



Bristol-Myers Squibb Company

Worldwide Medicines Group

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609-818-3000

NM502

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REGION 1
2003 FEB 14 PM 2:04

February 4, 2003

Ms. Betsy Ullrich, CHP
Nuclear Material Safety Branch
US NRC Region I
475 Allendale Road
King of Prussia, PA 19406

030-05222

RE: DOCKET NO. 030-05222 - AMENDMENT TO RADIOACTIVE MATERIAL LICENSE NO. 29-00139-02

Dear Ms. Ullrich:

E. R. Squibb & Sons, a wholly owned subsidiary of Bristol-Myers Squibb Company, wishes to amend its broad scope Radioactive Material License No. 29-00139-02 to include the attached Addendum to our previously approved decommissioning plan for the former Radiodiagnostic Manufacturing Operations and associated facilities at our New Brunswick, New Jersey site. This addendum is specific to the characterization and remediation of soil impacted by licensed material.

If you require any additional information or wish to discuss these requests, please contact me at michael.vala@bms.com or (609) 818-4907.

Sincerely,

Michael J. Vala, CHP
Radiation Safety Officer, Manager EHS

MJV:bl

Attachment


1 3 2 7 6 2


NMSS/RGNI MATERIALS-002

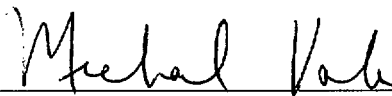
ADDENDUM TO:
**A RADIOLOGICAL DECOMMISSIONING PLAN FOR RADIODIAGNOSTIC
MANUFACTURING FACILITY AND ASSOCIATED EQUIPMENT**
FOR
CHARACTERIZATION AND REMEDIATION OF IMPACTED SOIL

E. R. SQUIBB & SONS,
a wholly owned subsidiary of
BRISTOL-MYERS SQUIBB COMPANY

NRC License No. 29-00139-02
New Jersey State License No. 10071
NEW BRUNSWICK, NEW JERSEY

Prepared by:  2/4/03
Paul C. Ely, Project Manager
Commercial Operations, Duratek, Inc. Date

Reviewed by:  2/4/03
Beverly Good, Executive Engineer, Bristol-Myers Squibb Date

Approved by:  2/4/03
Michael J. Vala, CHP, Radiation Safety Officer,
Bristol-Myers Squibb Date

1.0 EXECUTIVE SUMMARY

A Radiological Decommissioning Plan for Radiodiagnostic Manufacturing Facility and Associated Equipment (Ref. 1) was previously submitted to outline the approach to decontaminate the facilities and release them for unrestricted use. During implementation of this plan, it was determined that additional characterization surveys and soil remediation would be necessary to meet release criteria specified in the Final Status Survey Plan (Ref. 2). This plan is an addendum to Reference 1.

The Characterization Report (Ref. 3) identified the process drains as having elevated radioactivity levels, and the Decommissioning Plan required their removal. During the removal of process piping in rooms 150 and 152, the piping was found to be degraded. Initial survey measurements indicated elevated radioactivity levels in the soil underneath the piping. Additional characterization surveys must be performed to investigate the lateral and vertical extent of contamination and the individual radionuclide concentrations in the soil. An evaluation will also be made to determine if the contaminated soil impacted the groundwater.

As decommissioning proceeds, if additional soil characterization and remediation is necessary, this plan will be applicable.

This plan is intended to meet the following objectives:

- Delineate scope of contamination.
- Ensure selection of appropriate instrumentation to adequately detect the radionuclides of concern.
- Ensure radiological protection standards and controls are utilized.
- Describe methods and techniques for remediation.

2.0 CHARACTERIZATION PLAN

Building 124 process drain piping was removed from rooms 150 and 152. The piping was located under a concrete floor slab. The floor above the drain pipes was surveyed and released using Regulatory Guide 1.86 release criteria. The concrete floor was removed in strips about 2-foot wide above the pipes. The concrete was disposed of as concrete rubble and the pipe will be shipped to Duratek, Inc. for disposition. There was a plastic vapor barrier under the floor slab. There was also several inches of soil above the drain pipes that was removed and placed in one-yard containers. The soil above the pipes was surveyed and sampled and it was not radioactively contaminated. However, the drain piping was significantly degraded in these two rooms and the piping leaked. The soil under the drain piping is contaminated with Cs-137 and Co-60 in excess of release limits.

This plan is intended to fully characterize any soil contamination resulting from leaking pipes in Building 124. The surveys will be performed following the guidance in the Duratek, Inc. Commercial Services Plan "Characterization Survey Plan for Bristol-Myers Squibb New Brunswick, New Jersey", PL-DTK-01-030, REV. 1. A characterization survey package for a Class 1 Area was developed for this work. Additional survey packages may be required depending upon the results obtained from the initial survey package or additional requirements imposed by Bristol-Myers Squibb (BMS) or regulatory agencies. Survey packages provide the survey technicians with specific sampling and measurement instructions.

2.1 Soil Sampling

The initial samples will be taken at approximately 18-inches from room walls at the locations shown in Figure 1. These samples will be taken at incremental depths up to four feet below the soil surface. These samples will be analyzed onsite and if all these samples are clean then additional samples will be taken further from the walls to determine the extent of the contamination. If the samples are contaminated, additional samples will be taken at a greater distance from the trenches to determine the outer boundaries or extent of the contamination.

The sample locations will be monitored using a sodium iodide detector prior to sampling. In addition the activity from a sample hole will be measured prior to obtaining each new sample.

2.2 Water Sampling

An evaluation will be made to determine if the contaminated soil impacted the groundwater. A water sample will be obtained at the initial sample location in Room 150. The bottom of the initial sample hole was wet. It is anticipated that there will be a gravel layer over clay below the soil that was sampled. The existing hole will be utilized for sampling. The existing hole will be sloped to prevent contaminated soil from entering the existing hole. The existing hole will then be made deeper until it reaches the gravel layer. A pipe will be inserted into the hole and held into a vertical position with stakes. The water from the hole will be purged prior to sampling. The water sample will be analyzed by gamma spectroscopy. If the water is found to be contaminated, additional sampling and analysis will need to be performed.

3.0 INSTRUMENTATION

Selection and use of instruments will ensure sensitivities are sufficient to detect the identified primary radionuclides at the minimum detection requirements. A combination of direct measurements and samples will be used to meet the objectives of the survey. The Ludlum Model-2350-1 Data Logger and a 1.25" X 1.5" Sodium Iodide (NaI) gamma scintillation detector will be used for scanning soil to locate any areas above background. These measurements will be used for informational purposes. The MDC scan values for the Sodium Iodide detectors and radionuclides (shown in Table 6.7 of NUREG-1575) (Ref. 5) are examples of typical MDC scan values that can be calculated assuming specific background levels are present in the survey area. The method given in NUREG-1507 (Ref. 6), provides a more detailed example of how the scan MDC for gamma emitters can be determined.

The soil and groundwater samples will receive an analysis onsite screening using a High Purity Germanium (HPGe) Gamma Spectroscopy System.

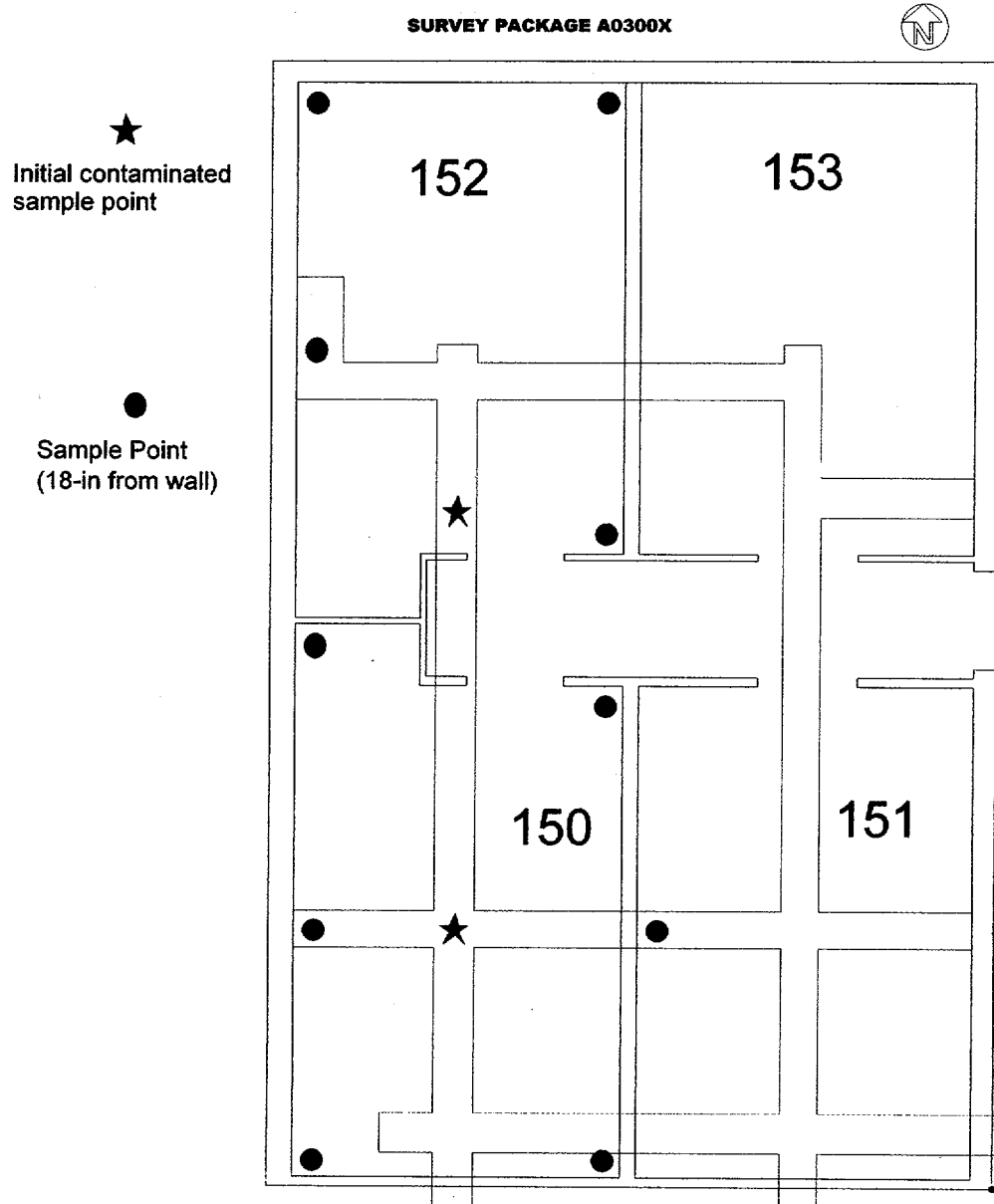


Figure 1 : Initial Sample Locations

4.0 HEALTH AND SAFETY PROGRAM

Characterization and remediation work will be performed in accordance with the Health and Safety Program described in the Decommissioning Plan. A Radiation Hazardous Work Permit (RHWP) will be used to control work and specify PPE and monitoring requirements based on the radiological and hazardous conditions of the work area. Implementation of this plan is not anticipated to encounter conditions requiring different work controls from decommissioning work that has already been performed.

5.0 REMEDIATION PLAN

Following delineation of the soil contamination, soil will be excavated both laterally and vertically until samples demonstrate that release criteria have been satisfied. Soil will be manually excavated using conventional tools and techniques such as shovels, picks, etc. and placed in containers for shipment offsite to either a processor or direct to burial. Work controls will be implemented to prevent the spread of contaminated soil and to ensure workers are properly protected.

6.0 FINAL STATUS SURVEYS

After remediation is completed, Final Status Surveys will be performed in accordance with the approved Final Status Survey Plan (Ref. 2). All areas requiring remediation will be classified as Class 1 Areas.

7.0 REFERENCES

- 1) A Radiological Decommissioning Plan for Radiodiagnostic Manufacturing Facility and Associated Equipment, December 2001.
- 2) Final Status Survey Plan for Radiodiagnostic Manufacturing Operations, E.R. Squibb & Sons, December 2002.
- 3) Bristol-Myers Squibb Former Radiopharmaceutical Production Facility Characterization Survey Report, Duratek, Inc., July 2002.
- 4) Regulatory Guide 1.86, Termination of Operating Licenses for Nuclear Reactors, June 1974.
- 5) NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), August 2000.
- 6) NUREG-1507, Minimum Detectable Concentrations With Typical Radiation Survey Instruments for Various Contaminants and Field Conditions, June 1998.

This is to acknowledge the receipt of your letter/application dated

2/4/2003, and to inform you that the initial processing which includes an administrative review has been performed.

☒ AMEND. 29-00139-02
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 182762.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

: (FOR LFMS USE)
: INFORMATION FROM LTS
: -----
:
: Program Code: 03610
: Status Code: 0
: Fee Category: 3A
: Exp. Date: 20080930
: Fee Comments: _____
: Decom Fin Assur Req'd: Y
: ::::::::::::::::::::::::::::::::::::::

LICENSE FEE TRANSMITTAL

A. REGION *I*

1. APPLICATION ATTACHED

Applicant/Licensee: E. R. SQUIBB & SONS, INC.
Received Date: 20030214
Docket No: 3005222
Control No.: 132762
License No.: 29-00139-02
Action Type: Amendment

2. FEE ATTACHED

Amount: _____
Check No.: _____

3. COMMENTS

Signed *M. A. Perlman*
Date *2/21/2003*

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /___/)

1. Fee Category and Amount: _____

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

Amendment _____
Renewal _____
License _____

3. OTHER _____

Signed _____
Date _____