



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 14, 2021

Dr. Robert Dimeo, Director
National Institute of Standards and Technology
NIST Center for Neutron Research
U.S. Department of Commerce
100 Bureau Drive, Mail Stop 8561
Gaithersburg, MD 20899-8561

SUBJECT: NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY –
ACCEPTANCE OF THE APPLICATION FOR A LICENSE AMENDMENT RE:
REQUEST FOR LICENSE AMENDMENT AND ADJUSTMENT OF TRITIUM
EFFLUENT VALUES FOR D₂ COLD SOURCE UNDER TITLE 10 OF THE
CODE OF FEDERAL REGULATIONS 20.1302(c) (EPID L-2021-LLL-0004)

Dear Dr. Dimeo:

By letter dated December 11, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21053A038), as supplemented by letter(s) dated October 11, 2020, and December 7, 2020 (ADAMS Accession Nos. ML21053A039, and ML21053A040 respectively), the National Institute of Standards and Technology (NIST) applied for an amendment to Facility Operating License No. TR-5 for the National Bureau of Standards Test Reactor.

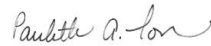
The license amendment request (LAR) proposes for a new method of evaluation to adequately evaluate the tritium (HT) (and by inference, tritiated deuterium (D₂) or DT) dose from a hypothetical release of gaseous DT. Specifically, the NIST requested, in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 20.1302, "Compliance with dose limits for individual members of the public," paragraph (c) to adjust the Derived Air Concentration value for HT in Appendix B to 10 CFR Part 20, "Standards for Protection against Radiation," and approval for use of the actual chemical characteristics of gaseous DT in using the gaseous HT dose conversion factor adopted by the International Commission on Radiological Protection (ICRP) and published in ICRP Publication 66 (ICRP-66). The ICRP-66 value is to be used to determine an individual's dose and to demonstrate compliance with the occupational dose limit from potential exposure to tritiated water as a result of replacing the current liquid hydrogen source with a new liquid D₂ cold source to be installed in 2023.

The U.S. Nuclear Regulatory Commission (NRC) staff performed an acceptance review of the LAR and concluded that it includes sufficient information for the NRC staff to begin its detailed technical review. Our acceptance review has also concluded that, in addition to a license amendment, an exemption in accordance with 10 CFR 20.2301, "Applications for exemptions," from the requirements of 10 CFR 20.1201, "Occupational dose limits for adults," paragraph (d) and an associated environmental assessment will be completed by the NRC. Notwithstanding the acceptance review, the NRC staff may require additional information to complete the detailed technical review. If needed, the NRC staff will request this information by separate correspondence within approximately 90 days of the date of this letter.

Based on the acceptance review, the NRC staff expects to complete its review and make a final determination on the LAR by June 30, 2022. This date could change due to several factors, including requests for additional information, unanticipated changes to the scope of the review, unsolicited supplements to the LAR, and others. If the forecasted date changes, the NRC staff will notify you in writing of the new date and an explanation of the reason for the change. Please reference the above EPID in future correspondence related to this request.

If you have any questions, please contact me at (301) 415-5656, or by electronic mail at Paulette.Torres@nrc.gov.

Sincerely,



Signed by Torres, Paulette
on 06/14/21

Paulette Torres, Project Manager
Non-Power Production and Utilization Facility
Licensing Branch
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

Docket No 50-184
License No. TR-5

cc: See next page

National Institute of Standards and Technology

Docket No 50-184

cc:

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President
Montgomery County Council
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Test, Research and Training
Reactor Newsletter
Attention: Amber Johnson
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Dr. Thomas H. Newton, Deputy Director
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NRR-106

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DATE	6/3/2021	6/4/2021	6/14/2021	6/14/2021

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