UNITED STATES DEPARTMENT OF COMMERCE
National Bureau of Standards
Washington, D.C. 20234

March 2, 1981

U. S. Nuclear Regulatory Commission
Attn: Dr. F. D. Fisher
Division of Fuel Cycle and
Material Safety
Washington, DC 20555

Docket No. 70-398
Special Nuclear Materials
License No. SNM-362

Gentlemen:

We respectfully request a waiver to your Order to Modify License, dated February 11, requiring the National Bureau of Standards to develop a radiological contingency plan. We believe that the activities at NBS governed by SNM License No. SNM-362 are such that the potential for employee exposures or for offsite radiation doses as described in your Enclosure 2 is negligible. A description of our activities and an evaluation of the potential relative to your criteria is attached.

Please note that future correspondence is to be directed to me as the responsible officer for this license, as explained in our letter to the Nuclear Regulatory Commission, dated May 27, 1980. A copy of this letter is also attached. If you should need further information on the particulars of this response to your order, please contact Mr. T. G. Hobbs or Mr. L. A. Slaback, both of whom can be reached at 921-2247.

Thank you for your attention to this request.

Sincerely,

Lyman E. Pevey

Lyman E. Pevey
Chief, Occupational Health
and Safety Division

cc:
Document Management Branch

2 Enclosures

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Attachment to March 2, 1981, Request for Waiver of USNRC Requirement for Radiological Contingency Plan at the NBS

Special nuclear material (SNM) at NBS is used in a number of activities. For the purposes of this analysis, to show that no radiological contingency plan is necessary, those activities can be separated into three categories: miscellaneous research and development, and preparation and distribution of sources; chemical and isotopic standard reference material (SRM) preparation; and chemical and isotopic SRM storage.

The criteria used for review of these areas are those in the Order:

(i) excessive offsite radiation doses,
(ii) chemical exposures with radiological impact, and
(iii) employee overexposures.

I. The miscellaneous activities include such operations as use of Pu-Be neutron sources, preparing and using deposits of micro- and milligram quantities on substrates, use of curie-level activities as sealed sources, and the preparation and distribution of radioactivity counting sources that involve measurements by disintegration rates rather than mass since quantities are so low. The operations are reviewed prior to initiation by Health Physics and appropriate safety techniques are implemented. The techniques could include protective clothing, absolute filtered hoods or glove boxes, long-tong handling, and/or others, depending on the operation. The probability for any effect as noted in the Order is negligible.

II. SRM preparations involve chemical processes with up to one gram of uranium varying from depleted to 99% enriched, or up to ten milligrams of plutonium. The processes are, for uranium, relatively simple, e.g., dissolving and radioassay. For plutonium, ion exchange separations and plating onto mass spectrometer filaments are typical processes. Uranium feed stock, as U_3O_8 powder, up to a nominal one kilogram in one of the variety of enrichments offered for sale, is subdivided into packaged units of one gram of uranium each. Only one feed stock, or "bulk" material, container is in the area at one time. The unused bulk material and the packaged units are returned to storage after packaging is complete.

Health Physics reviews are required for these processes, and appropriate safety techniques are implemented. These could include absolute filtered hoods or glove boxes, protective clothing, constant health physics surveillance, etc. Again, the probability for any effect as noted in the Order is negligible.

III. SRM storage is in a vault-type room with steel shelves lagged into the walls of the room. Steel dividers in the shelves separate material types. Packaged stock is stored in the front half of the room. Low enrichment uranium bulk material is stored in the rear, with the work vessels and a few packages for historical purposes for each uranium enrichment category. High enrichment bulk material is stored off-site. Additional storage is provided in shipping drums placed down the center of the room.

All material in the room is maintained in containers. Bulk material is in tamper-safed bottles and packaged samples in sealed, identified, unit containers. One bottle of bulk material may be moving at one time. Filling sample orders involves removing the designated number of packages from the specified SRM package bin.

A maximum of 500 ml of liquid can be stored, in a sealed container, in one bin used for miscellaneous materials; these miscellaneous materials are restricted to maxima of 200 grams of uranium and one gram of plutonium. These materials are rarely disturbed except for inventory, which is limited to visual examination of container identifications.

A criticality alarm is in the room. However, the possibility of creating a critical mass is remote, given the individual sample packaging, the separation in bins, the absence of liquids for reflection or radioactive material dispersion, the security of the vault door, and the administrative controls over materials handling in the room, including the requirement for at least two persons to be present. The possibility of radioactive material release is likewise remote. Therefore, the probability for any effect as noted in the Order is negligible.

UNITED STATES DEPARTMENT OF COMMERCE
National Bureau of Standards
Washington, D.C. 20234

May 27, 1980

Docket Nos. 30-3918, 30-6894, 30-3919, 30-9796, 3 -11675, 40-4348, 70-398

U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Change in Designation of Responsibility for NRC Licenses Nos. 08-00566-05, 08-00566-10, 08-00566-11G, 08-00566-12, 08-00566-13E, 08-01943-03, SMB-405, SNM-362

Gentlemen:

Attached is a copy of an Administrative Bulletin of the National Bureau of Standards showing designation of responsibilities for NBS in NRC license matters.

Please address future communications on the byproduct, source, and special nuclear materials licenses shown above to my attention.

Thank you for your cooperation in this matter.

Sincerely,

Lyman E. Pevey
Chief, Occupational Health
and Safety Division

Attachment

cc:
D. A. Nussbaumer, Assistant Director
for Material Safety & Licensing

V. L. Miller, Chief
Material Licensing Branch

C. E. MacDonald, Chief
Transportation Certification Branch

G. W. McCorkle, Chief
Physical Security Licensing Branch

J. G. Partlow, Chief
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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
WASHINGTON - BOULDER

ADMINISTRATIVE BULLETIN

80-21 Safety

May 19, 1980

☐ Action
☒ Information

Distribution
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Designation of Responsibility at NBS for Matters Involving the NRC

Effective immediately, the Chief, Occupational Health and Safety Division (354), has overall responsibility for matters involving the position of NBS as a licensee of the Nuclear Regulatory Commission (NRC), excluding the NBS Research Reactor and NBS/Boulder.

The Chief, Reactor Radiation Division, continues to have overall responsibility for matters involving the position of the NBS Research Reactor as a licensee of the NRC.

The Director, NBS/Boulder Laboratories, is responsible for matters involving the position of NBS/Boulder as a licensee of the NRC.