ 1200 V = 7.84 on DIAL

Efficiency Determination

21. Source & S/N: Cs^{137} # 53015
22. Source DPM: N/A
23. Time Base: x1
24. Time Period: 1
25. Counting Time: 1 MIN
26. Average Count Rate $\left(\frac{\text{sum total A}}{10}\right)$ = 1075 CPM
27. 2 σ $(2\sqrt{\text{average count rate}})$ = 65.6
28. Chi Square Number $\left(\frac{\text{sum total C}}{\text{line 26}}\right)$ = 8.1
29. Chi Square Fit (2-22) = [X] Yes
    If "NO" Contact Foreman [ ] No
30. Net Count Rate (line 26-line 20) = N/A
31. Efficiency:
    $\frac{\text{Net CPM (line 30)}}{\text{Source DPM (line 22)}}$ X 100= N/A

Trial #	CPM (A)	Difference from Ave. Count (B)	Difference Squared (C)
1	1091	15.5	240.3
2	1060	15.5	240.3
3	1105	29.5	870.3
	1058	17.5	306.3
	7	71.5	5112.3
		2.5	6.3
	.1	34.5	11903

8	1058	17.5	306.3
9	1060	9.5	90.3
10	1056	19.5	380.3

TOTALS:
A 10755
B n/a
C 8743

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-05-220

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model MS-1 Serial Number 173
External Probe(s) SPA-3 Serial # ~~137~~

Calibration Method Pulser s/n 101500
Cs s/n S3015

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	0.1 MIN	40K CPM	4,007 CPM	4,007 CPM	All Calibrations Btn. + & - 10%
2					
3	1 MIN	40K	40,103	40,103	Window: OUT
4					
5	10 MIN	40K	401,527	401,527	Test: OFF
6					
7					Threshold ≃ 10mV = 5.80 on dial
8					
9					High Voltage = 1200 Volts
10					7.94 on dial
11					
12					See attached sheet for additional
13					information
14					
15					CH1 performed to ensure stability
16					of SPA-3 probe
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 05-16-95
Next Calibration Due: 08-16-95

I certify that the above information is correct:
Administrative Coordinator
05-16-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

ELECTRONIC CALIBRATION

Electronic Calibration

1. Test Instrument: SEE
2. Pulse Rate: CAL
3. Amplitude: CERT
4. Time Period: L
5. Time Base
6. Counting Time
7. High Voltage
8. Counts

Background Determination

9. Instrument Model: MS-1 / SHA-3
10. Serial Number: 173
11. Location: PGH, PA
12. Date: 5-16-95
13. Time: 1335
14. Test By: RRM
15. Time Period: N/A
16. Time Base
17. Counting Time
18. Purge Time
19. Type of Radiation: N/A Alpha N/A Beta
20. Background: N/A @ 1200 V = 7.94 ON DIAL

Efficiency Determination

21. Source & S/N: Cs137 53015
22. Source DPM: N/A
23. Time Base
24. Time Period
25. Counting Time
26. Average Count Rate $\left(\frac{\text{sum total A}}{10}\right)$ = 1109.8 CPM
27. 2 σ $(2\sqrt{\text{average count rate}})$ = 66.6
28. Chi Square Number $\left(\frac{\text{sum total C}}{\text{line 26}}\right)$ = 11.7
29. Chi Square Fit (2-22) = [X] Yes

If "NO" Contact Foreman [ ] No

30. Net Count Rate (line 26-line 20) = N/A
31. Efficiency:

$\frac{\text{Net CPM (line 30)}}{\text{Source DPM (line 22)}} \times 100 =$ N/A

Trial #	CPM (A)	Difference from Ave. Count (B)	Difference Squared (C)
1	1089	20.8	432.6
2	1121	11.2	125.4
3	1132	22.2	492.8
4	1148	38.2	1459.2
5	1060	49.8	2480.0
6	1125	15.2	231.0
7	1147	37.2	1383.8
8	1152	42.2	1780.8
9	1068	41.8	1747.2
10	1056	53.8	2894.4

TOTALS
A 11098
B n/a
c13621

GTS Instrument Services
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Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-94-12-219

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model MS-1 Serial Number 173
External Probe(s) SPA-3 Serial # _____

Calibration Method 137 Pulser s/n 101500
Cs s/n S3015

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	0.1 mIN	40K CPM	3,997 CPM	3,997 CPM	All Calibrations Btn. + & - 10%
2					
3	1 MIN	40K	39,956	39,956	Window: OUT
4					
5	10 MIN	40K	399,647	399,647	Threshold = 10mV = 5.40 on dial
6					
7					High Voltage = 1200 Volts = 7.86 on dial
8					
9					
10					see attached sheet for additional information
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 12-19-94
Next Calibration Due: 03-19-95

I certify that the above information is correct:
_____ Administrative Coordinator
12-19-94 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

ELECTRONIC CALIBRATION

Electronic Calibration

1. Test Instrument: See
2. Pulse Rate: Cal
3. Amplitude: Cert.
4. Time Period: ↳
5. Time Base
6. Counting Time
7. High Voltage
8. Counts

Background Determination

9. Instrument Model: MS-1 / SPA-3
10. Serial Number: 173
11. Location: PGH, PA
12. Date: 12-19-94
13. Time: 1130
14. Test By: RRM
15. Time Period: N/A
16. Time Base
17. Counting Time
18. Purge Time
19. Type of Radiation: [N/A] Alpha [N/A] Beta
20. Background: N/A @ 1200 V

Efficiency Determination

21. Source & S/N: Cs^{137} #53015
22. Source DPM: N/A
23. Time Base
24. Time Period
25. Counting Time
26. Average Count Rate $\left(\frac{\text{sum total A}}{10}\right)$ = 1183.7 CPM
27. 2 σ $(2\sqrt{\text{average count rate}})$ = 68.8
28. Chi Square Number $\left(\frac{\text{sum total C}}{\text{line 26}}\right)$ = 3.2
29. Chi Square Fit (2-22) = [X] Yes

If "NO" Contact Foreman [ ] No

30. Net Count Rate (line 26-line 20) N/A
31. Efficiency:

$$\frac{\text{Net CPM (line 30)}}{\text{Source DPM (line 22)}} \times 100 = \text{N/A}$$

Trial #	CPM (A)	Difference from Ave. Count (B)	Difference Squared (C)
1	1201	17.3	299.3
2	1196	12.3	151.3
3	1177	6.7	44.9
4	1179	4.7	22.1
5	1151	32.7	1069.3
6	1190	14.3	204.5
7	1145	38.7	1497.7
8	1194	10.3	106.1
9	1199	15.3	234.1
10	1197	13.3	176.9

TOTALS
A 11837
B n/a
C 3806

K+E 10 X 10 TO THE CENTIMETER 18 X 25 CM
KEUFFEL & ESSER CO. MADE IN U.S.A.

461510

MS 2 / SPA 3 S/N 173

^{137}Cs Check Source

Window of 0.4

Threshold of 4.85

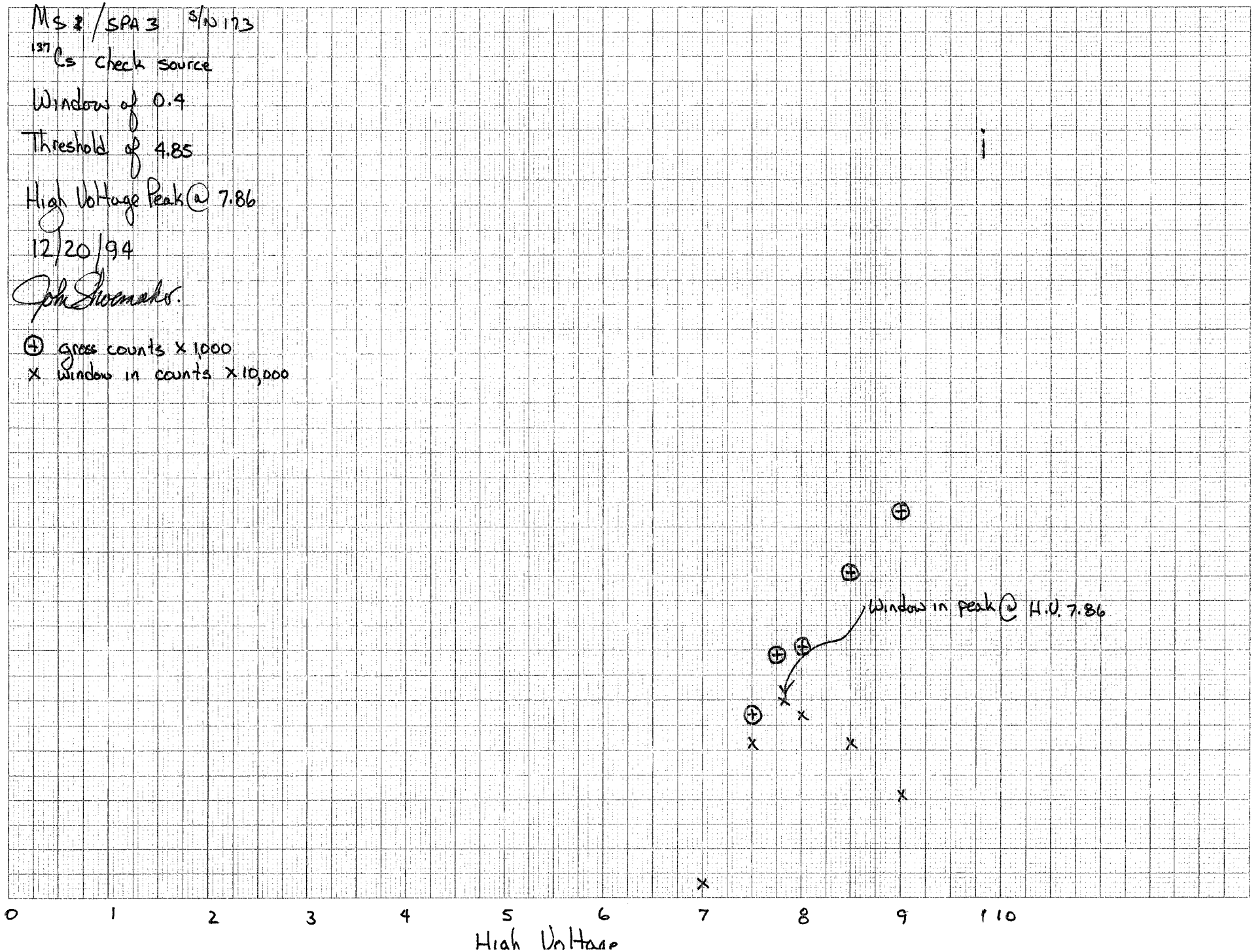
High Voltage Peak @ 7.86

12/20/94

John Stoemenos.

⊕ gross counts x 1,000

x window in counts x 10,000



GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Avenue A & West Street
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-94-08-218

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model MS-1 Serial Number 173
External Probe(s) SPA-3 Serial #

Calibration Method ~~137~~ Pulser s/n 101500
Cs s/n S3015

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	0.1 MIN	40K CPM	Initial Calibration	3,995 CPM	All Calibrations Btn. + & - 10%
2					
3	1	40K		39,994	Window: OUT
4					
5	10	40K		400,026	Threshold = 5 = 10mV
6					
7					High Voltage = 1200 Volts
8					3.43 on dial
9					
10					See attached sheet for additional
11					data
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed) 08-18-94
Calibration Date: 08-18-94
Next Calibration Due: 11-18-94

I certify that the above information is correct: Theresa M. Bass 08-18-94
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

ELECTRONIC CALIBRATION

Electronic Calibration

1. Test Instrument	SEE	5. Time Base	
2. Pulse Rate	CAL	6. Counting Time	
3. Amplitude	CENT	7. High Voltage	
4. Time Period	↳	8. Counts	

Background Determination

9. Instrument Model	MS-1 ~~MS-2~~ / SPA	15. Time Period	x10
10. Serial Number	173 / 173	16. Time Base	1
11. Location	PGH, PA	17. Counting Time	10min
12. Date	8-18-94	18. Purpose Time	N/A
13. Time	1530	19. Type of Radiation	N/A Alpha N/A Beta
14. Test By	RRM	20. Background	N/A @ 1200V V

Efficiency Determination

21. Source & S/N	Cs^{137} #3015	26. Average Count Rate $\left(\frac{\text{sum total A}}{10}\right)$	= 1212.7 CPM
22. Source DPM		27. 2 σ $(2\sqrt{\text{average count rate}})$	= 69.6
23. Time Base	1	28. Chi Square Number $\left(\frac{\text{sum total C}}{\text{line 26}}\right)$	= 10.3
24. Time Period	x1	29. Chi Square Fit (2-22)	= ☒ Yes
25. Counting Time	1min	If "NO" Contact Foreman	☐ No
		30. Net Count Rate (line 26-line 20)	

31. Efficiency:

$$\frac{\text{Net CPM (line 30)}}{\text{Source DPM (line 22)}} \times 100 =$$

Trial #	CPM (A)	Difference from Ave. Count (B)	Difference Squared (C)
1	1183	29.7	882.1
2	1187	25.7	660.5
3	1240	27.3	7453
4	1235	22.3	497.3
5	1211	1.7	2.9
6	1202	10.7	114.5
7	1144	68.7	4719.7
8	1204	8.7	75.7
9	1272	59.3	3516.5
10	1249	36.3	1317.7

TOTALS
A 1212.7
B n/a
C

MS-1 Mini-Scaler Calibration

High Voltage	Source Count
1.1	0
1.2	0
1.3	0
1.4	0
1.5	0
1.6	0
1.7	0
1.8	0
1.9	0
2	0
2.1	0
2.2	0
2.3	0
2.4	0
2.5	0
2.6	0
2.7	2
2.8	16
2.9	450
3	623
3.1	1235
3.2	2305
3.3	47109
3.4	13404
3.5	8758
3.6	11780
3.7	10974
3.8	10168
3.9	9362
4	8556
Threshold:	5
Window:	0.2
Count Time:	.5 Min.
Source #:	C5663

(8 uCi Cs-137 Source)

Threshold	Source Gross Count	Source PHA Count	Bkg Gross Count	Bkg PHA Count
0.5	N/A	132055	N/A	
0.75	N/A	128084	N/A	
1	N/A	124869	N/A	
1.25	N/A	128373	N/A	
1.5	N/A	128786	N/A	
1.75	N/A	124019	N/A	
2	N/A	113649	N/A	
2.25	N/A	105139	N/A	
2.5	N/A	98328	N/A	
2.75	N/A	90182	N/A	
3	N/A	79966	N/A	
3.25	N/A	71549	N/A	
3.5	N/A	66373	N/A	
3.75	N/A	74474	N/A	
4	N/A	121997	N/A	
4.25	N/A	178311	N/A	
4.5	N/A	189689	N/A	
4.75	N/A	172664	N/A	
5	N/A	111943	N/A	
5.25	N/A	46757	N/A	
5.5	N/A	15505	N/A	
5.75	N/A	9066	N/A	
6	N/A	6725	N/A	
6.25	N/A	5598	N/A	
6.5	N/A	4532	N/A	
6.75	N/A	3863	N/A	
7	N/A	3228	N/A	
7.25	N/A	2779	N/A	
7.5	N/A	2491	N/A	
7.75	N/A	2058	N/A	
8	N/A	1689	N/A	
8.25	N/A	1320	N/A	
8.5	N/A	1025	N/A	
8.75	N/A	887	N/A	
9	N/A	687	N/A	
9.25	N/A	581	N/A	
9.5	N/A	432	N/A	
9.75	N/A	283	N/A	
10	N/A	134	N/A	

Final PHA Settings
High Voltage = 3.3
Threshold setting = 4.85
Window = .4

Final Gross Settings
High Voltage = 3.43
Threshold setting = 5
Window Out

CODE NUMBER 47

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-99-02-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 3248
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 120935

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	395	395	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
		2K	2K	2K	
		4K	3.9K	3.9K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	39.5K	39.5K	Audio: OK
12					
13					Alarm: OK
14					
15					Electronic Calibration Only
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 03-16-99
Next Calibration Due: 06-16-99

I certify that the above information is correct:
Administrative Coordinator
03-16-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 3248
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 298

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	395	395	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	3.95K	3.95K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	39.5K	39.5K	Audio: OK
12					
13					Alarm: OK
14					
15					Electronic Calibration only
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 10-28-98
Next Calibration Due: 01-28-99

I certify that the above information is correct:
Administrative Coordinator 10-28-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

#47

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-05-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method ~~137~~Cs Pulser s/n 101500
~~137~~Cs s/n 10263 200mCi
~~99~~Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	1.95K	1.95K	
7		4K	3.9K	3.9K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	19.5K	19.5K	
11		40K	39K	39K	Alarm: OK
12					
13					Speaker: OK
14					
15					1 mR/hr ≈ 3K CPM in ~~137~~Cs field
16					
17					~~99~~Tc Efficiency = 10.5%
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 05-29-98
Next Calibration Due: 08-29-98

I certify that the above information is correct:
Administrative Coordinator
05-29-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-01-208

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method ^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					1 mR/hr = 3K CPM in ^{137}Cs field
18					
19					^{99}Tc Efficiency = 10.3%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 01-26-98
Next Calibration Due: 07-26-98

I certify that the above information is correct:
Administrative Coordinator
01-26-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method Pulser s/n 301
~~137~~Cs s/n 10263 200mCi
~~99~~Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	395	395	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	3.9K	3.9K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	39K	39K	Audio: OK
12					
13					Alarm: OK
14					
15					1 mR/hr ≙ 3K CPM in ~~137~~Cs field
16					
17					~~99~~Tc Efficiency = 11.2%
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 09-22-97
Next Calibration Due: 12-22-97

I certify that the above information is correct:
Administrative Coordinator — Date: 09-22-97

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-05-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method Pulser s/n 101500
~~99~~Tc s/n S1256
~~137~~Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.5K CPM
16					
17					1 mR/hr ≃ 3K CPM in ~~137~~Cs field
18					
19					~~99~~Tc Efficiency = 10.9%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 05-20-97
Next Calibration Due: 08-20-97

I certify that the above information is correct:
Administrative Coordinator
05-20-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-02-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method Pulser s/n 101500
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Audio: OK
12					
13					Alarm: OK
14					
15					Test Pulse ≅ 3.5K CPM
16					
17					1 mR/hr ≅ 3K CPM in ^{137}Cs field
18					
19					^{99}Tc Efficiency = 10.9%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 02-03-97
Next Calibration Due: 05-03-97

I certify that the above information is correct:
Administrative Coordinator
02-03-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-10-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method ^{99}Tc Pulser s/n 101500
^{137}Cs s/n S1256
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.55K CPM
16					
17					1 mR/hr $\simeq$ 3K CPM in ^{137}Cs field
18					
19					^{99}Tc Efficiency = 11.1%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 11-04-96
Next Calibration Due: 02-04-97

I certify that the above information is correct:
Administrative Coordinator
11-04-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

447

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-96-06-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method ~~99~~Pulser s/n 120935
~~137~~Tc s/n S1256
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse ≅ 3.6K CPM
16					
17					~~99~~Tc Efficiency = 10.9%
18					
19					1 mR/hr = 3K CPM in ~~137~~Cs field
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 07-01-96
Next Calibration Due: 10-01-96

I certify that the above information is correct:
Administrative Coordinator
07-01-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-03-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method ^{99}Tc Pulser s/n 120935
^{137}Cs s/n S1256
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.55K CPM
16					
17					^{99}Tc Efficiency = 11.6%
18					
19					1 mR/hr ≈ 3K CPM in ^{137}Cs field
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 03-08-96
Next Calibration Due: 06-08-96

I certify that the above information is correct:
Administrative Coordinator
03-08-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-10-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method ^{137}Cs Pulser s/n 101500
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	40K	40K	Alarm: OK
12					
13					Test Pulse = 3.6K CPM
14					
15					Speaker; OK
16					
17					^{99}Tc Efficiency = 11.6%
18					
19					1 mR/hr ≅ 3K CPM in ^{137}Cs field
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 10-24-95
Next Calibration Due: 01-24-96

I certify that the above information is correct:
Administrative Coordinator
10-24-95
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-06-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 3248
External Probe(s) 44-9 Serial # 033031

Calibration Method Pusler s/n 101500
~~137~~Cs s/n 10263 200mCi
~~99~~Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	New Probe	100 CPM	All Calibrations Btn. + & - 10%
2		200	Initial Cal	200	
3		400		400	Battery Check: OK
4					
5	X10	1K		1K	Mechanical zero: OK
6		2K		2K	
7		4K		4K	Response: OK
8					
9	X100	10K		10K	Reset: OK
10		20K		20K	
11		40K		40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.6K CPM
16					
17					1 mR/hr ≅ 3.3K CPM in ~~137~~Cs field
18					
19					~~99~~Tc Efficiency = 11.7%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 06-05-95
Next Calibration Due: 09-95-95

I certify that the above information is correct:
Administrative Coordinator
06-05-95
Date

CODE NUMBER 48

REPORT #001

ESP-2 S/N:	1578	INSTRUMENT CODE:	48	DATE:	9/18/97

ALPHA / BETA:	ALPHA

EFFICIENCY DATA: (Net cpm / dpm = Efficiency) (Correction Factor = 1 / Efficiency)

SOURCE #	ACTIVITY dpm	TOTAL COUNTS	TIME (in minutes)	GROSS CPM (Total / # min)	BKG cpm (Total / # min)	NET cpm
5308	31280	34400	5	6880	2	6878
	BACKGROUND	10	5			

NET cpm	EFFICIENCY	CORRECTION FACTOR	AVERAGE EFFICIENCY	AVERAGE CORRECTION FACTOR
6878	22%	4.55	22%	4.55

HIGH VOLTAGE:	1100

GAS DECAY CALIBRATION WITH 100 cm2 PROBE

ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)	ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)
INITIAL	6720	-	3 HOURS	6800	101.2%
1 HOUR	6720	100%	3.5 HOURS	6750	100.4%
1.5 HOURS	6790	101.4%	4 HOURS	6740	100.3%
2 HOURS	6680	99.4%	4.5 HOURS	6760	100.6%
2.5 HOURS	6710	99.9%	5 HOURS	6760	100.6%

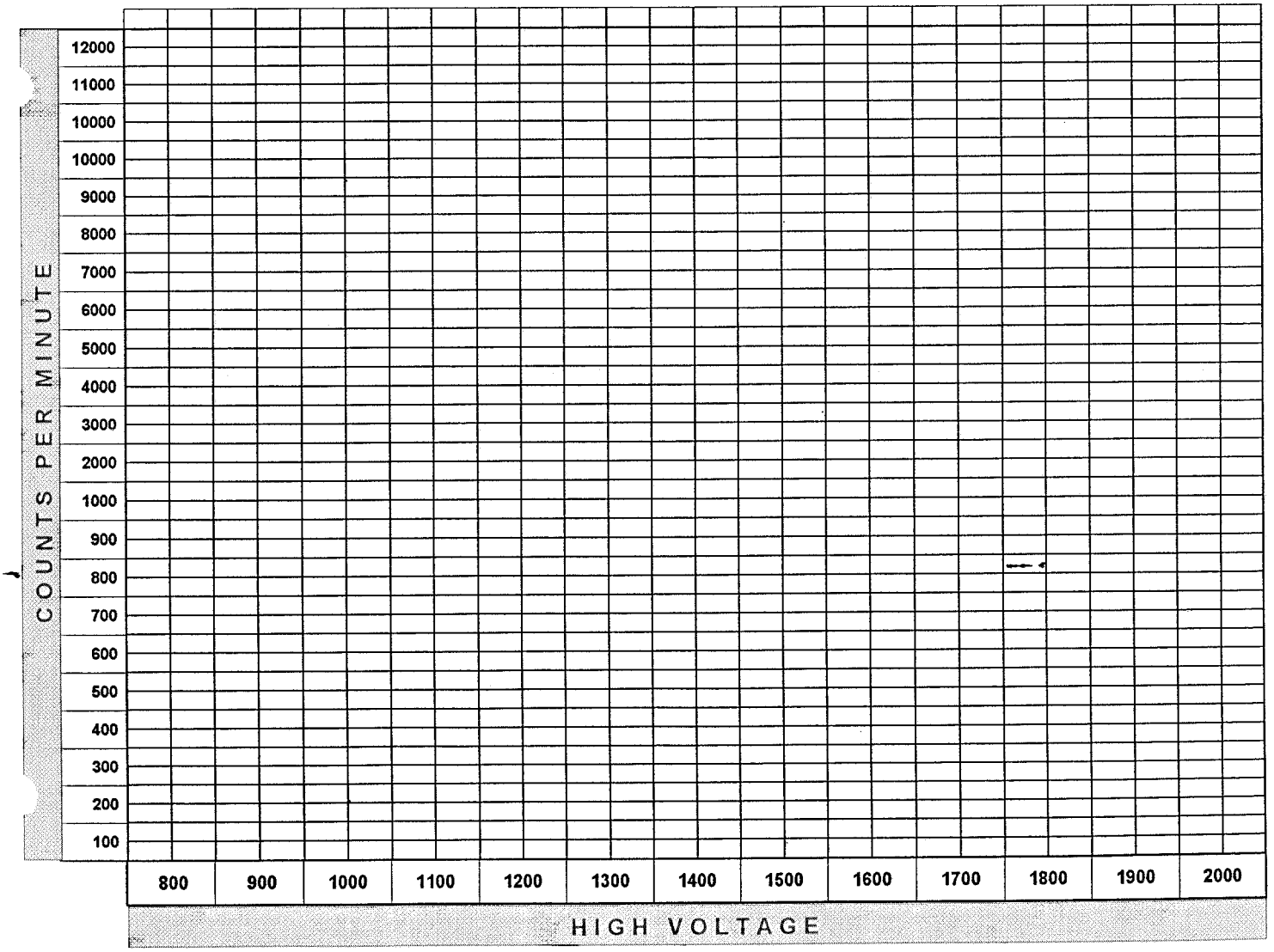
CALIBRATED BY:	Larry J. Smith
SIGNATURE:	

DATE:	9/18/97

COMMENTS: Calibrated with Ludlum 43-68 probe

ALPHA / BETA:	ALPHA

HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS
850	0	1250	7100	1650	-
900	2490	1300	7120	1700	-
950	5190	1350	7120	1750	-
1000	6550	1400	7120	1800	-
1050	6860	1450	7300	1850	-
1100	6770	1500	7360	1900	-
1150	6790	1550	-	1950	-
1200	6820	1600	-	2000	-



GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15235

Customer P.O.# MB-14027-S
Work Order # I-97-08-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP Serial Number 01578
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATEMETER	200 CPM	2.00 + 02 CPM	2.00 + 02 CPM	All Calibrations Btn. + & - 10%
2		800	8.00 + 02	8.00 + 02	
3		2K	2.00 + 03	2.00 + 03	Battery: OK
4		8K	8.00 + 03	8.00 + 03	
5		20K	2.00 + 04	2.00 + 04	Reset: OK
6		80K	8.00 + 04	8.00 + 04	
7		200K	2.01 + 05	2.01 + 05	Light: OK
8		800K	8.10 + 05	8.10 + 05	
9					Speaker: OK
10	SCALER	200	2.00 + 02	2.00 + 02	
11	INTEGRATED	2K	2.00 + 03	2.00 + 03	Alarm @ 1.00 + 06
12	1 MIN COUNTS	20K	2.00 + 04	2.00 + 04	
13		200K	2.01 + 05	2.01 + 05	High Voltage = 1150 Volts
14		2M	2.07 + 06	2.07 + 06	
15					DT = 9.98 - 07
16					CC = 1.00 + 00
17					
18					Electronic Calibration only
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 08-20-97
Next Calibration Due: 11-20-97

I certify that the above information is correct:
Administrative Coordinator
08-20-97
Date

IH & S Form # 205 **ESP-2 CALIBRATION** Page 1 of 2

ESP-2 S/N:	1578	INSTRUMENT CODE:	48	DATE:	5/7/97

ALPHA / BETA:	ALPHA

EFFICIENCY DATA: (Net cpm / dpm = Efficiency) (Correction Factor = 1 / Efficiency)

SOURCE #	ACTIVITY dpm	TOTAL COUNTS	TIME (in minutes)	GROSS CPM (Total / # min)	BKG cpm (Total / # min)	NET cpm
5308	31300	35600	5	7120	1	7119
	BACKGROUND	6	5			

NET cpm	EFFICIENCY	CORRECTION FACTOR	AVERAGE EFFICIENCY	AVERAGE CORRECTION FACTOR
7119	22.7%	4.4	22.7%	4.4

HIGH VOLTAGE:	1100

GAS DECAY CALIBRATION WITH 100 cm2 PROBE

ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)	ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)
INITIAL	7100	-	3 HOURS	7130	100.9%
1 HOUR	7210	101.5%	3.5 HOURS	7100	100%
1.5 HOURS	7141	100.6%	4 HOURS	7100	100%
2 HOURS	7160	100.8%	4.5 HOURS	7020	98.9%
2.5 HOURS	7170	100.9%	5 HOURS	6890	97%

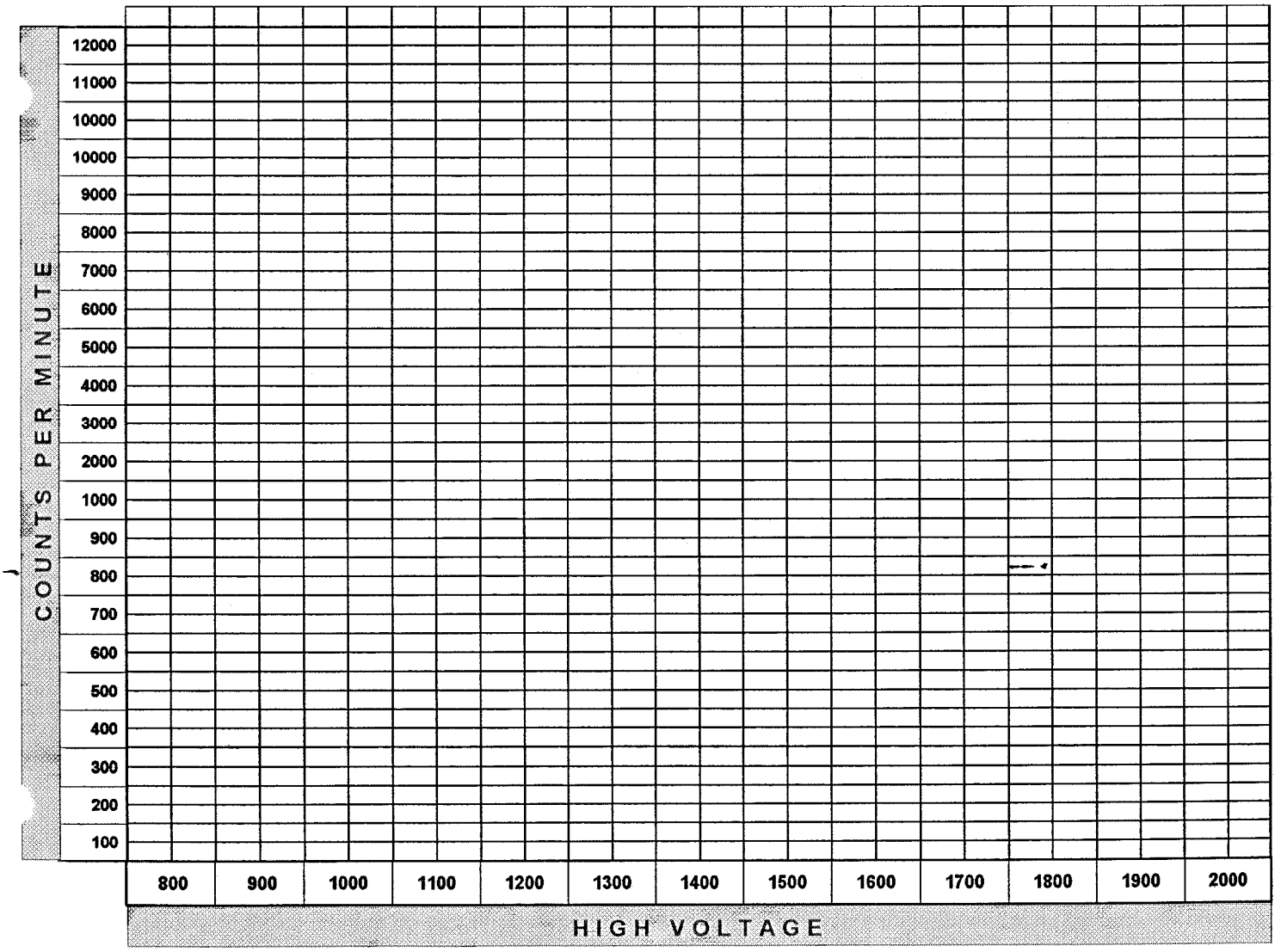
CALIBRATED BY:	Larry Smith
SIGNATURE:	Larry Smith

DATE:	5/7/97

COMMENTS: Calibrated with Ludlum 43-68 probe.

ALPHA / BETA:	ALPHA

HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS
850	1	1250	7490	1650	-
900	2670	1300	7390	1700	-
950	5450	1350	7510	1750	-
1000	6970	1400	7590	1800	-
1050	7130	1450	7700	1850	-
1100	7120	1500	7950	1900	-
1150	7310	1550	-	1950	-
1200	7420	1600	-	2000	-



ESP-2 S/N:	1578	INSTRUMENT CODE:	48	DATE:	2/5/97

ALPHA / BETA:	ALPHA

EFFICIENCY DATA: (Net cpm / dpm = Efficiency) (Correction Factor = 1 / Efficiency)

SOURCE #	ACTIVITY dpm	TOTAL COUNTS	TIME (in minutes)	GROSS CPM (Total / # min)	BKG cpm (Total / # min)	NET cpm
5308	31300	35500	5	7100	3.6	7096
	BACKGROUND	18	5			

NET cpm	EFFICIENCY	CORRECTION FACTOR	AVERAGE EFFICIENCY	AVERAGE CORRECTION FACTOR
7096	22.6%	4.4	22.6%	4.4

HIGH VOLTAGE:	1100

GAS DECAY CALIBRATION WITH 100 cm2 PROBE

ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)	ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)
INITIAL	7160	---	3 HOURS	7120	99.4%
1 HOUR	7190	100.4%	3.5 HOURS	7100	99.2%
1.5 HOURS	6990	97.6%	4 HOURS	7080	98.9%
2 HOURS	7000	97.8%	4.5 HOURS	7000	97.8%
2.5 HOURS	7040	98.3%	5 HOURS	6880	96.1%

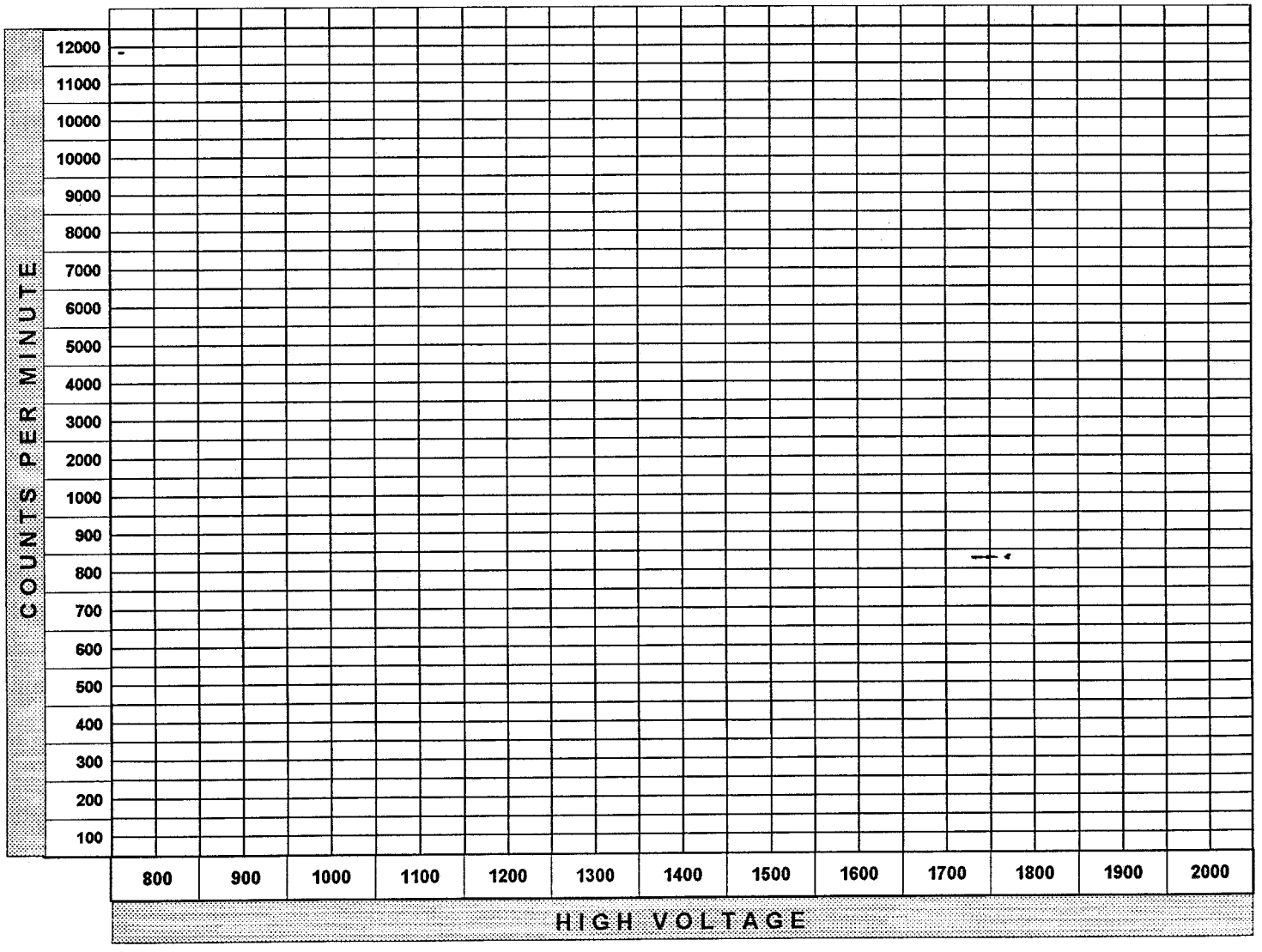
CALIBRATED BY:	Carmen Vergari
SIGNATURE:	Carmen A. Vergari

DATE:	2/5/97

COMMENTS: Calibrated with Ludlum 43-68 probe and short cable.

ALPHA / BETA:	ALPHA

HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS
850	1	1250	7510	1650	-
900	2710	1300	7410	1700	-
950	5390	1350	7410	1750	-
1000	6780	1400	7450	1800	-
1050	6960	1450	7650	1850	-
1100	7180	1500	7770	1900	-
1150	7340	1550	-	1950	-
1200	7350	1600	-	2000	-



ESP-2 S/N:	1578	INSTRUMENT CODE:	48	DATE:	8/29/96

ALPHA / BETA:	ALPHA

EFFICIENCY DATA: (Net cpm / dpm = Efficiency) (Correction Factor = 1 / Efficiency)

SOURCE #	ACTIVITY dpm	TOTAL COUNTS	TIME (in minutes)	GROSS CPM (Total / # min)	BKG cpm (Total / # min)	NET cpm
5308	31300	35000	5	7000	1	6999
	BACKGROUND	6	5			

NET cpm	EFFICIENCY	CORRECTION FACTOR	AVERAGE EFFICIENCY	AVERAGE CORRECTION FACTOR
6999	22.4%	4.46	22.4%	4.46

HIGH VOLTAGE:	1100

GAS DECAY CALIBRATION WITH 100 cm2 PROBE

ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)	ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)
INITIAL	7100	-	3 HOURS	7000	98.6%
1 HOUR	7050	99.3%	3.5 HOURS	7010	98.7%
1.5 HOURS	7020	98.9%	4 HOURS	6950	97.9%
2 HOURS	6990	98.5%	4.5 HOURS	6920	97.5%
2.5 HOURS	7080	99.7%	5 HOURS	6930	97.6%

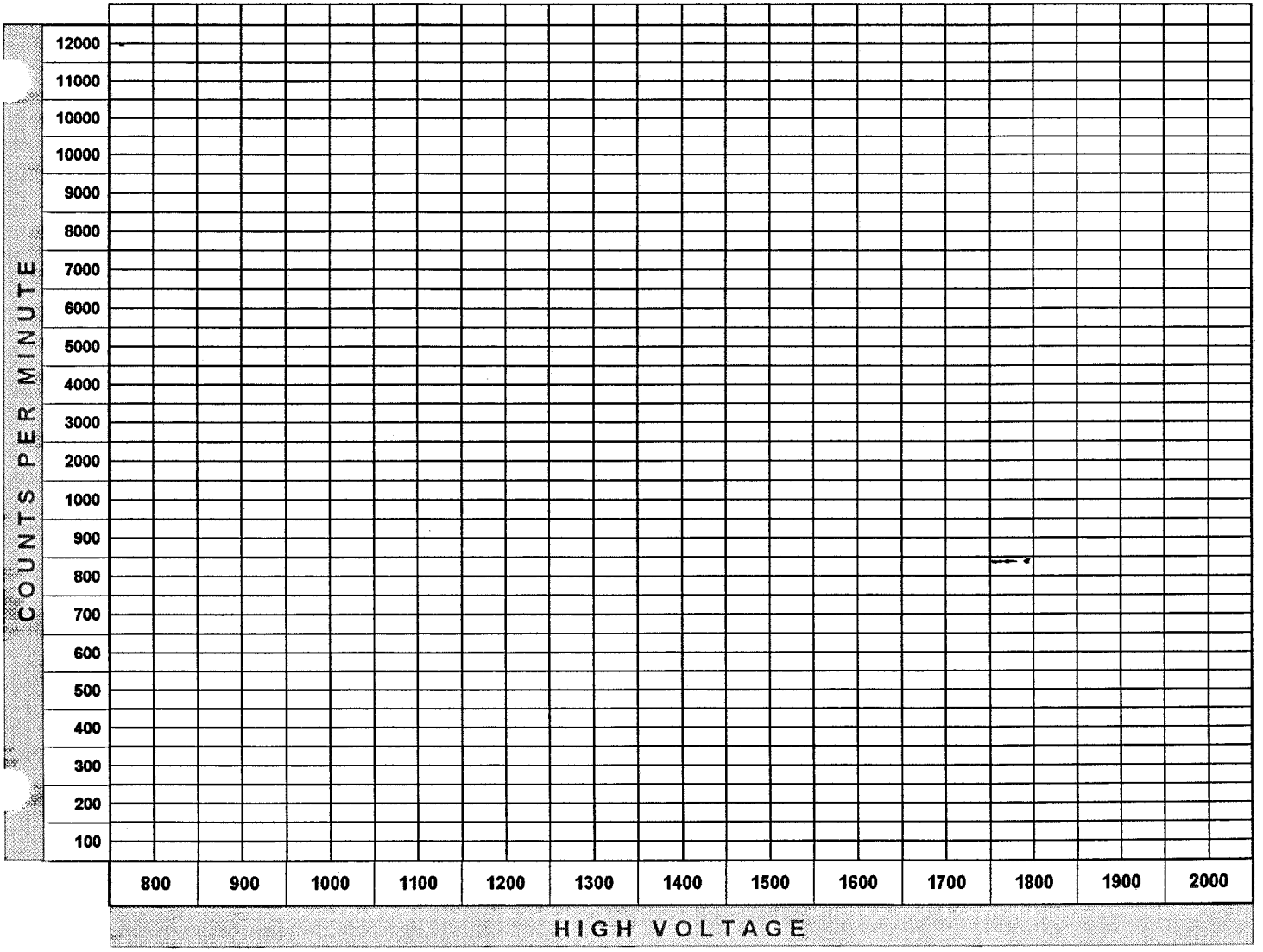
CALIBRATED BY:	Larry Smith
SIGNATURE:	

DATE:	8/29/96

COMMENTS: Calibrated with Ludlum 43-68 probe

ALPHA / BETA:	ALPHA

HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS
850	1	1250	7120	1650	-
900	1490	1300	7300	1700	-
950	4390	1350	7250	1750	-
1000	6450	1400	7490	1800	-
1050	6870	1450	7420	1850	-
1100	7100	1500	7610	1900	-
1150	7100	1550	7680	1950	-
1200	7090	1600	8850	2000	-



ESP-2 S/N:	1578	INSTRUMENT CODE:	48	DATE:	12/12/95

ALPHA / BETA:	ALPHA

EFFICIENCY DATA: (Net cpm / dpm = Efficiency) (Correction Factor = 1 / Efficiency)

SOURCE #	ACTIVITY dpm	TOTAL COUNTS	TIME (in minutes)	GROSS CPM (Total / # min)	BKG cpm (Total / # min)	NET cpm
7346	230965	250000	5	50000	.8	49999
	BACKGROUND	4	5			

NET cpm	EFFICIENCY	CORRECTION FACTOR	AVERAGE EFFICIENCY	AVERAGE CORRECTION FACTOR
49999	21.6	4.6	21.6%	4.6

HIGH VOLTAGE:	1350

GAS DECAY CALIBRATION WITH 100 cm2 PROBE

ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)	ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)
INITIAL	50100		3 HOURS	49200	98.2%
1 HOUR	50100	100%	3.5 HOURS	49400	98.6%
1.5 HOURS	49600	99%	4 HOURS	48900	97.6%
2 HOURS	49400	98.6^	4.5 HOURS	49000	97.8%
2.5 HOURS	49700	99.2%	5 HOURS	48500	96.8%

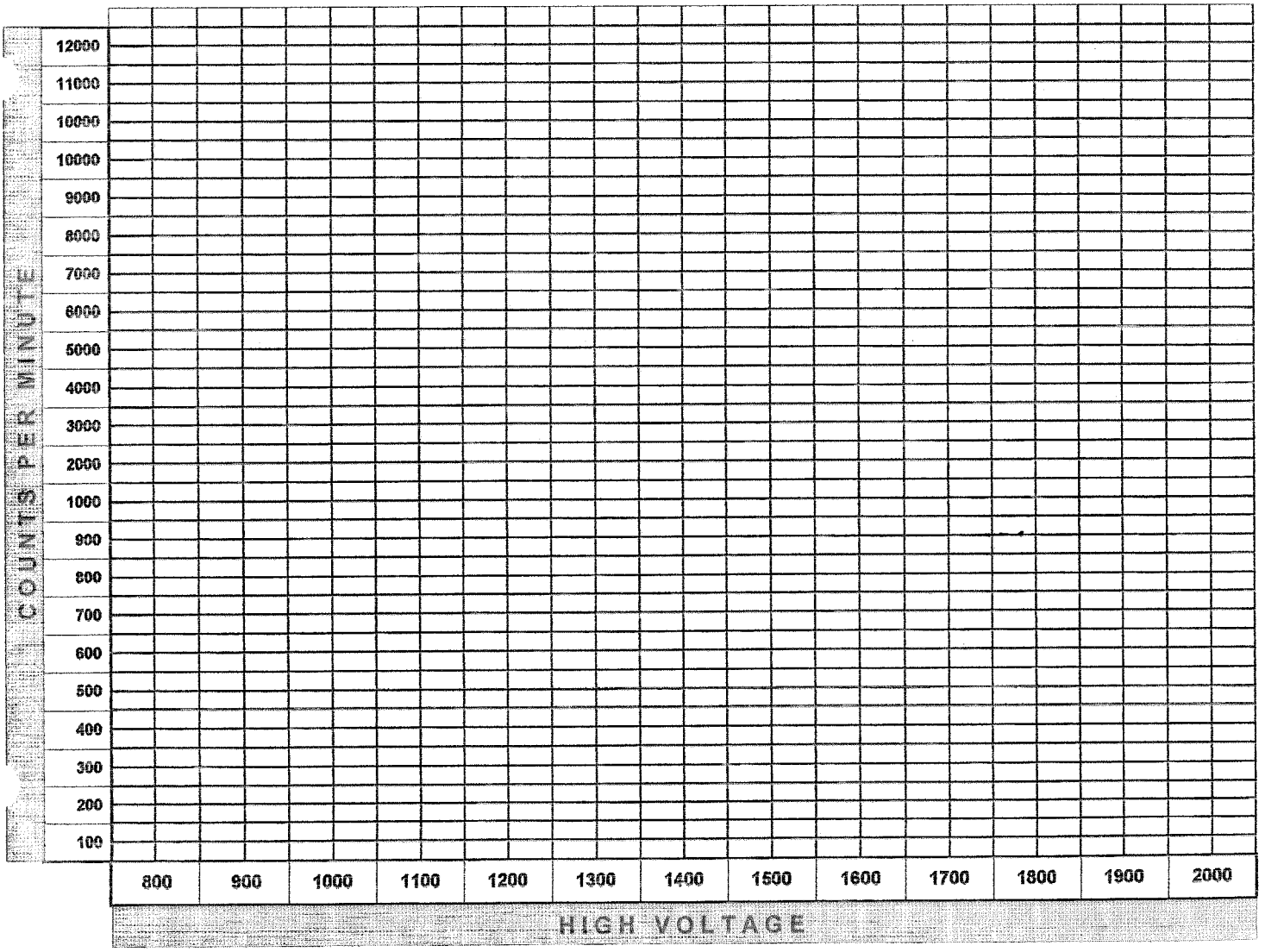
CALIBRATED BY:	Larry Smith
SIGNATURE:	Larry Smith

DATE:	12/12/95

COMMENTS: Calibrated with Eberline HP-100A probe

ALPHA / BETA:	ALPHA

HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS
850	0	1250	24700	1650	-
900	0	1300	44300	1700	-
950	0	1350	50100	1750	-
1000	0	1400	57900	1800	-
1050	0	1450	59200	1850	-
1100	0	1500	59600	1900	-
1150	8	1550	-	1950	-
1200	185	1600	-	2000	-



GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES, INC.
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-95-12-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-2 Serial Number 1578 (141)
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 120935

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	200 CPM		2.00 ÷ 02 CPM	All Calibrations Btn. + & - 10%
2		800		8.00 ÷ 02	
3		2K		2.00 ÷ 03	Calibrated on #1
4		8K		8.00 ÷ 03	
5		20K		2.00 ÷ 04	Battery: OK
6		80K		8.00 ÷ 04	
7		200K		2.01 ÷ 05	Reset: OK
8		800K		8.10 ÷ 05	
9		2M		2.06 ÷ 06	Light: OK
10					
11	SCALER	200		2.00 ÷ 02	Speaker: OK
12	1 MIN COUNTS	2K		2.00 ÷ 03	
13		20K		2.00 ÷ 04	DT = 1.00 - 06
14		200K		2.01 ÷ 05	CC = 1.00 + 00
15		2M		2.06 ÷ 06	
16					High Voltage Check: OK
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 12-07-95
Next Calibration Due: 06-07-96

I certify that the above information is correct:
_____ 12-07-95
Administrative Coordinator Date

ESP-2 S/N:	1578	INSTRUMENT CODE:	48	DATE:	6/1/95

ALPHA / BETA:	ALPHA

EFFICIENCY DATA: (Net cpm / dpm = Efficiency) (Correction Factor = 1 / Efficiency)

SOURCE #	ACTIVITY dpm	TOTAL COUNTS	TIME (in minutes)	GROSS CPM (Total / # min)	BKG cpm (Total / # min)	NET cpm
7346	230965	211000	5	42200	.2	42200
	BACKGROUND	1	5			

NET cpm	EFFICIENCY	CORRECTION FACTOR	AVERAGE EFFICIENCY	AVERAGE CORRECTION FACTOR
42200	18.3	5.5	18.3%	5.5

HIGH VOLTAGE:	1350

GAS DECAY CALIBRATION WITH 100 cm2 PROBE

ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)	ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)
INITIAL	46100	---	3 HOURS	43400	94.1%
1 HOUR	45500	98.7%	3.5 HOURS	43700	94.8%
1.5 HOURS	45100	97.8%	4 HOURS	43600	94.6%
2 HOURS	44500	96.5%	4.5 HOURS	42300	91.8%
2.5 HOURS	43800	95%	5 HOURS	42000	91.1%

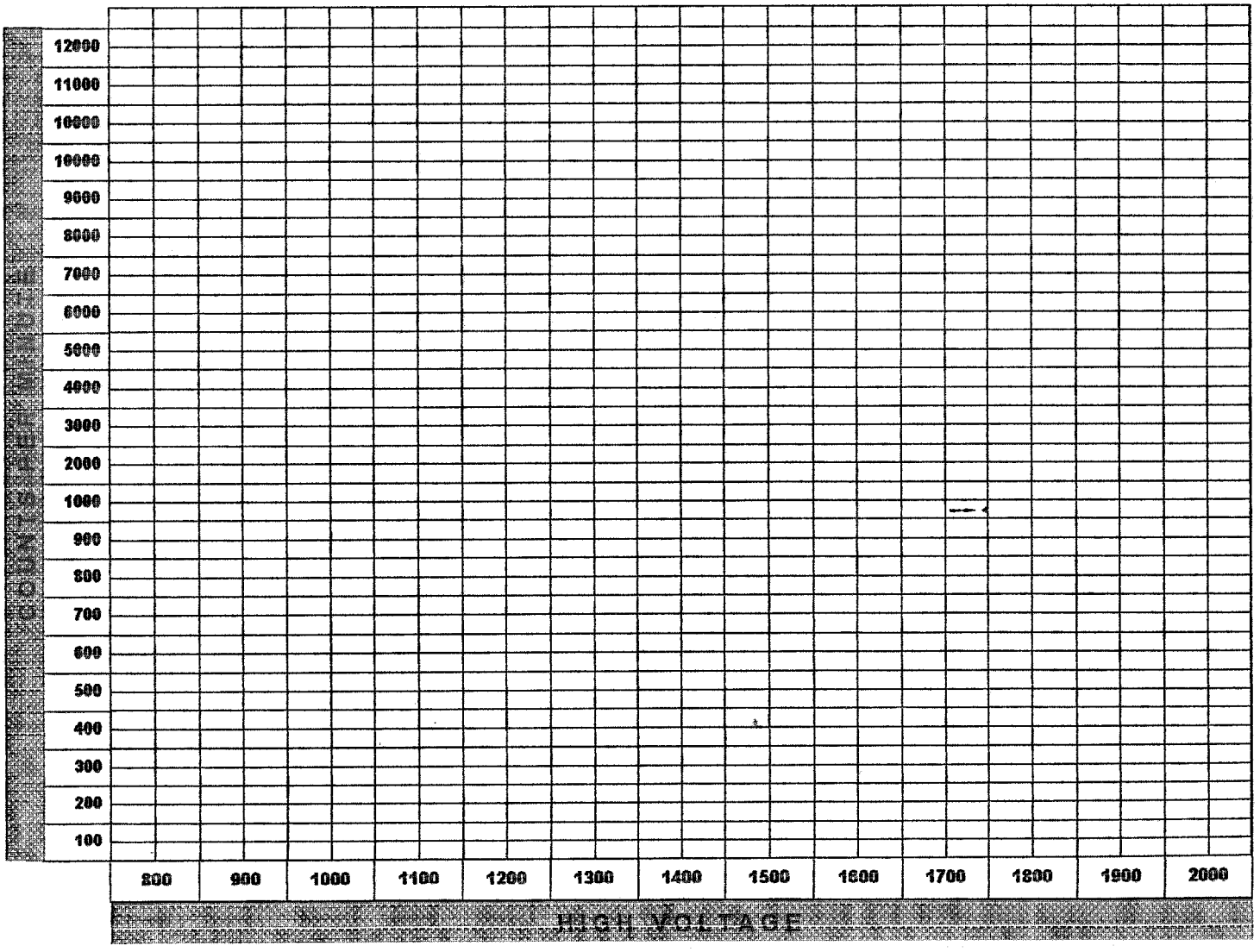
CALIBRATED BY:	Larry Smith
SIGNATURE:	Larry Smith

DATE:	6/1/95

COMMENTS: Calibrated with Ludlum 43-68 probe.

ALPHA / BETA:	BETA

HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS
850	0	1250	33400	1650	---
900	0	1300	39600	1700	---
950	0	1350	44800	1750	---
1000	0	1400	45900	1800	---
1050	0	1450	47300	1850	---
1100	52	1500	47400	1900	---
1150	16100	1550	---	1950	---
1200	30700	1600	---	2000	---



GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-95-05-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-2 Serial Number 1578 (141)
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	200 CPM		2.00 + 02 CPM	All Calibrations Btn. + & - 10%
2		800		8.01 + 02	
3					Battery: OK
4		2K		2.00 + 03	
5		8K		8.02 + 03	Reset: OK
6					
7		20K		2.01 + 04	Audio: OK
8		80K		8.04 + 04	
9					Light: OK
10		200K		2.01 + 05	
11		800K		8.05 + 05	DT = 1.00 = 07
12					CC = 1.00 + 00
13		2M		2.02 + 06	
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 05-25-95
Next Calibration Due: 11-25-95

I certify that the above information is correct:
_____ Administrative Coordinator
05-25-95 Date

CODE NUMBER 49

REPORT #001

ESP-2 S/N:	1641	INSTRUMENT CODE:	49	DATE:	6/1/95

ALPHA / BETA:	BETA

EFFICIENCY DATA: (Net cpm / dpm = Efficiency) (Correction Factor = 1 / Efficiency)

SOURCE #	ACTIVITY dpm	TOTAL COUNTS	TIME (in minutes)	GROSS CPM (Total / # min)	BKG cpm (Total / # min)	NET cpm
763/84	18699	30200	5	6040	260	5780
	BACKGROUND	1300	5			

NET cpm	EFFICIENCY	CORRECTION FACTOR	AVERAGE EFFICIENCY	AVERAGE CORRECTION FACTOR
5780	30.9%	3.2	30.9%	3.2

HIGH VOLTAGE:	1770

GAS DECAY CALIBRATION WITH 100 cm2 PROBE

ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)	ELASPED TIME (in hours)	COUNTS	PERCENT (of original count)
INITIAL	6310	---	3 HOURS	6320	100%
1 HOUR	6380	101%	3.5 HOURS	6370	101%
1.5 HOURS	6470	102.5%	4 HOURS	6410	101.5%
2 HOURS	6240	98.9%	4.5 HOURS	6280	99.5%
2.5 HOURS	6350	100.6%	5 HOURS	6270	99.5%

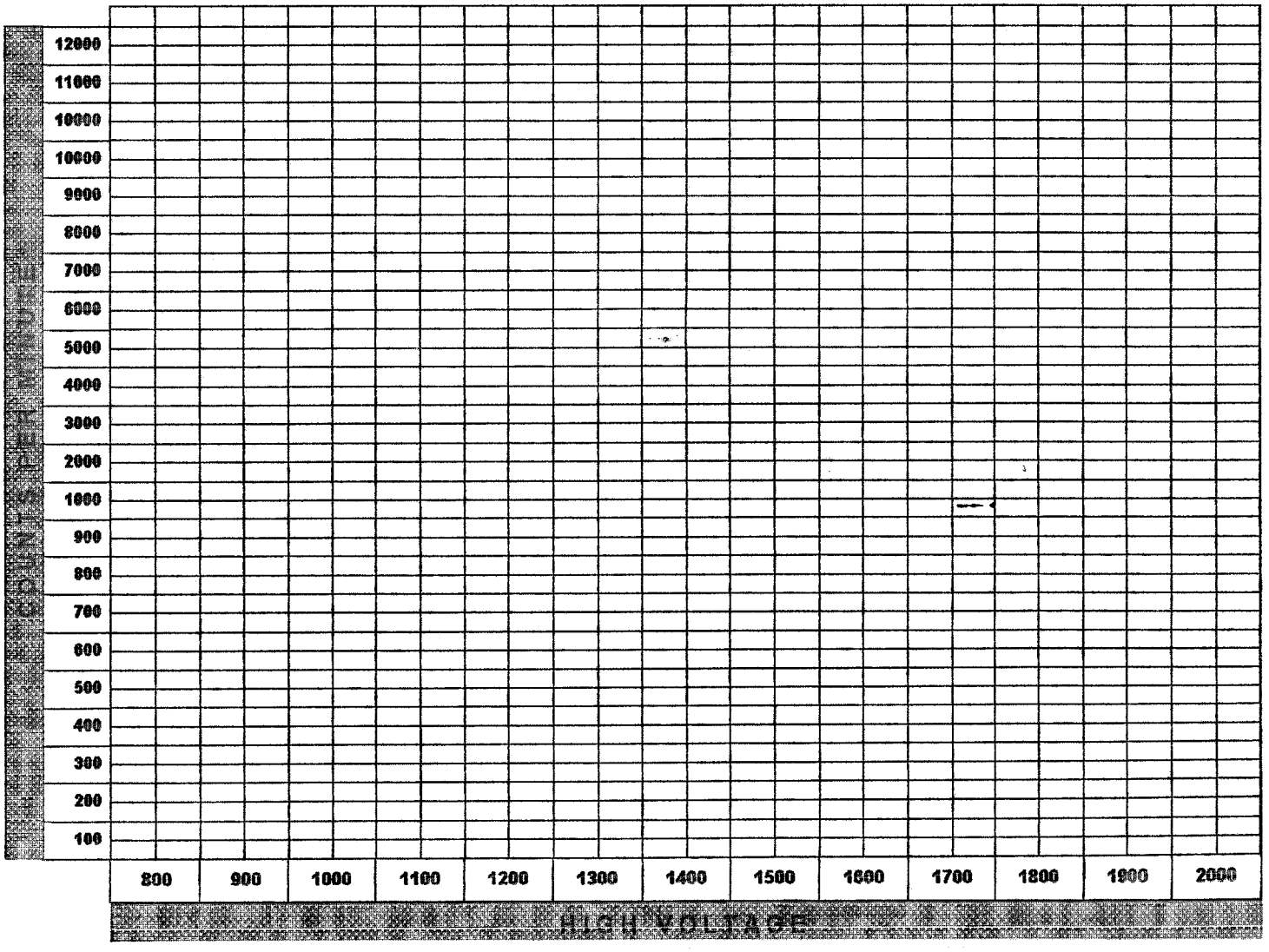
CALIBRATED BY:	Larry Smith
SIGNATURE:	

DATE:	6/1/95

COMMENTS: Calibrated with Ludlum 43-68 probe

ALPHA / BETA:	BETA

HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS	HIGH VOLTAGE	COUNTS
850	---	1250	6	1650	2940
900	---	1300	8	1700	4550
950	---	1350	10	1750	6160
1000	---	1400	7	1800	6450
1050	---	1450	11	1850	7230
1100	---	1500	45	1900	7360
1150	---	1550	612	1950	7740
1200	1	1600	1770	2000	---



GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburghf, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-95-05-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-2 Serial Number 1641 (14C
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	200 CPM		2.00 + 02 CPM	All Calibrations Btn. + & - 10%
2		800		8.00 + 02	
3					Battery: OK
4		2K		2.00 + 03	
5		8K		8.03 + 03	Audio: OK
6					
7		20K		2.00 + 04	Light: OK
8		80K		8.04 + 04	
9					Reset: OK
10		200K		2.01 + 05	
11		800K		8.05 + 05	DT = 1.00 - 07
12					
13		2M		2.01 + 06	CC = 1.00 + 00
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 05-25-95
Next Calibration Due: 11-25-95

I certify that the above information is correct:
_____ Administrative Coordinator
05-25-95 Date

CODE NUMBER 50

No Instrument

REPORT #001

CODE NUMBER 51

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: GTS Instrument Services
Customer Address: 2045 Route 286
Pittsburgh, PA 15239-2839

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number 142
External Probe(s) _____ Serial # _____

Calibration Method ^{137}Cs s/n 10263

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	.015 mR/hr	15 mR/hr	15 mR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05	50	50	Mechanical Zero: OK
4		0.1	100	100	
5		0.15	155	155	Battery: OK
6					
7	X10	0.5	500	500	
8		1	1,000	1,000	
9		1.5	1,600	1,600	
10					
11	X100	5	4,800	4,800	
12		10	10,000	10,000	
13		15	15,800	15,800	
14					
15	X1000	50	50,000	50,000	
16		100	100,000	100,000	
17		150	154,000	154,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James Christopher (Signed)
Calibration Date: 04-01-97
Next Calibration Due: 07-01-97

I certify that the above information is correct:
Tim Larson — Administrative Coordinator
04-01-97 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# BEBZ524601
Work Order # I-96-12-210

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number 142
External Probe(s) _____ Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr	8 uR/hr	15 uR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05	40	50	Battery: OK
4		0.1	80	105	
5		0.15	125	155	Mechanical Zero: OK
6					
7	X10	0.5	500	500	
8		1	1,050	1,050	
9		1.5	1,600	1,600	
10					
11	X100	5	4,700	4,700	
12		10	10,200	10,200	
13		15	15,700	15,700	
14					
15	X1000	50	48,000	48,000	
16		100	100,000	100,000	
17		150	152,000	152,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owen (Signed)
Calibration Date: 01-02-97
Next Calibration Due: 04-02-97

I certify that the above information is correct:
Administrative Coordinator
01-02-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

GTS INSTRUMENTS - RENTAL EQUIPMENT
Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-08-210

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number 142
External Probe(s) _____ Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr	15 uR/hr	15 uR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05	55	55	Battery: OK
4		0.1	100	100	
5		0.15	148	145	Mechanical Zero: OK
6					
7	X10	0.5	450	500	High Voltage: OK
8		1	920	1,000	
9		1.5	1,400	1,500	
10					
11	X100	5	5,000	5,000	
12		10	10,200	10,200	
13		15	15,500	15,500	
14					
15	X1000	50	50,000	50,000	
16		100	100,000	100,000	
17		150	150,000	150,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-04-96
Next Calibration Due: 12-04-96

I certify that the above information is correct:
_____ 09-04-96
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.#
Work Order # I-96-05-209

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number 142
External Probe(s) _____ Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr		15 uR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05		50	Battery: OK
4		0.1		100	
5		0.15		148	Mechanical Zero: OK
6					
7	X10	0.5		480	
8		1		1,050	
9		1.5		1,500	
10					
11	X100	5		4,800	
12		10		10,500	
13		15		16,000	
14					
15	X1000	50		50,000	
16		100		102,000	
17		150		155,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 05-22-96
Next Calibration Due: 08-22-96

I certify that the above information is correct:
Administrative Coordinator 05-22-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number 142
External Probe(s) _____ Serial # _____
Calibration Method 137Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr	15 uR/hr	15 uR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05	52	50	Battery: OK
4		0.1	105	100	
5		0.15	158	150	Mechanical Zero: OK
6					
7	X10	0.5	500	500	High Voltage: OK
8		1	1,000	1,000	
9		1.5	1,500	1,500	
10					
11	X100	5	4,500	4,800	
12		10	9,000	10,200	
13		15	14,000	15,800	
14					
15	X1000	50	48,000	48,000	
16		100	98,000	98,000	
17		150	150,000	150,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 01-11-96
Next Calibration Due: 04-11-96

I certify that the above information is correct:
Administrative Coordinator
01-11-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-95-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number 142
External Probe(s) _____ Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr	15 uR/hr	15 uR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05	48	50	Battery Check: OK
4		0.10	95	100	
5		0.15	140	150	Batteries: OK
6					
7	X10	0.5	480	500	High Voltage: OK
8		1	950	1,000	
9		1.5	1,400	1,500	
10					
11	X100	5	4,800	4,800	
12		10	9,800	9,800	
13		15	14,800	14,800	
14					
15	X1000	50	50,000	50,000	
16		100	100,000	100,000	
17		150	150,000	150,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-20-95
Next Calibration Due: 12-20-95

I certify that the above information is correct:
_____ 09-20-95
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

#57

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

ENTAL EQUIPMENT
Customer Name: GTS INSTRUMENT SERVICES, INC.
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-95-06-208

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number 142
External Probe(s) _____ Serial # _____
Calibration Method 137Cs s/n 10263 200mC:

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr		15 uR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05		50	Battery: OK
4		0.10		100	
5		0.15		150	Mechanical Zero: OK
6					
7	X10	0.5		480	High Voltage: OK
8		1		1,000	
9		1.5		1,500	
10					
11	X100	5		5,000	
12		10		10,000	
13		15		15,000	
14					
15	X1000	50		50,000	
16		100		100,000	
17		150		152,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 06-14-95
Next Calibration Due: 12-14-95

I certify that the above information is correct:
Administrative Coordinator
06-14-95
Date

CODE NUMBER 52

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.#
Work Order # I-99-03-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) XX Serial #
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.38	0.38	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
		2	1.9	1.9	
		4	3.7	3.7	Response: OK
8					
9	X100	10	10	10	Reset: OK
10		20	19.5	19.5	
11		40	36	36	Audio: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 03-24-99
Next Calibration Due: 06-24-99

I certify that the above information is correct:
Administrative Coordinator
03-24-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP177C Serial # ____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.4	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	1.9	1.9	
7		4	4	4	Response: OK
8					
9	X100	10	10	10	Reset: OK
10		20	20	20	
11		40	39	39	Speaker: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 12-17-98
Next Calibration Due: 03-17-99

I certify that the above information is correct:
Administrative Coordinator
12-17-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-09-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP177C Serial # ____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.4	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	2	2	
7		4	4	4	Response: OK
8					
9	X100	10	10	10	Reset: OK
10		20	20.5	20.5	
11		40	38	38	Speaker: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-14-98
Next Calibration Due: 12-14-98

I certify that the above information is correct:
_____ Administrative Coordinator
09-14-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15235

Customer P.O.# MB-14027-S
Work Order # I-98-04-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP-177C Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.4	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	2	2	
7		4	3.9	3.9	Response: OK
8					
9	X100	10	10	10	Reset: OK
10		20	20	20	
11		40	38	38	Speaker: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 04-23-98
Next Calibration Due: 07-23-98

I certify that the above information is correct:
_____ Administrative Coordinator
04-23-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-12-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) X Serial #
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.4	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	2	2	
7		4	4	4	Reset: OK
8					
9	X100	10	10	10	Response: OK
10		20	20	20	
11		40	40	40	Audio: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 01-05-98
Next Calibration Due: 04-05-98

I certify that the above information is correct: [signature]
Administrative Coordinator
01-05-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-06-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) X Serial #
Calibration Method 137Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.4	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	2	2	
7		4	4	4	Reset: OK
8					
9	X100	10	10.5	10.5	Response: OK
10		20	21	21	
11		40	39	39	Audio: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Ow (Signed)
Calibration Date: 07-01-97
Next Calibration Due: 10-01-97

I certify that the above information is correct:
Theresa Mc — Administrative Coordinator
07-01-97 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

#52

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP177C Serial # _____

Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.09 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.18	0.2	
3		0.4	0.36	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	2	2	
7		4	4	4	Response: OK
8					
9	X100	10	10	10	Reset: OK
10		20	20	20	
11		40	38	38	Speaker: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 03-04-97
Next Calibration Due: 06-04-97

I certify that the above information is correct:
_____ Administrative Coordinator
03-04-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-96-07-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP177C Serial #
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.12 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.24	0.2	
3		0.4	0.46	0.38	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	2	2	
7		4	3.9	3.9	Response: OK
8					
9	X100	10	11	11	Reset: OK
10		20	21	21	
11		40	39	39	Audio: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 07-22-96
Next Calibration Due: 10-22-96

I certify that the above information is correct:
Administrative Coordinator 07-22-96
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP177C Serial # _____

Calibration Method 137Cs s/n 10263 200mC:

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	Repaired	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	High Voltage	0.2	
3		0.4		0.4	Battery: OK
4					
5	X10	1		1	Mechanical Zero: OK
6		2		2	
7		4		4	Response: OK
8					
9	X100	10		10	Reset: OK
10		20		21	
11		40		40	Speaker: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 03-27-96
Next Calibration Due: 06-27-96

I certify that the above information is correct:
_____ Administrative Coordinator
03-27-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-95-10-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP-177C Serial # ____
Calibration Method 137Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	Initial	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	Calibration	0.2	
3		0.4		0.4	Battery: OK
4					
5	X10	1		1	Mechanical Zero: OK
6		2		2	
7		4		4	Response: OK
8					
9	X100	10		10	Reset: OK
10		20		20	
11		40		40	
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 10-24-95
Next Calibration Due: 01-24-96

I certify that the above information is correct:
Administrative Coordinator
10-24-95
Date

CODE NUMBER 53

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP177C Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.4	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	1.9	1.9	
7		4	4	4	Response: OK
8					
9	X100	10	10	10	Reset: OK
10		20	20	20	
11		40	39	39	Speaker: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 12-17-98
Next Calibration Due: 03-17-99

I certify that the above information is correct:
Administrative Coordinator
12-17-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-09-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP177C Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.4	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	2	2	
7		4	4	4	Response: OK
8					
9	X100	10	10	10	Reset: OK
10		20	20.5	20.5	
11		40	38	38	Speaker: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-14-98
Next Calibration Due: 12-14-98

I certify that the above information is correct:
_____ Administrative Coordinator
09-14-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15235

Customer P.O.# MB-14027-S
Work Order # I-98-04-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) HP-177C Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.4	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	2	2	
7		4	3.9	3.9	Response: OK
8					
9	X100	10	10	10	Reset: OK
10		20	20	20	
11		40	38	38	Speaker: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 04-23-98
Next Calibration Due: 07-23-98

I certify that the above information is correct:
_____ Administrative Coordinator
04-23-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-12-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1487
External Probe(s) X Serial # _____

Calibration Method ~~137~~Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.4	0.4	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
6		2	2	2	
7		4	4	4	Reset: OK
8					
9	X100	10	10	10	Response: OK
10		20	20	20	
11		40	40	40	Audio: OK
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 01-05-98
Next Calibration Due: 04-05-98

I certify that the above information is correct:
_____ Administrative Coordinator
01-05-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

(53)

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Specialty Metals Plant
RD #4
Blairsville, PA 15717
Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model PAC-4G-3 Serial Number 4105
External Probe(s) AC-21 Serial # _____
Calibration Method ^{239}Pu s/n 6925, 7648, 7649
7650

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1		240 CPM	250 CPM	250 CPM	All Calibrations Btn. + & - 10%
2					
3		4,340	4,500	4,500	Battery: OK
4					
5		25,800	27,000	27,000	Mechanical Zero: OK
6					
7		467,600	450,000	450,000	Calibrated with AC-21 Probe ONLY.
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens
(Signed)
Calibration Date: 04-17-97
Next Calibration Due: 07-17-97

I certify that the above information is correct:
Tim Lawn
Administrative Coordinator
04-17-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CODE 53

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-08-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model PAC-4G-3 Serial Number 4105
External Probe(s) AC-21 Serial # _____

Calibration Method ^{239}Pu s/n 6925, 7648, 7649, 7650
Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	Lin Log				All Calibrations Btn. + & - 10%
2	BLACK	240 CPM	Initial	250 CPM	
3		4,340	Calibration	4,400	Battery: OK
4					
5	RED	25,860		26,000	Mechanical Zero: OK
6		467,600		470,000	
7					HV (21) = 1650 Volts
8					
9					Input Sensitivity ≃ 2mV
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-04-96
Next Calibration Due: 12-04-96

I certify that the above information is correct:
_____ Administrative Coordinator
09-04-96 Date

CODE NUMBER 54

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.#
Work Order # I-99-02-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1333
External Probe(s) HP270 Serial #

Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.38	0.38	Battery: OK
4					
5	X10	1	1	1	Mechanical Zero: OK
		2	2	2	
7		4	4.1	4.1	Response: OK
8					
9	X100	10	10	10	Reset: OK
10		20	20	20	
11		40	38	38	
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 02-24-99
Next Calibration Due: 05-24-99

I certify that the above information is correct:
Administrative Coordinator
02-24-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-10-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1333
External Probe(s) HP270 Serial # _____

Calibration Method ^{137}Cs s/n 10263 200mC

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.38	0.38	Battery: OK
4					
5	X10	1	1	1	Response: OK
6		2	2	2	
7		4	4	4	Mechanical Zero: OK
8					
9	X100	10	9	10	Reset: OK
10		20	18	20	
11		40	35	39	
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 10-29-98
Next Calibration Due: 01-29-99

I certify that the above information is correct:
_____ Administrative Coordinator
10-29-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

#54

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-05-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1333
External Probe(s) HP270 Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mC

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.12 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.24	0.2	
3		0.4	0.48	0.4	Battery: OK
4					
5	X10	1	1.1	1	Mechanical Zero: OK
6		2	2.2	2	
7		4	4.4	4	Response: OK
8					
9	X100	10	12	10	Reset: OK
10		20	23	19.5	
11		40	43	36	
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 05-29-98
Next Calibration Due: 08-29-98

I certify that the above information is correct:
_____ Administrative Coordinator
05-29-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

(54)

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Specialty Metals Plant
RD #4
Blairsville, PA 15717
Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1333
External Probe(s) HP270 Serial # _____
Calibration Method ^{137}Cs s/n 10263

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	0.1 mR/hr	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	0.2	0.2	
3		0.4	0.38	0.38	Mechanical Zero: OK
4					
5	X10	1	1	1	Battery: OK
6		2	2	2	
7		4	4	4	Reset: OK
8					
9	X100	10	10	10	Response: OK
10		20	20.5	20.5	
11		40	39	39	
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens
(Signed)
Calibration Date: 04-17-97
Next Calibration Due: 07-17-97

I certify that the above information is correct:
Tim Lawson
Administrative Coordinator
04-17-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CODE 54

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-08-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-140 Serial Number 1333
External Probe(s) HP270 Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	0.1 mR/hr	Initial	0.1 mR/hr	All Calibrations Btn. + & - 10%
2		0.2	Calibration	0.2	
3		0.4		0.4	Battery: OK
4					
5	X10	1		1	Mechanical Zero: OK
6		2		2	
7		4		4	Response: OK
8					
9	X100	10		10.5	Reset: OK
10		20		20.5	
11		40		39.5	
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-04-96
Next Calibration Due: 12-04-96

I certify that the above information is correct:
_____ 09-04-96
Administrative Coordinator Date

CODE NUMBER 55

No Instrument

REPORT #001

CODE NUMBER 56

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

Code H56

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-96-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model PAC-4S Serial Number 4034
External Probe(s) AC-3-7 Serial # 7A

Calibration Method 239 Pulser s/n 101500
Pu s/n 7648/7649/7650
w/ SAP-1 Attenuator

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response: Before Calib.	Instrument Response: After Calib.	Comment
1	BLACK	1,650 CPM	Initial	1,600 CPM	All Calibrations Btn. + & - 10%
2		9,804	Calibration	10K	
3					Battery: OK
4	RED	177,688		180K	
5		467,600		450K	Mechanical Zero: OK
6					
7					Input Sensitivity ≅ 10mV
8					
9					High Voltage = 735 Volts
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-24-96
Next Calibration Due: 12-24-96

I certify that the above information is correct:
_____ Administrative Coordinator
09-24-96 Date

CODE NUMBER 57

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CODE # 57

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-96-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 137
External Probe(s) _____ Serial # 082919

Calibration Method ~~137~~Pulser s/n 101500
~~137~~Cs s/n 10263 200mCi
~~99~~Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	Initial	100 CPM	All Calibrations Btn. + & - 10%
2		200	Calibration	200	
3		400		400	Battery: N/A
4					
5	X10	1K		1K	Mechanical Zero: OK
6		2K		2K	
7		4K		4K	Response: OK
8					
9	X100	10K		10K	Reset: OK
10		20K		20K	
11		40K		40K	Audio: OK
12					
13					Alarm: OK
14					
15					Test Pulse: N/A
16					
17					1 mR/hr ≈ 3.1K CPM in ^{137}Cs field
18					
19					^{99}Tc Efficiency = 11.2%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-24-96
Next Calibration Due: 12-24-96

I certify that the above information is correct:
_____ Administrative Coordinator
09-24-96 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

#67

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 137
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 120935

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	395	395	Battery: AC ONLY
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	39.5K	39.5K	Audio: OK
12					
13					High Voltage = 913 Volts
14					
15					Alarm: OK
16					
17					Pulser Calibration only
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 03-25-97
Next Calibration Due: 06-25-97

I certify that the above information is correct:
Tim Lowry — Administrative Coordinator
03-25-97 — Date

CODE NUMBER 58

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

#59

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 247
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 120935

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response: Before Calib.	Instrument Response: After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	395	395	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	39.5K	39.5K	Audio: OK
12					
13					Alarm: OK
14					
15					High Voltage = 900 Volts
16					
17					Pulser Calibration only
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 03-25-97
Next Calibration Due: 06-25-97

I certify that the above information is correct:
Tim Lawson — Administrative Coordinator
03-25-97 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CODE #58

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-96-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 247
External Probe(s) 44-9 Serial # 092873

Calibration Method Pulser s/n 101500
~~137~~Cs s/n 10263 200mCi
~~99~~Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response: Before Calib.	Instrument Response: After Calib.	Comment
1	X1	100 CPM	Initial	100 CPM	All Calibrations Btn. + & - 10%
2		200	Calibration	200	
3		400		400	Battery: OK
4					
5	X10	1K		1K	Mechanical Zero: OK
6		2K		2K	
7		4K		4K	Response: OK
8					
9	X100	10K		10K	Reset: OK
10		20K		20K	
11		40K		40K	Audio: OK
12					
13					Alarm: OK
14					
15					Test Pulse = 3.55K
16					
17					~~99~~Tc Efficiency = 10.6%
18					
19					1 mR/hr ≅ 3K CPM in ~~137~~Cs field
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-24-96
Next Calibration Due: 12-24-96

I certify that the above information is correct:
_____ Administrative Coordinator
09-24-96 Date

CODE NUMBER 59

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

59

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Specialty Metals Plant
RD #4
Blairsville, PA 15717
Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-530 Serial Number 210
External Probe(s) 44-38 Serial # 028828
Calibration Method ^{137}Cs s/n 10263

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X.01	0.05 mR/hr	0.055 mR/hr	0.055 mR/hr	All Calibrations Btn. + & - 10%
2		0.1	0.1	0.1	
3		0.15	0.14	0.14	Battery: OK
4					
5	X0.1	0.5	0.45	0.5	Mechanical Zero: OK
6		1	0.95	1	
7		1.5	1.3	1.4	Reset: OK
8					
9	X1.0	5	4.8	5	Response: OK
10		10	9	10	
11		15	13.5	15	
12					
13	X10	50	50	55	
14		100	92	98	
15		150	128	135	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens
(Signed)
Calibration Date: 04-17-97
Next Calibration Due: 07-17-97

I certify that the above information is correct:
Tim Lawn — Administrative Coordinator
04-17-97 — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CODE #59

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-96-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model E-530 Serial Number 210
External Probe(s) 44-38 Serial # 028828
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.05 mR/hr	Initial	0.05 mR/hr	All Calibrations Btn. + & - 10%
2		0.1	Calibration	0.1	
3		0.15		0.15	Battery: OK
4					
5	X1	0.5		0.5	Mechanical Zero: OK
6		1		1	
7		1.5		1.5	Response: OK
8					
9	X1	5		5	Reset: OK
10		10		10	
11		15		15	
12					
13	X10	50		55	
14		100		100	
15		150		138	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 09-25-96
Next Calibration Due: 12-25-96

I certify that the above information is correct:
Administrative Coordinator
09-25-96
Date

CODE NUMBER 60

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CODE 460

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-96-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-1 Serial Number 275
External Probe(s) HP270 Serial # _____

Calibration Method 137Cs Pulser s/n 101500
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 mR/hr	Initial Calibration	1.03 mR/hr	All Calibrations Btn. + & - 10%
2					
3		10		10.3	Battery: OK
4					
5		150		145	Reset: OK
6					
		250		241	Light: OK
8					
9		750		743	Speaker: OK
10					
11		1,500		1,490	DT = 1.00 - 04
12					CC = 7.70 + 07
13					
14					High Voltage = 900 Volts
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-25-96
Next Calibration Due: 12-25-96

I certify that the above information is correct:
Theresa M. Ebas — Administrative Coordinator
09-25-96 — Date

CODE NUMBER 61

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CODE #61

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15221

Customer P.O.# MB-14027-S
Work Order # I-96-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ESP-1 Serial Number 276
External Probe(s) 43-68 Serial # 094759

Calibration Method ~~230~~ Pulser s/n 101500
Th s/n 11623

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATE	200 CPM	Initial	2.00 + 02 CPM	All Calibrations Btn. + & - 10%
2		800	Calibration	8.00 + 02	
3		2K		2.00 + 03	Battery: OK
4		8K		8.00 + 03	
5		20K		2.00 + 04	Reset: OK
6		80K		8.00 + 04	
7		200K		2.00 + 05	Light: OK
8		800K		8.00 + 05	
9		2M		2.01 + 06	Speaker: OK
10					
11	SCALER	200		1.99 + 02	DT = 2.00 - 07
12	1 MIN COUNTS	2K		1.99 + 03	CC = 1.00 + 00
13		20K		1.99 + 04	High Voltage = 1300 Volts
14		200K		1.99 + 05	Input Sensitivity ≅ 4mV
15		2M		1.99 + 06	~~230~~ Th Efficiency = 16.7%
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-25-96
Next Calibration Due: 12-25-96

I certify that the above information is correct:
_____ Administrative Coordinator
09-25-96 Date

CODE NUMBER 62

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-99-02-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 936
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 120935

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: N/A AC Only
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4K	4K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	39.5K	39.5K	Audio: OK
12					
13					Alarm: OK
14					
15					Electronic Calibration only
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 03-16-99
Next Calibration Due: 06-16-99

I certify that the above information is correct:
Administrative Coordinator
03-16-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 936
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 298

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	410	410	Battery: N/A AC ONLY
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4.1K	4.1K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	40.5K	40.5K	Audio: OK
12					
13					Alarm: OK
14					
15					Electronic Calibration only
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 10-28-98
Next Calibration Due: 01-28-99

I certify that the above information is correct:
Administrative Coordinator
10-28-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

#62

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-05-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 936
External Probe(s) 44-9 Serial # 082915

Calibration Method ^{99}Tc s/n Pulser s/n 101500
^{137}Cs s/n S1256
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	410	410	Battery: OK
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4.1K	4.1K	Response: OK
8					
9	X100	10K	10K	10K	Reset: OK
10		20K	20K	20K	
11		40K	41K	41K	Speaker: OK
12					
13					Alarm: OK
14					
15					1 mR/hr ≃ 3.2K CPM in ^{137}Cs field
16					
17					^{99}Tc Efficiency = 10.2%
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 05-29-98
Next Calibration Due: 08-29-98

I certify that the above information is correct:
Administrative Coordinator
05-29-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

#62

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 936
External Probe(s) _____ Serial # _____

Calibration Method Pulser s/n 120935

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	200	200	
3		400	400	400	Battery: AC ONLY
4					
5	X10	1K	1K	1K	Mechanical Zero: OK
6		2K	2K	2K	
7		4K	4.05K	4.05K	Reset: OK
8					
9	X100	10K	10K	10K	Response: OK
10		20K	20K	20K	
11		40K	40.5K	40.5K	Audio: OK
12					
13					High Voltage = 904 Volts
14					
15					Alarm: OK
16					
17					Pulser calibration only
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 03-25-97
Next Calibration Due: 06-25-97

I certify that the above information is correct:
Tim Lowry — 03-25-97
Administrative Coordinator — Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

Code #62

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RM-14 Serial Number 936
External Probe(s) 44-9 Serial # 082915

Calibration Method ^{137}Cs Pulser s/n 101500
^{137}Cs s/n 10263 200mCi
^{99}Tc s/n S1256

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM		100 CPM	All Calibrations Btn. + & - 10%
2		200		200	
3		400		400	Battery: N/A
4					
5	X10	1K		1K	Mecanical Zero: OK
6		2K		2K	
7		4K		4K	Response: OK
8					
9	X100	10K		10K	Reset: OK
10		20K		20K	
11		40K		40K	Speaker: OK
12					
13					Alarm: OK
14					
15					Test Pulse ≈ 3.6K CPM
16					
17					1 mR/hr ≈ 3.1K CPM in ^{137}Cs field
18					
19					^{99}Tc Efficiency = 10.6%
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: [signature] (Signed)
Calibration Date: 09-30-96
Next Calibration Due: 03-30-97

I certify that the above information is correct: [signature]
Administrative Coordinator
09-30-96
Date

CODE NUMBER 63

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

Code # 63

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-96-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model ASP-1 Serial Number 420
External Probe(s) HP270 Serial # _____

Calibration Method 137Cs s/n 10263 200mCi
137Cs s/n 20020 400Ci
Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.02 mR/hr		0.022 mR/hr	All Calibrations Btn. + & - 10%
2		0.05		0.055	
3		0.075		0.08	Battery: OK
4					Mechanical Zero:
5	X1	0.2		0.19	
6		0.5		0.5	Response: OK
7		0.75		0.72	
8					Reset: OK
9	X10	2		2	
10		5		5.1	Audio: OK
11		7.5		7.4	
12					Light: OK
13	X100	20		20	
14		50		49	High Voltage = 900 Volts
15		75		70	
16					Input Sensitivity ≅ 10mV
17	X1K	200		180	
18		500		500	DT = 100uSec
19		750		720	
20					Cal Switch 3: OPEN
21	X10K	2 R/hr		1,800	4: OPEN
22					Standard Current = .68
23					
					NOT Calibrated in Integrated

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 09-30-96
Next Calibration Due: 03-30-97

I certify that the above information is correct:
_____ 09-30-96
Administrative Coordinator — Date

CODE NUMBER 64

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

64

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: Specialty Metals Plant
RD #4
Blairsville, PA 15717
Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model PAC-45 Serial Number 4035
External Probe(s) AC-3 Serial # 7A
Calibration Method ^{239}Pu s/n 6925, 7648, 7649 7650

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1		240 CPM	250 CPM	250 CPM	All Calibrations Btn. + & - 10%
2					
3		4,340	4,500	4,500	Battery: OK
4					
5		25,800	18,000	25,000	Mechanical Zero: OK
6					
7		467,600	140,000	450,000	
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens
(Signed)
Calibration Date: 04-17-97
Next Calibration Due: 07-17-97

I certify that the above information is correct:
Tim Lawson — Administrative Coordinator
04-17-97 — Date

CODE NUMBER 65

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT
Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-97-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 102049 (233)
External Probe(s) 44-2 Serial # 141639 (165)

Calibration Method ~~137~~Pulser s/n 120935
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATEMETER				All Calibrations Btn. + & - 10%
2	X1	100 CPM	Reset	100 CPM	
3		200	Mechanical Zero	200	Battery: OK
4		400		400	
5					Mechanical Zero: OK
6	X10	1K		1K	
7		2K		2K	Reset: OK
8		4K		3.9K	
9					Response: OK
10	X10	10K		10K	
11		20K		20K	Audio: OK
12		40K		39K	
13					Window = OUT
14	X1K	100K		100K	
15		200K		200K	High Voltage = 697 Volts
16		400K		390K	
17					Input Sensitivity = 10mV
18	LOG	400		400	
19		4K		4K	Threshold = 101 = 10mV
20		40K		39K	
21		400K		390K	0.1 mR/hr ≃ 225K CPM in ^{137}Cs fiel
22					facing source
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 10-02-97
Next Calibration Due: 01-02-98

I certify that the above information is correct:
Administrative Coordinator
10-02-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

ENTAL EQUIPMENT

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-09-209

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 102049 (233)
External Probe(s) 44-2 Serial # 141639 (165)

Calibration Method Pulser s/n 120935

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	Reset	100 CPM	All Calibrations Btn. + & - 10%
2		200	Mechanical Zero	195	
3		400		397	
4		1K		994	
5		2K		1,996	
6		4K		3,955	
7		10K		9,980	
8		20K		19,970	
9		40K		39,792	
10		100K		99,795	
11		200K		200,175	
12		400K		399,273	
13					
14	SCALER				
15	0.1 MIN	40K		3,990	
16	0.2	40K		8,003	
17	0.5	40K		20,008	
18	1	40K		40,020	
19	2	40K		80,047	
20	5	40K		200,135	
21	10	40K		400,337	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: James C. Whitzel (Signed)
Calibration Date: 10-02-97
Next Calibration Due: 01-02-98

I certify that the above information is correct:
Administrative Coordinator
10-02-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-97-06-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 102049 (233)
External Probe(s) 44-2 Serial # 141639 (465)

Calibration Method 137Cs Pulser s/n 101500
137Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM		100 CPM	All Calibrations btn. + & - 10%
2		200		200	
3		400		400	Battery: OK
4					
5	X10	1K		1K	Mechanical Zero: OK
6		2K		2K	
7		4K		4K	Response: OK
8					
9	X100	10K		10K	Zero: OK
10		20K		20K	
11		40K		40K	Audio: OK
12					
13	X1K	100K		100K	Lamp: OK
14		200K		200K	
15		400K		400K	High Voltage = 700 Volts
16					
17	LOG	400		400	Threshold = 100 ≈ 10mV
18		4K		4K	
19		40K		40K	Window = OUT
20		400K		400K	
21					1 mR/hr = 212K CPM in 137Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 06-10-97
Next Calibration Due: 09-10-97

I certify that the above information is correct:
_____ Administrative Coordinator
06-10-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

65

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-97-06-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 102049 (233)
External Probe(s) 44-2 Serial # 141639 (465)

Calibration Method Pulser s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM		100 CPM	All Calibrations Btn. + & - 10%
2		200		200	
3		400		400	
4		1K		1,000	
5		2K		2,001	
6		4K		4,004	
7		10K		10,019	
8		20K		20,027	
9		40K		40,053	
10		100K		100,038	
11		200K		200,158	
12		400K		400,565	
13					
14	SCALER				
15	0.1 MIN	40K		4,003	
16	0.2	40K		8,008	
17	0.5	40K		20,033	
18	1	40K		40,081	
19	2	40K		80,208	
20	5	40K		200,360	
21	10	40K		400,816	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 06-10-97
Next Calibration Due: 09-10-97

I certify that the above information is correct:
Administrative Coordinator
06-10-97
Date

CODE NUMBER 66

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-98-10-208

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number B698G (430)
External Probe(s) _____ Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr	13 uRem/hr	15 uRem/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05	45	50	Battery: OK
4		0.1	90	100	
5		0.15	135	150	Mechanical Zero: OK
6					
7	X10	0.5	520	520	High Voltage: OK
8		1	1,050	1,050	
9		1.5	1,580	1,580	
10					
11	X100	5	5,000	5,000	
12		10	10,000	10,000	
13		15	15,000	15,000	
14					
15	X1000	50	50,000	50,000	
16		100	100,000	100,000	
17		150	150,000	150,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 10-29-98
Next Calibration Due: 01-29-99

I certify that the above information is correct:
_____ 10-29-98
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

ENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-98-05-209

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number B698G (430)
External Probe(s) _____ Serial # _____
Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr	15 mRem/hr	15 mRem/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05	50	50	Battery: OK
4		0.1	100	100	
5		0.15	145	145	Mechanical Zero: OK
6					
7	X10	0.5	550	550	High Voltage: OK
8		1	1,000	1,000	
9		1.5	1,500	1,500	
10					
11	X100	5	5,000	5,000	
12		10	10,000	10,000	
13		15	15,000	15,000	
14					
15	X1000	50	48,000	50,000	
16		100	93,000	100,000	
17		150	140,000	150,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 06-10-98
Next Calibration Due: 09-10-98

I certify that the above information is correct:
_____ Administrative Coordinator
06-10-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: Westinghouse/GTS INSTRUMENT
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-98-02-208

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number B698G (430)
External Probe(s) _____ Serial # _____
Calibration Method 137Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr	15 uR/hr	15 uR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05	50	50	Battery: OK
4		0.1	98	98	
5		0.15	145	145	Mechanical Zero: OK
6					
7	X10	0.5	520	520	High Voltage: OK
8		1	1,000	1,000	
9		1.5	1,500	1,500	
10					
11	X100	5	5,000	5,000	
12		10	10,000	10,000	
13		15	15,000	15,000	
14					
15	X1000	50	50,000	50,000	
16		100	97,000	97,000	
17		150	140,000	140,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 02-13-98
Next Calibration Due: 05-13-98

I certify that the above information is correct:
_____ Administrative Coordinator
02-13-98 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-10-209

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number B698G (430)
External Probe(s) _____ Serial # _____

Calibration Method ^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr	13 uR/hr	15 uR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05	55	50	Battery: OK
4		0.1	105	97	
5		0.15	155	145	Mechanical Zero: OK
6					
7	X10	0.5	500	500	
8		1	1,000	1,000	
9		1.5	1,500	1,500	
10					
11	X100	5	5,000	5,000	
12		10	10,000	10,000	
13		15	15,000	15,000	
14					
15	X1000	50	52,000	50,000	
16		100	102,000	98,000	
17		150	153,000	145,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: _____ (Signed)
Calibration Date: 11-03-97
Next Calibration Due: 02-03-98

I certify that the above information is correct:
_____ 11-03-97
Administrative Coordinator Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-97-06-209

INSTRUMENT INFORMATION

Instrument Manufacturer Bicron
Model Micro Rem Serial Number B698G (430)
External Probe(s) _____ Serial # _____
Calibration Method 137Cs s/n 10263 200mC:

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X0.1	0.015 mR/hr		15 uR/hr	All Calibrations Btn. + & - 10%
2					
3	X1	0.05		50	Battery: OK
4		0.1		100	
5		0.15		145	Mechanical Zero: OK
6					
7	X10	0.5		500	
8		1		1,000	
9		1.5		1,500	
10					
11	X100	5		5,000	
12		10		10,000	
13		15		14,800	
14					
15	X1000	50		50,000	
16		100		100,000	
17		150		148,000	
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by William Dare (Signed)
Calibration Date: 07-01-97
Next Calibration Due: 10-01-97

I certify that the above information is correct:
Teresa Mc
Administrative Coordinator
07-01-97
Date

CODE NUMBER 67

IH & S Form # 203
Forest Hills Site

Manual Lab Counter

(Chi Square)

A35U CAL "A"	COUNTER S/N:	999	INSTRUMENT CODE:	67	
SOURCE USED: (Check one)	[ ] Cs 137 # 84-9 [ ] Pu 239 # 5308	[ ] Tc-99 # 763/84 [ ] Pu 239 #7346	[ ] Tc 99 # 764/84 [ ] Tc99 #767/84	DATE OF SOURCE DECAY:	ACTIVITY DPM: 84475

CHECK SOURCE CHI SQUARE DATA (2 minute counts)	
2508	2491
2510	2499
2482	2439
2584	2510
2490	2523
TOTAL / 10: (average)	25036
Sq. Root of average: (Sigma)	50
3 Sigma:	150
Average + 3 Sigma:	N/A
Average - 3 Sigma:	N/A

EFFICIENCY DATA:	
2 MINUTE COUNT: 10	24931
GROSS CPM (Count/min)	2493
NET CPM (Gross count - Bgk.)	2340
EFFICIENCY (Net CPM/DPM)	2.77
CORR. FACTOR (1 / Eff.)	36.1

BACKGROUND DATA:	
TOTAL COUNTS:	1529
COUNT TIME:	10 Minutes
COUNTS PER MINUTE:	153

CALIBRATED BY VENDER: (Electronical calibration only)	General Technical Services, Inc.
ELECTRONIC CALIBRATION DATE:	5-20-98

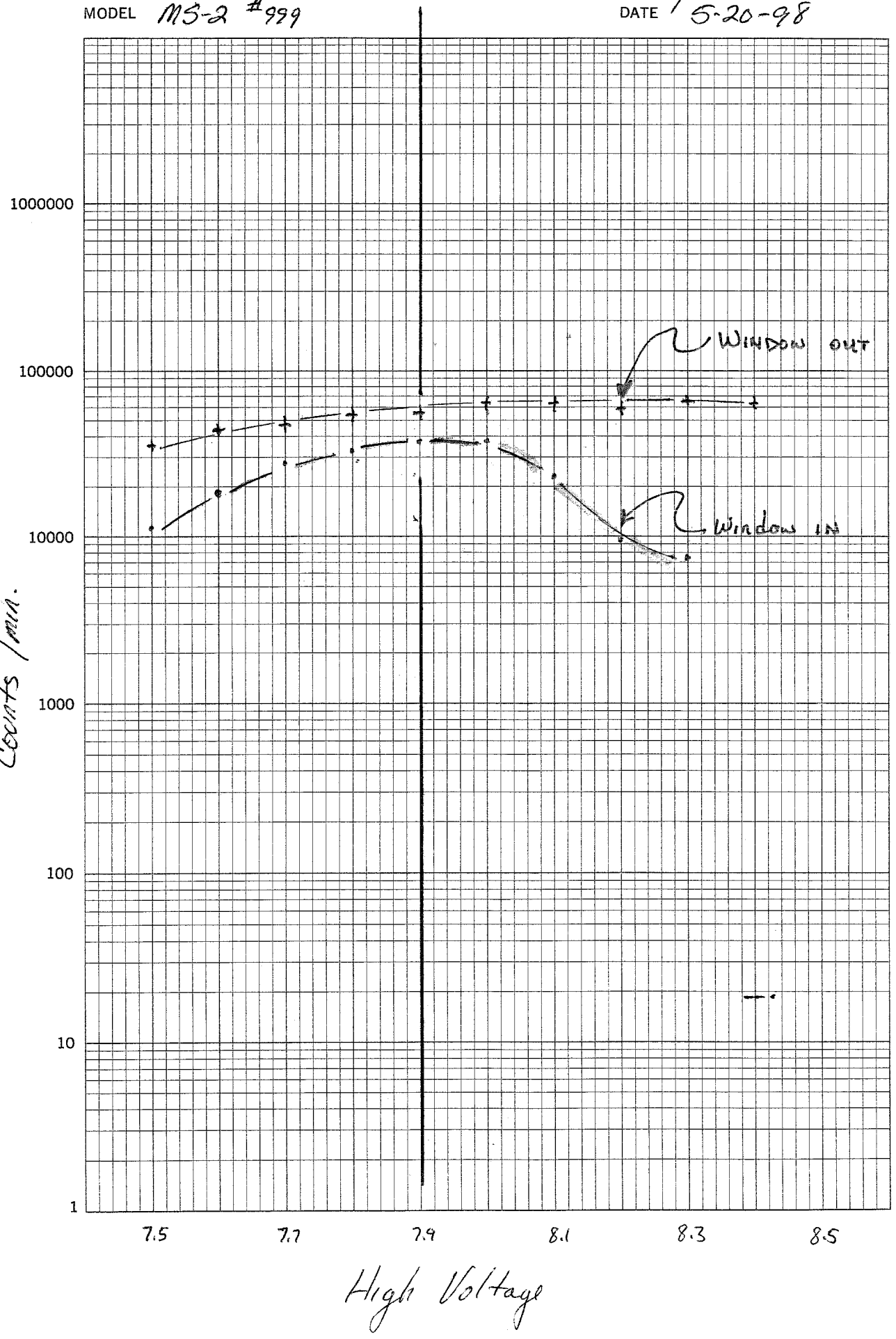
SOURCE EFFICIENCY AND CHI SQUARE BY:	NAME: John Shoemaker SIGNATURE: John Shoemaker
CALIBRATION DATE:	5-20-98
CALIBRATION DUE:	8-20-98

Threshold 1.0
Window 2.0

MODEL MS-2 #999

DATE 5-20-98

John Shoemaker



46 6460

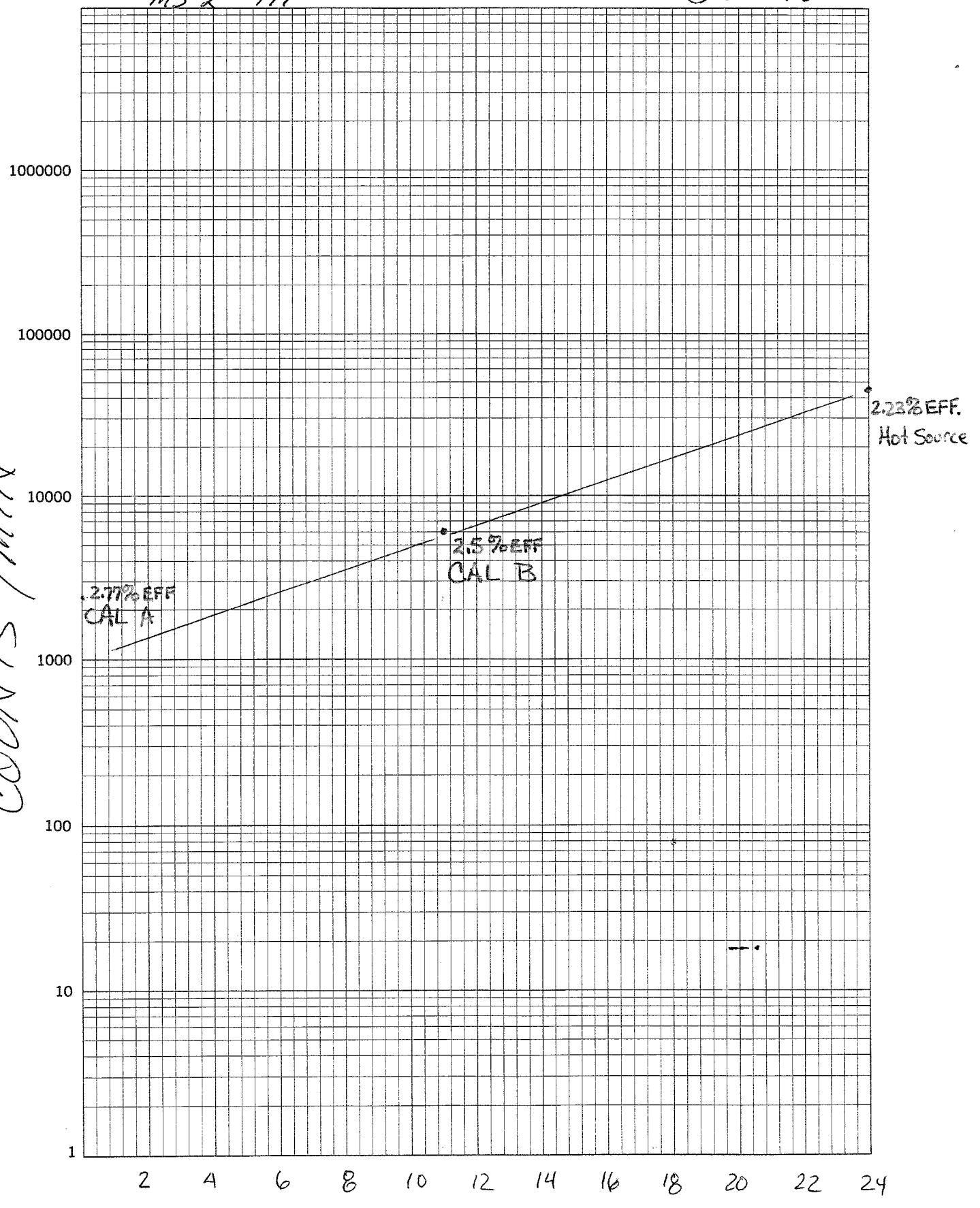
SEMI-LOGARITHMIC 7 CYCLES X 60 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

Threshold 1.0
Window 2.0
High Voltage 7.9

MODEL MS-2 #999

DATE 5-20-98

John Shoemaker



46 6460

SEMI-LOGARITHMIC 7 CYCLES X 60 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

Nuclear Services Division
COTA - Analytical Laboratory
Waltz Mill Site
(412) 722-5217, 5219

ANALYSIS REPORT 16137
RECEIVED 9-18-96
REPORTED 9-20-96

Originator A J Nardi Company/Div. W ESBU Environmental & Regulatory Services

RESULTS OF ANALYSIS

pCi/gram +/- 2 sigma @ sample date: 9-18-96

Analytical Service #	Sample Identification	Cs137	Tl208	Bi212	Bi214	Pb212	Pb214	Ra226	Ra228/ Ac228	Th228	U235	Other	U238
96-1076	CAL-A	1.03 ±0.54	1.74 ±0.30	5.78 ± 4.82	–	5.02 ±1.31	–	0.944 ±0.91	6.18 ± 3.50	5.00 ± 1.63	783 ± 6		1029 ± 165
96-1077	CAL-B	7.29 ± 1.72	5.79 ±1.69	26.7 ± 15.2	–	20.8 ± 2.6	–	1.96 ± 1.58	–	16.6 ± 4.9	5944 ± 18		7165 ± 460
96-1078	CAL-C	0.532 ±0.32	–	–	–	0.826 ±0.62	–	1.55 ± 0.87	–	1.53 ±0.91	–		–

Remarks: BLAIRSVILLE

Procedures: A-524
Analyst: WTF
Page 1 OF 1

COPY
JMS
5-20-97

Approved: J Barlow

MS-2, S/N 999

Eff. 2.77%
Bkg. 153 cpm
Threshold 1.0
Window 2.0
H. Voltage 7.9
137 Cs, window in 1.1%
137 Cs, window out 3.4%
235 U, window in 2.77%
235 U, window out 2.87%
Bkg. window in 153.9 cpm
Bkg. window out 501.2 cpm
NCPM * CF 16.26 / Wt. Grams =
PCi/gram in each sample.

CODE NUMBER 68

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

ENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-98-12-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RAS-1 Serial Number 0885 (244)
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-276

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3					28 LPM = 1 CFM
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 12-17-98
Next Calibration Due: 06-17-99

I certify that the above information is correct:
Administrative Coordinator
12-17-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RAS-1 Serial Number 0885 (244)
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	1.1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3					30 LPM ≅ 1 CFM
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 09-22-97
Next Calibration Due: 12-22-97

I certify that the above information is correct:
Administrative Coordinator
09-22-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT
Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-98-04-208

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RAS-1 Serial Number 0885 (244)
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-276

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM	1.2 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					30 LPM ≈ 1 CFM
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 05-06-98
Next Calibration Due: 11-06-98

I certify that the above information is correct:
Administrative Coordinator
05-06-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-97-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RAS-1 Serial Number 0885 (244)
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	1 CFM	1.1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3					30 LPM ≈ 1 CFM
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 09-22-97
Next Calibration Due: 03-22-98

I certify that the above information is correct:
Administrative Coordinator — 09-22-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT
Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# BEBZ524601
Work Order # I-96-07-209

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RAS-1 Serial Number 0885 (244)
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-6 s/n ME-2704

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	1 CFM		1 CFM	All Calibrations Btn. + & - 10%
2					30 LPM = 2 CFM
3					
4					Calibrated with 47mm A/E Filter
5					paper, no charcoal or other
6					filter media used
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owen
07-23-96 (Signed)
Calibration Date: _____
01-23-97
Next Calibration Due: _____

I certify that the above information is correct:
Theresa M. Lewis
Administrative Coordinator
07-23-96
Date

CODE NUMBER 69

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.#
Work Order # I-98-12-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RO-2 Serial Number 3644 (474)
External Probe(s) Serial #
Calibration Method ^{137}Cs s/n 10263 200mCi
^{137}Cs s/n 20020 400Ci
Depleted Uranium s/n 013

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	5 mR/hr	1 mR/hr		1 mR/hr	All Calibrations Btn. + & - 10%
2		2		2	
3		4		4	Battery: OK
4					
5	50	10		10	Mechanical Zero: OK
6		20		20	
7		40		40	Beta Factor = 3.8
8					
9	500	100		100	
10		200		200	
11		400		400	
12					
13	5000	1 R/hr		1,000	
14		2		2,100	
15		4		4,100	
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 12-04-98
Next Calibration Due: 06-04-99

I certify that the above information is correct:
Administrative Coordinator
12-04-98
Date

CODE NUMBER 70

REPORT #001

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.#
Work Order # I-99-02-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 99136 (225)
External Probe(s) 44-2 Serial # 141639 (406)

Calibration Method Pulser s/n 120935
^{137}Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	RATEMETER				All Calibrations Btn. + & - 10%
2	X1	100 CPM	100 CPM	100 CPM	
3		200	200	200	Battery: OK
4		400	400	400	
5					Mechanical Zero: OK
6	X10	1K	1K	1K	
7		2K	2K	2K	Reset: OK
8		4K	4K	4K	
9					Response: OK
10	X100	10K	10K	10K	
11		20K	20K	20K	Audio: OK
12		40K	40K	40K	
13					Window: OUT
14	X1K	100K	100K	100K	
15		200K	200K	200K	High Voltage = 728 Volts
16		400K	400K	400K	
17					Input Sensitivity = 10mV
18	LOG	400	400	400	
19		4K	4K	4K	Threshold = 100 = 10mV
20		40K	40K	40K	
21		400K	400K	400K	1 mR/hr = 222K CPM facing ^{137}Cs source
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 02-23-99
Next Calibration Due: 08-23-99

I certify that the above information is correct:
Administrative Coordinator
02-23-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: PO Box 3700
Pittsburgh, PA 15230

Customer P.O.#
Work Order # I-99-02-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 99136 (225)
External Probe(s) 44-2 Serial # 141639 (406)

Calibration Method Pulser s/n 120935

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM	100 CPM	100 CPM	All Calibrations Btn. + & - 10%
2		200	201	201	
3		400	402	402	
4		1K	1,001	1,001	
5		2K	2,001	2,001	
		4K	4,003	4,003	
7		10K	10,006	10,006	
8		20K	20,006	20,026	
9		40K	40,089	40,087	
10		100K	100,009	100,009	
11		200K	200,009	200,009	
12		400K	401,003	401,003	
13					
14	SCALER				
15	0.1 MIN	40K	4,006	4.006	
16	0.2	40K	8,012	8,012	
17	0.5	40K	20,031	20,031	
18	1	40K	40,065	40,065	
19	2	40K	80,132	80,132	
20	5	40K	200,342	200,342	
21	10	40K	400,714	400,714	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 02-23-99
Next Calibration Due: 08-23-99

I certify that the above information is correct:
Administrative Coordinator
02-23-99
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-6
Work Order # I-98-08-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 99136 (225)
External Probe(s) 44-2 Serial # 141639 (406)

Calibration Method ~~137~~Pulser s/n 101500
Cs s/n 10263 200mCi

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	X1	100 CPM		100 CPM	All Calibrations Btn. + & - 10%
2		200		200	
3		400		400	Mechanical Zero: OK
4					
5	X10	1K		1K	Battery: OK
6		2K		2K	
7		4K		4K	Response: OK
8					
9	X100	10K		10K	Zero: OK
10		20K		20K	
11		40K		40K	Audio: OK
12					
13	X1K	100K		100K	Lamp: OK
14		200K		200K	
15		400K		400K	High Voltage = 700 Volts
16					
17	LOG	400		400	Threshold = 100 = 10mV
18		4K		4K	
19		40K		40K	Window - OUT
20		400K		400K	
21					1 mR/hr ≅ 218K CPM in ~~137~~Cs field
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)
Calibration Date: 08-20-98
Next Calibration Due: 02-20-99

I certify that the above information is correct:
Administrative Coordinator
08-20-98
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-6
Work Order # I-98-08-210

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 2221 Serial Number 99136 (225)
External Probe(s) 44-2 Serial # 141639 (406)

Calibration Method Pusler s/n 101500

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	DIGITAL RATE	100 CPM		100 CPM	All Calibrations Btn. + & - 10%
2		200		200	
3		400		400	
4		1K		1,000	
5		2K		2,000	
6		4K		4,000	
7		10K		10,003	
8		20K		20,010	
9		40K		40,036	
10		100K		100,078	
11		200K		200,162	
12		400K		400,350	
13					
14	SCALER				
15	0.1 MIN	40K		4,000	
16	0.2	40K		8,001	
17	0.5	40K		20,011	
18	1	40K		40,036	
19	2	40K		80,076	
20	5	40K		200,234	
21	10	40K		400,495	
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed) 08-20-98
Calibration Date: 08-20-98
Next Calibration Due: 02-20-99

I certify that the above information is correct:
Administrative Coordinator
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

RENTAL EQUIPMENT

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.# MB-14027-S
Work Order # I-97-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RAS-1 Serial Number 0885 (244)
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	1 CFM	1.1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					30 LPM ≈ 1 CFM
3					
4					
5					
6					
7					
8					
9					
10					
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STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 09-22-97
Next Calibration Due: 03-22-98

I certify that the above information is correct:
Administrative Coordinator — 09-22-97 Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-09-210

INSTRUMENT INFORMATION

Instrument Manufacturer Eberline
Model RAS-1 Serial Number 0885 (244)
External Probe(s) _____ Serial # _____

Calibration Method Kurz Model 505-8 s/n ME-2764

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response		Comment
			Before Calib.	After Calib.	
1	N/A	1 CFM	1.1 CFM	1 CFM	All Calibrations Btn. + & - 10%
2					
3					30 LPM ≅ 1 CFM
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
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21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens (Signed)
Calibration Date: 09-22-97
Next Calibration Due: 12-22-97

I certify that the above information is correct:
Administrative Coordinator
09-22-97
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
412/733-1900 Fax: 412/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: Westinghouse
Customer Address: P.O. Box 3700
Pittsburgh, PA 15230

Customer P.O.# MB-14027-S
Work Order # I-97-03-209

INSTRUMENT INFORMATION

Instrument Manufacturer Radeco
Model HD-29A Serial Number 1944
External Probe(s) _____ Serial # _____

Calibration Method Kurz 505-8
ME 2764
GRA-LAB Timer 001

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	N/A	2 CFM	Regulator	2 CFM	All Calibrations Btn. + & - 10%
2			Stuck-Flow		
3			meter stuck		Calibrated with customer supplied Filter paper.
4					
5					
6					Timer: OK
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: William Owens
(Signed)

Calibration Date: 04-01-97
Next Calibration Due: 10-01-97

I certify that the above information is correct:

Tim Lowe — 04-01-97
Administrative Coordinator — Date