DADE BEHRING INC
P.O. Box 6101
Newark, DE 19714

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DADE BEHRING

Q-9

December 20,2007

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

03034196

Re: Dade Behring Inc. ownership change to Siemens Medical Solutions Diagnostics
License No. 07-30325-01

Dear Madam/Sir

In our letter dated November 27,2007, we had requested that License #07-30325-01 for the facility located in Glasgow, DE, be transferred to Siemens Medical Solutians Diagnostics. Subsequent to this request, there has been a decision within the Siemens organization to change the name "Siemens Medical Solutions Diagnostics," to Siemens Healthcare Diagnostics Inc., effective December 31, 2007. Please make this adjustment to you records. I have enclosed a modified Decontamination and Decommissioning Funding Plan, reflecting this name change. } 139812

If you have any questions, please contact me at 302-631-7531, or the Roger Jamieson (Radiation Safety Officer) at 302-631-7161.

Sincerely,

C. T. Hodges

C. T. Hodges
Vice President Chemistry/Immunochemistry
Assay Development

141380

NMSS/RGN1 MATERIALS-002

07-30325-01
03034186

SIEMENS HEALTHCARE DIAGNOSTICS INC.
GLASGOW, DE

# DECONTAMINATION AND DECOMMISSIONING FUNDING PLAN

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## 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.

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 Siemens, and return it to "Unrestricted Use".

All of Siemens' ongoing operations will be considered as well as equipment, work areas, building, and grounds which were involved in any of Siemens' licensed activities. Siemens 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 Siemens 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 Siemens' facility located on Route 896, in Glasgow, Delaware.

1.4 Decommissioning Plan Updates

Costs for goods and services, facility operating conditions, and expected decommissioning procedures may change during the life of the facility. The DDFP will be reviewed, and financial assurance instruments adjusted at least every three years.

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-1757 Vol. 3, Consolidated NMSS Decommissioning Guidance.

2.3 NUREG/CR-5849, Manual for Conducting Radiological Surveys in Support of License Termination.

2.4 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.

2.5 US NRC NUREG/CR-1754.

2.6 US NRC NUREG/CR-1754, Addendum 1.

2.7 US NRC Material License 07-30325-01

## 3.0 MANAGEMENT

Siemens' Corporate headquarters is located in Deerfield, Illinois. Siemens' 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.

Siemens shall rely on the Radiation Safety Officer (RSO) to manage the tasks relative to health and safety, radiological survey, and documentation. Siemens' Environmental, Health and Safety Supervisor shall oversee the entire decommissioning and assist the site RSO in preparation of the final report. The RSO shall report to the Environmental, Health and Safety Supervisor. The Environmental, Health and Safety Supervisor shall report to the Vice President of EHS 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 Siemens' 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. Commencing in May of 1996 operations under License No. 07-00455-38 were transferred to Dade Behring Inc. under license No. 07-30325-01. On November 6, 2007, Dade Behring Inc. was purchased by a subsidiary of Siemens AG, Siemens Healthcare Diagnostics Inc.. License No. 07-3032501 was transferred to Siemens Healthcare Diagnostics Inc. after the dissolution of the Dade Behring Inc. legal entity on December 31, 2007.

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

All of Siemens' radiological activities have been conducted in strict compliance with its radiological procedures, and no discharges of radioactive materials were permitted. Siemens operates its licensed program very strictly. There has been no uncontrolled release of radiation to the environment during operating history of Siemens.

## 5.0 CURRENT RADIOLOGICAL STATUS OF SIEMENS HEALTHCARE DIAGNOSTICS INC.

### 5.1 Overall Radiological Status

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

TABLE 1: INVENTORY OF RADIONUCLIDES

| RADIONUCLIDE | TYPE OF SOURCE | CURRENT QUANTITY POSSESSED ON June 21, 2001 |
|---|---|---|
| $Hydrogen^{3}$ | unsealed | 0 millicuries |
| $Hydrogen^{3}$ | sealed | 60 millicuries |
| $Carbon^{14}$ | unsealed | 0 millicuries |
| $Phosphorus^{32}$ | unsealed | 0 millicuries |
| $Phosphorus^{33}$ | unsealed | 0 millicuries |
| $Sulfur^{35}$ | unsealed | 0 millicuries |
| $Nickel^{63}$ | sealed | 0 millicuries |
| $Iodine^{125}$ | unsealed | 0 millicuries |

A majority of Siemens' 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, Siemens has no areas which require decontamination.

## 6.0 SIEMENS HEALTHCARE DIAGNOSTICS INC. - ENVIRONMENT AND OPERATIONS

### 6.1 Site Description

Siemens 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

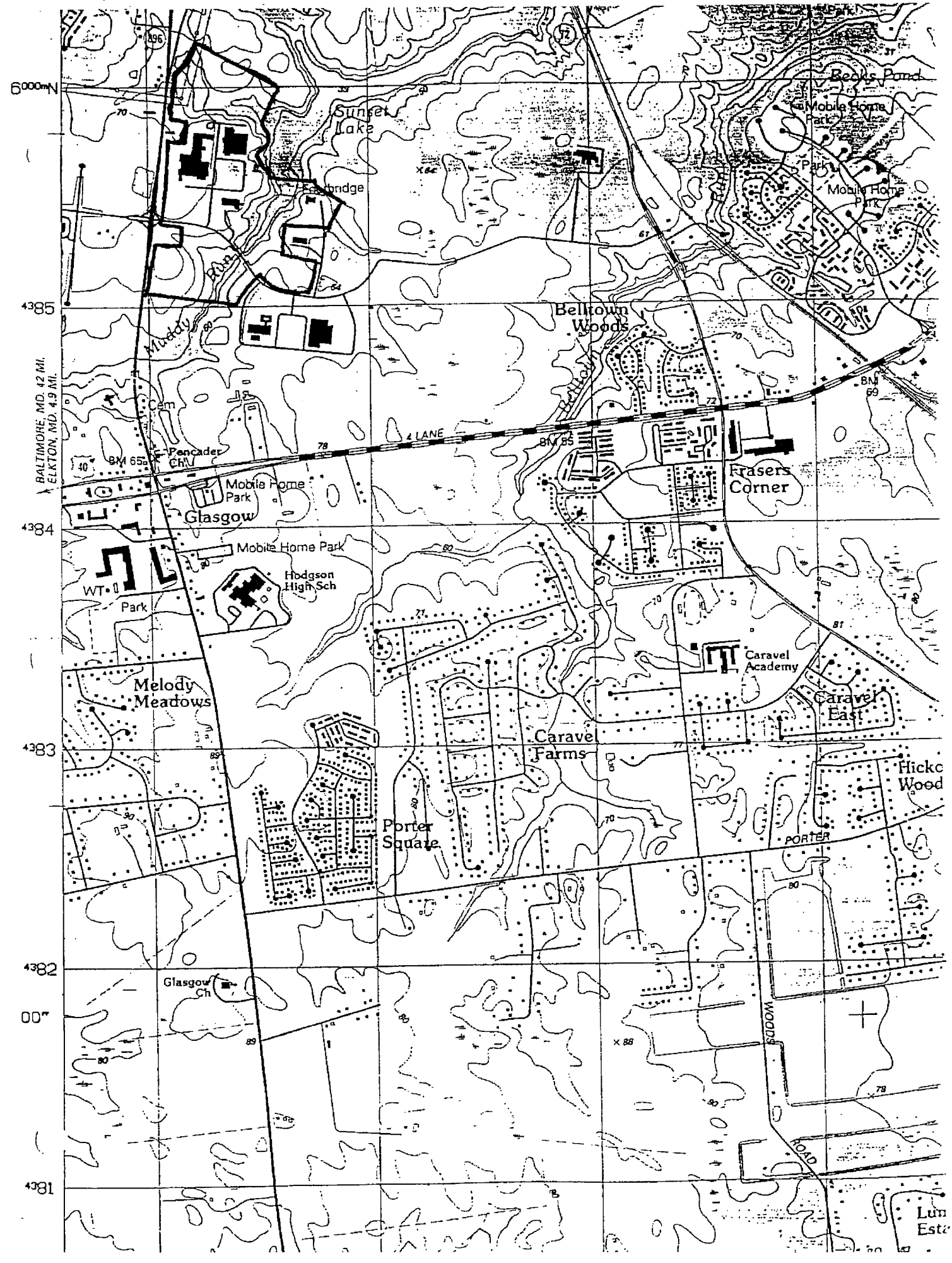
Siemens is a manufacturing and research location, with over one thousand-three-hundred (1300) employees located in five (5) buildings.

### 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 necessary. 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.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ELKTON, MD. 4.9 MI.
Sunset Lake
Beaks Pond
Mobile Home Park
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Eastbridge
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Belltown
Cem
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BM 65
Pencader Ch
Mobile Home Park
Glasgow
Frasers Corner
Mobile Home Park
Hodgson High Sch
WT
Park
Melody Meadows
Caravel Academy
Caravel East
Caravel Farms
Porter Square
PORTER
Glasgow Ch
WOODS ROAD

## 6.3 Operations Description

### 6.3.1 Radioactive Material Receipt

All incoming radioisotope shipments are inspected by the RSO 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

General purpose radioactive material use includes, but is not limited to, synthesis of radiolabeled compounds, process development, analytical standards and studies, studies of chemical 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 incineration or 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 contracted waste management company is Veolia Environmental Services, Inc., 700 Butterfield Rd., Suite 201, Lombard, IL 60148

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

Siemens 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 Siemens 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

Inventories of radioactive material may 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 or incineration.

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 or incineration, will be disposed of utilizing the appropriate method specified section 6.3.3.

7.1.3 Decontamination of Contaminated Areas

Siemens 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 Siemens' 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/cm$^2$) gas-flow proportional detector (that has been calibrated for very low energy beta), recording the grid activity in dpm/100cm$^2$ 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/100cm$^2$

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.

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

## 8.0 RADIATION PROTECTION PROGRAM

Siemens' Radiation Protection Program consists of the following elements:

1. Site Safety Manual
2. NRC License 07-30325-01
3. Training
4. Radiation Safety Committee
5. Radiation Safety Procedure

## 9.0 TRAINING

Personnel utilized for the surveys referenced in the plan, will be qualified according to Siemens' radioisotope user training program which is outlined in Appendix B or it's corresponding revision at the time of decommissioning. Since Siemens 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
Siemens Healthcare Diagnostics Inc. NRC License 07-30325-01
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 Siemens' 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 Siemens plans, procedures and instructions.

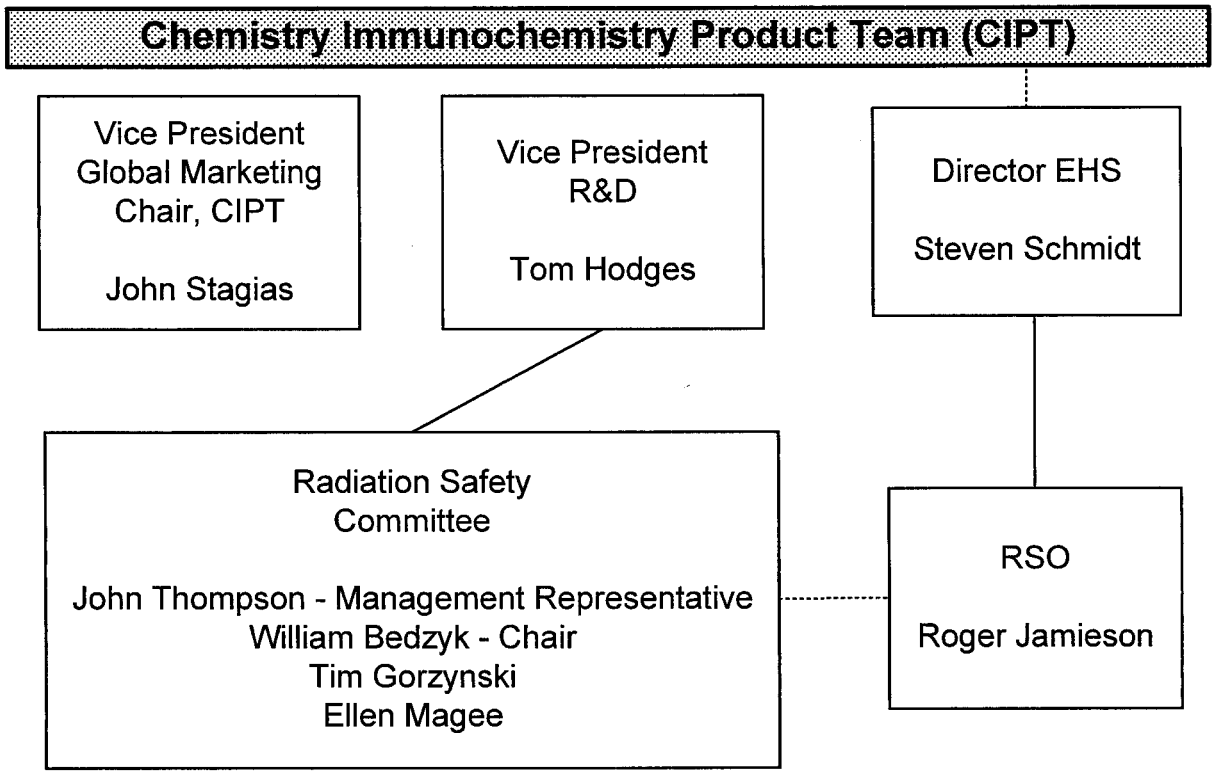
# APPENDIX A

## ORGANIZATION

(2 Pages)

Siemens Healthcare Diagnostics Inc. Radiation Safety Reporting Structure

# Siemens Healthcare Diagnostics Management Structure




Attachment 3

SIEMENS HEALTHCARE DIAGNOSTICS INC. – DECONTAMINATION AND DECOMMISSIONING PLAN

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 Siemens. 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)

NRC FORM 374

U.S. NUCLEAR REGULATORY COMMISSION



Amendment No. 06

# 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.

| Licensee | In accordance with the letter dated July 8, 2003, |
|---|---|
| 1. Dade Behring Inc. | 3. License number 07-30325-01 is amended in its entirety to read as follows: |
| 2. P.O. Box 6101<br>Newark, Delaware 19714-6101 | 4. Expiration date October 31, 2011 |
| | 5. Docket No. 030-34196<br>Reference No. |

| 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 numbers 3 through 83 | A. Any | A. 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. 15 millicuries per foil and 180 millicuries total |

9. Authorized use:

A. through G. Research and development as defined in 10 CFR 30.4
H, For use in gas chromatographs.

**MATERIALS LICENSE**
**SUPPLEMENTARY SHEET**

License Number
07-30325-01

Docket or Reference Number
030-34196

Amendment No. 06

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, William D. Bedzyk, Ph.D., Chairperson.

    B. The Radiation Safety Officer for this license is Roger Jamieson.

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.

**MATERIALS LICENSE**
**SUPPLEMENTARY SHEET**

License Number
07-30325-01

Docket or Reference Number
030-34196

Amendment No. 06

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 appropriate U. S. Nuclear Regulatory Commission, Regional Office referenced in Appendix D of 10 CFR Part 20. 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.

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. 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.

15. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

16. 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.

17. 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.

**MATERIALS LICENSE**
**SUPPLEMENTARY SHEET**

License Number
07-30325-01

Docket or Reference Number
030-34196

Amendment No. 06

18. 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.

19. 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 June 27, 2001
    B. Letter dated October 1, 2001

For the U.S. Nuclear Regulatory Commission

Date July 24, 2003

By ***Original signed by John R. McGrath***

John R. McGrath
Nuclear Materials Safety Branch 2
Division of Nuclear Materials Safety
Region I
King of Prussia, Pennsylvania 19406

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# APPENDIX D

## FINANCIAL ASSURANCE AND COST ESTIMATE FOR DECOMMISSIONING

SIEMENS HEALTHCARE DIAGNOSTICS INC. – DECONTAMINATION AND DECOMMISSIONING PLAN

Surety bond [redacted] has been previously sent to your office and is still active. An updated 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 | $2,775 |
| Document Review | 5 | 5 | | 10 | $4,735 |
| Total | 10 | 5 | 0 | 15 | $7,510 |

Table D-2 Unit Cost for Workers

| Position | Basic Salaries ($/yr) | Overhead Rate (%) | Worker Cost/Year |
|---|---|---|---|
| RSO | $85,000 | 70% | $144,500 |
| Radioisotope User | $60,000 | 70% | $102,000 |
| Laborer | $30,000 | 70% | $51,000 |

Table D-3 Work Days

| Task | RSO | Radioisotope User | Laborer | Total Days | Total Cost |
|---|---|---|---|---|---|
| Removal of Radiological Inventory | 5 | 10 | | 15 | $6,695 |
| Area Decontamination | 0.5 | 0.5 | 0.5 | 1.5 | $572 |
| Total | 5.5 | 10.5 | 0.5 | 16.5 | $7,267 |

Table D-4 Supplies

| Equipment/Supply | Quantity | Cost |
|---|---|---|
| Rubber Gloves | 120 | $75 |
| Lab Coats | 120 | $558 |
| Shoe Covers | 150 | $62 |
| Swabs | 1,000 | $250 |
| Absorbents | 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 | 0.15 | $50 | $7.50 |
| Personal Protective Equipment | 0.03 | 0.15 | $50 | $7.50 |
| Radiological Inventory | 0.262 | 1.31 | $50 | $65.50 |
| Total | 0.322 | 1.61 | | $80.50 |

Table D-6 Waste Transportation

Transportation costs are $1,134.00 per load

Table D-7 Waste Disposal

| Incineration Charges | $23,250 per Cu Meter | | |
|---|---|---|---|
| Waste Type | Incineration Volume (Cu. Meters) | Unit Cost of Incineration (per Cu. Meter | Incineration Cost |
| Decon Supplies | 0.03 | $23,250 | $698 |
| Personal Protective Equipment | 0.03 | $23,250 | $698 |
| Radiological Inventory | 0.26 | $23,250 | $6,045 |
| Total | 0.32 | $23,250 | $7,441 |

Table D-8 Work Days

| Task | RSO | Radioisotope User | Laborer | Total Days | Total Cost |
|---|---|---|---|---|---|
| Final Survey Documentation and Termination Plan | 10 | 10 | | 20 | $9,470 |
| Total | 10 | 10 | 0 | 20 | $9,470 |

Table D-9 Totals

| Totals | |
|---|---|
| 1. Planning and Preparation | $7,510 |
| 2. Decontamination/Dismantling of Radioactive Facility Components | $8,262 |
| 3. Packaging, Shipping, and Disposal of Radioactive Wastes | $8,655 |
| 4. Final Radiation Survey | $9,470 |
| Section Totals | $33,897 |
| Contingency (25%) | $8,474 |
| Grand Total | $42,371 |