



Department of Energy
National Nuclear Security Administration
Washington, DC 20585



JAN 14 2011

MEMORANDUM FOR KEVIN W. SMITH
MANAGER, LOS ALAMOS SITE OFFICE

FROM: DONALD L. COOK
DEPUTY ADMINISTRATOR
FOR DEFENSE PROGRAMS

SUBJECT: Approval of Request for Relief from Specific Fire Protection Requirements in Department of Energy Order 420.1B, *Facility Safety* for the Los Alamos National Laboratory Nuclear Weapons Training Facility

- REFERENCES:
- (1) Memorandum, Donald L. Winchell, Jr. to Brigadier General Garrett Harencak, Subject: *Request for Approval of Permanent Exemption Request (LANL-DOE-Order-420.1B-EX-2010-001, R.1) for Los Alamos National Laboratory Buildings TA-41-1 and TA-41-6; Lack of Automatic Fire Extinguishing System, Lack of a Reliable Fire Protection Water Supply, Lack of a Fire Alarm System, and Non-Compliant Means of Egress, as Required by DOE-O-420.1B, dated June 28, 2010*
 - (2) LANS Letter PCM-10-125, from Mike Rafferty, Prime Contract Chief, LANS, to Contracting Officer, LASO, Subject: *Revised Request for Temporary Equivalency Approval to DOE Order 420.1B and NFPA 101 Requirements for Los Alamos National Laboratory (LANL) Buildings TA-41-1 and TA-41-6; Lack of an Automatic Fire Extinguishing System, Lack of a Reliable Fire Protection Water Supply, Lack of a Fire Alarm System, and Non-Compliant Means of Egress, (LANL-DOE-ORDER-420.1B-EX-2010-001, R.1), dated June 15, 2010*
 - (3) STO SO No. 2008-OPS-FOD-004, LANL STO Standing Order No. 2008-OPS-FOD-004, R3, *TA4I-0001 Tunnel Operations*, Revision 3, dated June 17, 2010

Based on the evaluation conducted by the Office of Nuclear Safety and Governance (NA-171), I approve the subject exemption request. As required by Department of Energy (DOE) Order (O) 420.1B, comments were solicited from the Office of Health, Safety, and Security (HSS); no objections were noted.



CIRCUMSTANCES

The Nuclear Weapons Training Facility supports training programs for National Nuclear Security Administration (NNSA) and others in the intelligence community, including Department of Defense and the Department of Homeland Security. TA-41 is intermittently occupied during training; it allows small groups of visitors “hands-on” opportunities to study a wide range of historical models and displays from the US weapons design inventory. However, TA-41 does not meet DOE O 420.1B fire protection design requirements, specifically:

- Chapter II ¶13 c (1) - *A reliable and adequate supply of water for fire suppression*
- Chapter II ¶13 c (4) - *Automatic fire extinguishing systems [in areas with] fire loss potential in excess of limits defined by DOE.*
- Chapter II ¶13 c (7) - *A means to notify emergency responders and building occupants of a fire (e.g., fire alarm or signaling system)*
- Chapter II ¶13 c (8) - *Emergency egress ... for safe facility evacuation in the event of fire as required by applicable codes or fire hazard analysis.*

Los Alamos National Security recently upgraded and reactivated the previously disabled fire detection and alarm system. This action will result in compliance with DOE O 420.1B Chapter II ¶13 c (7). Also, it will improve the level of protection afforded to building occupants similar to that intended by the National Fire Protection Association (NFPA) *Life Safety Code*, resulting in compliance with DOE O 420.1B Chapter II ¶13 c (8).

Because of the training material inventory, the maximum possible fire loss (MPFL) for TA-41 exceeds \$3,000,000 (the DOE threshold where automatic fire suppression is required). Due to inherent hazards associated with maintaining the water supply lines in the canyon, the existing fire water supply infrastructure has been abandoned in place and remains impaired. Long term, Los Alamos National Laboratory (LANL) intends to house nuclear weapons training in a new facility and does not anticipate restoring the capabilities of the TA-41 structure if destroyed by fire.

SAFETY ASSURANCE

The Los Alamos Site Office (LASO) conditions of approval (Reference 1), the LANL formal Standing Order (Reference 3) which is attached, and the approved Facility Safety Plan limit tunnel activities, facility usage, the number of visitors, and combustible materials in TA-41. The formal Standing Order requires dedicated fire watch during training, access control, and monthly inspections for combustibles. The installation of a remotely-monitored automatic smoke detection and alarm systems within TA-41-1 will ensure early warning to occupants, prompt evacuation, and fire department dispatch in the event of a fire.

Given the expected remaining operational facility life-cycle, the limited use of the facility, and the compensatory measures, facility upgrades (automatic fire suppression and fire suppression water supply) to meet DOE O 420.1B requirements are not necessary in order to achieve the underlying purpose of the requirement. Therefore, the

costs and risks associated with those upgrades are not justified. The proposed compensatory actions and the upgrade of the fire alarm and detection system provide a sufficient level of protection for the facility occupants and the historically-significant contents. Thus, the request for permanent exemption meets the approval criteria required in DOE O 251.1C, *Departmental Directives Program*:

- a. *[it] is not prohibited by law;*
- b. *would not present an undue risk to public health and safety, the environment, facility workers, or security; and*
- c. *is warranted under the circumstances.*

LASO will continue to monitor status of funding and project development, including design and construction schedule for the proposed replacement facility.

TERMS AND CONDITIONS

The following terms and conditions apply to this approval:

1. Continue to fully implement compensatory measures (including those pertaining to combustible load and occupancy limits) as specified by LASO in Reference 1;
2. LASO must verify that the recently installed remotely-monitored automatic smoke detection and fire alarm system within building TA-41-1 complies with NFPA 72, *National Fire Alarm Code*;
3. The Standing Order (Reference 3) must remain in effect; any changes to it must be approved by LASO; and
4. Provide recurring fire department tours to ensure facility familiarity remains high.

If you have any questions, please contact Mr. James McConnell at (202) 586-4379, or have your staff contact Sharon Steele at (202) 586-9554.

Attachment

cc: J. McConnell, NA-17
D. Nichols, NA-2.1
F. Russo, NA-3.6
J. O'Brien, HS-21