



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

August 6, 2020

Dr. Thomas Newton, Deputy Director
Chief of Reactor Operations and Engineering
NIST Center for Neutron Research
National Institute of Standards and Technology
100 Bureau Drive, Mail Stop 8561
Gaithersburg, MD 20899-8561

**SUBJECT: NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY RE:
APPROVAL OF THE PHYSICAL SECURITY PLAN FOR THE CENTER FOR
NEUTRON RESEARCH (EPID L-2019-LLA-0221)**

Dear Dr. Newton

By letter dated October 11, 2019 (Agencywide Documents Access and Management System Accession No. ML19289A494), the National Institute of Standards and Technology (NIST) Center for Neutron Research submitted changes to its physical security plan (PSP) under Sections 73.60, "Additional requirements for physical protection at nonpower reactors," and 73.67, "Licensee fixed site and in-transit requirements for the physical protection of special nuclear material of moderate and low strategic significance," of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 73, "Physical Protection of Plants and Materials."

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the NIST's revised PSP and concludes that the revised PSP is in compliance with the applicable regulations contained in 10 CFR Part 73, and is consistent with the Regulatory Guide 5.59, "Standard Format and Content for a Licensee Physical Security Plan for the Protection of Special Nuclear Material of Moderate or Low Strategic Significance."

We request that NIST continue to implement its approved PSP. A copy of the NRC staff's safety evaluation is enclosed.

If you have any questions regarding the NRC staff's review, please contact me at (301) 415-1404, or by electronic mail at Xiaosong.Yin@nrc.gov.

Sincerely,

/RA/

Xiaosong Yin, 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

Enclosure:
As stated

cc:

Environmental Program Manager III
Radiological Health Program
Air & Radiation Management Adm.
Maryland Dept of the Environment
1800 Washington Blvd, Suite 750
Baltimore, MD 21230-1724

Director, Department of State Planning
301 West Preston Street
Baltimore, MD 21201

Director, Air & Radiation Management Adm.
Maryland Dept of the Environment
1800 Washington Blvd, Suite 710
Baltimore, MD 21230

Director, Department of Natural Resources
Power Plant Siting Program
Energy and Coastal Zone Administration
Tawes State Office Building
Annapolis, MD 21401

President
Montgomery County Council
100 Maryland Avenue
Rockville, MD 20850

Test, Research and Training
Reactor Newsletter
P.O. Box 118300
University of Florida
Gainesville, FL 32611

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 6101
Gaithersburg, MD 20899-6101

SUBJECT: NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY RE:
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ADAMS Accession No.: ML20218A547***concurrent by e-mail****NRR-106**

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**UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

PROPOSED PHYSICAL SECURITY PLAN CHANGES

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

NATIONAL BUREAU OF STANDARDS TEST REACTOR

DOCKET NO. 50-184

1.0 INTRODUCTION

By letter dated October 11, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19289A494), National Institute of Standards and Technology (NIST) submitted an application to amend its Facility Operating License Number R-184. The requested amendment would modify a portion of the NIST National Bureau of Standards test reactor physical security plan (PSP). The proposed changes revise the disposition of the security force and clarifies the roles and responsibilities of the security force at the NIST facility, to include the reactor facility. The details of the licensees' analysis of the proposed changes are considered Safeguards Information – Modified Handling and can be found in the Safeguards Information Local Area Network and Electronic Safe.

2.0 REGULATORY EVALUATION

This safety evaluation addresses the impact of the proposed changes on the NIST security force and its ability to still meet the protective strategy approved by the U.S. Nuclear Regulatory Commission (NRC). The regulatory requirements and confirmatory action letter (CAL) dated October 28, 2002 (ADAMS Accession No. ML022810523), commitments on which the NRC staff based its acceptance are as follows:

2.1 Regulations

Title 10 of the *Code of Federal Regulations* (10 CFR) 73.67, "Licensee fixed site and in-transit requirements for the physical protection of special nuclear material of moderate and low strategic significance," sets forth PSP requirements for licensees using, possessing, or transporting special nuclear material (SNM) of moderate or low strategic significance. The regulations in 10 CFR 73.67(d) states, in part, that licensees shall:

- (8) Establish a security organization or modify the current security organization to consist of at least one watchman per shift able to assess and respond to any unauthorized penetrations or activities in the controlled access areas,
- (9) Provide a communication capability between the security organization and appropriate response force,

Enclosure

(11) Establish and maintain written response procedures for dealing with threats of thefts or thefts of these materials.

Section 73.60(f) of 10 CFR specifies that the Commission may require additional measures deemed necessary to protect against radiological sabotage at nonpower reactors licensed to operate at or above a power level of 2 megawatts thermal. These additional measures were included in "Site Specific Interim Compensatory Measures for Physical Security in the Current Threat Environment at Research and Test Reactors Licensed to Operate at Power Levels Greater or Equal to 2.0 Megawatts."

2.2 Guidance

Revision 1 to Regulatory Guide (RG) 5.59, "Standard Format and Content for a Licensee Physical Security Plan for the Protection of Special Nuclear Material of Moderate or Low Strategic Significance," issued in February 1983, explains the various provisions and requirements with respect to the physical protection of licensed activities against radiological sabotage or theft or diversion of SNM that could be used to meet the requirements of 10 CFR 73.67. RG 5.59 describes the capabilities of a security organization to detect and respond to attempts of unauthorized access. The RG 5.59 also gives guidance on responding to security events and communication procedures for contacting offsite response forces.

The RG 5.59 also specifies that security procedures may also be used to protect against theft of SNM, including random patrols by a watchman, in conjunction with detection devices. This defense in depth approach ensures early detection as required by 10 CFR 73.67 and described in RG 5.59.

3.0 TECHNICAL EVALUATION

3.1 Background

The current NRC-approved PSP is based on RG 5.59 and was approved by letter dated May 5, 1983, as part of license renewal approved by the staff on July 2, 2009. The licensee's plan describes, in part, how early detection is achieved through support of security personnel, and detection devices. The plan also describes how assessment and response to the controlled access area are achieved with the security force onsite, and with procedures for off-site assistance.

The proposed change revises the structure of the security force and describes the roles and responsibilities of the security personnel on the NIST campus and located at the reactor facility.

3.2 Evaluation

The NRC staff's review determined the proposed procedures meet the requirements in 10 CFR 73.67 for security organization structure, response capabilities, and coordination with response forces. The proposed changes meet the guidance for security organizations as described in RG 5.59.

The NRC staff's review also determined the proposed procedures meet the requirements in 10 CFR 73.60(f) for the protection against radiological sabotage, as well as, commitments made

in letter dated September 24, 2002, by which NIST described the implementation of compensatory measures as referenced in the CAL.

4.0 CONCLUSION

The NRC staff has concluded, based on the considerations discussed above, that with respect to the proposed amendment requests: (1) there is reasonable assurance that the health and safety of the public and common defense of the nation will not be endangered by granting said amendment; (2) such activities will be conducted in compliance with the Commission's regulations; and (3) the approval of this amendment will not be inimical to the common defense and security or the health and safety of the public. The NRC staff has determined that incorporation of the proposed change continues to meet the standards of 10 CFR Part 73, "Physical Protection of Plants and Materials."

Principal Contributor: E. Reed, NRR

Date: August 6, 2020