

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

OFFICIAL RECORD COPY

Licensee		
1. Dade Chemistry Systems, Inc.		3. License Number 07-30325-01
2. P.O. Box 6101 Newark, Delaware 19714-6101		4. Expiration Date August 31, 2001
		5. Docket or Reference No. 030-34196/07-00455-38
6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License
A. Any byproduct material with Atomic Nos. 3 through 83	A. Any	A. Not to exceed 10 millicuries per radionuclide and 100 millicuries total
B. Hydrogen 3	B. Any	B. 5 curies
C. Carbon 14	C. Any	C. 5 curies
D. Phosphorus 32	D. Any	D. 100 millicuries
E. Sulfur 35	E. Any	E. 100 millicuries
F. Chromium 51	F. Any	F. 200 millicuries
G. Iodine 125	G. Any	G. 300 millicuries
H. Nickel 63	H. Plated sources and foils	H. Not to exceed 15 millicuries per foil and 180 millicuries total
9. Authorized use		
A. through G. Research and development as defined in 10 CFR 30.4; including animal studies.		
H. For use in gas chromatographs.		

CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at Route 896, Glasgow, Delaware.
11. A. Licensed material shall be used by, or under the supervision of, individuals designated in writing by the Radiation Safety Committee, Suzette Chance Chairperson.
- B. The Radiation Safety Officer for this license is Roger Jamieson.

ML 10

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

07-30325-01

Docket or Reference Number

030-34196/07-00455-38

12. A. Sealed sources and detector cells containing licensed material shall be tested for leakage and/or contamination at intervals not to exceed six months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed three years.
- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed three months.
- C. In the absence of a certificate from a transferor indicating that a leak test has been made within six months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
- D. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.
- E. Sealed sources and detector cells need not be leak tested if:
- (i) they contain only hydrogen-3; or
 - (ii) they contain only a radioactive gas; or
 - (iii) the half-life of the isotope is 30 days or less; or
 - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or
 - (v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transfer to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
- F. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission and the source or detector cell shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within five days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source or detector cell involved, the test results, and corrective action taken.
- G. The licensee is authorized to collect leak test samples for analysis by licensee. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

07-30325-01

Docket or Reference Number

030-34196/07-00455-38

13. The licensee shall not acquire licensed material in a sealed source or device unless the source or device has been registered with the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations of an Agreement State.
14. In lieu of using the conventional radiation caution colors (magenta or purple on yellow background) as provided in 10 CFR 20.203(a)(1), the licensee is hereby authorized to label detector cells and cell baths, containing licensed material and used in gas chromatography devices, with conspicuously etched or stamped radiation caution symbols.
15. The licensee shall conduct a physical inventory every six months to account for all sealed sources and devices containing licensed material received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory.
16. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
17. The licensee is authorized to hold radioactive material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal in ordinary trash, provided:
- A. Waste to be disposed of in this manner shall be held for decay a minimum of ten half-lives.
 - B. Before disposal as ordinary trash, the waste shall be surveyed at the container surface with the appropriate survey instrument set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
 - C. A record of each such disposal permitted under this License Condition shall be retained for three years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.
18. Experimental animals administered licensed materials or their products shall not be used for human consumption.
19. The licensee shall not use licensed material in or on human beings or in field applications where activity is released except as provided otherwise by specific condition of this license.
20. In addition to the possession limits in Item 8, the licensee shall further restrict possession of unsealed byproduct material of half-life greater than 120 days in the following manner. If only one such isotope is possessed, the quantity possessed will be maintained at a quantity less than or equal to 100,000 times the applicable quantity in Appendix C to 10 CFR 20. For a combination of such isotopes, R, defined as the sum of the ratios of the quantity of each isotope possessed to the applicable quantity in Appendix C to 10 CFR 20, divided by 100,000 will be less than or equal to one.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

07-30325-01

Docket or Reference Number

030-34196/07-00455-38

21. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated November 11, 1987
 - B. Letter dated September 16, 1988
 - C. Letter dated October 20, 1988
 - D. Letter dated February 15, 1991
 - E. Letter dated August 8, 1991
 - F. Letter dated October 30, 1991
 - G. Letter dated March 25, 1992
 - H. Letter dated May 14, 1992
 - I. Letter dated November 19, 1993

Date _____

AUG 12 1996

For the U.S. Nuclear Regulatory Commission
Original Signed By:
Elizabeth Ullrich

By

Division of Nuclear Materials Safety
Region I
King of Prussia, Pennsylvania 19406

AUG 12 1996

License No. 07-30325-01
Docket No. 030-34196
Control No. 123387

James R. Smalley
Vice President of Operations
for Chemistry Systems
Dade Chemistry Systems, Inc.
P.O. Box 6101
Newark, DE 19714

Dear Mr. Smalley:

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Until your license is terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Not possess and use materials authorized in Items 6, 7, and 8, on the license until:
 - a. you have constructed the facilities and obtained the equipment described in the license application and supporting documentation; and
 - b. you have notified the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406 in writing, that activities authorized by the license will be initiated.
3. Notify NRC, in writing, within 30 days:
 - a. when the Radiation Safety Officer or Chairman of the Radiation Safety Committee, permanently discontinues performance of duties under the license or has a name change; or

OFFICIAL RECORD COPY

ML 10

- b. when the mailing address on the license changes (no fee is required if the location of byproduct material remains the same).
- 4. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
 - a. when you decide to terminate all activities involving materials authorized under the license; or
 - b. if you decide not to complete the facility, acquire equipment, or possess and use authorized material.
- 5. Request and obtain a license amendment before you:
 - a. change Radiation Safety Officer or the Chairman of the Radiation Safety Committee;
 - b. order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;
 - c. add or change the address or addresses of use identified in the license application or on the license; or
 - d. change ownership of your organization.
- 6. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or a certifying official of the licensee rather than the Radiation Safety Officer or a consultant.

You will be periodically inspected by the NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or imposition of a civil penalty, or an order suspending, modifying or revoking your license as specified in the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG 1600.

J. Smalley
Dade Chemistry Systems, Inc.

-3-

Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement actions will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

Thank you for your cooperation.

Sincerely,

Original Signed By:
Elizabeth Ullrich

Elizabeth Ullrich
Nuclear Materials Safety Branch 2
Division of Nuclear Materials Safety

License No. 07-30325-01
Docket No. 030-34196
Control No. 123387

Enclosures:

1. License No. 07-30325-01
2. 10 CFR Parts 2, 19, 20, 30, and 170
3. NRC Forms 3 and 313

DOCUMENT NAME: R:\WPS\MLTR\L0730325.01

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI	N				
NAME	Reber/ehr		Ullrich					
DATE	08/12/96		08/12/96		08/ /96		08/ /96	

OFFICIAL RECORD COPY

DADE

DADE INTERNATIONAL

Chemistry Systems
P.O. Box 6101
Newark, DE 19714

~~MS-16~~
~~L3~~

June 6, 1996

United States Nuclear Regulatory Commission
Region I
475 Allendale Rd.
King of Prussia, PA 19406
Attn: Eric Reber

LAL 30325

030-34196

03610

RE: License #07-00455-38
Amendment 08
Application for Transfer of Ownership

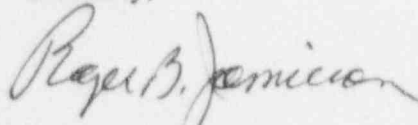
Dear Mr. Reber:

As we discussed in our telephone conversation on May 28, 1996, I am providing the additional information required to complete our amendment request of April 29, 1996.

1. The member of management with overall responsibility for use of licensed material possessed by Dade Chemistry Systems Inc. is James R. Smalley, Vice President of Operations for Chemistry Systems.
2. Enclosed is the originally signed "Letter of Agreement" between DuPont and Dade.
3. The financial assurance (surety bond) for decommissioning has been increased to \$35,803 as stated in the attached, updated Decommissioning Plan. The revised surety bond is being sent directly to you under separate cover.

If you have any questions, please call me at (302) 451-3161.

Sincerely,



Roger B. Jamieson
Radiation Safety Officer

CONTROLLED AS 123387

PULLED OUT
7/10/96

~~123159~~
JUN 10 1996

OFFICIAL RECORD COPY ML 10

Printed on recycled paper
with 25% post-consumer fiber

Dade Chemistry Systems Inc.
1717 Deerfield Road
Deerfield, Illinois 60015

LETTER AGREEMENT

As you are aware, E. I. du Pont de Nemours and Company ("DuPont") currently holds an NRC license for its Glasgow Business Community ("Glasgow") and two DuPont businesses, In-Vitro Diagnostics ("IVD") and Central Research and Development ("CR&D"), own or control licensed material and activity under that license. DuPont intends to sell its IVD business to Dade Chemistry Systems Inc. ("Dade"). Upon consummation of the intended sale, ownership of the IVD business assets will change and Dade will own or control the licensed material and activity of IVD at Glasgow.

This letter confirms that with respect to the aforementioned, DuPont and Dade agree as follows:

1. Glasgow Business Community NRC License #070045538 will be amended to change the licensee from DuPont to Dade because Dade will own or control the licensed material and activities of the IVD business at that site. Dade shall indemnify DuPont from and against all losses, damages, fines, penalties, and expenses incurred by DuPont as a result of any Dade business operations under the license.
2. Stine-Haskell Research Center NRC License #071344102, issued to DuPont, will be amended to include the material and activity of DuPont's CR&D business at Glasgow.
3. Until the amendment in Paragraph 2 is effective, DuPont's CR&D business at Glasgow will continue to operate under the current license conditions of the NRC license identified in Paragraph 1. DuPont shall indemnify Dade from and against all losses, damages, fines, penalties, and expenses incurred by Dade as a result of DuPont's business operations under the license identified in Paragraph 1.
4. There are no open inspection items under the Glasgow Business Community NRC license identified in Paragraph 1.

Sincerely,

E. I. DU PONT DE NEMOURS AND COMPANY

By: _____

Title: Attorney-in-fact

Acknowledged and agreed:

DADE CHEMISTRY SYSTEMS INC.

By: _____

Title: Vice President & Asst. Secretary

Date: May 7, 1996

DADE CHEMISTRY SYSTEMS INC.
GLASGOW, DE

DECONTAMINATION AND
DECOMMISSIONING FUNDING PLAN

Page Number	Revision Level	Page Number	Revision Level
1	1	C-1	1
2	1	C-2	1
3	1	C-3	1
4	1	C-4	1
5	1	C-5	1
6	1	D-1	1
7	1	D-2	1
8	2	D-3	2
9	2	D-4	2
10	1	D-5	1
11	1		
12	1		
13	1		
14	1		
15	1		
16	1		
17	1		
18	1		
19	1		
20	1		
21	1		
A-1	1		
A-2	2		
B-1			
B-2			

Revision 2 - May 29, 1996

1.0	SCOPE -----	5
1.1	Background and Introduction -----	5
1.2	Purpose -----	6
1.3	Applicability -----	6
2.0	REFERENCES -----	6
3.0	MANAGEMENT -----	7
4.0	DADE CHEMISTRY SYSTEMS INC. -----	7
5.0	CURRENT RADIOLOGICAL STATUS OF DADE CHEMISTRY SYSTEMS INC. --	8
5.1	Overall Radiological Status -----	8
5.2	Specific Radiological Conditions -----	8
6.0	DADE CHEMISTRY SYSTEMS INC. - ENVIRONMENT AND OPERATIONS ----	8
6.1	Site Description -----	8
6.2	Facility Description -----	9
6.2.1	Laboratories -----	9
6.2.2	Storage Areas -----	9
6.3	Operations Description -----	11
6.3.1	Radioactive Material Receipt -----	11
6.3.2	Laboratory Operations -----	11
6.3.3	Waste Disposal -----	12
6.3.4	Waste Tracking and Documentation -----	13
7.0	DECOMMISSIONING PLAN -----	13
7.1	Phase I -----	13
7.1.1	Document Review -----	13
7.1.2	Removal of Radiological Inventory -----	14
7.1.3	Decontamination of Contaminated Areas -----	14
7.2	Phase II -----	14
7.2.1	Survey and Identify Additional Contaminated Areas -----	14
7.2.2	Waste Disposal -----	15

7.3	Phase III -----	15
7.3.1	Final Survey Documentation and Termination Plan -----	15
8.0	RADIATION PROTECTION PROGRAM -----	16
9.0	TRAINING -----	16
10.0	REGULATIONS, REGULATORY GUIDES, AND STANDARDS -----	16
11.0	RECORDS -----	16

LIST OF FIGURES

FIGURE 1:	GENERAL LOCATION OF DADE CHEMISTRY SYSTEMS INC.-----	10
-----------	--	----

LIST OF TABLES

TABLE 1:	INVENTORY OF RADIONUCLIDES -----	8
TABLE 2:	INSTRUMENTATION -----	15

LIST OF APPENDICES

APP. A	ORGANIZATION -----	A-1
APP. B	TRAINING -----	B-1
APP. C	US NRC LICENSE -----	C-1
APP. D	FINANCIAL ASSURANCE AND COST ESTIMATE FOR DECOMMISSIONING -----	D-1

1.0 SCOPE

1.1 Background and Introduction

The Nuclear Regulatory Commission (NRC) has established technical and financial regulations for decommissioning licensed nuclear facilities (53 FR 24018, June 27, 1988). These regulations address decommissioning planning needs, timing, funding methods, and environmental review requirements for public and private facilities holding licenses under 10 CFR Parts 30, 40, 50, 70, and 72, with the exception of uranium mills. The intent of the regulations is to ensure that the decommissioning of all licensed facilities will be accomplished in a safe and timely manner and that licensees will provide adequate funds to cover all costs associated with decommissioning.

The financial assurance requirements of the decommissioning rule became effective on July 27, 1988, 30 days after the regulation was promulgated. Holders of Licenses issued before July 27, 1990, must provide financial assurance on or before July 27, 1990 {10 CFR 30.35 (c)(2), 40.36 (c)(2), and 70.25 (c)(2)}. Dade Chemistry Systems Inc.(Dade) falls within this category. Regulatory Guide 3.66 (Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning under 10 CFR Parts 30, 40, 70, and 72) provides additional guidance. Dade is a category A licensee by Reg. Guide 3.66.

NRC licensees initiate decommissioning activities when they decide to terminate licensed activities. The rule defines "decommissioning" as removing (as a facility) safely from service and reducing residual radioactivity to a level that permits release of the property for unrestricted use and termination of license (10 CFR 30.4).

The NRC has designed its decommissioning financial assurance requirements to provide reasonable assurance that the technical and environmental components of decommissioning are carried out and unrestricted use of a facility is possible at the conclusion of such activities. Generally, these requirements specify that a facility licensee or applicant set aside money for decommissioning activities or provide a guarantee through a third party that funds will be available. This plan has been prepared to address the decommissioning of Dade, and return it to "Unrestricted Use".

All of Dade's ongoing operations will be considered as well as equipment, work areas, building, and grounds which were involved in any of Dade's licensed activities. Dade is of the opinion that this decommissioning plan format is acceptable for NRC review.

1.2 Purpose

The purpose of the Decontamination and Decommissioning Funding Plan (DDFP) is to assure that (1) decontamination and decommissioning of Dade will be carried out with minimal impact on public and occupational health and safety and the environment, and (2) an adequate financial assurance mechanism exists for the performance of decontamination and decommissioning .

1.3 Applicability

The DDFP is applicable to the decontamination and decommissioning of Dade facility located on Route 896, in Glasgow, Delaware.

2.0 REFERENCES

- 2.1 US NRC Regulatory Guide 3.65, Standard Format and Content of Decommissioning Plans for Licensees under 10 CFR Parts 30, 40, and 70.
- 2.2 NUREG/CR-5849, Manual for Conducting Radiological Surveys in Support of License Termination.
- 2.3 US NRC Regulatory Guide 3.66, Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning under 10 CFR Parts 30, 40, 70, and 72.
- 2.4 US NRC NUREG/CR-1754.
- 2.5 US NRC NUREG/CR-1754, Addendum 1.
- 2.6 US NRC Material License 0700455-38

3.0 MANAGEMENT

Dade's Corporate headquarters is located in Deerfield, Illinois. Dade's Glasgow facility is located on Route 896, in Glasgow, Delaware. The Management organization (See Appendix A) is in place and has the necessary experience to conduct and supervise the decommissioning.

Dade shall rely on the Radiation Safety Officer (RSO) to manage the tasks relative to health and safety, radiological survey, and documentation. Dade's Safety, Health, Environmental Supervisor shall oversee the entire decommissioning and assist the site RSO in preparation of the final report. The RSO shall report to the Safety, Health, Environmental Supervisor. The Safety, Health, Environmental Supervisor shall report to the Community Services Manager who shall have the responsibility for maintaining the Financial Assurance fund and managing the assets to insure growth comparable to inflation. The on-site Decommissioning Management Staff shall be supported by Managers, Supervisors and Technicians knowledgeable of and experienced in Dade's operations.

4.0 OPERATING HISTORY

On December, 23, 1982, E. I. Du Pont de Nemours & Company was issued Materials License 07-00455-38, from the Nuclear Regulatory Commission. This license permits research and development activities per 10 CFR 30.4. 10 CFR 30.4 defines research and development as: (1) Theoretical analysis, exploration, or experimentation; or (2) the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, devices, equipment, materials and processes. Since then, License No. 07-00455-38 has been amended seven (7) times and Amendment No. 07 is the current issue (See Appendix C).

A description of the property is provided in Section 6.0 of this plan.

The Glasgow Business Community first conducted radiological activities on December, 23, 1982. All of the Glasgow Business Community's radiological activities were conducted in strict compliance with its radiological procedures, and no discharges of radioactive materials were permitted. Dade operates its licensed program very strictly. There has been no uncontrolled release of radiation to the environment during operating history of Dade.

5.0 CURRENT RADIOLOGICAL STATUS OF DADE CHEMISTRY SYSTEMS INC.

5.1 Overall Radiological Status

Dade currently maintains an inventory of the radionuclides listed in Table 1.

TABLE 1: INVENTORY OF RADIONUCLIDES

RADIONUCLIDE	TYPE OF SOURCE	CURRENT QUANTITY POSSESSED ON MARCH 28, 1996
Hydrogen ³	unsealed	2.553 millicuries
Carbon ¹⁴	unsealed	11.273 millicuries
Phosphorus ³²	unsealed	12.352 millicuries
Phosphorus ³³	unsealed	4.250 millicuries
Sulfur ³⁵	unsealed	20.555 millicuries
Nickel ⁶³	sealed	0.450 millicuries
Iodine ¹²⁵	unsealed	3.163 millicuries

A majority of Dade's work involves Hydrogen³, Carbon¹⁴, Sulfur³⁵, Iodine¹²⁵, and Phosphorus³².

5.2 Specific Radiological Conditions

Typical radiation levels are as follows:

Site border line: < 0.01 mR/hr

Laboratories <0.01 mR/hr

As radiological projects are completed, the affected areas are radiologically surveyed, decontaminated (as necessary) and released for unrestricted use. At present, Dade has no areas which require decontamination.

6.0 DADE CHEMISTRY SYSTEMS INC. - ENVIRONMENT AND OPERATIONS

6.1 Site Description

Dade is located on Route 896, in Glasgow, Delaware (Figure 1), and is situated on a three hundred (300) acre site. Access to the laboratories is controlled by a security access point. The surrounding area is rural.

6.2 Facility Description

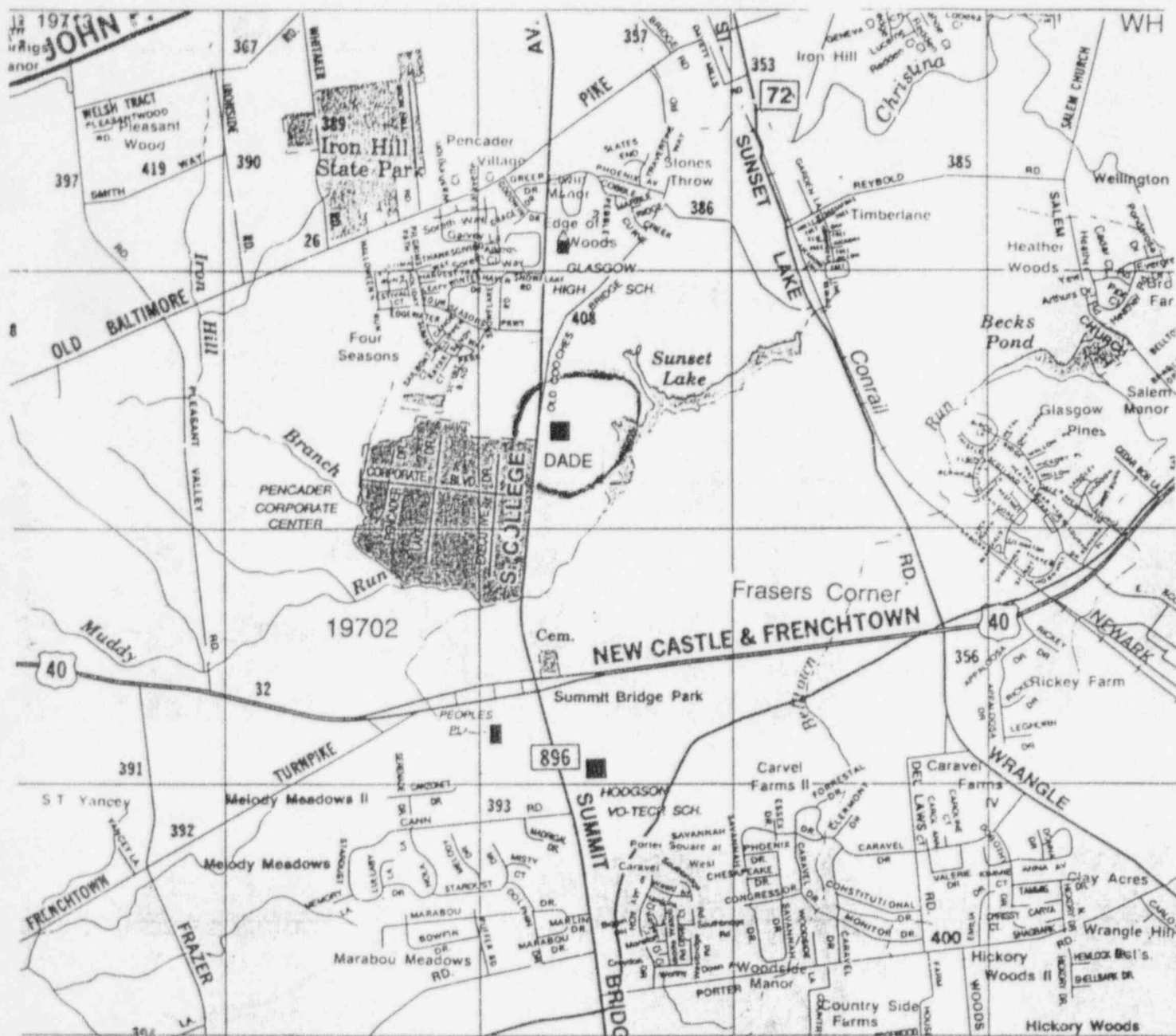
Dade is a manufacturing and research location, with over one thousand-three-hundred (1300) employees located in four (4) buildings.

6.2.1 Laboratories

All of the radiotracer work is at low activity and is carried out in standard chemical laboratories equipped with a chemical fume hood or a biological safety cabinet. As radiological projects are completed, the affected areas and components are radiologically surveyed, decontaminated (as necessary) and released for unrestricted use.

6.2.2 Storage Areas

Storage rooms are provided for radioactive isotopes not in active use, for unused portions of radioactive materials, and for wastes which are retained for radioactive decay before disposal or for which special disposal arrangements must be made. Storage rooms are locked when not in use. A separate storage box is used for sealed sources. Radioactive materials in this form only are stored in this box. Access is under control of the Radiological Safety Officer.



6.3 Operations Description

6.3.1 Radioactive Material Receipt

All incoming radioisotope shipments are inspected by the RSO, the Area Radiation Safety Officer, or designate. Records of all incoming radioisotope shipments are maintained by the RSO.

Any person who plans to use a radioisotope must send a purchase requisition along with a radioisotope request form to the RSO. The radioisotope request forms show the amount of activity, isotope and form, proposed use, location of use, proposed safety precautions, and monitoring equipment available.

Orders of less than one-hundred (100) microcuries of Iodine-125 or Phosphorus-32 and orders of less than five hundred (500) microcuries of Hydrogen-3 or Carbon-14 are exempt from the required approval by three members of the Site Radiation Safety Committee.

6.3.2 Laboratory Operations

Radioactive materials may be used with in vivo applications for viral or bacterial feeding or injection in connection with studies of chemical metabolism or pharmacokinetic action. General purpose use includes, but is not limited to, synthesis of radiolabeled compounds, virological research, process development, analytical standards and studies, studies of metabolic stability and fate of chemical metabolites and associated byproducts.

All operations with radioisotopes are performed in accordance with the conditions set forth in Reference 2.6 and the rules and regulations of the NRC as given in Title 10 of the Code of Federal Regulations.

During operations small spills may occur. When a spill happens the user will clean up the spill, monitor for contamination, and notify the RSO. The RSO will verify appropriate documentation and decontamination results.

Laboratories that previously contained greater than exempt quantities of unsealed sources will be monitored and the results reviewed by a Radiological Safety Officer for compliance with the NRC's Guidelines for Decontamination of Facilities and Equipment Prior to Release to Unrestricted Use or Termination of Licenses for Byproduct, Source or Special Nuclear Material (July, 1982) prior to the laboratory being designated an uncontrolled area.

6.3.3 Waste Disposal

The procedures for disposal of radioactive waste include: Off site disposal by burial in a Low Level Radioactive Waste disposal facility; Hold for decay in controlled storage areas; and items that are considered below regulatory concern.

6.3.3.1 Off-Site Disposal

Transfer of material to the containers will be done by the RSO or designate. The person handling the waste will wear, as a minimum, disposable gloves and disposable Tyvek coveralls. The transfer of material must be done in such a manner as to assure no skin contact. A personal monitoring device will be worn and an appropriate survey meter will be present.

Radioisotopes will be packaged in compliance with NRC and/or DOT regulations. When a broker is utilized we will use the current procedures supplied by the broker.

The current broker is Teledyne Isotopes, Westwood, NJ (NRC License No. 29-00055-14).

Records of shipments are maintained by the RSO.

6.3.3.2 Hold For Decay

Radioactive waste with a physical half life of less than that stated in the most current NRC license will be held for decay in storage and then disposed of in ordinary trash if:

- it has been held for a minimum of 10 half lives .
- before disposal the waste is surveyed, instruments such as a G-M tube counter will be utilized, to determine that radiation levels are at background levels.
- at the time of disposal, radioactive material labels are removed or obliterated.

6.3.3.3 Below Regulatory Concern

Hydrogen3 and Carbon14 waste meeting the criteria in 10CFR, Part 20.2005 may be discarded without regard to its radioactivity.

6.3.4 Waste Tracking and Documentation

Dade uses established procedures to insure proper tracking and documentation of waste materials. These procedures have proven themselves to be extremely effective in providing for the coordination and documentation of all work phases.

7.0 DECOMMISSIONING PLAN

Decommissioning individual laboratories is performed routinely at Dade using established procedures. Laboratories that previously contained greater than exempt quantities of unsealed sources will be monitored and the results reviewed by a Radiological Safety Officer for compliance with the NRC's Guidelines for Decontamination of Facilities and Equipment Prior to Release to Unrestricted Use or Termination of Licenses for Byproduct, Source or Special Nuclear Material (July, 1982) prior to the laboratory being designated an uncontrolled area.

Areas with existing contamination will be decommissioned in three phases.

- Phase I This phase will provide for the review of all license documents, procedures, permits, etc. to ensure they are current and comply with all applicable local, state, and federal regulations. All necessary updates shall be made at this time and prior to commencing operations. Removal of all known radioactive contaminated inventory, equipment, containments and work areas, and the decontamination of all known contaminated surfaces/areas shall be accomplished during Phase I.
- Phase II A general area survey shall be performed to identify any contaminated equipment, or areas not identified and removed during Phase I. Equipment and/or work areas identified during Phase II shall be removed and/or decontaminated during this phase.
- Phase III A final survey of previously contaminated areas will be performed and a report generated to justify license termination.

7.1 Phase I

7.1.1 Document Review

Review of the following documents will be conducted by the RSO prior to decommissioning operations:

- Spills and Unusual Occurrences Files
- Site as-built Drawings
- Sewage and drainage line locations
- Initial Site Characterization Surveys
- Radioactive Materials Inventory Lists

This review will determine categories of contamination as follows: (1) known to have been contaminated at some time in the past or presently contaminated; (2) suspected of having been contaminated at some time in the past; or (3) thought to be free from contamination. This review will also quantify the current amount of non-structural material that must otherwise be decontaminated or disposed. Sufficient procedures are in place to ensure areas utilized for radiological work are released for unrestricted use upon completion of radiological work.

7.1.2 Removal of Radiological Inventory

Dade possesses an inventory of radioactive material which consist of the following:

- Radioisotopes currently being used or planned for future use in experiments.
- Radioactive waste held for decay.
- Radioactive waste awaiting disposal by burial.

By the time of full-scale site decommissioning the radioisotopes currently being used or planned for future use in experiments will have been fully utilized and the resulting waste will be disposed of utilizing one of the methods in section 6.3.3.

Radioactive waste held for decay and Radioactive waste awaiting disposal by burial, will be disposed of utilizing the appropriate method specified section 6.3.3.

7.1.3 Decontamination of Contaminated Areas

Dade currently has no areas which require decontamination.

7.2 Phase II

7.2.1 Survey and Identify Additional Contaminated Areas

All known radioactive material shall have been removed, decayed, and/or packaged for disposal prior to the start of Phase II.

During this phase a general area survey shall be performed in areas where radionuclides were used to identify all additional areas which may be contaminated.

This should be successful in that all radiation levels should be reduced to background with the previous removal of all radioactive materials. Should additional areas be identified, those areas shall be assessed and handled accordingly. Additional surveys and decontamination steps will be repeated as often as required until no radioactivity above NRC guide 1.86 criteria remains.

7.2.2 Waste Disposal

All waste material resulting from the decontamination operations shall be packaged in QA inspected, DOT approved, strong, tight containers and staged for disposal. All packaged waste shall comply with all local, state and federal regulations and Dade's procedures for waste shipments.

7.3 Phase III

7.3.1 Final Survey Documentation and Termination Plan

GRIDDING FOR SURVEY: Any areas that were previously contaminated will be gridded off in 1 meter by 1 meter grids for surveys purposes.

SURVEY: Gridded areas will be survey in the following manner: Scan the entire grid's accessible surface area with a thin window (nominal 2 mg/cm²) gas-flow proportional detector (that has been calibrated for very low energy beta), recording the grid activity in dpm/100cm² and the extent of any area with greater than the maximum limits specified in US NRC Regulatory Guide 1.86 and the area encompassed. Take four swabs within the grid, marking their location and record the removable activity in dpm/100cm²

INSTRUMENTATION: The following instrumentation is used routinely and will be used for any decommissioning activities:

TABLE 2: INSTRUMENTATION

Type of Instrument	Radiation Detected	Sensitivity Range
Eberline Model E-520 with G-M Probe	Beta, Gamma	0-200 mR/hr
LKB Rack Beta Liquid Scintillation Counter	Beta	0-1x10 ⁵ cpm

Geiger counters listed in Table 2 are calibrated every six (6) months. They are calibrated by the specific vendor (Ludlum, Victoreen, Eberline, etc.) or companies authorized to calibrate the instruments (Applied Health Physics, Inc., NRC License No. 37-09135-01, or the University of Delaware, NRC License No. 07-01579-19. Scintillation counters are serviced and calibrated by the vendor. Other liquid scintillation and gamma counters are available.

FINAL REPORT: A final report will be prepared, detailing all activities involved in the decontamination and decommissioning activities.

8.0 RADIATION PROTECTION PROGRAM

Dade's Radiation Protection Program consists of the following elements:

1. Site Safety Manual
2. NRC License 07-00455-38
3. Training
4. Radioisotope Committee
5. Radiation Safety Procedure

9.0 TRAINING

Personnel utilized for the surveys referenced in the plan, will be qualified according to Dade's radioisotope user training program which is outlined in Appendix B or it's corresponding revision at the time of decommissioning. Since Dade routinely decommissions various laboratories, no significant training effort beyond present qualifications will be necessary.

10.0 REGULATIONS, REGULATORY GUIDES, AND STANDARDS

10 CFR
 49 CFR
 NUREG Guide 1.86
 Dade Chemistry Systems Inc. NRC License 07-00455-38
 NUREG/CR-5849 Manual for conducting Radiological Surveys in Support of License Termination

11.0 RECORDS

All records generated as a result of this plan shall be maintained in Dade's Decontamination and Decommissioning Project records file.

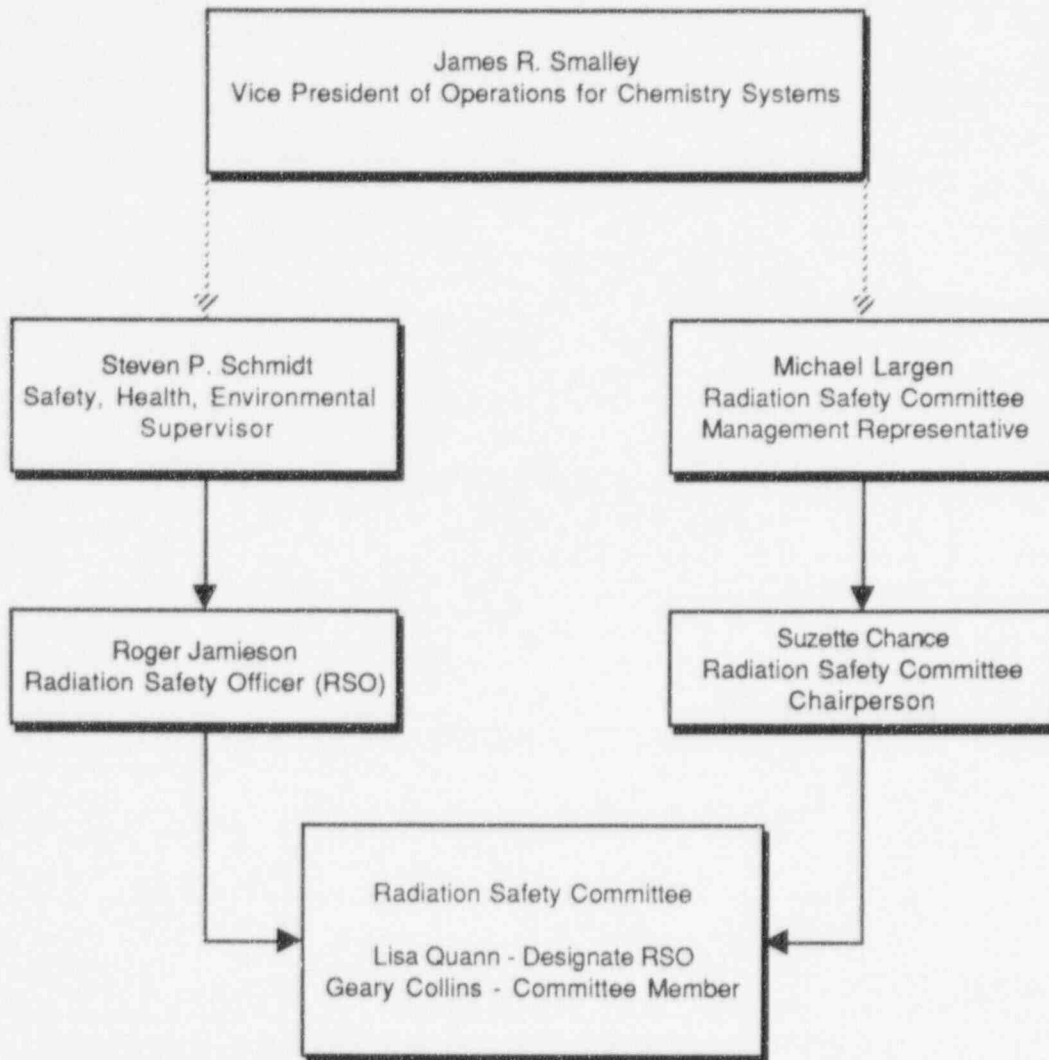
Data generated to develop, update, or revise this DDFP shall be maintained on file in accordance with all applicable Dade plans, procedures and instructions.

APPENDIX A
ORGANIZATION

(2 Pages)

Dade Chemistry Systems Inc. Radiation Safety Reporting Structure

RADIATION SAFETY REPORTING STRUCTURE



A-2

~~123159~~
123387

APPENDIX B
TRAINING
(2 PAGES)

B.1 Radioisotope Users

All users of radioisotopes must attend a training/orientation session covering the safe use of radioisotopes at Dade. Items covered include:

- Procurement of radioisotopes
- Handling precautions for radioisotopes
- Storage
- Waste disposal procedures
- Spill clean-up and notification procedures
- Signs and labeling required
- Bioassay requirements
- Radiation monitoring (badges)
- Wipe tests of laboratories
- Applicable exposure limits
- Employee rights and responsibilities under 10CFR20

B.2 Additional Training

An eight hour lecture course is given which discusses basic radiation protection. Items such as radioactive decay, biological effects, methods of reducing radiation exposure levels, and monitoring are covered.

APPENDIX C
US NRC LICENSE
(5 Pages)

APPENDIX D

FINANCIAL ASSURANCE AND COST ESTIMATE FOR DECOMMISSIONING

A surety bond and standby trust agreement are being prepared, and will be sent under separate cover.

COST ESTIMATE FOR DECOMMISSIONING

(No Salvage Value Credit is assumed)

Table D-1 Work Days

Task	RSO	Radioisotope User	Laborer	Total Days	Total Cost
Preparation of Documentation for Regulatory Agencies	5			5	\$2,000
Document Review	5	5		10	\$3,000
Total	10	5	0	15	\$5,000

Table D-2 Unit Cost for Workers

Position	Basic Salaries (\$/yr)	Overhead Rate (%)	Worker Cost/Year
RSO	\$61,176	70%	\$103,999
Radioisotope User	\$30,588	70%	\$52,000
Laborer	\$24,471	70%	\$41,601

Table D-3 Work Days

Task	RSO	Radioisotope User	Laborer	Total Days	Total Cost
Removal of Radiological Inventory	10	20		30	\$8,000
Area Decontamination	0.5	0.5	0.5	1.5	\$1,900
Total	10.5	20.5	0.5	30.5	\$9,900

Table D-4 Supplies

Equipment/Supply	Quantity	Cost
Rubber Gloves	120	\$75
Lab Coats	120	\$558
Shoe Covers	150	\$62
Swabs	1,000	\$250
Absorbants	100	\$50
Total		\$995

Table D-5 Waste Packages

Waste Type	Volume (Cu Meters)	No. of Containers	Unit Cost of Containers	Cost of Containers
Decontamination Supplies (Brushes, Rags, Bags, etc.)	0.03	0.01	\$5	\$5
Personal Protective Equipment	0.03	0.01	\$5	\$5
Radiological Inventory	0.223	0.98	\$490	\$490
Total	0.283	1	\$500	\$500

Table D-6 Waste Transportation

Distance Shipped = 651.5 miles

Unit Cost for Shipment = \$3.07 per mile per truckload

Waste Type	Number of Shipments	Unit Cost for Shipping	Distance Shipped	Transportation Cost
Decon Supplies	0.01	\$0.03	651.5	\$20
Personal Protective Equipment	0.01	\$0.03	651.5	\$20
Radiological Inventory	0.98	\$2.98	651.5	\$1,940
Total	1	\$3.07	651.5	\$1,980

Table D-7 Waste Disposal

Burial Charges Waste Type	\$11,547.90 per Cu Meter		
	Burial Volume (Cu. Meters)	Unit Cost of Burial (per Cu. Meter)	Burial Cost
Decon Supplies	0.03	\$11,547.90	\$346
Personal Protective Equipment	0.03	\$11,547.90	\$346
Radiological Inventory	0.223	\$11,547.90	\$2,575
Total	0.283	\$11,547.90	\$3,267

Table D-8 Work Days

Task	RSO	Radioisotope User	Laborer	Total Days	Total Cost
Final Survey Documentation and Termination Plan	30	10		40	\$7,000
Total	30	10	0	40	\$7,000

Table D-9 Totals

Totals	
1. Planning and Preparation	\$5,000
2. Decontamination/Dismantling of Radioactive Facility Components	\$10,895
3. Packaging, Shipping, and Disposal of Radioactive Wastes	\$5,747
4. Final Radiation Survey	\$7,000
Section Totals	\$28,642
Contingency (25%)	\$7,161
Grand Total	\$35,803

D-5

123287
~~123159~~



~~030-19936~~
~~MS-16 Supplement~~
~~13~~
Aon Risk Services

June 10, 1996

Mr. Eric Reber
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Rd.
King of Prussia, PA 19406

Re: **Surety Bond # 578045**
Dade Chemistry Systems, Inc

Dear Mr. Reber:

Please find enclosed a rider for Bond # 578045 executed by Dade Chemistry Systems, Inc.. This rider increases the bond amount from \$30,000 to \$35,803.

If you have any questions or concerns, please feel free to give me a call.

Very truly yours,

Rebecca C. Trammell, CPCU, ARM
Assistant Vice President

cc: Roger Jamison, DCSI w/ enclosure

123387

~~123157~~

JUN 11 1996

SURETY RIDER

To be attached to and form a part of Bond No. 5780845

executed by DADE CHEMISTRY SYSTEMS, INC.

as Principal and by SAFECO INSURANCE COMPANY OF AMERICA

as Surety, in Favor of U. S. NUCLEAR REGULATORY COMMISSION

and effective as of MAY 1, 1996

In consideration of the mutual agreements herein contained the Principal and the Surety hereby consent to

INCREASING THE BOND AMOUNT:

From: THIRTY THOUSAND AND NO/100 DOLLARS
(\$30,000.00)

To: THIRTY FIVE THOUSAND EIGHT HUNDRED THREE AND NO/100 DOLLARS
(\$35,803.00)

Nothing herein contained shall vary, alter or extend any provision or condition of this bond except as herein expressly stated. This rider is effective on the 31ST day of MAY of 1996.

Signed and sealed this 3RD day of JUNE of 1996

SAFECO INSURANCE COMPANY OF AMERICA

Surety

By: Lynn J. Kidd

LYNN J. KIDD, Attorney-in-Fact

Accepted:

John R. Shuster
Obligee

By: VP + Treasurer
Title



POWER
OF ATTORNEY

SAFECO INSURANCE COMPANY OF AMERICA
GENERAL INSURANCE COMPANY OF AMERICA
HOME OFFICE: SAFECO PLAZA
SEATTLE, WASHINGTON 98185

KNOW ALL BY THESE PRESENTS:

No. 5776

That SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA, each a Washington corporation, does each hereby appoint

***THOMAS J. JOSLIN; JACQUELYN RICE; SANDRA MARTINEZ; MICHAEL DOUGHERTY; CHRISTINE MAROTTA;
LYNN J. KIDD; Chicago, Illinois*****

its true and lawful attorney(s)-in-fact, with full authority to execute on its behalf fidelity and surety bonds or undertakings and other documents of a similar character issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA have each executed and attested these presents

this 12th day of March, 19 96

ACKNOWLEDGMENT BY SURETY

State of Illinois }
County of Cook } ss.:

On the 3rd day of June, 19 96, before me personally came Lynn J. Kidd

to me known, who, being by me duly sworn, did depose and say: that he resides in Cook County, Illinois

that he is the Attorney-in-Fact of SAFECO INSURANCE COMPANY OF AMERICA



11039

Sandra M. Martinez
(Notary Public)

Of a Power of Attorney issued pursuant thereto, are true and correct, and that both the By-Laws, the Resolution and the Power of Attorney are still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of said corporation

this 3rd day of June, 19 96

TELEPHONE CONVERSATION RECORD		Date: 5/28/96	Time: 10:00am
Mail Control No.: 123159 123387	License No.: 07-00455-38	Docket No.: 030-19936	
Person Called: Roger Jamieson, RSO	Organization: Dade Chemistry Systems, Inc.	Telephone Number: (302) 451-3161	
Person Calling: Eric H. Reber / (215) 337-5276			
Subject: Letters dated April 29, 30 and May 3, 1996			
<p>Summary: Who will be the Sr. Management representative who will be responsible for activities at the Glasgow site for Dade?</p> <p>Please provide a signed copy of letter agreement with du Pont letter dated April 29, 1996.</p> <p>Financial assurance provided does not equal DFP costs in most recent duPont submittal (i.e., Decontamination and Decommissioning Funding Plan, Rev. 1, dated August 9, 1995) This is the one that was reviewed. If the decommissioning cost estimate in your April 29, 1996 letter can be resubmitted and look like the one in your letter dated September 18, 1995, it is acceptable</p> <p>Please include 25% contingency in your Decommissioning Cost Estimate.</p>			
Action Required/Taken:			
Signature: Eric H. Reber		Date: 5/29/96	

OFFICIAL RECORD COPY

ML 10

~~030-19936~~

**Dade Chemistry Systems Inc.
1717 Deerfield Road
P.O. Box 778
Deerfield, Illinois 60015-0778**

May 3, 1996

VIA FEDERAL EXPRESS

Mr. Eric Reber
Division of Nuclear Materials Safety
U. S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

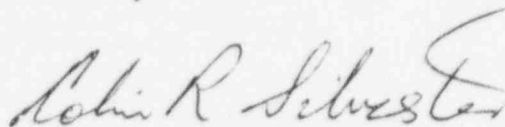
Re: Transfer of Ownership of Licensed Facility
 Sale of In-Vitro Diagnostics ("IVD") Business
 From E.I. DuPont de Nemours and Co., Inc. to Dade Chemistry Systems Inc.
 Glasgow, Delaware. (License No. 07-00455-38)

Dear Mr. Reber:

As a follow up to our letter of April 30, 1996, I am enclosing the financial assurance documents for the amendment of License No. 07-00455-38 to reflect that as of May 7, 1996, Dade Chemistry Systems Inc. will be the new owner of the licensed facility located in Glasgow, Delaware.

Enclosed please find a payment surety bond in the amount of \$30,000 and a standby trust agreement. If you have any questions regarding these documents, please call me at (847) 267-5450.

Sincerely,



Colin R. Silvester
Vice President and Treasurer

cc: Roger Jamieson, DuPont IVD
 Pamela Meitner, Esq., DuPont Legal
 Patricia Scott, Esq., DuPont Legal
 Michael Bucklo, Esq., Dade Legal

OFFICIAL RECORD COPY **ML 10**

123387
~~123159~~
MAY - 6 1996

PAYMENT SURETY BOND

Date Bond Executed: April 30, 1996

Effective Date: May 2, 1996

Principal: Dade Chemistry Systems Inc.

Type of Organization: Corporation

State of Incorporation: Delaware

NRC License Number: 07-00455-38

Name & Address of Facility: Route 896 & Corporate Blvd.
Glasgow, DE 19702

Amount of bond for
Decommissioning: \$30,000.00

Surety: Safeco Insurance Company of America

Type of Organization: Corporation

State of Incorporation: Washington

Surety's Qualification: National Surety Corporation

Surety's bond number: 5780845

Total penal sum of bond: \$30,000.00 Thirty Thousand and no/100

Know all persons by these presents, That we, the Principal, Dade Chemistry Systems Inc.
and Surety hereto, are firmly bound to the U.S. Nuclear Regulatory Commission (hereinafter called
NRC) in the above penal sum for the payment of which we bind ourselves, our heirs, executors,
administrators, successors, and assigns jointly and severally;

WHEREAS, the U.S. Nuclear Regulatory Commission, an agency of the U.S. Government, pursuant to
the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, has
promulgated regulations in Title 10, Chapter I of the Code of Federal Regulations Part 30, applicable to
the Principal, which require that a license holder or an applicant for a facility license provide financial
assurance that funds will be available when needed for facility decommissioning;

NOW, THEREFORE, the conditions of the obligation are such that if the Principal shall faithfully,
before the beginning of decommissioning of the facility identified above, fund the standby trust fund in
the amount identified above for the facility;

Or, if the Principal shall fund the standby trust fund in such amount after an order to begin facility
decommissioning is issued by the NRC or a U.S. district court or other court of competent jurisdiction;

Or, if the Principal shall provide alternative financial assurance and obtain the written approval of the
NRC of such assurance, within 30 days after the date a notice of cancellation from the Surety is received
by both the Principal and the NRC, then this obligation shall be null and void; otherwise it is to remain in
full force and effect. ○

The Surety shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the NRC that the Principal has failed to perform as guaranteed by this bond, the Surety shall place funds in the amount guaranteed for the facility into the standby trust fund.

The liability of the Surety shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety hereunder exceed the amount of said penal sum.

The Surety may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the NRC provided, however, that cancellation shall not occur during the 90 days beginning on the date of receipt of the notice of cancellation by both the Principal and the NRC, as evidenced by the return receipts.

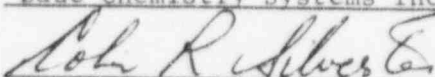
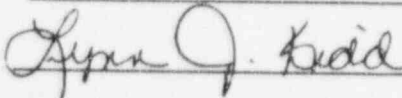
The Principal may terminate this bond by sending written notice to the NRC and the Surety ninety (90) days prior to the proposed date of termination, provided however that no such notice shall become effective until the Surety receives written authorization for termination of the bond from the NRC.

The Principal and Surety hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new amount, provided that the penal sum does not increase by more than 20% in any one year, and no decrease in the penal sum takes place without the written permission of the NRC.

If any part of this agreement is invalid, it shall not effect the remaining provisions which will remain valid and enforceable.

In Witness Whereof, the Principal and Surety have executed this financial guarantee bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety.

Principal	<u>Dade Chemistry Systems Inc</u>
By:	<u></u>
Name	<u>Colin R. Silvester</u>
Title	<u>Vice President & Treasurer</u>
Surety:	<u>Safeco Insurance Company of America</u>
Address of Surety:	<u>10 South Riverside Plaza</u> <u>Chicago, IL 60606</u>
State of Incorporation:	<u>Washington</u>
Liability limit:	<u>\$ 75,109,000</u>
Signature	<u></u>
Name and Title	<u>Lynn J. Kidd, Attorney In Fact</u>
Bond premium:	<input type="radio"/> <u>\$ 600.00</u>



POWER
OF ATTORNEY

SAFECO INSURANCE COMPANY OF AMERICA
GENERAL INSURANCE COMPANY OF AMERICA
HOME OFFICE: SAFECO PLAZA
SEATTLE, WASHINGTON 98185

No. 5776

KNOW ALL BY THESE PRESENTS:

That SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA, each a Washington corporation, does each hereby appoint
***THOMAS J. JOSLIN; JACQUELYN RICE; SANDRA MARTINEZ; MICHAEL DOUGHERTY; CHRISTINE MAROTTA;
LYNN J. KIDD; Chicago, Illinois*****

its true and lawful attorney(s)-in-fact, with full authority to execute on its behalf fidelity and surety bonds or undertakings and other documents of a similar character issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA have each executed and attested these presents

this 12th day of March, 19 96.

ACKNOWLEDGMENT BY SURETY

State of Illinois }
County of Cook } ss.:

On the 30th day of April, 19 96, before me personally came Lynn J. Kidd
to me known, who, being by me duly sworn, did depose and say: that he resides in Cook County, Illinois
that he is the Attorney-in-Fact of SAFECO INSURANCE COMPANY OF AMERICA

Sandra M. Martinez
(Notary Public)



I, Thomas J. Joslin, Secretary of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA, do hereby certify that the foregoing extracts of the By-Laws and of a Resolution of the Board of Directors of these corporations, and of a Power of Attorney issued pursuant thereto, are true and correct, and that both the By-Laws, the Resolution and the Power of Attorney are still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of said corporation

this 30th day of April, 19 96.

STANDBY TRUST AGREEMENT

TRUST AGREEMENT, the Agreement entered into as of May 2, 1996 by and between Dade Chemistry Systems Inc., a Delaware corporation, herein referred to as the "Grantor," and The First National Bank of Chicago, One First National Plaza, Chicago, Illinois, 60670, herein referred to as the "Trustee."

WHEREAS, the U.S. Nuclear Regulatory Commission (NRC), an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, has promulgated regulations in Title 10, Chapter I of the Code of Federal Regulations, Part 30. These regulations, applicable to the Grantor, require that a holder of, or an applicant for, a Part 30, 40, 70, or 72 license provide assurance that funds will be available when needed for required decommissioning activities.

WHEREAS, the Grantor has elected to use a surety bond to provide all of such financial assurance for the facilities identified herein; and

WHEREAS, when payment is made under a surety bond this standby trust shall be used for the receipt of such payment; and

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

- (a) The term "Grantor" means the NRC licensee who enters into this Agreement and any successors or assigns of the Grantor.
- (b) The term "Trustee" means the trustee who enters into this Agreement and any successor Trustee.

Section 2. Costs of Decommissioning. This Agreement pertains to the costs of decommissioning the materials and activities identified in License Number 07-00455-38 issued pursuant to 10 CFR Part 30 as shown in Schedule A.

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a standby trust fund (the Fund) for the benefit of the NRC. The Grantor and the Trustee intend that no third party have access to the Fund except as provided herein.

Section 4. Payments Constituting the Fund. Payments made to the Trustee for the Fund shall consist of cash, securities, or other liquid assets. The Fund is established initially as consisting of the property described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee are referred to as the "Fund," together with all earnings

and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount of, or adequacy of the Fund, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the NRC.

Section 5. Payment for Required Activities Specified in the Plan. The Trustee shall make payments from the Fund to the Grantor upon presentation to the Trustee of the following:

- a. A certificate duly executed by the Secretary of the Depositor attesting to the occurrence of the events, and in the form, set forth in the attached Specimen Certificate, and
- b. A certificate attesting to the following conditions;
 - (1) that decommissioning is proceeding pursuant to an NRC-approved plan,
 - (2) that the funds withdrawn will be expended for activities undertaken pursuant to that Plan, and
 - (3) that the NRC has been given 30 days' prior notice of Dade Chemistry Systems Inc. intent to withdraw funds from the escrow fund.

No withdrawal from the fund can exceed 10 percent of the outstanding balance of the Fund or 3,000 dollars, whichever is greater, unless NRC approval is attached.

In the event of the Grantor's default or inability to direct decommissioning activities, the Trustee shall make payments from the Fund as the NRC shall direct, in writing, to provide for the payment of the costs of required activities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the NRC from the Fund for expenditures for required activities in such amounts as the NRC shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the NRC specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 6. Trust Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with the written direction of the Grantor, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall perform such duties and only such duties as are specifically set forth in this Agreement and shall perform such duties as an ordinarily prudent trustee under a corporate indenture, and no implied covenants or obligations should be read into this Agreement against the Trustee, except that:

- (a) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended (15 U.S.C. 80a-2(a)), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;
- (b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal Government, and in GNMA, FNMA, and FHLM bonds and certificates or State and Municipal bonds rated BBB or higher by Standard and Poors Ratings Service or Baa or higher by Moody's Investment Services; and
- (c) For a reasonable time, not to exceed 60 days, the Trustee is authorized to hold uninvested cash, awaiting investment or distribution, without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

- (a) To transfer from time to time any or all of the assets of the fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- (b) To purchase shares in any investment company registered under the Investment Company Act of 1940 (15 U.S.C. 80a-1 et seq), including one that may be created, managed, underwritten, or to which investment advice is rendered, or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale, as necessary to allow duly authorized withdrawals at the joint request of the Grantor and the NRC or to reinvest in securities at the direction of the Grantor;
- (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
- (c) To register any securities held in the Fund in its own name, or in the name of a nominee, and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, to reinvest interest payments and funds from matured and

redeemed instruments, to file proper forms concerning securities held in the Fund in a timely fashion with appropriate government agencies, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee or such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the U.S. Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all time show that all such securities are part of the Fund;

- (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal government; and
- (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees and expenses for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. After payment has been made into this standby trust fund, the Trustee shall annually, at least 30 days before the anniversary date of receipt of payment into the standby trust fund, furnish to the Grantor and to the NRC a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days before the anniversary date of the establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the NRC, or State agency, shall constitute a conclusively binding assent by the Grantor, barring the grantor from asserting any claim or liability against the Trustee with respect to the matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting on the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing with the Grantor. (See Schedule C.)

Section 13. Successor Trustee. Upon 90 days notice to the NRC, the Trustee may resign; upon 90 days notice to NRC and the Trustee, the Grantor may replace the Trustee; but such resignation or replacement shall not be effective until the Grantor has appointed a successor

Trustee and this successor accepts the appointment. The successor Trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor Trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor Trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor Trustee or for instructions. The successor Trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the NRC or State agency, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are signatories to this agreement or such other designees as the Grantor may designate in writing. The Trustee shall be fully protected in acting without inquiry in accordance with the grantor's orders, requests, or instructions to the Trustee these shall be in writing, signed by the NRC, or State agency, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor, the NRC, or State agency, hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instruction from the Grantor and/or the NRC, or State agency, except as provided for herein.

Section 15. Amendment to Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee and the NRC, or State agency, or by the Trustee and the NRC or State Agency, if the Grantor ceases to exist.

Section 16. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 15, this trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the NRC or State agency, or by the Trustee and the NRC or State agency, if the Grantor ceases to exist. Upon termination of the trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor or its successor.

Section 17. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this trust, or in carrying out any directions by the Grantor, the NRC, or State agency, issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the trust fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense. This indemnity shall survive the termination of this Agreement.

Section 18 This Agreement shall be administered, construed, and enforced according to the laws of the State of Illinois.

Section 19 Interpretation and Severability As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement. If any part of this agreement is invalid, it shall not affect the remaining provisions which will remain valid and enforceable.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by the respective officers duly authorized and the incorporate seals to be hereunto affixed and attested as of the date first written above.

ATTEST:

Don N. Long

Dade Chemistry Systems Inc.

By:

Lohi R. Silvester

Its:

Vice President & Treasurer

[Seal]

The First National Bank of Chicago

By:

J. L. Will

Its:

Assistant Vice President

[Seal]

ATTEST:

J. L. Will

TRUST AGREEMENT SCHEDULES

SCHEDULE A

This Agreement demonstrates financial assurance for the following cost estimates for the following licensed activities:

<u>U.S. NUCLEAR REGULATORY COMMISSION LICENSE NUMBER</u>	<u>NAME AND ADDRESS OF LICENSEE</u>	<u>ADDRESS OF LICENSED ACTIVITY</u>	<u>COST ESTIMATES FOR REGULATORY ASSUR- ANCES DEMONSTRATED BY THIS AGREEMENT</u>
07-00455-38	Dade Chemistry Systems Inc. 1717 Deerfield Rd. Deerfield, IL 60015	Route 896 and Corporate Blvd. Glasgow, DE 19702	\$26,900, as set forth in the Decontamination and Decommissioning Funding Plan

SCHEDULE B

Amount: \$30,000, as evidenced by surety bond issued by Safeco Insurance Company of America.

SCHEDULE C

Trustee's fees shall be as set forth on Exhibit I attached hereto.

May 2, 1996

FIRST CHICAGO
FEE PROPOSAL
TRUSTEE/ESCROW AGENCY SERVICES
NRC STANDBY TRUST AGREEMENT
DADE CHEMISTRY SYSTEMS, INC.

I. Account Acceptance

A fee for services in connection with the initial set-up of this trust account will be charged as follows:

Account Acceptance	\$1,000
Legal Fee	Included

This fee covers examination and execution of a trust agreement and all required documentation and establishment of the account on our records.

II. Annual Administration

As long as the trust remains in a stand-by status, an annual administration fee on this trust account will be charged annually in advance at \$500.

Upon conversion of the trust from stand-by status to funded status, the annual administration fee will be charged in accordance with our regular escrow fee schedule as attached hereto..

III. Miscellaneous

Fees for services not specifically covered in this schedule will be assessed in amounts commensurate with the services rendered. The fees in this schedule are subject to reasonable adjustments as changes in laws, procedures, or costs of doing business demand. The costs of supplies and other out-of-pocket expenses that can be directly allocated will be added to our regular charges. The fees and our ability to act hereunder are subject to modification or withdrawal should subsequent review disclose unanticipated duties, conflicts of interest or credit standard deficiencies

May 2, 1996

**FIRST CHICAGO
CORPORATE TRUST SERVICES DIVISION
FEES FOR ESCROW AGENCY SERVICES**

As an Escrow Agent, The First National Bank of Chicago will hold as a neutral third party for corporate business transactions cash, securities, documents or software (the "Escrow Fund") and administer the Escrow Fund in accordance with the terms of the written Escrow Agreement.

I. Account Acceptance

A fee for services in connection with the initial set-up of this trust account will be charged as follows:

Account Acceptance	\$1,000
Legal Fee	Included

The fee will be assessed on a transaction by transaction basis depending on the time and complexity of the legal review, the value and risk involved and additional resource requirements of initial set-up, attendance of Corporate Trust personnel at your closing and other relevant considerations. This fee covers examination and execution of a trust agreement and all required documentation and establishment of the account on our records.

II. Administrative Services

A fee for the ordinary administration of an escrow account will be charged annually in advance based upon the value of the Fund. The ordinary administration fee covers administrative time and assumed risk of the transaction.

<u>VALUE</u>	<u>ANNUAL FEE</u>
First \$1,000,000.00	\$2,000 Minimum
Next 1,000,000.00	.60 per thousand
Next 8,000,000.00	.30 per thousand
Over 10,000,000.00	.20 per thousand

An account life of less than six months is subject to one-half of the full annual administration fee, subject to the \$2,000 minimum fee. An account life greater than six months but less than one year is subject to the full year fee.

III. Operating/Activity Fees

Distribution in excess of two per year	\$50.00 per item
Processing security purchase/sales (There will be no transaction charge for investments made in the First Prairie Funds)	\$100.00 per transaction
Deposit or withdrawal of other assets held in escrow	\$35.00 each
Wire transfers, each	\$20.00
Instructions received after 2:00 P.M. For outgoing wire transfer	\$50 each
Telexes	\$15.00 each
Savings account deposits or withdrawals	\$25.00 each
Special valuation	By appraisal
Additional account statements	\$25.00 per statement
Letters of Credit	
Draws	\$100.00
Amendments, extensions etc.	\$ 50.00
Processing check returns	\$25.00 each
Amendments to the escrow agreement and or substitution of collateral	\$250.00 each
Termination Fee	
Minimum fee for account life less than six months	\$200.00
For account life greater than six months	\$500.00

IV. Miscellaneous

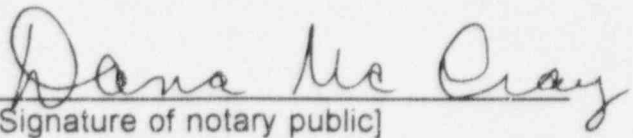
Fees for services not specifically covered in this schedule will be assessed in amounts commensurate with the services rendered. The fees in this schedule are subject to reasonable adjustments as changes in laws, procedures, or costs of doing business demand. The costs of supplies and other out-of-pocket expenses that can be directly allocated will be added to our regular charges. The fees and our ability to act hereunder are subject to modification or withdrawal should subsequent review disclose unanticipated duties, conflicts of interest or credit standard deficiencies.

ACKNOWLEDGEMENT

STATE OF ILLINOIS

COUNTY OF COOK

On this 2nd day of May, 1996, before me, a notary public in and for the city and State aforesaid, personally appeared J.T. Cahill and R. Tarnas, and they did depose and say that they are an Assistant Vice President and Vice President of The First National Bank of Chicago, Trustee, which executed the above instrument, that they know the seal of said association; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the association; and that they signed their names thereto by like order.


[Signature of notary public]

My commission expires:



Specimen Certificate of Events

The First National Bank of Chicago
First National Plaza
One First National Plaza
Chicago, Illinois 60670
Attention: Trust Division

Gentlemen:

In accordance with the terms of the Agreement with you dated May __, 1996, I,
_____, Secretary of Dade Chemistry Systems Inc. hereby certify that the following
events have occurred:

1. Dade Chemistry Systems Inc. is required to commence the decommissioning of its facility located at Route 896 and Corporate Boulevard, Glasgow, Delaware 19702 (hereinafter called the decommissioning).
2. The plans and procedures for the commencement and conduct of the decommissioning have been approved by the United States Nuclear Regulatory Commission, or its successor, on _____ (copy of approval attached).
3. The Board of Directors of Dade Chemistry Systems Inc. has adopted the attached resolution authorizing the commencement of the decommissioning.

Secretary of Dade Chemistry Systems Inc.

Certificate of Resolution

I, _____, do hereby certify that I am Secretary of Dade Chemistry Systems Inc. a Delaware corporation, and that the resolution listed below was duly adopted at a meeting of this Corporation's Board of Directors on _____, 19__.

IN WITNESS WHEREOF, I have hereunto signed my name and affixed the seal of this Corporation this __ day of _____, 19__.

Secretary

RESOLVED, that this Board of Directors hereby authorizes the President, or such other employee of the Company as he may designate, to commence decommissioning activities at the Glasgow, Delaware facility in accordance with the terms and conditions described to this Board of Directors at this meeting and with such other terms and conditions as the President shall approve with and upon the advice of Counsel.

~~030-19936~~

**Dade Chemistry Systems Inc.
1717 Deerfield Road
P.O. Box 778
Deerfield, Illinois 60015-0778**

April 30, 1996

VIA FEDERAL EXPRESS

Mr. Eric Reber
Division of Nuclear Materials Safety
U. S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Re: Transfer of Ownership of Licensed Facility
Sale of In-Vitro Diagnostics ("IVD") Business
From E.I. DuPont de Nemours and Co., Inc. to Dade Chemistry Systems Inc.
Glasgow, Delaware. (License No. 07-00455-38)

Dear Mr. Reber:

On or around May 7, 1996, Dade Chemistry Systems Inc. will acquire DuPont's IVD business, which includes the NRC-licensed facility located in Glasgow, Delaware (License No. 07-00455-38). On April 30, 1996, DuPont submitted an application to amend the license to account for the change in ownership. I am writing to confirm that Dade Chemistry Systems Inc. has reviewed and approves of the amendment application. I am also providing the information NRC regulations and guidance require from the purchaser in connection with the sale of an NRC-licensed activity.

Overall, the sale of IVD by DuPont is not expected to result in changes in the day-to-day operations of the licensed facility. No changes are planned for the personnel, procedures, or facilities involved with the handling of licensed materials. The amendment application requests that the license indicate that Dade Chemistry Systems Inc. is the owner of the facility. The amendment also requests that the decontamination and decommissioning costs be established at \$30,000, in accordance with the Decontamination and Decommissioning Funding Plan, which DuPont has previously filed. Dade Chemistry Systems Inc. intends to demonstrate its financial assurance through the use of a surety bond and a standby trust.

Below, I provide the information required by NRC from the purchaser in connection with the transfer of ownership of a licensed facility:

OFFICIAL RECORD COPY, ML 10

123387
~~123159~~
MAY - 1 1996

Mr. Eric Reber
April 30, 1996
Page 2

I. New Owner

The new owner of the business will be Dade Chemistry Systems Inc., a Delaware corporation. The address is: 1717 Deerfield Road, P.O. Box 778, Deerfield, Illinois 60015-0778. The telephone number is (847) 267-5300.

The officers of Dade Chemistry Systems Inc. are: Scott T. Garrett, President; Adam Kirsch, Vice President and Assistant Secretary; Mark E. Nunnelly, Vice President and Assistant Secretary; Robert W. Kleinert, Vice President; Robert A. Bogohosian, Vice President; John M. Duffey, Vice President; Kinzie L. Weimer, Vice President; Colin R. Silvester, Treasurer; Michael P. Bucklo, Secretary; Louise S. Pearson, Assistant Secretary; and Joseph A. Nigro, Jr., Assistant Secretary.

The directors of Dade Chemistry Systems Inc. are: Scott T. Garrett, Adam Kirsch, and Mark Nunnelly.

II. Contact for NRC Communications

Prior to the sale, the contact person at Dade Chemistry Systems Inc. is Louise S. Pearson, (708) 267-5300. After the sale, the contact person will be Roger Jamieson, (302) 451-3161.

III. Personnel Changes

There are no changes planned in the personnel responsible for the use or storage of licensed material or radiation safety. It is our intention to have the current Radiation Safety Officer, Mr. Roger Jamieson, continue in that position.

IV. Transaction Details

The transaction is a sale of the assets of DuPont's IVD business to Dade Chemistry Systems Inc. This sale includes a portion of the Glasgow, Delaware Business Community (Buildings 100, 500, 700, and 900) as well as leaseholds for portions of facilities located in Connecticut and Georgia.

V. Changes in the Organization, Location, Facilities, Equipment or Procedures

There are no changes planned in the organization, location, facility, equipment or procedures (operating or emergency procedures) as a result of the sale. The amendment reflects of the change in IVD ownership and does not reflect a change in operations.

VI. Changes in the Use, Possession, Location or Storage of Licensed Materials

There are no changes planned in the use, possession, location or storage of licensed materials.

VII. Changes in Organization, Location, Facilities, Equipment, Procedures, or Personnel

There are no changes in organization, location, facilities, equipment, procedures, or personnel that would require a license amendment without the change of ownership. The changes which are being made in the license simply reflect the change in ownership.

VIII. Surveillance Items and Records

It is our understanding that DuPont is maintaining all surveillance items and records and that these will be current at the time of transfer.

IX. Decommissioning Records

It is our understanding that prior to the transaction, DuPont will transfer any and all records concerning the safe and effective decommissioning of the facility; public dose; and waste disposal by release to sewers, incineration, radioactive materials spills, and on-site burials to Dade Chemistry Systems Inc. Decommissioning of the facility is not planned prior to the sale. As the new owner, Dade Chemistry Systems Inc. agrees to assume the liabilities relating to the presence of radioactive materials and from the decommissioning of the licensed facility.

X. Decontamination Plans

There are no plans to decontaminate the facility at this time. The estimated costs for decontamination are \$30,000, as set forth in the Decontamination and Decommissioning Funding Plan, which is on file with the NRC.

To ensure that adequate funds are available to decontaminate and decommission the site, we intend to have a surety bond and a standby trust in place as of the closing. We intend to keep NRC fully informed of our progress in obtaining the required financial assurance instruments, including any decision to pursue alternate means of demonstrating financial assurance.

XI. Transferor Commitments and Representations

As the new owners, we will abide by all commitments and representations made to NRC by DuPont concerning IVD's licensed activities. This includes maintaining

Mr. Eric Reber
April 30, 1996
Page 4

decommissioning records, implementing any decontamination and decommissioning activities. We understand that there are no open inspection items.

XII. Agreement of DuPont and Dade Chemistry Systems Inc.

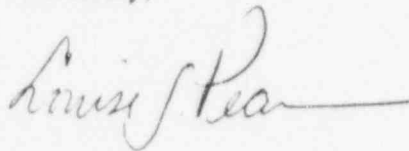
Both DuPont and Dade Chemistry Systems Inc. agree to the change in control and ownership of the licensed materials and activity. DuPont and Dade Chemistry Systems Inc. agree with the conditions of transfer.

XIII. Commitment to Abide by Existing License

As the new owner, Dade Chemistry Systems Inc. agrees to abide by all constraints, conditions, requirements, representations, and commitments identified in the existing license.

If you have any additional questions or concerns regarding the information provided above, or need additional information, please call me at (708) 267-5300. We are diligently working to make this change in ownership proceed as smoothly as possible and would like to work with your office in completing the necessary arrangements prior to the sale.

Sincerely,



Louise S. Pearson
Assistant Secretary

cc: Roger Jamieson, DuPont IVD
Pamela Meitner, Esq., DuPont Legal
Patricia Scott, Esq., DuPont Legal

PAYMENT SURETY BOND

Date Bond Executed: April 30, 1996

Effective Date: May 1, 1996

Principal: Dade Chemistry Systems Inc.

Type of Organization: Corporation

State of Incorporation: Delaware

NRC License Number: 07-00455-38

Name & Address of Facility: Route 896 & Corporate Blvd.
Glasgow, DE 19702

Amount of bond for
Decommissioning: \$30,000.00

Surety: Safeco Insurance Company of America

Type of Organization: Corporation

State of Incorporation: Washington

Surety's Qualification: National Surety

Surety's bond number: 5780845

Total penal sum of bond: \$ 30,000.00 Thirty Thousand & no/100

Know all persons by these presents, That we, the Principal, Dade Chemistry Systems Inc. and Surety hereto, are firmly bond to the U.S. Nuclear Regulatory Commission (hereinafter called NRC) in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally;

WHEREAS, the U.S. Nuclear Regulatory Commission, an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, has promulgated regulations in Title 10, Chapter I of the Code of Federal Regulations [30, 40, 70, or 72], applicable to the Principal, which require that a license holder or an applicant for a facility license provide financial assurance that funds will be available when needed from facility decommissioning;

NOW, THEREFORE, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of decommissioning of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility;

Or, if the Principal shall fund the standby trust fund in such amount(s) after an order to begin facility decommissioning is issued by [insert "the NRC" or the name of the State agency] or a U.S. district court or other court of competent jurisdiction;

Or, if the Principal shall provide alternative financial assurance and obtain the written approval of the [insert "NRC" or the name of the State agency] of such assurance, within 30 days after the date a notice of cancellation from the Surety(ies) is received by both the Principal and the [insert "NRC" or the name of the State agency], then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund.

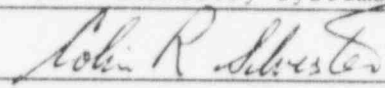
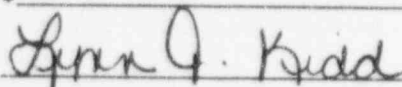
The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to provided, however, that cancellation shall not occur during the 90 days beginning on the date of receipt of the notice of cancellation by both the Principal and the as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the "NRC" or If any payment of this agreement is invalid, it shall not effect the remaining provisions which will remain valid and enforceable.

In Witness Whereof, the Principal and Surety(ies) have executed this financial guarantee bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies).

Principal	<u>Dade Chemistry Systems Inc.</u>
By:	<u></u>
[Name(s)]	<u>Colin R. Silvester</u>
[Title(s)]	<u>Vice President & Treasurer</u>
Surety:	<u>Safeco Insurance Company of America</u>
[Name and address]	<u>10 South Riverside Plaza</u> <u>Chicago, IL 60606</u>
State of Incorporation:	<u>Washington</u>
Liability limit:	<u>\$ 75,109,000</u>
[Signature(s)]	<u></u>
[Name(s) and title(s)]	<u>Lynn J. Kidd, Attorney In Fact</u>
Bond premium:	<u>\$ 600.00</u>



POWER
OF ATTORNEY

SAFECO INSURANCE COMPANY OF AMERICA
GENERAL INSURANCE COMPANY OF AMERICA
HOME OFFICE: SAFECO PLAZA
SEATTLE, WASHINGTON 98105

No. 5776

KNOW ALL BY THESE PRESENTS:

That SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA, each a Washington corporation, does each hereby appoint
***THOMAS J. JOSLIN; JACQUELYN RICE; SANDRA MARTINEZ; MICHAEL DOUGHERTY; CHRISTINE MAROTTA;
LYNN J. KIDD; Chicago, Illinois*****

its true and lawful attorney(s)-in-fact, with full authority to execute on its behalf fidelity and surety bonds or undertakings and other documents of a similar character issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA have each executed and attested these presents

this 12th day of March, 19 96

ACKNOWLEDGMENT BY SURETY

State of Illinois
County of Cook } ss.:

On the 30th day of April, 19 96, before me personally came Lynn J. Kidd
to me known, who, being by me duly sworn, did depose and say: that he resides in Cook County, Illinois
that he is the Attorney-in-Fact of SAFECO INSURANCE COMPANY OF AMERICA



11039

Sandra M Martinez
(Notary Public)

Attorney are still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of said corporation

this 30th day of April, 19 96

DADE CHEMISTRY SYSTEMS INC.
GLASGOW, DE

DECONTAMINATION AND
DECOMMISSIONING FUNDING PLAN

OFFICIAL RECORD COPY

ML 10

123387
~~123154~~
APR 30 1996

Page Number	Revision Level	Page Number	Revision Level
1	1	C-1	1
2	1	C-2	
3	1	C-3	
4	1	C-4	
5	1	C-5	
6	1	D-1	1
7	1	D-2	1
8	1	D-3	1
9	1	D-4	1
10	1		
11	1		
12	1		
13	1		
14	1		
15	1		
16	1		
17	1		
18	1		
19	1		
20	1		
21	1		
A-1	1		
A-2	1		
B-1			
B-2			

Revision 1 - April 29, 1996

1.0	SCOPE -----	5
1.1	Background and Introduction -----	5
1.2	Purpose -----	6
1.3	Applicability -----	6
2.0	REFERENCES -----	6
3.0	MANAGEMENT -----	7
4.0	DADE CHEMISTRY SYSTEMS INC. -----	7
5.0	CURRENT RADIOLOGICAL STATUS OF DADE CHEMISTRY SYSTEMS INC. --	8
5.1	Overall Radiological Status -----	8
5.2	Specific Radiological Conditions -----	8
6.0	DADE CHEMISTRY SYSTEMS INC. - ENVIRONMENT AND OPERATIONS ----	8
6.1	Site Description -----	8
6.2	Facility Description -----	9
6.2.1	Laboratories -----	9
6.2.2	Storage Areas -----	9
6.3	Operations Description -----	11
6.3.1	Radioactive Material Receipt -----	11
6.3.2	Laboratory Operations -----	11
6.3.3	Waste Disposal -----	12
6.3.4	Waste Tracking and Documentation -----	13
7.0	DECOMMISSIONING PLAN -----	13
7.1	Phase I -----	13
7.1.1	Document Review -----	13
7.1.2	Removal of Radiological Inventory -----	14
7.1.3	Decontamination of Contaminated Areas -----	14
7.2	Phase II -----	14
7.2.1	Survey and Identify Additional Contaminated Areas -----	14
7.2.2	Waste Disposal -----	15

7.3	Phase III -----	15
7.3.1	Final Survey Documentation and Termination Plan -----	15
8.0	RADIATION PROTECTION PROGRAM -----	16
9.0	TRAINING -----	16
10.0	REGULATIONS, REGULATORY GUIDES, AND STANDARDS -----	16
11.0	RECORDS -----	16

LIST OF FIGURES

FIGURE 1:	GENERAL LOCATION OF DADE CHEMISTRY SYSTEMS INC.-----	10
-----------	--	----

LIST OF TABLES

TABLE 1:	INVENTORY OF RADIONUCLIDES -----	8
TABLE 2:	INSTRUMENTATION -----	15

LIST OF APPENDICES

APP. A	ORGANIZATION -----	A-1
APP. B	TRAINING -----	B-1
APP. C	US NRC LICENSE -----	C-1
APP. D	FINANCIAL ASSURANCE AND COST ESTIMATE FOR DECOMMISSIONING -----	D-1

1.0 SCOPE

1.1 Background and Introduction

The Nuclear Regulatory Commission (NRC) has established technical and financial regulations for decommissioning licensed nuclear facilities (53 FR 24018, June 27, 1988). These regulations address decommissioning planning needs, timing, funding methods, and environmental review requirements for public and private facilities holding licenses under 10 CFR Parts 30, 40, 50, 70, and 72, with the exception of uranium mills. The intent of the regulations is to ensure that the decommissioning of all licensed facilities will be accomplished in a safe and timely manner and that licensees will provide adequate funds to cover all costs associated with decommissioning.

The financial assurance requirements of the decommissioning rule became effective on July 27, 1988, 30 days after the regulation was promulgated. Holders of Licenses issued before July 27, 1990, must provide financial assurance on or before July 27, 1990 (10 CFR 30.35 (c)(2), 40.36 (c)(2), and 70.25 (c)(2)). Dade Chemistry Systems Inc.(Dade) falls within this category. Regulatory Guide 3.66 (Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning under 10 CFR Parts 30, 40, 70, and 72) provides additional guidance. Dade is a category A licensee by Reg. Guide 3.66.

NRC licensees initiate decommissioning activities when they decide to terminate licensed activities. The rule defines "decommissioning" as removing (as a facility) safely from service and reducing residual radioactivity to a level that permits release of the property for unrestricted use and termination of license (10 CFR 30.4).

The NRC has designed its decommissioning financial assurance requirements to provide reasonable assurance that the technical and environmental components of decommissioning are carried out and unrestricted use of a facility is possible at the conclusion of such activities. Generally, these requirements specify that a facility licensee or applicant set aside money for decommissioning activities or provide a guarantee through a third party that funds will be available. This plan has been prepared to address the decommissioning of Dade, and return it to "Unrestricted Use".

All of Dade's ongoing operations will be considered as well as equipment, work areas, building, and grounds which were involved in any of Dade's licensed activities. Dade is of the opinion that this decommissioning plan format is acceptable for NRC review.

1.2 Purpose

The purpose of the Decontamination and Decommissioning Funding Plan (DDFP) is to assure that (1) decontamination and decommissioning of Dade will be carried out with minimal impact on public and occupational health and safety and the environment, and (2) an adequate financial assurance mechanism exists for the performance of decontamination and decommissioning .

1.3 Applicability

The DDFP is applicable to the decontamination and decommissioning of Dade facility located on Route 896, in Glasgow, Delaware.

2.0 REFERENCES

- 2.1 US NRC Regulatory Guide 3.65, Standard Format and Content of Decommissioning Plans for Licensees under 10 CFR Parts 30, 40, and 70.
- 2.2 NUREG/CR-5849, Manual for Conducting Radiological Surveys in Support of License Termination.
- 2.3 US NRC Regulatory Guide 3.66, Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning under 10 CFR Parts 30, 40, 70, and 72.
- 2.4 US NRC NUREG/CR-1754.
- 2.5 US NRC NUREG/CR-1754, Addendum 1.
- 2.6 US NRC Material License 0700455-38

3.0 MANAGEMENT

Dade's Corporate headquarters is located in Deerfield, Illinois. Dade's Glasgow facility is located on Route 896, in Glasgow, Delaware. The Management organization (See Appendix A) is in place and has the necessary experience to conduct and supervise the decommissioning.

Dade shall rely on the Radiation Safety Officer (RSO) to manage the tasks relative to health and safety, radiological survey, and documentation. Dade's Safety, Health, Environmental Supervisor shall oversee the entire decommissioning and assist the site RSO in preparation of the final report. The RSO shall report to the Safety, Health, Environmental Supervisor. The Safety, Health, Environmental Supervisor shall report to the Community Services Manager who shall have the responsibility for maintaining the Financial Assurance fund and managing the assets to insure growth comparable to inflation. The on-site Decommissioning Management Staff shall be supported by Managers, Supervisors and Technicians knowledgeable of and experienced in Dade's operations.

4.0 OPERATING HISTORY

On December, 23, 1982, E. I. Du Pont de Nemours & Company was issued Materials License 07-00455-38, from the Nuclear Regulatory Commission. This license permits research and development activities per 10 CFR 30.4. 10 CFR 30.4 defines research and development as: (1) Theoretical analysis, exploration, or experimentation; or (2) the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, devices, equipment, materials and processes. Since then, License No. 07-00455-38 has been amended seven (7) times and Amendment No. 07 is the current issue (See Appendix C).

A description of the property is provided in Section 6.0 of this plan.

The Glasgow Business Community first conducted radiological activities on December, 23, 1982. All of the Glasgow Business Community's radiological activities were conducted in strict compliance with its radiological procedures, and no discharges of radioactive materials were permitted. Dade operates its licensed program very strictly. There has been no uncontrolled release of radiation to the environment during operating history of Dade.

5.0 CURRENT RADIOLOGICAL STATUS OF DADE CHEMISTRY SYSTEMS INC.

5.1 Overall Radiological Status

Dade currently maintains an inventory of the radionuclides listed in Table 1.

TABLE 1: INVENTORY OF RADIONUCLIDES

RADIONUCLIDE	TYPE OF SOURCE	CURRENT QUANTITY POSSESSED ON MARCH 28, 1996
Hydrogen ³	unsealed	2.553 millicuries
Carbon ¹⁴	unsealed	11.273 millicuries
Phosphorus ³²	unsealed	12.352 millicuries
Phosphorus ³³	unsealed	4.250 millicuries
Sulfur ³⁵	unsealed	20.555 millicuries
Nickel ⁶³	sealed	0.450 millicuries
Iodine ¹²⁵	unsealed	3.163 millicuries

A majority of Dade's work involves Hydrogen³, Carbon¹⁴, Sulfur³⁵, Iodine¹²⁵, and Phosphorus³².

5.2 Specific Radiological Conditions

Typical radiation levels are as follows:

Site border line: < 0.01 mR/hr Laboratories <0.01 mR/hr

Loose surface contamination levels throughout the site are less than detectable levels.

6.0 DADE CHEMISTRY SYSTEMS INC. - ENVIRONMENT AND OPERATIONS

6.1 Site Description

Dade is located on Route 896, in Glasgow, Delaware (Figure 1), and is situated on a three hundred (300) acre site. Access to the laboratories is controlled by a security access point. The surrounding area is rural.

6.2 Facility Description

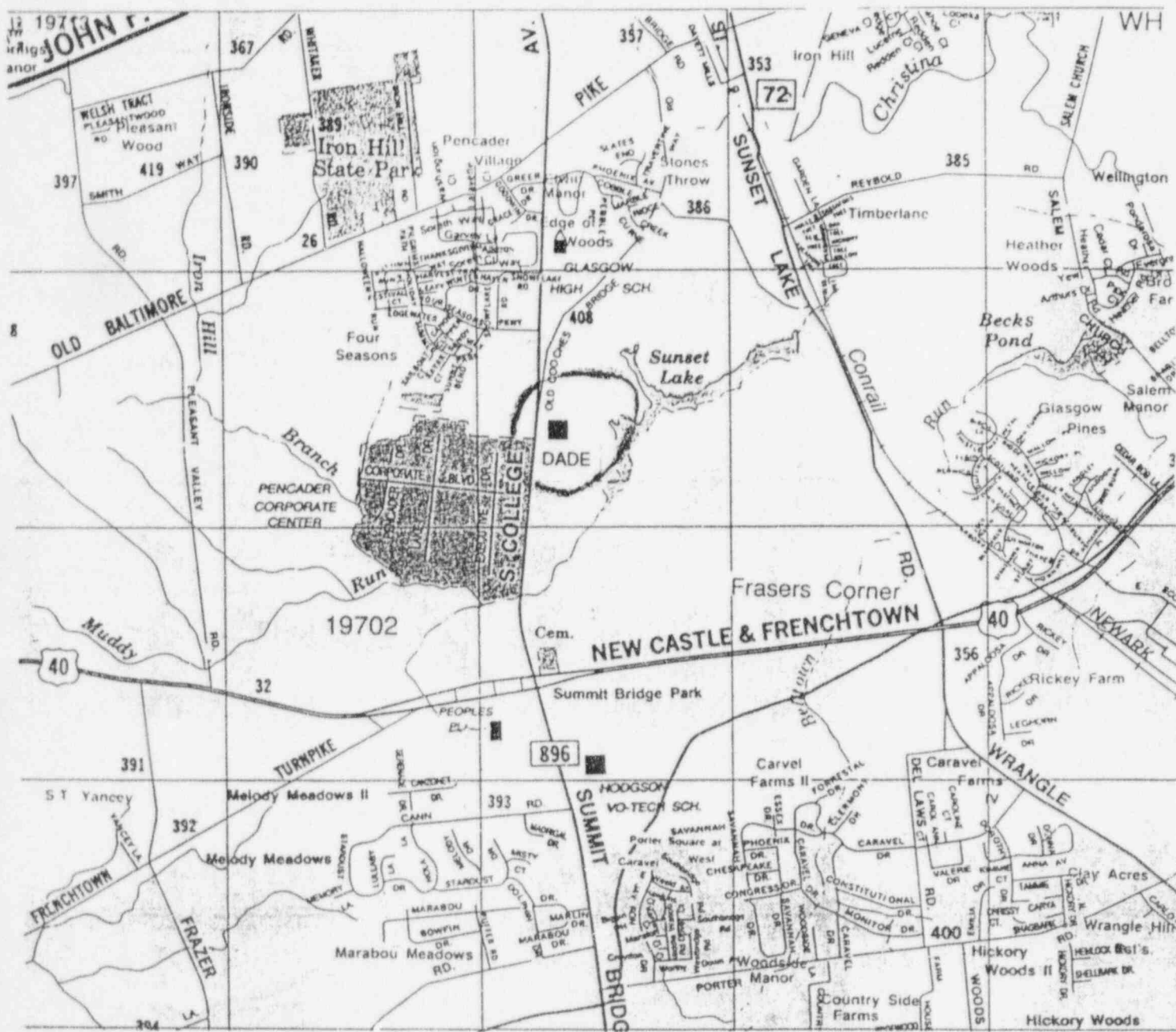
Dade is a manufacturing and research location, with over one thousand-three-hundred (1300) employees located in four (4) buildings.

6.2.1 Laboratories

All of the radiotracer work is at low activity and is carried out in standard chemical laboratories equipped with a chemical fume hood or a biological safety cabinet.

6.2.2 Storage Areas

Storage rooms are provided for radioactive isotopes not in active use, for unused portions of radioactive materials, and for wastes which are retained for radioactive decay before disposal or for which special disposal arrangements must be made. Storage rooms are locked when not in use. A separate storage box is used for sealed sources. Radioactive materials in this form only are stored in this box. Access is under control of the Radiological Safety Officer.



6.3 Operations Description

6.3.1 Radioactive Material Receipt

All incoming radioisotope shipments are inspected by the RSO, the Area Radiation Safety Officer, or designate. Records of all incoming radioisotope shipments are maintained by the RSO.

Any person who plans to use a radioisotope must send a purchase requisition along with a radioisotope request form to the RSO. The radioisotope request forms show the amount of activity, isotope and form, proposed use, location of use, proposed safety precautions, and monitoring equipment available.

Orders of less than one-hundred (100) microcuries of Iodine125 or Phosphorus32 and orders of less than five hundred (500) microcuries of Hydrogen3 or Carbon14 are exempt from the required approval by three members of the Site Radiation Safety Committee.

6.3.2 Laboratory Operations

Radioactive materials may be used with in vivo applications for viral or bacterial feeding or injection in connection with studies of chemical metabolism or pharmacokinetic action. General purpose use includes, but is not limited to, synthesis of radiolabeled compounds, virological research, process development, analytical standards and studies, studies of metabolic stability and fate of chemical metabolites and associated byproducts.

All operations with radioisotopes are performed in accordance with the conditions set forth in Reference 2.6 and the rules and regulations of the NRC as given in Title 10 of the Code of Federal Regulations.

During operations small spills may occur. When a spill happens the user will clean up the spill, monitor for contamination, and notify the RSO.

Laboratories that previously contained greater than exempt quantities of unsealed sources will be monitored and the results reviewed by a Radiological Safety Officer for compliance with the NRC's Guidelines for Decontamination of Facilities and Equipment Prior to Release to Unrestricted Use or Termination of Licenses for Byproduct, Source or Special Nuclear Material (July, 1982) prior to the laboratory being designated an uncontrolled area.

6.3.3 Waste Disposal

The procedures for disposal of radioactive waste include: Off site disposal by burial in a Low Level Radioactive Waste disposal facility; Hold for decay in controlled storage areas; and items that are considered below regulatory concern.

6.3.3.1 Off-Site Disposal

Transfer of material to the containers will be done by the RSO or designate. The person handling the waste will wear, as a minimum, disposable gloves and disposable Tyvek coveralls. The transfer of material must be done in such a manner as to assure no skin contact. A personal monitoring device will be worn and an appropriate survey meter will be present.

Radioisotopes will be packaged in compliance with NRC and/or DOT regulations. When a broker is utilized we will use the current procedures supplied by the broker.

The current broker is Teledyne Isotopes, Westwood, NJ (NRC License No. 29-00055-14).

Records of shipments are maintained by the RSO.

6.3.3.2 Hold For Decay

Radioactive waste with a physical half life of less than that stated in the most current NRC license will be held for decay in storage and then disposed of in ordinary trash if:

- it has been held for a minimum of 10 half lives .
- before disposal the waste is surveyed, instruments such as a G-M tube counter will be utilized, to determine that radiation levels are at background levels.
- at the time of disposal, radioactive material labels are removed or obliterated.

6.3.3.3 Below Regulatory Concern

Hydrogen3 and Carbon14 waste meeting the criteria in 10CFR, Part 20.2005 may be discarded without regard to its radioactivity.

6.3.4 Waste Tracking and Documentation

Dade uses established procedures to insure proper tracking and documentation of waste materials. These procedures have proven themselves to be extremely effective in providing for the coordination and documentation of all work phases.

7.0 DECOMMISSIONING PLAN

Decommissioning individual laboratories is performed routinely at Dade using established procedures. Laboratories that previously contained greater than exempt quantities of unsealed sources will be monitored and the results reviewed by a Radiological Safety Officer for compliance with the NRC's Guidelines for Decontamination of Facilities and Equipment Prior to Release to Unrestricted Use or Termination of Licenses for Byproduct, Source or Special Nuclear Material (July, 1982) prior to the laboratory being designated an uncontrolled area.

Areas with existing contamination will be decommissioned in three phases.

- Phase I This phase will provide for the review of all license documents, procedures, permits, etc. to ensure they are current and comply with all applicable local, state, and federal regulations. All necessary updates shall be made at this time and prior to commencing operations. Removal of all known radioactive contaminated inventory, equipment, containments and work areas, and the decontamination of all known contaminated surfaces/areas shall be accomplished during Phase I.
- Phase II A general area survey shall be performed to identify any contaminated equipment, or areas not identified and removed during Phase I. Equipment and/or work areas identified during Phase II shall be removed and/or decontaminated during this phase.
- Phase III A final survey of previously contaminated areas will be performed and a report generated to justify license termination.

7.1 Phase I

7.1.1 Document Review

Review of the following documents will be conducted by the RSO prior to decommissioning operations:

- Spills and Unusual Occurrences Files
- Site as-built Drawings
- Sewage and drainage line locations
- Initial Site Characterization Surveys
- Radioactive Materials Inventory Lists

This review will determine categories of contamination as follows: (1) known to have been contaminated at some time in the past or presently contaminated; (2) suspected of having been contaminated at some time in the past; or (3) thought to be free from contamination. This review will also quantify the current amount of non-structural material that must otherwise be decontaminated or disposed.

7.1.2 Removal of Radiological Inventory

Dade possesses an inventory of radioactive material which consist of the following:

- Radioisotopes currently being used or planned for future use in experiments.
- Radioactive waste held for decay.
- Radioactive waste awaiting disposal by burial.

By the time of full-scale site decommissioning the radioisotopes currently being used or planned for future use in experiments will have been fully utilized and the resulting waste will be disposed of utilizing one of the methods in section 6.3.3.

Radioactive waste held for decay and Radioactive waste awaiting disposal by burial, will be disposed of utilizing the appropriate method specified section 6.3.3.

7.1.3 Decontamination of Contaminated Areas

Dade currently has no areas which require decontamination.

7.2 Phase II

7.2.1 Survey and Identify Additional Contaminated Areas

All known radioactive material shall have been removed, decayed, and/or packaged for disposal prior to the start of Phase II.

During this phase a general area survey shall be performed in areas where radionuclides were used to identify all additional areas which may be contaminated.

This should be successful in that all radiation levels should be reduced to background with the previous removal of all radioactive materials. Should additional areas be identified, those areas shall be assessed and handled accordingly. Additional surveys and decontamination steps will be repeated as often as required until no radioactivity above NRC guide 1.86 criteria remains.

7.2.2 Waste Disposal

All waste material resulting from the decontamination operations shall be packaged in QA inspected, DOT approved, strong, tight containers and staged for disposal. All packaged waste shall comply with all local, state and federal regulations and Dade's procedures for waste shipments.

7.3 Phase III

7.3.1 Final Survey Documentation and Termination Plan

GRIDDING FOR SURVEY: Any areas that were previously contaminated will be gridded off in 1 meter by 1 meter grids for surveys purposes.

SURVEY: Gridded areas will be survey in the following manner: Scan the entire grid's accessible surface area with a thin window (nominal 2 mg/cm²) gas-flow proportional detector (that has been calibrated for very low energy beta), recording the grid activity in dpm/100cm² and the extent of any area with greater than the maximum limits specified in US NRC Regulatory Guide 1.86 and the area encompassed. Take four swabs within the grid, marking their location and record the removable activity in dpm/100cm²

INSTRUMENTATION: The following instrumentation is used routinely and will be used for any decommissioning activities:

TABLE 2: INSTRUMENTATION

Type of Instrument	Radiation Detected	Sensitivity Range
Eberline Model E-520 with G-M Probe	Beta, Gamma	0-200 mR/hr
LKB Rack Beta Liquid Scintillation Counter	Beta	0-1x10 ⁵ cpm

Geiger counters listed in Table 2 are calibrated every six (6) months. They are calibrated by the specific vendor (Ludlum, Victoreen, Eberline, etc.) or companies authorized to calibrate the instruments (Applied Health Physics, Inc., NRC License No. 37-09135-01, or the University of Delaware, NRC License No. 07-01579-19. Scintillation counters are serviced and calibrated by the vendor. Other liquid scintillation and gamma counters are available.

FINAL REPORT: A final report will be prepared, detailing all activities involved in the decontamination and decommissioning activities.

8.0 RADIATION PROTECTION PROGRAM

Dade's Radiation Protection Program consists of the following elements:

1. Site Safety Manual
2. NRC License 07-00455-38
3. Training
4. Radioisotope Committee
5. Radiation Safety Procedure

9.0 TRAINING

Personnel utilized for the surveys referenced in the plan, will be qualified according to Dade's radioisotope user training program which is outlined in Appendix B or it's corresponding revision at the time of decommissioning. Since Dade routinely decommissions various laboratories, no significant training effort beyond present qualifications will be necessary.

10.0 REGULATIONS, REGULATORY GUIDES, AND STANDARDS

10 CFR

49 CFR

NUREG Guide 1.86

Dade Chemistry Systems Inc. NRC License 07-00455-38

NUREG/CR-5849 Manual for conducting Radiological Surveys in Support of License Termination

11.0 RECORDS

All records generated as a result of this plan shall be maintained in Dade's Decontamination and Decommissioning Project records file.

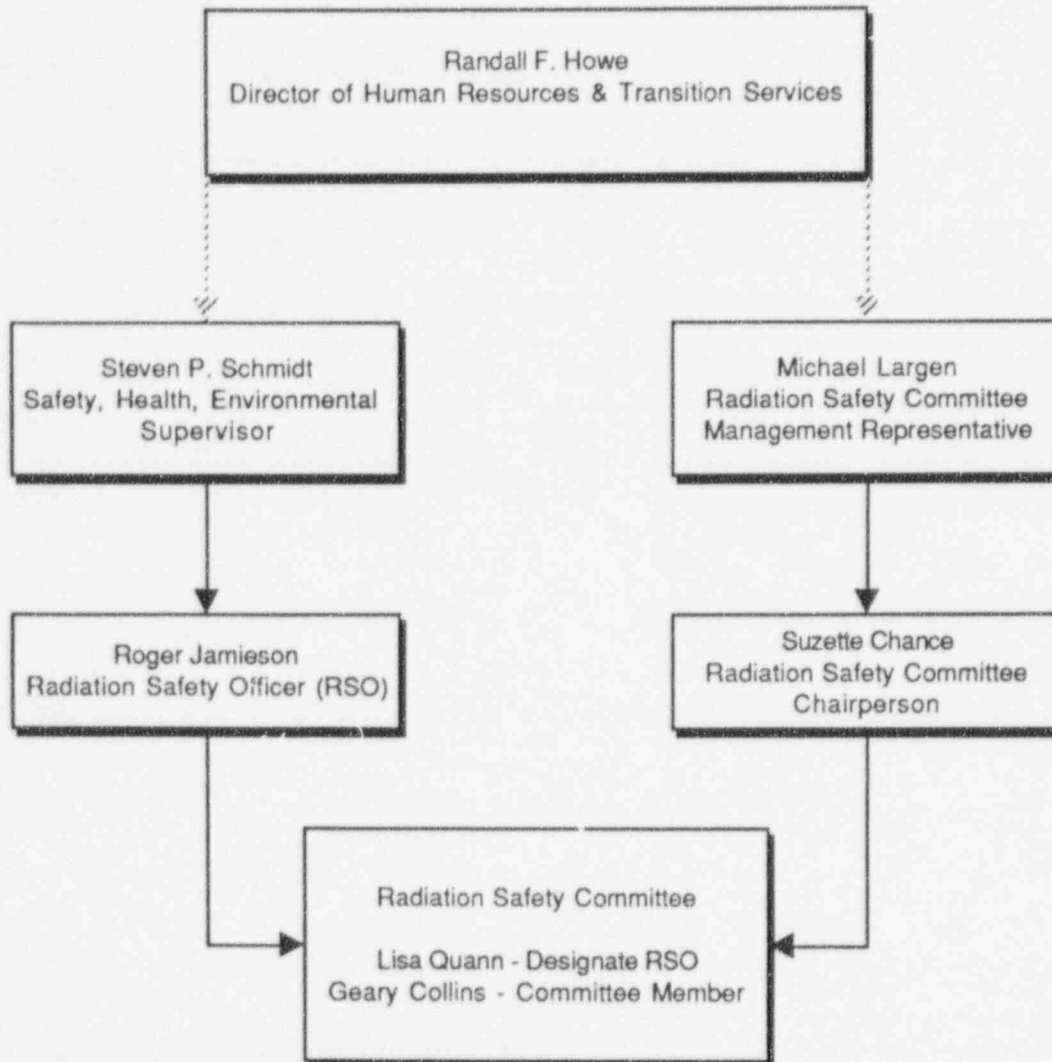
Data generated to develop, update, or revise this DDFP shall be maintained on file in accordance with all applicable Dade plans, procedures and instructions.

APPENDIX A
ORGANIZATION

(2 Pages)

Dade Chemistry Systems Inc. Radiation Safety Reporting Structure

RADIATION SAFETY REPORTING STRUCTURE



APPENDIX B
TRAINING
(2 PAGES)

B.1 Radioisotope Users

All users of radioisotopes must attend a training/orientation session covering the safe use of radioisotopes at Dade. Items covered include:

- Procurement of radioisotopes
- Handling precautions for radioisotopes
- Storage
- Waste disposal procedures
- Spill clean-up and notification procedures
- Signs and labeling required
- Bioassay requirements
- Radiation monitoring (badges)
- Wipe tests of laboratories
- Applicable exposure limits
- Employee rights and responsibilities under 10CFR20

B.2 Additional Training

An eight hour lecture course is given which discusses basic radiation protection. Items such as radioactive decay, biological effects, methods of reducing radiation exposure levels, and monitoring are covered.

COST ESTIMATE FOR DECOMMISSIONING

D.1 Phase I

D.1.1 Document Review

<u>Resource</u>	<u>Quantity</u>	<u>Cost</u>
RSO	1 week	\$2,000.00 ¹
Radioisotope User	1 week	\$1,000.00 ²

D.1.2 Removal of Radiological Inventory

<u>Resource</u>	<u>Quantity</u>	<u>Cost</u>
RSO	2 weeks	\$4,000.00
Radioisotope User	2 weeks	\$2,000.00
Radioisotope User	2 weeks	\$2,000.00
Waste for Disposal	10 ft ³	\$3,000.00
Waste Transportation	1 shipment	\$1,000.00

D.1.3 Decontamination of Contaminated Areas

<u>Resource</u>	<u>Quantity</u>	<u>Cost</u>
RSO	0.5 weeks	\$1,000.00
Radioisotope User	0.5 weeks	\$500.00
Laborer	0.5 weeks	\$400.00 ³
Waste for Disposal is included in section D.1.2		

D.2 Phase II

D.2.1 Survey and Identify Additional Contaminated Areas

<u>Resource</u>	<u>Quantity</u>	<u>Cost</u>
RSO	1 week	\$2,000.00
Radioisotope User	1 week	\$1,000.00

¹ Based on \$50.00 per hour for a forty (40) hour week.² Based on \$25.00 per hour for a forty (40) hour week.³ Based on \$20.00 per hour for a forty (40) hour week.

A surety bond and standby trust agreement are being prepared, and will be sent under separate cover.

D.3 Phase III

D.3.1 Final Survey Documentation and Termination Plan

<u>Resource</u>	<u>Quantity</u>	<u>Cost</u>
RSO	3 weeks	\$6,000.00
Radioisotope User	1 week	\$1,000.00

D.4 Total

Cost
\$26,900.00

D-4

123387

SECTION COPY

pulled out of 123159

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 03610
STATUS CODE: 3
FEE CATEGORY: _____
EXP. DATE: 0
FEE COMMENTS: _____
DECOM FIN ASSUR REQD: _____
.....

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

APPLICANT/LICENSEE: DADE CHEMISTRY SYSTEMS, INC.
RECEIVED DATE: 960710
DOCKET NO: 3034196
CONTROL NO.: 123387
LICENSE NO.:
ACTION TYPE: NEW LICENSE

2. FEE ATTACHED

AMOUNT: -----
CHECK NO.: -----

3. COMMENTS

PULLED OUT OF CONTROL 123159.

SIGNED
DATE

M.A. Perkins
7/10/96

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE Q3 IS ENTERED 1 ✓)

1. FEE CATEGORY AND AMOUNT: 32 8640

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR.

AMENDMENT -----
RENEWAL -----
LICENSE ----- ✓

3. OTHER -----

SIGNED
DATE

B. Brown
7/30/96

Log July 4
Facility I 96
Check No 5-2543118
Amount \$640
Fee Category 32
Yrs of Fee APP
Date Check Rec'd 7/20/96
Date Completed 7/20/96
By B. Brown

(Also see I 96) June 2 Control 123159 which is a term money submitted with Control 123159 (\$640) applied to this control for which no money was sent.

07 for 7/30/96

BA

07 JUL 15 AM 11:15