

NOV 21 1985

License No. 37-13129-01
Docket No. 030-06309
Control No. 104543

Radiation Management Corporation
ATTN: Charles E. McGee, Ph.D.
Radiation Safety Officer
3440 Market Street
Philadelphia, Pennsylvania 19104

Gentlemen:

Please find enclosed an amendment to your NRC Material License.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the Region I Material Licensing Section, (215) 337-5239, so that we can provide appropriate corrections and answers.

Note that Items 6., 7., 8. and 9. have been amended. One change is the deletion of the Am-241 sealed sources from subitem A., as americium's atomic number is greater than 83 and, consequently, can not be listed under this subitem. The americium sealed sources have been added to subitem J. and the authorized use of subitem J. has been changed to include the calibration of instruments. The other changes are in accordance with your letter dated October 18, 1985.

Please be advised that you must conduct your program involving licensed radioactive materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, please note the items in the enclosed, "Requirements for Materials Licensees."

Since serious consequences to employees and the public can result from failure to comply with NRC requirements, the NRC expects licensees to pay meticulous attention to detail and to achieve the high standard of compliance which the NRC expects of its licensees.

You will be periodically inspected by NRC. A fee may be charged for inspections in accordance with 10 CFR Part 170. Failure to conduct your program safely and in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in prompt and vigorous enforcement action against you. This could include issuance of a notice of violation, or in case of serious violations, an imposition of a civil penalty or an order suspending, modifying or revoking your license as specified in the General Policy and Procedures for NRC Enforcement Actions, 10 CFR Part 2, Appendix C.

OFFICIAL RECORD COPY

ML 37-13129-01/LTR - 0001.0.0
11/08/85

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37-13129-01 PDR

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ATTACHMENT #1
(Page 1 OF 1)

SUMMARY OF ITEM 3:

ADDRESSES WHERE LICENSED MATERIAL
WILL BE USED OR POSSESSED:

A. RADIATION MANAGEMENT CORPORATION
MEDICAL SERVICES DIVISION

1. 3508 MARKET STREET
PHILADELPHIA, PA. 19104
AND
2. 3440 MARKET STREET
PHILADELPHIA, PA. 19104

B. RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION(MWRD)

1. 1175 TOWER ROAD
1. SCHAUMBURG, ILL. 60195

C. RADIATION MANAGEMENT CORPORATION
ENVIRONMENTAL SERVICES DIVISION
ENVIRONMENTAL CHEMISTRY LABORATORY
FRICKS LOCK ROAD, R.D. #1
POTTSTOWN, PA. 19464

D. RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION(NERO)

1. 1455 SCHUYLKILL ROAD (ROUTE 724)
POTTSTOWN, PA. 19464
AND
2. 3440 MARKET STREET
PHILADELPHIA, PA. 19104

E. TEMPORARY JOB SITES AND CUSTOMER FACILITIES

1. IN NON-AGREEMENT STATES
AND
2. IN AGREEMENT STATES

NOTE: INFORMATION IN SUBSEQUENT ATTACHMENTS IS SUB-DIVIDED FOR
CROSS REFERENCE TO THIS ATTACHMENT (i.e. All items noted as
A., B., ...E. apply to the applicable use address given
in this attachment.

ATTACHMENT #2(Cont'd)
(Page 2 OF 5)

SUMMARY OF ITEM 5: (Cont'd)
RADIOACTIVE MATERIAL:

ITEM 38: RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION (MWRO)
1175 TOWER ROAD
SCHAUMBURG, ILL. 60195

***** (a) Element and Mass Number *****	***** (b) Chemical &/or Physical Form *****	***** (c) Maximum Amount Possessed *****
a. Am-241	ANY	1 mCi total.
b. Any byproduct material with Atomic Nos. 1-84, Inclusive	ANY	Not to exceed, 100 uCi per source, 500 uCi per radionuclide and 5 mCi total.
c. Any byproduct material with Atomic Nos. above 84	ANY	Not to exceed, 5 uCi per source, 20 uCi per radionuclide and 200 uCi total.
d. Any byproduct material	ANY	Not to exceed, 2 Ci per radionuclide and 10 Ci total.

ATTACHMENT #3(Cont'd)
(Page 2 OF 5)

SUMMARY OF ITEM 6: (Cont'd)
PURPOSES FOR WHICH LICENSED MATERIAL
WILL BE USED:

ITEM 5(RADIOACTIVE MATERIAL):

ITEM 3B: RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION
1175 TOWER ROAD
SCHAUMBURG, ILL. 60195

- a. For possession, storage and use as instrument counting standards.
- b. For possession, storage and use in the calibration of instruments and sources and use incidental to the analysis of test samples(including leak test samples) at RMC facilities and at temporary job sites of the licensee.
- c. For possession, storage and use in the calibration of instruments and sources and use incidental to the analysis of test samples(including leak test samples) at RMC facilities and at temporary job sites of the licensee.
- d. Possession and storage incidental to the analysis of test samples, including leak test samples, at RMC facilities and at customer sites -- ALARA ACTION UNDER EMERGENCY CONDITIONS ONLY!!!

ATTACHMENT #4
(Page 1 OF 14)

SUMMARY OF ITEM 7:

INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY
PROGRAM AND THEIR TRAINING AND EXPERIENCE.

ITEM 3A: RADIATION MANAGEMENT CORPORATION
MEDICAL SERVICES DIVISION
3508 AND 3440 MARKET STREET
PHILADELPHIA, PA. 19104

FULL NAME

TITLE

1. Charles E. McGee, Ph.D. Radiation Safety Officer

NOTE: CORPORATE RADIATION SAFETY OFFICER AND
ASSISTANT RSO FOR USE ADDRESS 3A.

2. Frazier L. Bronson, CHP Vice President

NOTE: ALTERNATE Corporate Radiation Safety Officer

ITEM 3B: RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION(MWRD)
1175 TOWER ROAD
I SCHAUMBURG, ILL. 60195

FULL NAME

TITLE

1. Leroy F. Booth, CHP Manager
Midwest Regional Office(MWRD)
Nuclear Services Division

NOTE: ASSISTANT RSO FOR USE ADDRESS 3B.

ITEM 3C: RADIATION MANAGEMENT CORPORATION
ENVIRONMENTAL SERVICES DIVISION
ENVIRONMENTAL CHEMISTRY LABORATORY
FRICKS LOCK ROAD, R.D. #1
POTTSTOWN, PA. 19464

FULL NAME

TITLE

1. Kyle F. Gross Manager
Environmental Chemistry Laboratory

NOTE: ASSISTANT RSO FOR USE ADDRESS 3C.

ATTACHMENT #4(Cont'd)
(Page 2 OF 14)

SUMMARY OF ITEM 7: (Cont'd)
INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY
PROGRAM AND THEIR TRAINING AND EXPERIENCE:

ITEM 3D: RADIATION MANAGEMENT CORPORATION **
NUCLEAR SERVICES DIVISION(NERO)

1. 1455 SCHUYLKILL ROAD (ROUTE 724)
POTTSTOWN, PA. 19464
AND
2. 3440 MARKET STREET
PHILADELPHIA, PA. 19104

FULL NAME	TITLE
*****	*****
1. Wayne D. Vodel	Senior Health Physicist

NOTE: ASSISTANT RSO FOR USE ADDRESS 3D.

ATTACHMENT #4(Cont'd)
(Page 13 OF 15)

KYLE F. GROSS
MANAGER
RADIATION MANAGEMENT CORPORATION
ENVIRONMENTAL SERVICES DIVISION
ENVIRONMENTAL CHEMISTRY LABORATORY

Mr. Gross is currently Manager of the Environmental Chemistry Laboratory in Pottstown, PA. In addition to his managerial duties he is involved in operating a gas chromatograph/mass spectrometer.

Mr. Gross was appointed Laboratory Supervisor in September 1979. He was responsible for QA/QC and operation of the Environmental Chemistry Laboratory. In July 1980 he was appointed interim Laboratory Director and was responsible for all laboratory functions.

Mr. Gross was appointed Chemist in January 1979. He became proficient in operating the following instrumentation: atomic absorption spectrophotometer, gas chromatograph and auto-analyzer II. He performed the following determinations: chloride, sulfate, nitrate, nitrite, cyanide, phenols, phosphate, alkalinity, hardness, kjeldahl nitrogen, polychlorinated biphenyls and 33 metals.

Mr. Gross joined RMC as a laboratory technician in January 1977. He was responsible for analyzing the following parameters: free carbon dioxide, alkalinity, plant pigments, pH, specific conductance, oil and grease, total suspended solids, total dissolved solids, turbidity, fluoride, fecal and total coliforms, total organic carbon, boron, dissolved oxygen, biochemical oxygen demand, surfactants, hexavalent chromium, dissolved reactive silica, color, odor, acidity, chemical oxygen demand and taste.

Mr. Gross received a B.S. degree in Chemistry from Millersville State College, Millersville, PA, and has performed and/or managed many research projects and has written several technical reports.

Mr. Gross attended a 3 day radiation safety training course at Salem Nuclear Generating Station in the summer of 1979.

ATTACHMENT #4(Cont'd)
(Page 14 OF 15)

WAYNE D. VOGEL, B.A.
SENIOR HEALTH PHYSICIST
RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION(NERO)

Mr. Vogel is responsible for the operation, coordination, training and technical developments related to various health physics services especially Whole Body Counting and Respirator Fit Testing.

Mr. Vogel has extensive experience in all activities of the Nuclear Services Division, including Instrument Calibration and Repair, Field Surveying, Bioassay, Environmental Monitoring, Internal/External Dose Calculations, Microcomputers and Computer Programming. His expertise lies in the areas of electronics, use and safe handling of radionuclides, x-ray diffraction, H.P. consulting and Uranium Lung Counting. He is also experienced in the fields of radiation and radioactivity measurements, field surveys and has instrumentation experience in Multichannel analyzers, TLD equipment, Microcomputers and Electronics Test equipment.

Since Joining RMC as a Technician in 1976, Mr. Vogel has held positions of Whole Body Counting Supervisor, Counting Laboratory Supervisor and Whole Body Counting Manager. His responsibilities in these positions included training, coordination and technical development related to Whole Body Counting in the Northeast Regional Office.

Mr. Vogel is graduate of Temple University where he received a B.A. degree in physics in 1974. In 1976 he attended Drexel University Graduate School where he was a Mechanical Engineering student. He is a plenary member of the Health Physics Society and the National Honor Society.

ATTACHMENT #4(Cont'd)
(Page 15 OF 15)

WAYNE D. VOGEL

TRAINING AND EXPERIENCE

TRAINING:	WHERE TRAINED	DURATION OF TRAINING	On the Job (Yes or No)	Formal Course (Yes or No)
*****	*****	*****	*****	*****
(a) Principles and Practices of Radiation Protection.	RMC	8 years	Yes	No
(b) Radioactivity measurements, standardization, and monitoring techniques and instruments.	TEMPLE U. RMC	1 year 8 years	No Yes	Yes No
(c) Mathematics and calculations basic to the use and measurement of radioactivity.	Temple U. RMC	1 year 8 years	No Yes	Yes No
(d) Biological effects of Radiation.	RMC	8 years	Yes	No

EXPERIENCE:

*****	Maximum Quantities Handled	Where the Experience Was Gained	Duration of Experience	Type of Use
*****	*****	*****	*****	*****
(Isotopes Handled)	Handled	Was Gained	Experience	Use
Co-60	10 mCi	RMC	5 years	Instr. Calibration
Cs-137	130 Ci	RMC	5 years	Instr. Calibration
I-131	0.1 mCi	RMC	5 years	Instr. Calibration
U-235	38 nCi	RMC	2 years	Instr. Calibration
MFP and various individual isotopes	50 uCi or less down to pCi per sample.	RMC	5 years	Instr. Calibration & Sample Analysis

ATTACHMENT #5
(Page 1 OF 21)

SUMMARY OF ITEM 8:

TRAINING FOR INDIVIDUALS WORKING IN OR
FREQUENTING RESTRICTED AREAS.

ITEM 3A: RADIATION MANAGEMENT CORPORATION **
MEDICAL SERVICES DIVISION
3508 AND 3440 MARKET STREET
PHILADELPHIA, PA. 19104

FULL NAME	TITLE
*****	*****
1. Roger E. Linneman, M.D. [See Attachment #5(Page 3-5), PAGE 31-33]	President Medical Services
2. Charles E. McGee, Ph.D. [See Attachment #4(Page 3-6), PAGE 17-20] *****	Radiation Safety Officer

ITEM 3B: RADIATION MANAGEMENT CORPORATION **
NUCLEAR SERVICES DIVISION(MWRD)
1175 TOWER ROAD
SCHAUMBURG, ILL. 60195

FULL NAME	TITLE
*****	*****
1. Frazier L. Bronson, CHP [See Attachment #4(Page 7-9), PAGE 21-23]	Vice President
2. Leroy F. Booth, CHP [See Attachment #4(Page 10-12), PAGE 24-26]	Manager Midwest Regional Office(MWRD) Nuclear Services Division

ITEM 3C: RADIATION MANAGEMENT CORPORATION **
ENVIRONMENTAL SERVICES DIVISION
ENVIRONMENTAL CHEMISTRY LABORATORY
FRICKS LOCK ROAD, R.D. #1
POTTSTOWN, PA. 19464

FULL NAME	TITLE
*****	*****
1. Kyle F. Gross [See Attachment #4(Page 13), PAGE 27]	Manager Environmental Chemistry Laboratory

NOTE: Although the primary use address of each individual is as
noted, use of licensed material by each individual at other
RMC use addresses or at temporary job sites, by individuals
listed in 3A, 3B and 3D is permissible.

ATTACHMENT #5(Cont'd)
(Page 2 OF 21)

SUMMARY OF ITEM 8: (Cont'd)
TRAINING FOR INDIVIDUALS WORKING IN OR
FREQUENTING RESTRICTED AREAS.

ITEM 3D: RADIATION MANAGEMENT CORPORATION **
NUCLEAR SERVICES DIVISION(NERO)

1. 1455 SCHUYLKILL ROAD (ROUTE 724)
POTTSTOWN, PA. 19464
AND
2. 3440 MARKET STREET
PHILADELPHIA, PA. 19104

FULL NAME

TITLE

1. Wayne D. Vosel

Health Physicist

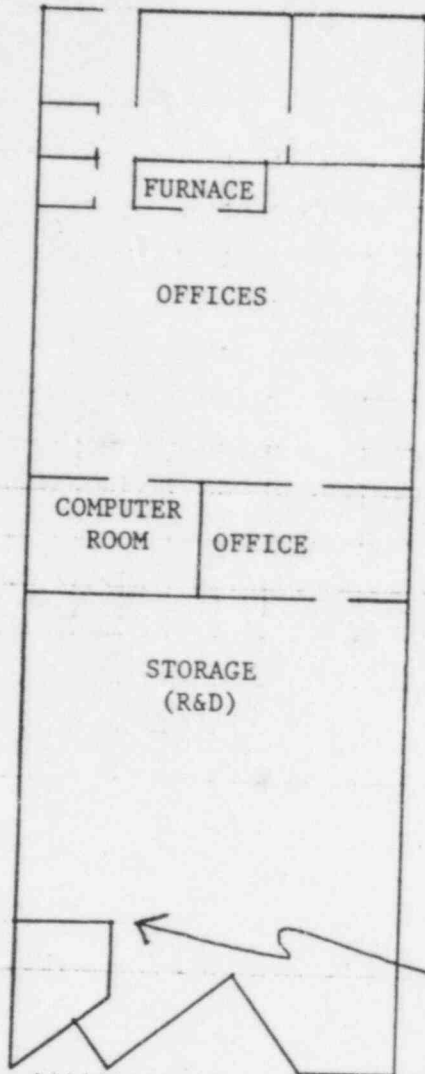
1 [See Attachment #4(Page 14-15), PAGE 28-28A]

2. Larry F. Umbaugh

Senior Radiochemist

[See Attachment #5(Page 8-9), PAGE 36-37]

**NOTE: Although the primary use address of each individual is as
noted, use of licensed material by each individual at other
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listed in 3A, 3B and 3D is permissible.

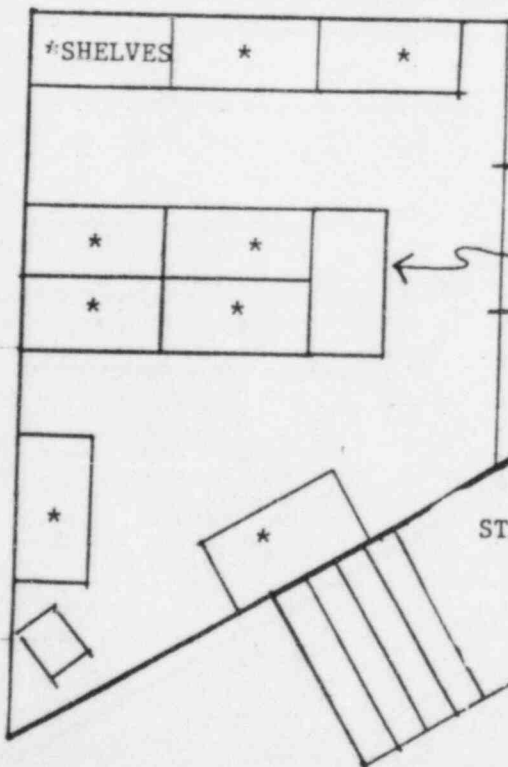


OFFICE LAY OUT:

RADIATION MANAGEMENT CORP.
NUCLEAR SERVICES DIVISION
1175 TOWER ROAD
SCHAUMBURG, ILLINOIS 60195

SCALE: 1" \approx 20'

SOURCE/SAMPLE CAGE



SOURCE/SAMPLE CAGE(expanded view)

SOURCE CABINET

SCALE: 1" \approx 4'

STAIRS

LOADING DOCK

ATTACHMENT #6(Cont'd)
(Page 16 OF 25)

SUMMARY OF ITEM 9: (Cont'd)
FACILITIES AND EQUIPMENT:

B. Equipment:

USE ADDRESS 3B.(1175 TOWER ROAD)

TYPE OF INSTRUMENT	MANUFACTURER'S NAME	MODEL NUMBER	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE
***** SURVEY INSTRUMENTS: *****	*****	*****	*****	*****	*****
Portable Radiation Monitor	Eberline S/N 491	RM-14	1	Alpha/ Beta/ Gamma	50 to 50,000 cpm
Alpha Counter w/AC3 Probe	Eberline S/N 3263	PAC-4S	1	Alpha	
"Panoramic" Ionization Chamber	Victoreen	470	1		
Portable Counting System	Johnson	PCS-1	1	Alpha/ Beta/ Gamma	
Consists of:					
Model GSM-5 Survey Meter					
Alpha/Beta SP-2A scintillation probe					
GSP-2A Gamma scintillation probe					
GP-90 Beta/Gamma seiser probe					
GP-200 alpha/beta/gamma seiser probe					
GP-200x50 alpha/beta/gamma seiser probe					
ASA-2 speaker					
DIG-1 scaler					
MSC-1 sample/probe mount					
VP-2E varipulser test pulse generator					
Dosimeters: *****	Various	Various	8	Gamma	0-200 mR
Dosimeter Chargers: *****	Johnson S/N 939	CAT6	1	NA	NA

ATTACHMENT #6(Cont'd)
(Page 17 OF 24)

SUMMARY OF ITEM 9: (Cont'd)
FACILITIES AND EQUIPMENT:

B. Equipment:

1 USE ADDRESS 3B.(1175 TOWER ROAD)

TYPE OF INSTRUMENT	MANUFACTURER'S NAME	MODEL NUMBER	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE
*****	*****	*****	*****	*****	*****

Miscellaneous Supplies

TLD Badge	Landauer		10	Beta/ Gamma	10 mRem 500 Rem per Quarter
TLD Ring	Landauer		10	Beta/ Gamma	20 mRem 500 Rem per Quarter
Respirators	MSA	Comfo II	3	NA	NA
Filter Cartridges	Comfo II	GMA-H	4	NA	NA

COUNTING LABORATORY INSTRUMENTS:

PROPORTIONAL GAMMA COUNTER	PRODUCTS		1	Alpha/ Beta	
w/automatic sample changer.					
GAMMA SPECTROSCOPY	CANBERRA		1	Gamma	
SYSTEM with IG detector(with shield), Series 35 MCA, and associated electronics.					

USE ADDRESS 3C.(FRICKS LOCK ROAD, R.D. #1)

SURVEY INSTRUMENTS:

Portable Radiation Monitor	Eberline	E-120	1		
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NOTE: Other Survey Instruments are available(if needed) at
Use Address 3D.(Nuclear Services Division) which is
also in Pottstown and near the laboratory.

ATTACHMENT #10
(Page 1 OF 1)

INFORMATION SPECIFIC TO NUCLEAR SERVICES
1 DIVISION(MWRO) USE AT 1175 TOWER ROAD,
1 SCHAUMBURG, ILL. 60195. (Use Address B.)

The Nuclear Services Division(MWRO) consists of a six room suite of lab space and offices located in a single level office building. The building is within a ten acre industrial park complex, with no residential quarters within the complex boundaries.

This office is primarily involved in construction, calibration, operation and data interpretation related to Whole Body Counting. It also has a mobile radiation detection laboratory and is involved in field radiation measurements related to D. & D. efforts. Other Health Physics related services are also offered.

The licensed material will be stored in shielded container(s) and cabinets(s) located within the RMC quarters, so that the requirement of Title 10 CFR Part 20, Section 20.105(10CFR 20.105) will be met for all locations in the building which are contiguous to the RMC quarters. Licensed material will only be used in RMC's quarters in a manner consistent with the requirements of 10CFR 20.105). Licensed materials will be kept locked when unattended to prevent unauthorized removal.

The licensed material will be inventoried (being physically sighted) at least annually by an authorized user. A record of the most recent inventory will be maintained for inspection by RMC internal auditors and authorized government agents.

The standards for permitting an individual to work with radioactive materials will be those listed below:

- *The individual must demonstrate in the performance of his work a level of knowledge and skill adequate to insure proper radiation safety practices.
- *The individual must demonstrate a general familiarity with the contents of 10 CFR Part 19 and Part 20 and the ability to use them as a reference.
- *The individual must demonstrate a working knowledge of our radioactive material license.
- *The individual must demonstrate a general working knowledge of radiation safety instruments.
- *The individual must perform satisfactorily in written and/or oral examination administered by Lee Booth or Frazier Bronson.

Extra pages for insertion into RR25JAN85.NRC.

See AR18OCT85.NRC page 2 for directions.

RADIATION MANAGEMENT CORPORATION
3440 MARKET STREET, SUITE 320
PHILADELPHIA, PA. 19104

NRC LICENSE FILE

INDEX OF REVISIONS

Rev. No.	ACTION
*****	*****
1	A. Renumber -- RR25JAN85.NRC PAGE 1 AND 2(Remove page numbers, i.e. become cover pages to that submission only.
	B. Add -- AR18OCT85.NRC PAGE 1 AND 2
	C. Delete -- RR25JAN85.NRC PAGE 34,35,38,39,40
	D. Subsitute -- AR18OCT85.NRC I FOR I RR25JAN85.NRC PAGE 3,4,6,11 * PAGE 3,4,6,11 15,16,27 * 15,16,27 28 and 28A * 28 29,30,53,65 * 29,30,53,65 66,165 * 66,165

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ATTACHMENT #1
(Page 1 OF 1)

SUMMARY OF ITEM 3:

ADDRESSES WHERE LICENSED MATERIAL
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A. RADIATION MANAGEMENT CORPORATION
MEDICAL SERVICES DIVISION

1. 3508 MARKET STREET
PHILADELPHIA, PA. 19104
AND

2. 3440 MARKET STREET
PHILADELPHIA, PA. 19104

B. RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION(MWRD)

1175 TOWER ROAD

SCHAUMBURG, ILL. 60195

C. RADIATION MANAGEMENT CORPORATION
ENVIRONMENTAL SERVICES DIVISION
ENVIRONMENTAL CHEMISTRY LABORATORY

FRICKS LOCK ROAD, R.D. #1

POTTSTOWN, PA. 19464

D. RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION(NERO)

1. 1455 SCHUYLKILL ROAD (ROUTE 724)
POTTSTOWN, PA. 19464

AND

2. 3440 MARKET STREET
PHILADELPHIA, PA. 19104

E. TEMPORARY JOB SITES AND CUSTOMER FACILITIES

1. IN NON-AGREEMENT STATES
AND

2. IN AGREEMENT STATES

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ATTACHMENT #2(Cont'd)
(Page 2 OF 5)

SUMMARY OF ITEM 5: (Cont'd)
RADIOACTIVE MATERIAL:

ITEM 3B: RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION (MWRO)
1175 TOWER ROAD
SCHAUMBURG, ILL. 60195

***** (a) Element and Mass Number *****	***** (b) Chemical &/or Physical Form *****	***** (c) Maximum Amount Possessed *****
a. Am-241	ANY	1 mCi total.
b. Any byproduct material with Atomic Nos. 1-84, Inclusive	ANY	Not to exceed, 100 uCi per source, 500 uCi per radionuclide and 5 mCi total.
c. Any byproduct material with Atomic Nos. above 84	ANY	Not to exceed, 5 uCi per source, 20 uCi per radionuclide and 200 uCi total.
d. Any byproduct material	ANY	Not to exceed, 2 Ci per radionuclide and 10 Ci total.

ATTACHMENT #3(Cont'd)
(Page 2 OF 5)

SUMMARY OF ITEM 6: (Cont'd)
PURPOSES FOR WHICH LICENSED MATERIAL
WILL BE USED:

ITEM 5(RADIOACTIVE MATERIAL):

ITEM 3B: RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION
1175 TOWER ROAD
SCHAUMBURG, ILL. 60195

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- c. For possession, storage and use in the calibration of instruments and sources and use incidental to the analysis of test samples(including leak test samples) at RMC facilities and at temporary job sites of the licensee.
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ATTACHMENT #4
(Page 1 OF 14)

SUMMARY OF ITEM 7:

INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY
PROGRAM AND THEIR TRAINING AND EXPERIENCE.

ITEM 3A: RADIATION MANAGEMENT CORPORATION
MEDICAL SERVICES DIVISION
3508 AND 3440 MARKET STREET
PHILADELPHIA, PA. 19104

FULL NAME

TITLE

1. Charles E. McGee, Ph.D. Radiation Safety Officer

NOTE: CORPORATE RADIATION SAFETY OFFICER AND
ASSISTANT RSO FOR USE ADDRESS 3A.

2. Frazier L. Bronson, CHP Vice President

NOTE: ALTERNATE Corporate Radiation Safety Officer

ITEM 3B: RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION(MWRO)
1175 TOWER ROAD
I SCHAUMBURG, ILL. 60195

FULL NAME

TITLE

1. Leroy F. Booth, CHP Manager
Midwest Regional Office(MWRO)
Nuclear Services Division

NOTE: ASSISTANT RSO FOR USE ADDRESS 3B.

ITEM 3C: RADIATION MANAGEMENT CORPORATION
ENVIRONMENTAL SERVICES DIVISION
ENVIRONMENTAL CHEMISTRY LABORATORY
FRICKS LOCK ROAD, R.D. #1
POTTSTOWN, PA. 19464

FULL NAME

TITLE

1. Kyle F. Gross

Manager
Environmental Chemistry Laboratory

NOTE: ASSISTANT RSO FOR USE ADDRESS 3C.

ATTACHMENT #4(Cont'd)
(Page 2 OF 14)

SUMMARY OF ITEM 7: (Cont'd)
INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY
PROGRAM AND THEIR TRAINING AND EXPERIENCE:

ITEM 3D: RADIATION MANAGEMENT CORPORATION **
NUCLEAR SERVICES DIVISION(NERO)

1. 1455 SCHUYLKILL ROAD (ROUTE 724)
POTTSTOWN, PA. 19464
AND
2. 3440 MARKET STREET
PHILADELPHIA, PA. 19104

FULL NAME

TITLE

1. Wayne D. Vogel

Senior Health Physicist

NOTE: ASSISTANT RSO FOR USE ADDRESS 3D.

ATTACHMENT #4(Cont'd)
(Page 13 OF 15)

KYLE F. GROSS
MANAGER
RADIATION MANAGEMENT CORPORATION
ENVIRONMENTAL SERVICES DIVISION
ENVIRONMENTAL CHEMISTRY LABORATORY

Mr. Gross is currently Manager of the Environmental Chemistry Laboratory in Pottstown, PA. In addition to his managerial duties he is involved in operating a gas chromatograph/mass spectrometer.

Mr. Gross was appointed Laboratory Supervisor in September 1979. He was responsible for QA/QC and operation of the Environmental Chemistry Laboratory. In July 1980 he was appointed interim Laboratory Director and was responsible for all laboratory functions.

Mr. Gross was appointed Chemist in January 1979. He became proficient in operating the following instrumentation: atomic absorption spectrophotometer, gas chromatograph and auto-analyzer II. He performed the following determinations: chloride, sulfate, nitrate, nitrite, cyanide, phenols, phosphate, alkalinity, hardness, Kjeldahl nitrogen, polychlorinated biphenyls and 33 metals.

Mr. Gross joined RMC as a laboratory technician in January 1977. He was responsible for analyzing the following parameters: free carbon dioxide, alkalinity, plant pigments, pH, specific conductance, oil and grease, total suspended solids, total dissolved solids, turbidity, fluoride, fecal and total coliforms, total organic carbon, boron, dissolved oxygen, biochemical oxygen demand, surfactants, hexavalent chromium, dissolved reactive silica, color, odor, acidity, chemical oxygen demand and taste.

Mr. Gross received a B.S. degree in Chemistry from Millersville State College, Millersville, PA, and has performed and/or managed many research projects and has written several technical reports.

Mr. Gross attended a 3 day radiation safety training course at Salem Nuclear Generating Station in the summer of 1979.

ATTACHMENT #4(Cont'd)
(Page 14 OF 15)

WAYNE D. VOGEL, B.A.
SENIOR HEALTH PHYSICIST
RADIATION MANAGEMENT CORPORATION
NUCLEAR SERVICES DIVISION(NERO)

Mr. Vogel is responsible for the operation, coordination, training and technical developments related to various health physics services especially Whole Body Counting and Respirator Fit Testings.

Mr. Vogel has extensive experience in all activities of the Nuclear Services Division, including Instrument Calibration and Repair, Field Surveying, Bioassay, Environmental Monitoring, Internal/External Dose Calculations, Microcomputers and Computer Programming. His expertise lies in the areas of electronics, use and safe handling of radionuclides, x-ray diffraction, H.P. consulting and Uranium Lung Counting. He is also experienced in the fields of radiation and radioactivity measurements, field surveys and has instrumentation experience in Multichannel analyzers, TLD equipment, Microcomputers and Electronics Test equipment.

Since joining RMC as a Technician in 1976, Mr. Vogel has held positions of Whole Body Counting Supervisor, Counting Laboratory Supervisor and Whole Body Counting Manager. His responsibilities in these positions included training, coordination and technical development related to Whole Body Counting in the Northeast Regional Office.

Mr. Vogel is graduate of Temple University where he received a B.A. degree in Physics in 1974. In 1976 he attended Drexel University Graduate School where he was a Mechanical Engineering student. He is a Plenary member of the Health Physics Society and the National Honor Society.

ATTACHMENT #4(Cont'd)
(Page 15 OF 15)

WAYNE D. VOGEL

TRAINING AND EXPERIENCE

TRAINING:

WHERE TRAINED	DURATION OF TRAINING	On the Job (Yes or No)	Formal Course (Yes or No)
*****	*****	*****	*****

(a) Principles
and Practices
of Radiation
Protection.

RMC

8 years

Yes

No

(b) Radioactivity
measurements,
standardization,
and monitoring
techniques and
instruments.

TEMPLE U.
RMC

1 year
8 years

No
Yes

Yes
No

(c) Mathematics
and calculations
basic to the use
and measurement
of radioactivity.

Temple U.
RMC

1 year
8 years

No
Yes

Yes
No

(d) Biological
effects of
Radiation.

RMC

8 years

Yes

No

EXPERIENCE:

(Isotopes Handled)	Maximum Quantities Handled	Where the Experience Was Gained	Duration of Experience	Type of Use
*****	*****	*****	*****	*****
Co-60	10 mCi	RMC	5 years	Instr. Calibration
Cs-137	130 Ci	RMC	5 years	Instr. Calibration
I-131	0.1 mCi	RMC	5 years	Instr. Calibration
U-235	38 nCi	RMC	2 years	Instr. Calibration
MFP and various individual isotopes	50 uCi or less down to pCi per sample.	RMC	5 years	Instr. Calibration & Sample Analysis

ATTACHMENT #5
(Page 1 OF 21)

SUMMARY OF ITEM 8:

TRAINING FOR INDIVIDUALS WORKING IN OR
FREQUENTING RESTRICTED AREAS.

ITEM 3A: RADIATION MANAGEMENT CORPORATION **
MEDICAL SERVICES DIVISION
3508 AND 3440 MARKET STREET
PHILADELPHIA, PA. 19104

FULL NAME	TITLE
*****	*****
1. Roger E. Linnemann, M.D. [See Attachment #5(Page 3-5), PAGE 31-33]	President Medical Services
2. Charles E. McGee, Ph.D. [See Attachment #4(Page 3-6), PAGE 17-20] *****	Radiation Safety Officer

ITEM 3B: RADIATION MANAGEMENT CORPORATION **
NUCLEAR SERVICES DIVISION(MWRO)
1175 TOWER ROAD
SCHAUMBURG, ILL. 60195

FULL NAME	TITLE
*****	*****
1. Frazier L. Bronson, CHP [See Attachment #4(Page 7-9), PAGE 21-23]	Vice President
2. Leroy F. Booth, CHP [See Attachment #4(Page 10-12), PAGE 24-26]	Manager Midwest Regional Office(MWRO) Nuclear Services Division

ITEM 3C: RADIATION MANAGEMENT CORPORATION **
ENVIRONMENTAL SERVICES DIVISION
ENVIRONMENTAL CHEMISTRY LABORATORY
FRICKS LOCK ROAD, R.D. #1
POTTSTOWN, PA. 19464

FULL NAME	TITLE
*****	*****
1. Kyle F. Gross [See Attachment #4(Page 13), PAGE 27]	Manager Environmental Chemistry Laboratory

NOTE: Although the primary use address of each individual is as noted, use of licensed material by each individual at other RMC use addresses or at temporary job sites, by individuals listed in 3A, 3B and 3D is permissible.

ATTACHMENT #5(Cont'd)
(Page 2 OF 21)

SUMMARY OF ITEM 8: (Cont'd)
TRAINING FOR INDIVIDUALS WORKING IN OR
FREQUENTING RESTRICTED AREAS.

ITEM 3D: RADIATION MANAGEMENT CORPORATION **
NUCLEAR SERVICES DIVISION(NERO)

1. 1455 SCHUYLKILL ROAD (ROUTE 724)
POTTSTOWN, PA. 19464
AND
2. 3440 MARKET STREET
PHILADELPHIA, PA. 19104

FULL NAME

TITLE

1. Wayne D. Vogel

Health Physicist

[See Attachment #4(Page 14-15), PAGE 28-28A]

2. Larry F. Umbaugh

Senior Radiochemist

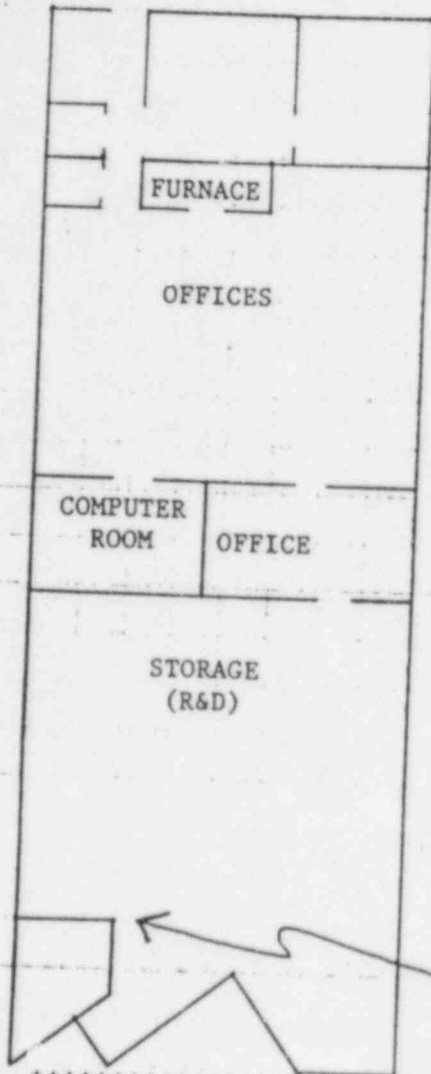
[See Attachment #5(Page 8-9), PAGE 36-37]

**NOTE: Although the primary use address of each individual is as noted, use of licensed material by each individual at other RMC use addresses or at temporary job sites, by individuals listed in 3A, 3B and 3D is permissible.

OFFICE LAY OUT:

RADIATION MANAGEMENT CORP.
NUCLEAR SERVICES DIVISION
1175 TOWER ROAD
SCHAUMBURG, ILLINOIS 60195

SCALE: 1" \approx 20'

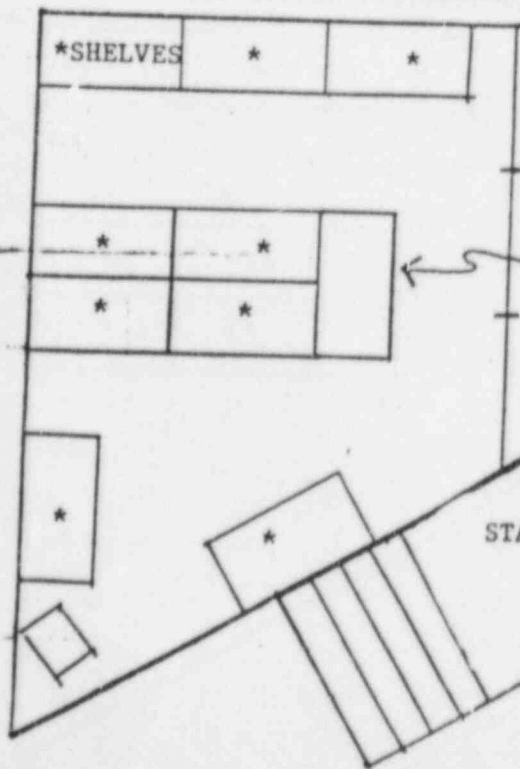


SOURCE/SAMPLE CAGE

SOURCE/SAMPLE CAGE(expanded view)

SOURCE CABINET

SCALE: 1" \approx 4'



LOADING DOCK

ATTACHMENT #6(Cont'd)
(Page 16 OF 25)

SUMMARY OF ITEM 9: (Cont'd)
FACILITIES AND EQUIPMENT:

B. Equipment:

USE ADDRESS 3B.(1175 TOWER ROAD)

TYPE OF INSTRUMENT	MANUFACTURER'S NAME	MODEL NUMBER	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE

SURVEY INSTRUMENTS:					

Portable Radiation Monitor	Eberline S/N 491	RM-14	1	Alpha/ Beta/ Gamma	50 to 50,000 cpm
Alpha Counter w/AC3 Probe	Eberline S/N 3263	PAC-4S	1	Alpha	
Panoramic Ionization Chamber	Victoreen	470	1		
Portable Counting System	Johnson	FCS-1	1	Alpha/ Beta/ Gamma	
Consisting of:					
Model GSM-5 Survey Meter					
Alpha/Beta SP-2A scintillation probe					
GSP-2A Gamma scintillation probe					
GP-90 Beta/Gamma seiser probe					
GP-200 alpha/beta/gamma seiser probe					
GP-200x50 alpha/beta/gamma seiser probe					
ASA-2 speaker					
DIG-1 scaler					
MSC-1 sample/probe mount					
VP-2E varipulser test pulse generator					
Dosimeters:	Various	Various	8	Gamma	0-200 mR

Dosimeter Chargers:	Johnson S/N 939	CAT6	1	NA	NA

ATTACHMENT #6(Cont'd)
(Page 17 OF 24)

SUMMARY OF ITEM 9: (Cont'd)
FACILITIES AND EQUIPMENT:

B. Equipment:

I USE ADDRESS 3B.(1175 TOWER ROAD)

TYPE OF INSTRUMENT	MANUFACTURER'S NAME	MODEL NUMBER	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE
*****	*****	*****	*****	*****	*****

Miscellaneous Supplies

TLD Badge	Landauer		10	Beta/ Gamma	10 mRem 500 Rem per Quarter
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TLD Ring	Landauer		10	Beta/ Gamma	20 mRem 500 Rem per Quarter
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Respirators	MSA	Comfo II	3	NA	NA
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Filter Cartridges	Comfo II	GMA-H	4	NA	NA
----------------------	----------	-------	---	----	----

COUNTING LABORATORY INSTRUMENTS:

PROPORTIONAL GAMMA COUNTER	PRODUCTS		1	Alpha/ Beta	
-------------------------------	----------	--	---	----------------	--

w/automatic sample changer.

GAMMA SPECTROSCOPY	CANBERRA		1	Gamma	
-----------------------	----------	--	---	-------	--

SYSTEM with IG detector(with shield), Series 35 MCA.
and associated electronics.

USE ADDRESS 3C.(FRICKS LOCK ROAD, R.D. #1)

SURVEY INSTRUMENTS:

Portable Radiation Monitor	Eberline	E-120	1		
----------------------------------	----------	-------	---	--	--

NOTE: Other Survey Instruments are available(if needed) at
Use Address 3D.(Nuclear Services Division) which is
also in Pottstown and near the laboratory.

ATTACHMENT #10
(Page 1 OF 1)

INFORMATION SPECIFIC TO NUCLEAR SERVICES
1 DIVISION(MWRO) USE AT 1175 TOWER ROAD,
1 SCHAUMBURG, ILL. 60195. (Use Address B.)

The Nuclear Services Division(MWRO) consists of a six room suite of lab space and offices located in a single level office building. The building is within a ten acre industrial park complex, with no residential quarters within the complex boundaries.

This office is primarily involved in construction, calibration, operation and data interpretation related to Whole Body Counting. It also has a mobile radiation detection laboratory and is involved in field radiation measurements related to D. & D. efforts. Other Health Physics related services are also offered.

The licensed material will be stored in shielded container(s) and cabinets(s) located within the RMC quarters, so that the requirement of Title 10 CFR Part 20, Section 20.105(10CFR 20.105) will be met for all locations in the building which are contiguous to the RMC quarters. Licensed material will only be used in RMC's quarters in a manner consistent with the requirements of 10CFR 20.105). Licensed materials will be kept locked when unattended to prevent unauthorized removal.

The licensed material will be inventoried (being physically sighted) at least annually by an authorized user. A record of the most recent inventory will be maintained for inspection by RMC internal auditors and authorized government agents.

The standards for permitting an individual to work with radioactive materials will be those listed below:

- *The individual must demonstrate in the performance of his work a level of knowledge and skill adequate to insure proper radiation safety practices.
- *The individual must demonstrate a general familiarity with the contents of 10 CFR Part 19 and Part 20 and the ability to use them as a reference.
- *The individual must demonstrate a working knowledge of our radioactive material license.
- *The individual must demonstrate a general working knowledge of radiation safety instruments.
- *The individual must perform satisfactorily in written and/or oral examination administered by Lee Booth or Frazier Bronson.

BETWEEN: William O. Miller, Chief
License Fee Management Branch
Office of Administration

John E. Glenn, Chief
Nuclear Materials Section B
Division of Engineering and
Technical Programs

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: Radiation Management Corporation

Application Dated: 10/18/85

Control No.: 104543

License No.: 37-13129-01

2. FEE ATTACHED

Amount: \$ 120.00

Check No.: 27021

3. COMMENTS

03222
2/85

Signed Brenda Platchek

Date 10/25/85

B. LICENSE FEE MANAGEMENT BRANCH

1. Fee Category and Amount: (3N) 3P - \$120

2. Correct Fee Paid. Application may be processed for:

Amendment ✓

Renewal

License

Signed G. J. Chen

Date 11/14/85

"SECTION COPY"

rme

radiation management corporation

3508 MARKET STREET, PHILADELPHIA, PENNA. 19104

FIRST PENNSYLVANIA BANK

FIRST PENNSYLVANIA BANK N.A.

PHILADELPHIA, PA 19101

CHECK DATE

CHECK NO.

3-2/310

PAY EXACTLY

6/12/85

27021

\$*****120.00

EXACTLY \$*****120 DOLLARS . AND . . CENTS

PAY
TO
THE
ORDER
OF

U.S. NUCLEAR REGULATORY
COMMISSION
WASHINGTON, DC

20555

CEH

⑆031000024⑆

7510579040