



NATIONAL TRAINING CENTER

Protective Force Training Department

Standard Operating Procedure

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REVISION HISTORY

Rev.	Date	Description of Revision
12	See Final Signature	See Appendix M.
11	08/25/22	See Appendix M.
10	01/11/21	See Appendix M.
9	01/10/20	See Appendix M.
8.1	09/05/19	See Appendix M.
8	07/03/19	See Appendix M.
7.2	02/05/19	See Appendix M.
7.1	10/19/18	See Appendix M.
7	05/07/18	See Appendix M.
6	04/10/17	See Appendix M.
5.4	02/22/17	See Appendix M.
5.3	12/06/16	See Appendix M.
5.2	11/07/16	See Appendix M.
5.1	07/21/16	See Appendix M.
5	04/26/16	See Appendix M.
4.1	01/07/16	See Appendix M.
4	06/04/15	See Appendix M.
3.1	03/07/13	See Appendix M.
3	02/28/13	See Appendix M.
2	01/07/11	See Appendix M.
1	06/29/09	See Appendix M.
0	09/27/08	Original procedure approved.

1.0 PURPOSE

This document assigns responsibilities and establishes the procedures and requirements for the safe operation of the U.S. Department of Energy (DOE) National Training Center (NTC) Integrated Safety and Security Training and Evaluation Complex (ISSTEC). All ISSTEC training will be conducted in accordance with DOE Order 473.2A, *Protective Force Operations*; this document; approved NTC course lesson plans; approved exercise plans; and the *ISSTEC Training Risk Analysis Report*.

ISSTEC operations include training, demonstrations, rehearsals, testing and evaluations, and dry-run exercises involving engagement simulation systems (ESS) under both day and night conditions.

2.0 SCOPE

This document applies to all individuals authorized to use the ISSTEC facilities.

3.0 CANCELLATION

This document supersedes PFT-SOP-643, *ISSTEC Operations*, dated August 2022.

4.0 REFERENCES

- 4.1 DOE Order 231.1B Admin Chg 1, *Environment, Safety, and Health Reporting*
- 4.2 DOE Order 473.2A, *Protective Force Operations*
- 4.3 DOE-STD-1212-2019 Chg Notice 1 (2021), *Explosives Safety*
- 4.4 American National Standards Institute (ANSI)/International Safety Equipment Association (ISEA) Z87.1-2020, *American National Standard for Occupational and Educational Personal Eye and Face Protection Devices*
- 4.5 AFM 91-201, *Explosives Safety Standards*
- 4.6 PFT-SOP-644, *Live Fire Range Operations*
- 4.7 PFT-SOP-647, *Armory Operations*
- 4.8 ESH-PM-505, *NTC Worker Safety and Health Program Plan*
- 4.9 ESH-SOP-501, *Safety Management System*
- 4.10 ESH-GP-516, *Accident Reporting and Investigation*
- 4.11 ESH-GP-527, *Occurrence Reporting*
- 4.12 ESH-GP-531, *Risk Analysis*
- 4.13 ESH-GP-536, *Shop Operations and General Maintenance*

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

- 4.14 ESH-GP-538, *Pandemic Control Plan*
- 4.15 ESH-GP-549, *Storage, Transportation, and Use of Explosives*
- 4.16 ESH-GP-552, *Inclement Weather Restrictions*
- 4.17 *ISSTEC Training Risk Analysis Report*
- 4.18 DOE Form 5484.3, *Individual Accident/Incident Report*

5.0 DEFINITIONS

- 5.1 DYE MARKING CARTRIDGE (DMC)–MODIFIED FIREARM. Firearm that has been temporarily modified or designated as a permanent DMC weapon that feeds, fires, and functions DMC ammunition. A firearm modified with the conversion kit reduces the ability to feed and fire lethal ammunition. All NTC firearms and magazines designated for DMC weapon systems are color-coded BLUE.
- 5.2 ESS TRAINING AREAS. Areas where ESS training is permitted. These areas include, but are not limited to, approved areas of No Sweat Blvd., Area 4, and the entire ISSTEC facility. Such training areas are inspected to ensure they are free of live ammunition, unconverted weapons, unmarked magazines, edged or impact weapons and oleoresin capicum (OC) canisters (also known as “pepper spray”). In addition, all participants will be searched for the above contraband items prior to entering the training area.
- 5.3 ESS TYPES:
 - A. MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES). Blank-fire system equipped with laser transmitters that pulse in response to the noise or vibration of a cartridge firing. Participants wear harnesses and head gear equipped with laser sensors that detect and respond to laser energy.
 - B. DYE MARKING CARTRIDGE (DMC) SYSTEMS. Systems that consist of specially modified handguns, machine guns, and rifles using a replacement upper receiver, and non-lethal lightweight hollow plastic projectiles containing a colored, nontoxic marking compound designated to allow realistic decisional shooting situations during training activities.
 - C. HYBRID DYE MARKING CARTRIDGE ESS FIREARM. Firearm that has been modified or designated by a DOE-certified gunsmith as a “DMC” weapon and feeds and functions DMC and blank ammunition. The modification reduces the ability for a live round to chamber in the weapon. Additionally, the weapon is mounted with a MILES transmitter. Hybrid firearms are marked both BLUE and ORANGE.
 - D. BLANK FIRE SYSTEM. Blank fire equipment consisting of specially modified firearms (that cannot fire live ammunition or projectiles) and blank fire cartridges (loaded with powder but containing no projectile) designed to provide realism during training.
 - E. INERT WEAPONS. Weapons modified to prevent the acceptance or firing of any type of ammunition.

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- F. OTHER TYPES OF ESS. Types of ESS and associated equipment that may be used during training activities at the ISSTEC to simulate adversary and PF actions and real world incidents.
 - a. Pyrotechnics and smoke generators may be deployed to simulate fires and chemical agents.
 - b. Hand-thrown smoke grenades may be used to cover adversary and PF tactics or to provide diversions.
 - c. Practice or inert grenade systems can be used to simulate thrown explosives and can be followed by noise/flash diversionary devices, air horns, and other devices to simulate explosions.
 - G. TRAINING AIDS. Aids (e.g., mock firearms and simulated edged weapons) that have the appearance and handling characteristics of real weapons but are readily distinguishable from actual weapons. These mock weapons are comprised of a homogenous material incapable of accepting any form of magazine, feeding device, ammunition, or projectile, and are readily identifiable from a distance or in low-light conditions from live firearms or actual edged weapons. These training aids must be distinctly color-coded for identification purposes.
- 5.4 INSTRUCTOR. Individual qualified and responsible for providing instruction to students and conducting demonstrations at the ISSTEC facilities.
- a. NTC instructors must be approved by the Protective Force Training Department (PFTD) Manager.
 - b. Non-NTC instructors must be approved by the Range Master or designee, and must be listed on an approved RUA.
- 5.5 LEAD INSTRUCTOR. For the purpose of this procedure, individual responsible for conducting approved training activities held at the ISSTEC facilities and ensuring adherence to this procedure during use of the ISSTEC facilities.
- 6.0 POLICY
- A. **NO LIVE WEAPONS OR AMMUNITION WILL BE PERMITTED ON THE ISSTEC SITE.** Live weapons and ammunition must be stored away from the ISSTEC premises in an approved manner according to each user organization's procedures.
 - B. **ONLY** operational Sandia protective force personnel are permitted to carry live weapons and/or ammunition onto the ISSTEC site (e.g., when performing routine checks of ISSTEC facilities or in the event of an emergency or alarm response). If this should occur during training operations, the Lead Instructor will immediately suspend all training activities (call a "CEASE FIRE" and declare an "exercise freeze"), notify the protective force personnel of the activities, secure all ESS weapons and ammunition, and allow the protective force personnel to proceed.
 - C. All Federal, state, and local (law enforcement or military) agencies must have a current RUA with the NTC to use the ISSTEC facilities.

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- D. ESS training will be conducted in accordance with applicable DOE requirements, this procedure, approved lesson plans, exercise guides, and training plans. NTC ESS activities are conducted for training purposes only and not for actual performance testing as described in DOE O 473.2A. Specific safety briefings must be developed and provided prior to conducting each training activity.
- E. Visitors must have authorization from the Range Master (or designee) and the PFTD Manager (or designee) to enter the ESS training area solely to observe training activity. The Range Master or PFTD Manager are responsible for notifying the General Manager in advance of visitors on site. Approval from the Range Master (or designee) or ISSTEC/LFR Technology Manager must be obtained before any observation activities can be conducted.
- F. All significant safety violations must be reported, documented, and investigated by the NTC. Failure to comply could result in the suspension or termination of an organization's RUA.
- G. All work at the NTC will be conducted in accordance with DOE Safety Management System. It is NTC policy to incorporate safety into the planning and execution of all work and to ensure safety from hazards for NTC workers, visitors, and the environment. The NTC will implement appropriate controls for hazards that cannot be totally removed.
- H. Activities will comply with NTC health and safety guidelines (e.g., ESH-GP-538). These guidelines apply to all Federal employees, NTC contractor employees, and visitors at ISSTEC facilities.
- I. Alcoholic beverages and drugs are prohibited on NTC facilities. Students suspected of being under the influence of drugs, alcohol, or medication will be removed from ISSTEC activities until resolved.
- J. Physical security systems testing and evaluation, protective force equipment testing, and hazard evaluations will be evaluated on a case-by-case basis and must be approved by the NTC Director or designee.
- K. Photography and videography are prohibited at the ISSTEC facility unless specifically authorized by the NTC Director or designee.
- L. NTC ISSTEC activities conducted outside of the ISSTEC fence line must be coordinated with the Range Master (or designee).
- M. Climbing on any fence at the ISSTEC is strictly prohibited.

7.0 RESPONSIBILITIES

Although each individual is responsible for their duties listed in this section, these duties may be delegated to another individual who is equally qualified to perform the same function.

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All personnel have the authority to call a stop work for unsafe operations being conducted at the ISSTEC facility. Immediate notifications will be made to the Lead Instructor, Range Master, PFTD Manager, and the LFR Safety Specialist.

7.1 NTC General Manager

The NTC General Manager is responsible for ensuring that all applicable activities conducted at the ISSTEC are in compliance with the requirements of this document.

7.2 Range Master

The Range Master is responsible for the safe operation of the ISSTEC facility. This involves being knowledgeable of all risk analysis reports relative to the ISSTEC and ESS operations and adhering to all safety and security requirements.

7.2.1 Ensures RUAs for all ISSTEC users are current and signed.

7.2.2 Ensures a yellow flag is displayed when access to the facility is limited for maintenance or medical emergency conditions. ESS activities will be prohibited when a yellow flag is displayed.

7.2.3 Supervises the ISSTEC/LFR Technology Manager in the following:

- a. Receives and ensures proper storage of required equipment and supplies sent to the ISSTEC facility.
- b. Reviewing written procedures governing ESS operations at the ISSTEC to ensure they are both current and consistent with other NTC internal directives.
- c. Ensuring all NTC training department instructors are familiar and in compliance with the requirements outlined in this document and its referenced procedures.
- d. Overseeing projects to ensure work is accomplished in accordance with the statement of work.

7.2.4 Ensures only authorized personnel use or maintain ISSTEC electrical or mechanical systems (e.g., heating, ventilating, and air-conditioning [HVAC] systems; computer and audiovisual systems; and electrical and plumbing systems).

7.2.5 Issues appropriate keys for ISSTEC use during non-duty hours to approved users.

7.3 Assistant Range Master

The Assistant Range Master serves as the designee to the Range Master and completes tasks as assigned.

7.4 PFTD Manager

The PFTD Manager is responsible for safe ESS training at the ISSTEC facility during NTC PFTD courses.

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This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

- 7.4.1 Reviews written procedures governing ESS operations at the ISSTEC to ensure they are both current and consistent with other NTC internal directives.
- 7.4.2 Ensures all NTC training department instructors are familiar and in compliance with the requirements outlined in this document and its referenced procedures.

7.5 ISSTEC/LFR Technology Manager

The ISSTEC/LFR Technology Manager is responsible for the day-to-day safety and maintenance of the ISSTEC facilities. Specific responsibilities include the following:

- 7.5.1 Ensures only approved ESS weapons, targets, and supplies are used at the ISSTEC during training.
- 7.5.2 Ensures all equipment is maintained in safe working order and all required materials are available.
- 7.5.3 Coordinates with the Range Master (or designee) for required protective force training equipment, materials, and supplies when necessary.
- 7.5.4 Performs periodic inspections of the ISSTEC facility and advises the appropriate staff of necessary maintenance and repair requirements.
- 7.5.5 Performs monthly inventory of ESS ammunition stored at the ISSTEC.
- 7.5.6 Conducts an ISSTEC orientation for new instructors and ISSTEC users with current RUAs.
- 7.5.7 Ensures all personnel working or training at the ISSTEC receive a safety briefing prior to beginning activities.
- 7.5.8 Monitors radio Channel B4 for notification of non-NTC, offsite emergencies.
- 7.5.9 Maintains the following ISSTEC documents:
 - a. ISSTEC Use Logs (Appendix A)
 - b. ISSTEC Pre/Post-Activity Statements and Reports as required
 - c. Key issue control and key logs
 - d. Building 9820 Pre- and Post-Training Walk-Through Form (Appendix K)
- 7.5.10 Coordinates with the Range Master (or designee) on training activities conducted outside of the ISSTEC that require coordination with the Kirtland Air Force Base (KAFB) Controlled Firing Area Committee (CFAC).
- 7.5.11 Coordinates delivery of equipment, materials, and supplies to the ISSTEC with delivery personnel, the Range Master (or designee) and the LFR Operations Administrative Assistant.
- 7.5.12 Enforces ISSTEC vehicle operations and parking requirements.

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- 7.5.13 Assists with the completion of Risk Analysis Compliance Review (RACR) forms for ISSTEC activities and submits them to the Range Master (or designee).
- 7.5.14 Ensures a yellow flag is displayed when access to the facility is limited for maintenance or medical emergency conditions. ESS activities will be prohibited when a yellow flag is displayed.
- 7.5.15 Ensures a blue and orange flag is displayed when ESS activities are in progress and access to the facility is prohibited. When visibility is limited by weather conditions or darkness, the flashing blue and orange beacon must be used. The flag will be secured and/or the flashing blue and orange beacon will be turned off at the conclusion of ESS activities.
- 7.5.16 Issues appropriate keys/access cards for ISSTEC use during non-duty hours to approved users.

7.6 Lead Instructor

- 7.6.1 Ensures no live ammunition, unconverted or unmarked weapons, unmarked magazines, edged or impact weapons, or chemical agents are allowed into the ISSTEC training area. Live weapons and ammunition must be stored outside of the training area in an approved manner according to each user organization's procedures.
- 7.6.2 Inspects all ESS weapons and magazines to ensure they are properly modified and marked for ESS training use.
- 7.6.3 Before any ESS activities can begin at ISSTEC, ensures the blue and orange flag will be raised. When visibility is limited by weather conditions or darkness, the flashing blue and orange beacon must be used. The flag will be secured and/or the flashing blue and orange beacon will be turned off at the conclusion of ESS activities.
- 7.6.4 Removes the yellow flag only after the Range Master (or designee) inspects the ISSTEC and authorizes its use.
- 7.6.5 Appoints qualified instructors responsible for implementing and enforcing the following requirements during training activities:
 - 1. Establishes and maintains communication with all instructors throughout the duration of training.
 - 2. Conducts a safety inspection of the training area prior to training, ensures proper warning signs and flags are posted, and ensures lights are used for low-light training. During the safety inspection, identifies and marks hazards, hazardous areas, and off-limits areas.
 - 3. Ensures an activity-specific safety briefing is provided to all participants.
 - 4. Ensures a paramedic is available prior to training and releases them when they are no longer required.

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NOTE: The absence of a paramedic may be granted on a temporary basis with prior approval from the NTC Range Master or PFTD Manager, and with notification to the LFR Safety Specialist.

5. Ensures emergency vehicles are not delayed when responding to emergencies in the training area.
6. Ensures all NTC ESS weapon conversions are performed by DOE-certified gunsmiths. For non-NTC weapon conversions, DOE-certified gunsmiths will inspect all converted weapons prior to commencement of training. ESS ammunition will be distributed and loaded within the ESS training area.
7. Informs all participants of the requirement to call a “CEASE FIRE” if they observe a safety violation or unsafe condition, and then declares an “exercise freeze” until the situation is safely resolved.
8. Assigns instructors or support personnel to prohibit unauthorized access to the ESS training area to prevent the introduction of lethal firearms, ammunition, unauthorized personnel, or persons without appropriate personal protective equipment (PPE).
9. Prior to each training operation, briefs participants on the requirements of each scenario and encourages them to ask questions to ensure their complete understanding of the training.
10. Prior to conducting ESS training, ensures an approved risk analysis report is in effect that identifies all potential hazards associated with the training and the necessary actions to eliminate the hazards or mitigate them to an acceptable level.
 - a. If no risk analysis report exists, prepares one in accordance with ESH-GP-531 and secures the required approvals.
 - b. If scheduled activities are not consistent with usual activities conducted at the ISSTEC facility, ensures the test plan and risk analysis report are submitted to the Range Master at least 4 weeks in advance for review and approval.

7.7 Instructors

- 7.7.1 Ensure no live ammunition, unconverted or unmarked weapons, unmarked magazines, edged or impact weapons, or chemical agents are allowed into the ISSTEC training area. Live weapons and ammunition must be stored outside of the training area in an approved manner according to each user organization's procedures.

NOTE: No ammunition (of any type) is allowed in NTC classrooms.

- 7.7.2 Stop training if unsafe conditions arise.
- 7.7.3 Ensure all students, role players, and visitors are wearing required PPE prior to training.
- 7.7.4 Ensure all participants adhere to specified training boundaries.

NON-PROPRIETARY INFORMATION

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- 7.7.5 Ensure all personnel entering the ESS training area have been inspected for prohibited items (live fire weapons, live ammunition, edged weapons, impact weapons, aerosols, etc.), and verbally report the inspection results to the Lead Instructor prior to training.
- 7.7.6 Prior to the beginning of each scenario, advise the Lead Instructor when their areas are ready.
- 7.7.7 Ensure all participants in their area comply with rules of engagement and training safety requirements.
- 7.7.8 Ensure the accountability of participants, visitors, and equipment at the end of training, and report the results to the Lead Instructor.
- 7.7.9 Declare an “exercise freeze” if safety issues arise, and ensure training does not resume until the issue has been safely resolved.
- 7.7.10 Inspect all ammunition before issuing to exercise participants.
- 7.7.11 Test ESS equipment for operability prior to issue.
- 7.7.12 Collect all ESS firearms, ammunition, and pyrotechnics at the end of training.
- 7.7.13 Ensure prohibited articles found during pre-exercise searches are secured outside of the ISSTEC facility and designated training area.
- 7.7.14 Supervise the loading and unloading of all ESS weapon systems.
- 7.7.15 Supervise the issue and turn-in of ESS equipment and training aids.
- 7.7.16 Monitor radio Channel A4 while at the ISSTEC.

7.8 Armory Staff

All policies and procedures regarding the operation and use of the ISSTEC armories (Buildings 9825C and 9825J) are detailed in PFT-SOP-647 and are enforced at the ISSTEC as they apply to ESS.

7.9 Lead ES&H Specialist

- 7.9.1 Provides safety guidance on course conduct and ISSTEC-related procedures and risk analyses.
- 7.9.2 Conducts inspections and makes recommendations to ensure compliance with applicable DOE directives, codes, standards, and regulations.
- 7.9.3 Submits electronic information of DOE Form 5484.3 for all accidents, incidents, or occurrences in accordance with DOE O 231.1B and ESH-GP-516.
- 7.9.4 Ensures all occurrence reporting and notifications are conducted in accordance with ESH-GP-527, and information is submitted into the Occurrence Reporting Processing System (ORPS) database electronically.

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This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

- 7.9.5 Assesses accidents and incidents, and informs NTC management about those requiring formal investigation.

7.10 LFR Safety Specialist

- 7.10.1 Provides safety guidance on course conduct and ISSTEC-related procedures and risk analyses.
- 7.10.2 Conducts inspections and makes recommendations to ensure compliance with applicable DOE directives, codes, standards, and regulations.
- 7.10.3 Requires students to fill out the PAR-Q form. For students who report being on medication, notifies paramedic of medications being taken by students. The paramedic will then determine if the students are fit for ISSTEC activities based on the medication taken before the students are allowed to participate in training.
- 7.10.4 Responsible for completing and submitting RACR forms to the Range Master for NTC classes and ISSTEC non-NTC users.

7.11 ISSTEC Users and Visitors

Lead instructors are responsible for ensuring ISSTEC users and visitors comply with this procedure, including cleaning up the facilities after training and reporting any damage to the ISSTEC/LFR Technology Manager or Range Master (or designee). Costs to repair damage to equipment or facilities will be reimbursed to the NTC.

- 7.11.1 (ISSTEC Users and Visitors) Follow the directions posted at the main gate, recognize and adhere to all signage within and around the facility, and observe the requirements associated with flags and beacons.
- 7.11.2 (All ISSTEC User Agency Lead Instructors and Visitors) Upon entry or exit from the ISSTEC, sign in and out using the ISSTEC Use Log (Appendix A) located in Building 9825I Entry Control Facility, and enter all appropriate information on the appropriate page.
- 7.11.3 (ISSTEC Users and Visitors) Complete a general orientation provided by the Range Master (or designee) or ISSTEC/LFR Technology Manager.

NOTE: Instructors will conduct course-specific safety briefings prior to training.

- 7.11.4 (All Persons, Vehicles, and Equipment) Prior to entry and re-entry into the ISSTEC, undergo inspection for live weapons, ammunition, and other prohibited items if ESS training is in progress or pending.
- 7.11.5 (Instructors) Ensure all persons entering the ISSTEC are wearing the PPE required for the training to be performed or observed.
- 7.11.6 (Designated Instructor) Escort/control ISSTEC training visitors at all times.
 - a. Search and clear visitors prior to their entry into the ISSTEC training area if ESS training is in progress or pending.

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- b. Provide visitors with required PPE.
- c. Confine visitors to designated observation areas for the duration of the ESS training.

7.11.7 (Delivery Personnel) Coordinate all deliveries with the Range Master (or designee), ISSTEC/LFR Technology Manager, or LFR Operations Administrative Assistant.

8.0 FACILITIES

The ISSTEC is intended to replicate a DOE site. The following list describes the ISSTEC buildings and their function(s):

- Building 9825A: A classroom.
- Building 9825B: ESS weapons cleaning area and maintenance workshop. It is a “No Access – Area Out of Play” building during ESS training.
- Building 9825C: The alarmed storage location for the site’s ESS ammunition. It is a “No Access – Area Out of Play” building during ESS training.
- Building 9825D: A simulated office building or classroom.
- Building 9825E: Indoor restrooms and simulated office building.
- Building 9825F: Main classroom or conference room. It also includes a Central Alarm Station (CAS), the ISSTEC/LFR Technology Manager’s office, and the PFTD instructors’ office. It is a “No Access – Area Out of Play” area during ESS training.
- Building 9825G: Classroom or conference room.
- Building 9825H: An ESS close quarter battle simulator. It is intended to replicate a DOE nuclear facility.
- Building 9825I: The Entry Control Point where all personnel and vehicles enter and exit the facility. It is the ESS exercise access area where personnel are sanitized for prohibited articles.
- Building 9825J: The alarmed storage location for ESS weapons. It is a “No Access – Area Out of Play” building during ESS training.
- Building 9825K: A communications building. It is a “No Access – Area Out of Play” building during ESS training.
- Building 9820: An ESS close quarter battle simulator. It is intended to replicate a residential facility.
- Building 9820A: A storage building. It is a “No Access – Area Out of Play” building during ESS training.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

9.0 ISSTEC GENERAL PRACTICES

9.1 Vehicle Safety

ISSTEC Users: Comply with the following vehicle safety requirements:

1. Vehicles will be used under the direction of NTC instructors.
2. Vehicle operators at the ISSTEC must have a valid motor vehicle license.
3. Vehicle occupants must wear personal restraint systems (e.g., seatbelts).
4. Vehicle operators must adhere to all posted traffic signs.
5. Specialty vehicles used at the ISSTEC (e.g., forklifts) will be operated by personnel who have received appropriate training for such vehicles.
6. Vehicles used for ISSTEC activities will be inspected to ensure the vehicle is in proper condition for its intended use, including an inspection for prohibited articles.
7. Only authorized government vehicles that directly support training activities in progress are allowed on the ISSTEC compound during ESS exercises. All other vehicles will be parked in designated areas outside of the exercise play area and will be locked. Exceptions may be authorized by the ISSTEC/LFR Technology Manager or Range Master (or designee).
8. Students being transported to the ISSTEC must be seated in the vehicles using seat belts and shoulder restraints. Students may not be transported in truck beds.
9. Authorized vehicles in the ISSTEC compound will maintain speeds of 10 mph or less.
10. No one will dismount an exercise vehicle in the ISSTEC until it has come to a complete stop, the transmission is in PARK, the parking brake is set, and the engine is off.
11. All vehicles must be clear of gates before opening or closing gates.

9.2 Communication

- 9.2.1 Two functional, independent forms of communication (e.g., landline phones and radios) are required during all ESS activities. During ESS activities at the ISSTEC, each NTC instructor uses a radio set to channel A-4.
- 9.2.2 Phones for emergency use are located:
 - a. Outside Classroom 9825F
 - b. Outside Building 9825H
 - c. Inside Building 9820

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A lock box (containing a charged radio for emergency use) that can be opened with the ISSTEC key is located next to the phone outside Classroom 9825F.

NOTE: The SNL EOC can be reached using radio channel C-1.

9.2.3 ISSTEC/LFR Technology Manager: Coordinate the placement of the radio in the lock box when off hour and/or weekend use of the ISSTEC has been scheduled with the LFR Operations Administrative Assistant.

9.2.4 When NTC activities are conducted off site, two radios must be set to B-4 (e.g., the radios of the off-site lead instructor and the LFR Operations Administrative Assistant).

NOTE: Channel B-4 is a trunked radio channel used to communicate among activities at various locations outside of the LFR. Channel B-4 will be monitored by the LFR Operations Administrative Assistant, Range Master (or designee), or ISSTEC/LFR Technology Manager.

9.3 Personal Protective Equipment

For PPE requirements, see Appendix J.

9.4 Inclement Weather

When weather conditions may negatively impact ISSTEC activities, the activity will be canceled or suspended until it is safe to resume. Guidance in ESH-GP-552 will be followed.

9.5 ISSTEC Housekeeping

ISSTEC Users:

1. Pick up expended brass regularly and put it in brass collection containers.
2. Pick up expended cartridges and dispose of them in trash receptacles.
3. Secure ammunition boxes, targets, and other materials to prevent them from blowing away or being damaged by wind.
4. Ensure equipment, ranges, munitions storage areas, administrative buildings, and classrooms are secured and sealed upon completion of activities.
5. Ensure classrooms are left clean, organized, and returned to their original configuration; empty all trash and put in new liners; and sweep and mop floors as needed.
6. Report any item needing repair to the ISSTEC/LFR Technology Manager or Range Master (or designee).

NOTE: Personnel and equipment are not permitted on the berm east of 9825H, except for maintenance activities.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

9.6 Risk Analysis Compliance Reviews

RACR forms (Appendix D) are used to document risk analysis compliance for NTC classes and non-NTC users conducted at the LFR and ISSTEC. Activities will be observed, and this form will be maintained for all users of the LFR conducting firearms activities, maintenance, or construction, or for any other user of an NTC LFR facility.

LFR Safety Specialist:

1. Complete RACR forms. In the LFR Safety Specialist's absence, the following personnel may be assigned:
 1. Range Master (or designee)
 2. ISSTEC/LFR Technology Manager
 3. Other authorized designee.
2. Complete RACR forms daily and submit forms to the Range Master (or designee) for review and approval for every user of ISSTEC by the close of each business week.

9.7 Test Plans

9.7.1 At least 4 weeks in advance, a test plan and risk analysis report must be developed and submitted to the Range Master for all activities conducted at ISSTEC, including testing, demonstration, and evaluation of equipment, vehicles, weapon systems, munitions, and technologies.

9.7.2 Test plans must include:

- a. Purpose
- b. Roles and responsibilities
- c. Methodology
- d. Schedule
- e. Facilities to be used
- f. Equipment, vehicles, weapons, ammunition, and technologies
- g. A copy of the safety briefing that must precede the test.

9.7.3 Range Master: When a request for an evaluation or test is received, ensure the following individuals are notified and their signatures are obtained on the cover page of each test plan:

- a. Submitted by: Originator
- b. Reviewed by:
 1. Range Master (or designee)
 2. PFTD Manager
 3. ES&H staff
 4. Facilities Director
 5. Training Director
 6. General Manager
- c. Approved By: NTC Director

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9.8 Pre-Course Setup

No permanent or semi-permanent modifications may be made to the ISSTEC configuration without the prior approval of the Range Master or LFR/ISSTEC Technology Manager, and with notification to the Facilities Director. All suggestions for modifications will be submitted to the Range Master through the ISSTEC/LFR Technology Manager for consideration.

- A. Props. During training activities, props must be used as designed and as designated for the training being conducted. Props not associated with specified training may not be used without prior approval.
- B. Portable Walls. When the building configuration requires the use of portable walls, ensure the tops and bottoms of the walls are secured.
- C. Roll-up Door. The use of the roll-up door on the second floor of 9825H is limited to NTC instructors and maintenance personnel.
- D. PIDAS. The ISSTEC/LFR Technology Manager will activate the PIDAS to support training or maintenance requirements and will shut it down at the completion of training.

10.0 ISSTEC GENERAL OPERATIONS

10.1 RUA Requirements

The RUA template is available on the NTC website.

- 10.1.1 ISSTEC Users: Prior to performing any activities at the ISSTEC, submit a completed RUA to the NTC Range Master (or designee), who will submit the RUA to the NTC Director for approval. The RUA will be signed by a senior official of the requesting agency and will constitute an agreement to follow all requirements in this procedure and other applicable documents.
- 10.1.2 LFR Operations Administrative Assistant: Maintain a list of approved RUAs.

10.2 ISSTEC Scheduling

- 10.2.1 ISSTEC Users: Complete the electronic scheduling form on the NTC website or contact the LFR Operations Administrative Assistant via email.
- 10.2.2 LFR Operations Administrative Assistant: Identify initial scheduling conflicts and, if necessary, forward the conflict to the Range Master (or designee) for resolution.

10.3 ISSTEC Briefing

All Instructors: Complete the annual ISSTEC briefing prior to using the ISSTEC. This briefing will include:

- 1. Applicable NTC procedures
- 2. ISSTEC capabilities

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3. ISSTEC scheduling
4. ISSTEC sign-in/sign-out logs
5. ESS safety responsibilities
6. Emergency medical personnel certifications
7. Key and gate procedures
8. Vehicle safety
9. Acceptable ESS weapons and ammunition
10. Lighting systems
11. Use of ISSTEC flag or beacon
12. ISSTEC security
13. Emergency procedures
14. NTC Cease Fire (Stop Work) Policy

10.4 ISSTEC Keys

During normal duty hours (0700–1630), the main gate is open.

10.4.1 NTC Range Master (or Designee) or ISSTEC/LFR Technology Manager: Issue appropriate keys to approved ISSTEC users during non-duty hours.

10.4.2 ISSTEC Users:

1. Ensure exercise security is maintained during normal duty hours by closing the main gate when entering the ISSTEC site.
2. Return ISSTEC keys to the LFR Operations Administrative Assistant, ISSTEC/LFR Technology Manager, or Range Master (or designee) within 2 working days, or leave keys in the key drop box located inside the main gate.

10.5 ESS Ammunition

10.5.1 ISSTEC Users:

1. Conduct ammunition and explosive storage, handling, and transportation in accordance with DOE-STD-1212-2019 Chg Notice 1 (2021) or AFM 91-201 (whichever is more stringent) and ESH-GP-549.
2. Ensure ammunition is kept in factory containers or magazines. When magazines are unloaded, return ammunition to the appropriate factory container. Any partially filled container will be marked to indicate the number of rounds remaining.
3. Ensure all ammunition is handled in a safe manner consistent with this procedure and ESH-GP-549.

NOTE: No ammunition (of any type) is allowed in classrooms.

10.5.2 Lead Instructor: At the end of each training day:

1. Collect and return all unused pyrotechnics to LFR Bunker #1.

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- a. Complete the NTC Temporary Ammunition Storage Log located in LFR Bunker #1.
 - b. Secure the bunker, affix the seal, provide Sandia Security with the seal number, and request the ammunition bunker's alarm be set.
2. Collect and return all unused ammunition to 9825C.

10.6 Pyrotechnics

- 10.6.1 Pyrotechnics will only be deployed by those who are trained in their use.
- 10.6.2 Smoke grenades will be limited to white smoke Combined Tactical Systems (CTS) Models 6210 or 8210.
- 10.6.3 Only CTS Noise Flash Diversionary Devices (NFDD) Models 7290 or 7290T are authorized at the ISSTEC.
- 10.6.4 Pyrotechnics will only be deployed outside in bang cans or hard, clear surfaces by hand or Remote Flashbang Detonator. No smoke will be deployed in any building at the ISSTEC facility. Inside Buildings 9825H and 9820, only NFDD 7290Ts are authorized to be used.
- 10.6.5 Respiratory protection for the use of smoke grenades will not be required as long as individuals are not immersed in high-density smoke plumes (within 15 feet of a grenade). If the activity requires participants to remain within the plume for 7 minutes or longer, they must wear a respirator or move out of the plume as soon as possible. Instructors should make every attempt to minimize smoke exposure to themselves and their students.
- 10.6.6 Skin contact with smoke combustion products will be minimized by wearing clothing that covers arms and legs and by wearing gloves.
- 10.6.7 Expended pyrotechnics will be handled using gloves. Duds will only be handled by trained, qualified instructors.
- 10.6.8 Instructors:
 1. Ensure pyrotechnics do not start fires. Combustibles will be removed from the immediate area, and fire extinguishers will be available in areas where smoke grenades are being deployed.
 2. Report expended noise/flash diversionary device serial numbers to the Range Master (or designee) at the completion of each course.

10.7 Elevated Surfaces

The ISSTEC has personal restraints for instructors/staff working the climbing wall in the high bay of Building 9825H. The personal restraint system consists of a length of 11-millimeter kernmantle climbing rope or 1-inch tubular nylon with an eye tied in each end. A figure 8 knot is used on the rope, and a water knot is used on the tubular nylon. A

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locking carabiner is secured in the eye, and one end is secured to the welded tie-down on the wall opposite the roll-up door opening. The other end of the personal restraint is secured through the rear of instructor's rappel belt. The rappel belt must be located through all instructors' pant loops, and the tail of the belt must be looped through the locking buckle and secured with Velcro or other device.

10.8 Weapons Loading and Unloading

All ESS ammunition will be verified by both the instructor and the student that it is indeed ESS ammunition correct for the weapons system(s) to be used.

10.8.1 Lead Instructor (or Designee):

1. Issue ESS ammunition to students and account for all unexpended ammunition at the end of the training day.
2. Ensure all weapons' loading and unloading are conducted in accordance with safe weapons' handling procedures. All individuals will wear appropriate eye protection during loading and unloading.
3. Ensure instructors have weapons, holsters, radios, and other equipment that are safe and serviceable for use.

10.8.2 Instructors:

1. During unloading, ensure all weapons are verified safe and clear.
2. Ensure weapons used for dry-fire demonstrations at the ISSTEC are unloaded and independently verified as safe and clear prior to use.

10.9 Exchanging of Firearms

10.9.1 ISSTEC Users: Never give a firearm to, or take a firearm from, any person unless directed by an instructor. The weapon must be in a safe condition: safety on if applicable, ammunition and/or magazine removed, action open, and chambers clear.

10.9.2 Instructor: Prior to the exchange, visually verify the action is open, the chamber is empty, and the safety is on, if applicable.

10.10 Brass

ISSTEC Users:

NOTE: Do not put unfired ESS ammunition in ISSTEC trash cans.

1. Place brass in designated containers.
2. Do not mix brass and expended blank or DMC ammunition.
3. Do not use hats or pockets to carry brass.

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This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

10.11 Breaching

- 10.11.1 The only breaching allowed at the ISSTEC is fence-cutting using pliers or bolt-cutters in designated areas. Cutting torches/saws may be allowed with prior approval from the Range Master (or designee) based on current fire conditions and restrictions.

NOTE: Climbing on any fence at the ISSTEC is strictly prohibited.

- 10.11.2 Ballistic and explosive breaching will be simulated using permanently modified ESS shotguns or NFDDs, respectively.

10.12 Weapons Cleaning Room

NOTE: Absolutely NO ESS ammunition will be allowed in the weapon cleaning rooms.

10.12.1 Lead Instructor (or Designee):

1. Inspect weapons at the clearing barrel before entering weapons cleaning rooms to ensure no ESS ammunition is present.
2. Ensure the students are familiar with weapon cleaning procedures and use of the facility.
3. Inspect the cleaning rooms for cleanliness, secure cleaning supplies, and secure the cleaning rooms at the end of each day.
4. Only authorized cleaning materials, including solvents, chemicals, and lubricants, are allowed in the cleaning rooms. No outside materials may be introduced into the cleaning rooms.

10.12.2 ISSTEC Cleaning Room Users:

1. Wear eye protection in the cleaning rooms when cleaning weapons using solvent and compressed air.
2. Wear protective gloves or barrier cream (which will be provided) for hand protection.
3. Dispose of patches, towels, and other cleaning materials used for weapons cleaning in appropriately marked containers. Do not dispose of liquids in these containers.

10.13 Weapons Ammunition and Malfunctions

Instructors: In the event of misfires, hang fires, squib loads, and damaged ammunition:

1. Immediately call "CEASE FIRE".
2. Conduct testing and evaluation activities until the problem is corrected.
3. Properly dispose of damaged or dud ammunition.

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10.14 Render Safe Actions for Diversionary Devices (CTS Model 7290)

1. Allow the device to sit at least 30 minutes.
2. Wearing fire-resistant gloves, a long-sleeved shirt, and proper eye and hearing protection, use a long-handled shovel to place the device in a large open plastic container or a flashbang barrel.
3. Move the container to a safe place where it will not be disturbed, and notify the Range Master (or designee) of the container's location.

The Range Master (or designee) will take the container to either the LFR 7-Position Range or the Vehicle Assault Range, remove the device from the container, and destroy it by shooting it with a .223 caliber (or larger) bullet to the center of the body.

10.15 Damaged Rifle and Handgun Ammunition

- 10.15.1 Instructors: When policing brass, retrieve any damaged ammunition and put it in the "Bad Ammo" can.
- 10.15.2 ISSTEC/LFR Technology Manager: Empty the "Bad Ammo" cans and transfer the contents to Building 9825C for storage (to be included with bad ammunition disposal).

11.0 EMERGENCY PROCEDURES

11.1 Reporting Emergencies

- 11.1.1 Report emergencies at the ISSTEC by dialing **911** (SNL Emergency Operations Center) from a landline phone.

NOTE: If using a cell phone, dial 844-0911. An additional means of reaching the SNL EOC is radio channel C-1.

- 11.1.2 Phones for emergency use are located:

- a. Outside Classroom 9825F
- b. Outside Building 9825H
- c. Inside Building 9820

A lock box (containing a charged radio for emergency use) that can be opened with the ISSTEC key is located next to the phone outside Classroom 9825F.

- 11.1.3 When making the call, individuals should be prepared to state:

1. The nature of the emergency (e.g., fire or medical)
2. The building number or location where emergency responders are needed
3. Their name and the phone number from where they are calling

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The following NTC staff should also be informed of emergency situations as appropriate and as soon as possible:

Employee	NTC #
Range Master	845-2326
Assistant Range Master	845-2136
PFTD Manager	845-2321
LFR Safety Specialist	845-2330
Lead ES&H Specialist	845-2058
Facilities Director	845-2067
Training Director	845-6762
General Manager	845-4804
Federal Oversight, Facilities/Infrastructure and S&S Training	845-6359
NTC Director	845-6444

NOTE: During non-duty hours, phone calls should be made to at least one of the above listed representatives. The phone numbers are located in the ISSTEC entrance (9825I), 9825H, 9825F, and 9820.

11.2 Actions to Take in Response to Significant Events

ESH-PM-504 details actions to be taken in the event of an emergency at the LFR. A summary of emergency actions is posted at the emergency telephone located at each range.

11.3 Emergency Exercises

LFR Safety Specialist and Range Master (or Designee): As an alternative to the annual LFR emergency exercise, may schedule an annual emergency exercise at ISSTEC to ensure proper actions are taken by emergency responders. Exercises may include supporting organizations such as SNL, KAFB Fire Department, and emergency medical services (EMS) evacuation assets.

11.4 Fire Conditions and Restrictions

- 11.4.1 Weather conditions involving long-term periods of dryness can adversely affect ESS activities due to an increased fire hazard in Coyote Canyon. This includes the ISSTEC and LFR areas.
- 11.4.2 LFR Safety Specialist: Post the appropriate Fire Conditions Warning Signs and determine when conditions limit certain types of activities. This determination will be made in conjunction with U.S. Forest Service criteria (see Appendix F for such restrictions).

12.0 APPENDIXES

- A – Sample ISSTEC Use Log
- B – ISSTEC Site Layout and Floor Plans

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

- C – Access and Use of 9825H Glove Box Room
- D – NTC Risk Analysis Compliance Review (RACR) Template
- E – Engagement Simulation System (ESS) Safety
- F – U.S. Forest Service Fire Condition Warning Signs and Restrictions
- G – Marking Systems Activities
- H – Rules of Engagement
- I – ESS Training Plan
- J – ESS Safety Briefing
- K – Building 9820 Pre- and Post-Training Walk-Through Form
- L – Complete Revision History Table

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX A – ISSTEC USE LOG

Date	Time In	Time Out	Organization	Representative Name	Personnel Information		Purpose of Visit / Facilities Being Used
					Lead Instructor		
					Medic**		
					Lead Instructor		
					Medic**		
					Lead Instructor		
					Medic**		
					Lead Instructor		
					Medic**		
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					Lead Instructor		
					Medic**		
**Medical personnel must be a paramedic or CPR/first aid certified.							

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APPENDIX B – ISSTEC SITE LAYOUT AND FLOOR PLANS

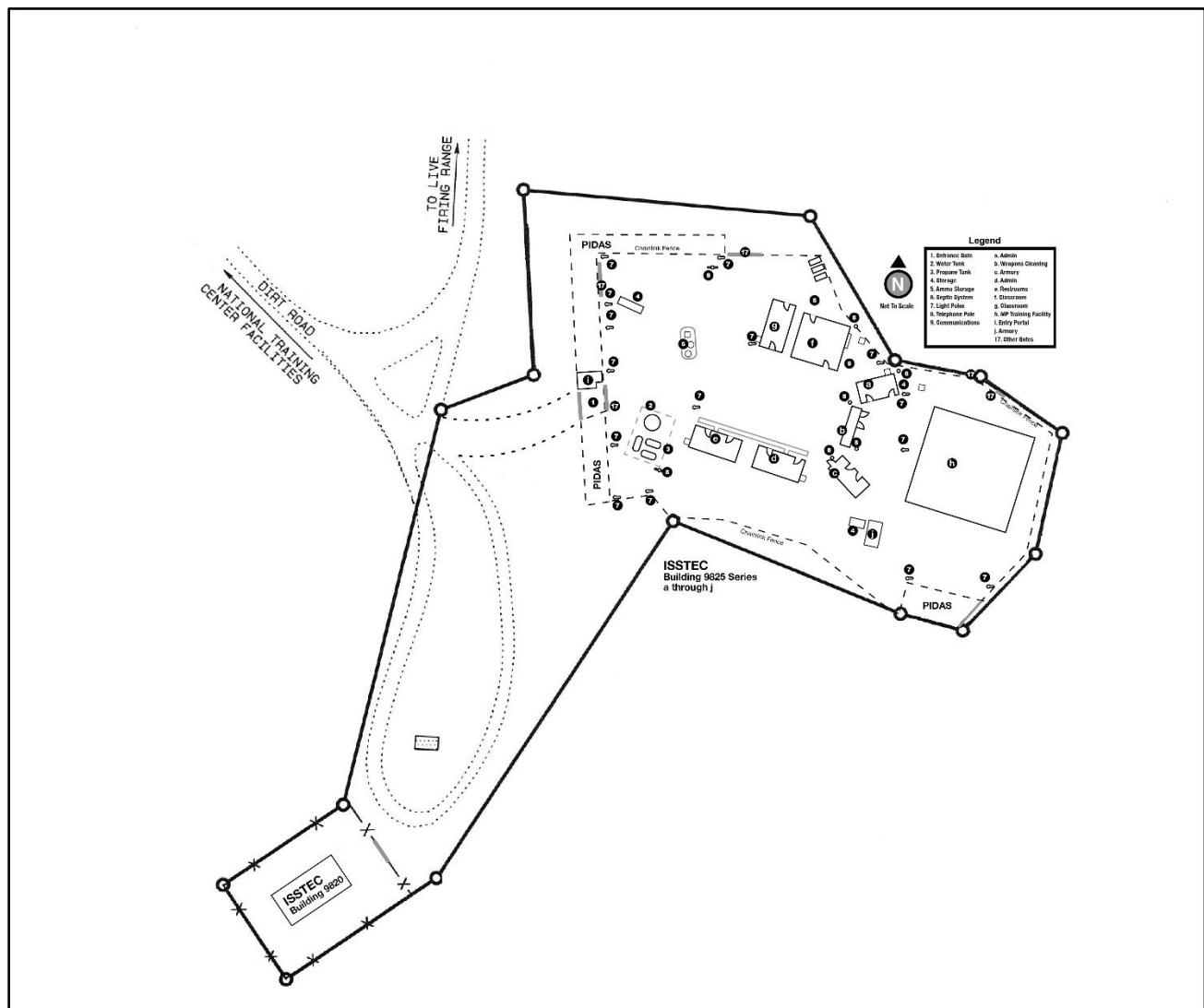


Figure B-1. ISSTEC General Site Layout

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

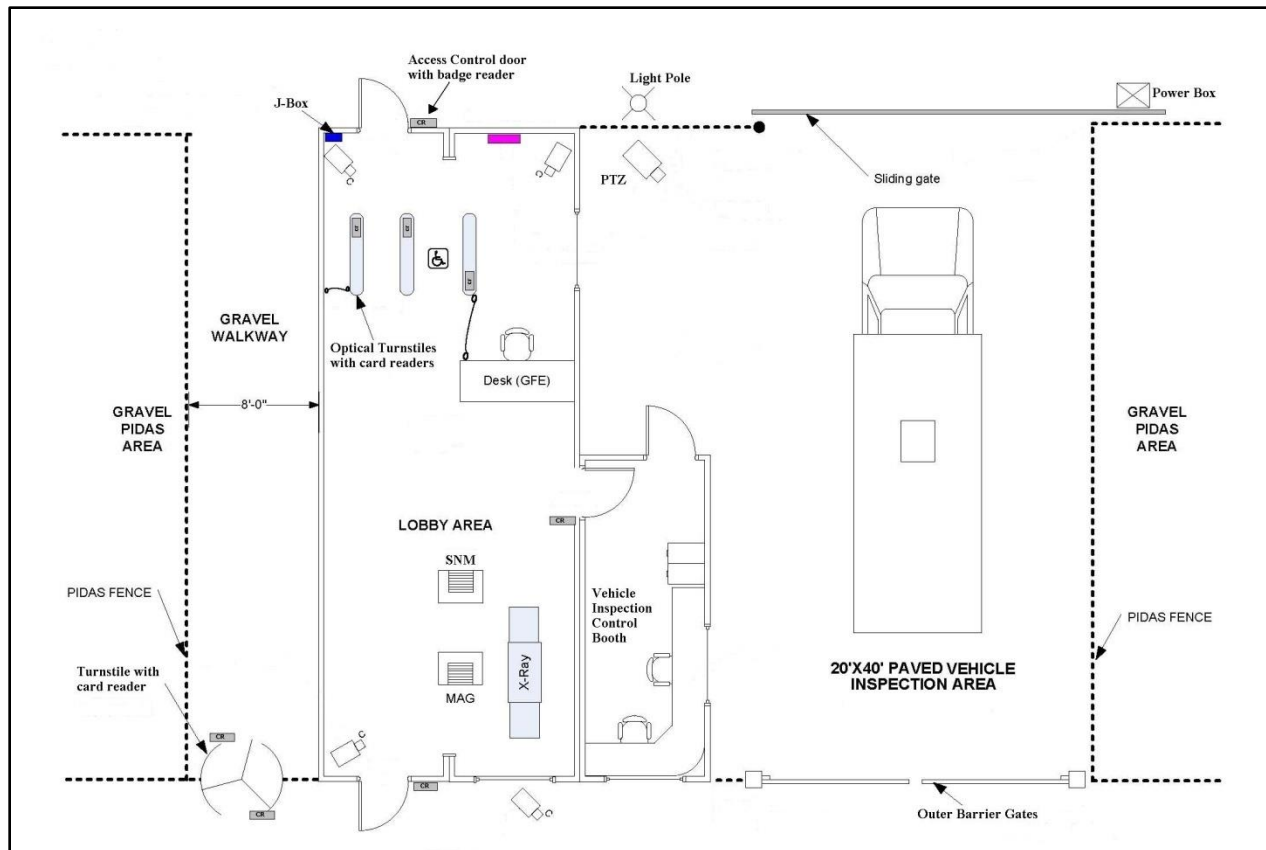


Figure B-2. Floor Plan for Building 9825I, Simulated Entry Control Facility

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

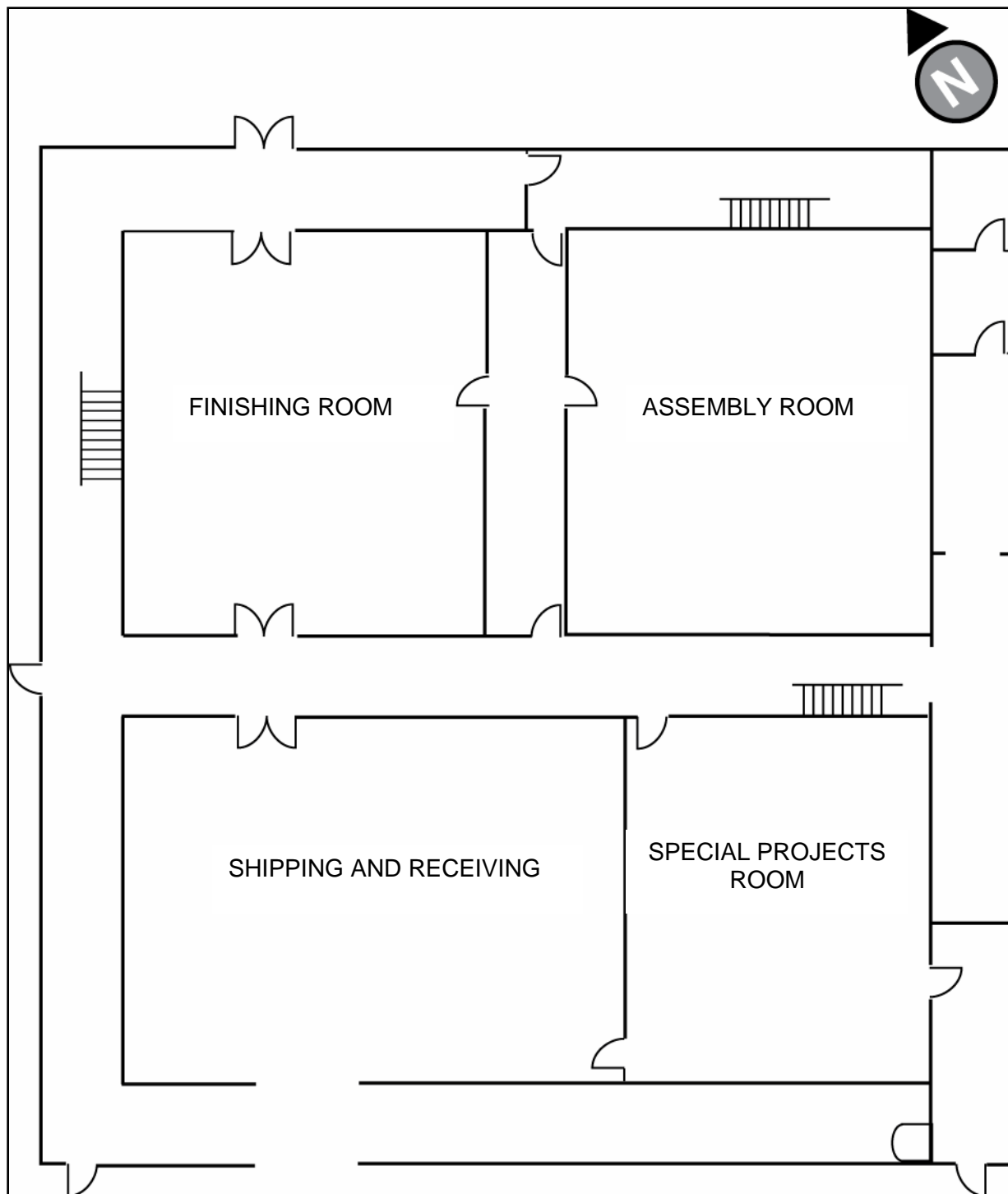


Figure B-3. Floor Plan for Building 9825H, Special Projects Building, 1st Floor

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

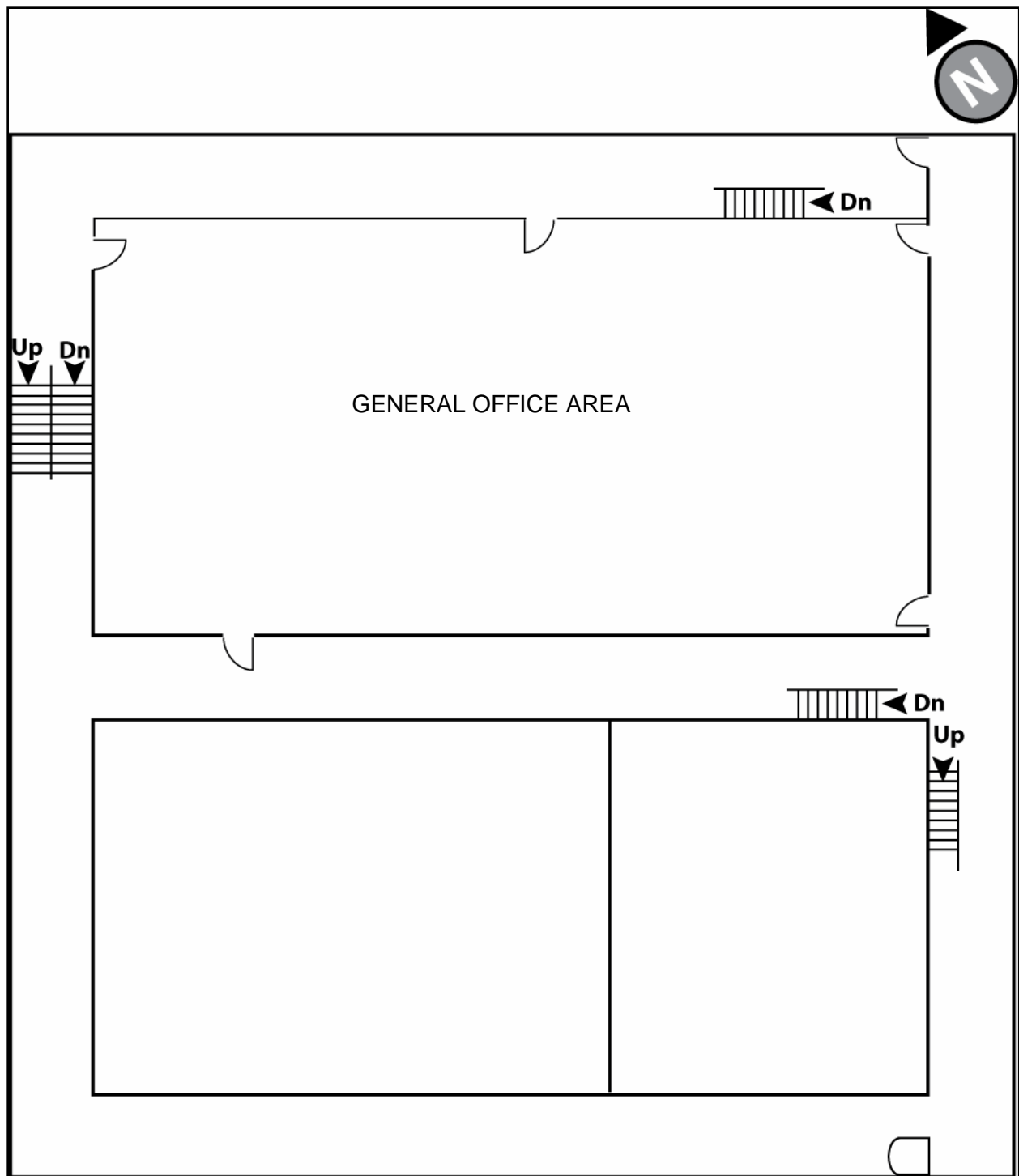


Figure B-4. Floor Plan for Building 9825H, Special Projects Building, 2nd Floor

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

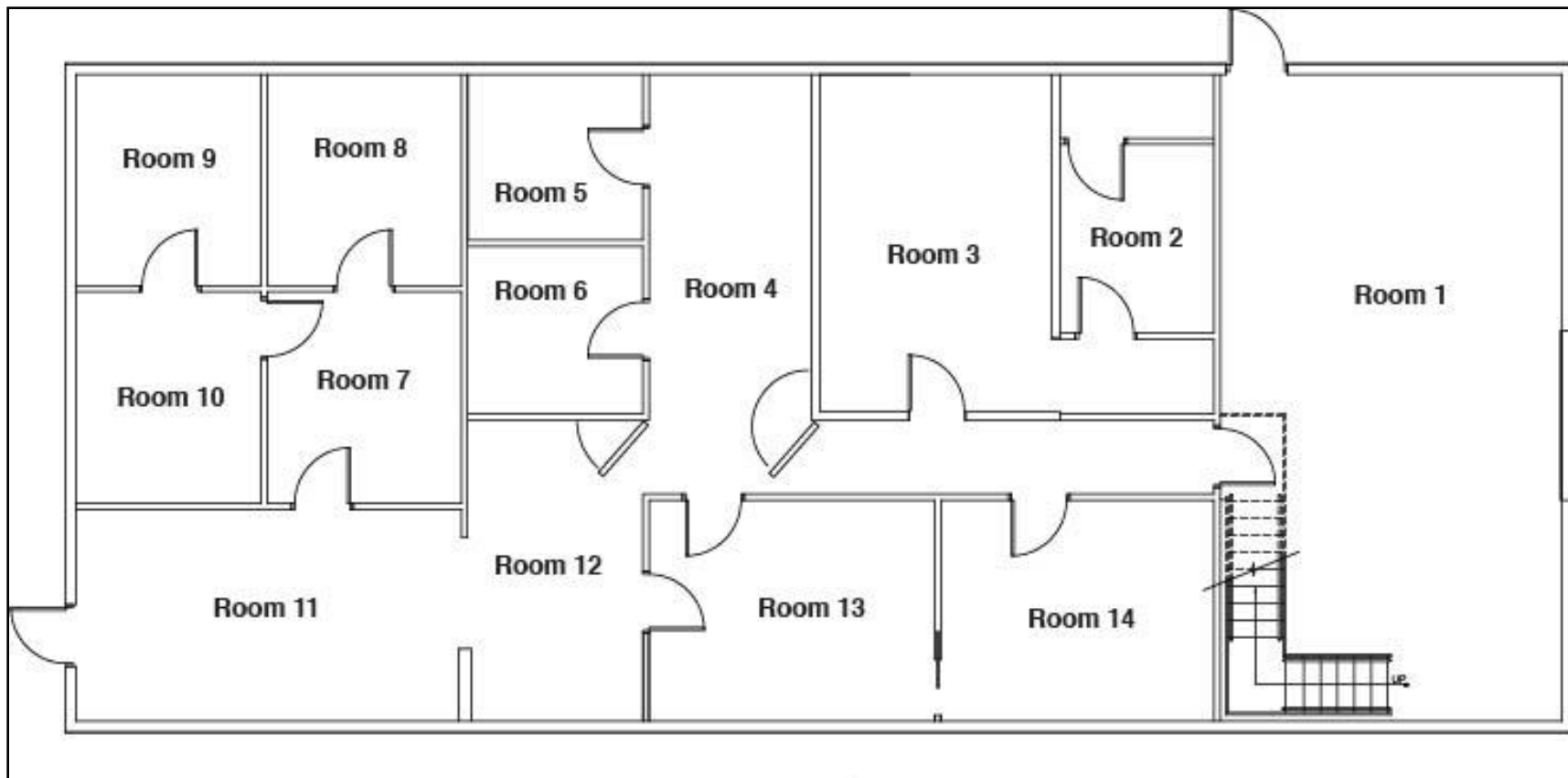


Figure B-5. Floor Plan for Building 9820

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX C – ACCESS AND USE OF 9825H GLOVE BOX ROOM

Building 9825H includes the Glove Box (GB) Room and specialized equipment associated with training activities conducted by the Safety Training Department. This training requires that specific measures be taken to ensure activities in the area are conducted in a manner that reduces the chances of equipment damage. All other ISSTEC policies and procedures apply.

Any NTC staff member requiring access to or use of the GB Room is responsible for notifying the ISSTEC/LFR Technology Manager or designee in advance and for complying in full with applicable procedures and requirements.

The GB room has been determined as a suitable training area for Protective Force Training Department training. Training iterations will be restricted to blank ammunition only and no dye marking cartridge (DMC) projectiles. The chain barriers separating the glove box will not be crossed during any Protective Force Training Department course iterations.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX D – NTC RISK ANALYSIS COMPLIANCE REVIEW (RACR) TEMPLATE

Name of Class/Process:			Date of Review:	
Name of Lead Instructor/Supervisor:			Location of Review:	
Name of Reviewer:			Activity Being Reviewed:	
Review Points	Yes	No	N/A	Notes
Are course/process documents complete, current, and present?				
Is activity being conducted with correct personnel or student/instructor ratios?				
Are personnel wearing the correct PPE for the activity?				
Is activity being conducted in due consideration of the current weather?				
Is required communication present and in working order?				
Was a safety briefing specific to the activity given?				
Is required specialized safety equipment present (e.g., bang cans, fire extinguishers, etc.)?				
Is the activity being conducted/performed per the lesson plan/work plan?				
Is the appropriate medical personnel available for the activity being performed?				
Have the staff, students, and employees been informed of their “stop work” rights?				

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX E – ENGAGEMENT SIMULATION SYSTEM (ESS) SAFETY

E.1 Participant Responsibilities

This section specifically addresses safety-related considerations that impact exercise personnel and/or equipment; however, they apply to all ESS activities. Personnel acting as adversaries and response force members must be briefed on their individual responsibilities, which include:

1. Avoid out of-play areas.
2. Monitor their own physical condition for signs of overexertion.
3. Watch for other participants who appear injured or otherwise are in need of assistance, and immediately cease ESS activities in order to render aid and notify an instructor.
4. Report injuries, regardless of severity, to the nearest instructor or safety representative.
5. Handle and use all ESS firearms and weapons safely as though they were live fire weapons.
6. Inspect issued MILES weapons and blank ammunition to ensure no live ammunition is present/proper blank ammunition is present, and MILES weapons and magazines, where used, are properly color-coded.
7. Inspect issued dye-marking cartridge (DMC) firearms and DMC ammunition to ensure no live or blank-fire ammunition is present, and DMC firearms and magazines, where used, are properly color-coded.
8. Approved color coding markings are:
 - a. Orange for MILES and blank-fire firearms, magazines, and belt-fed ammunition (first link)
 - b. Blue for DMC firearms, DMC magazines, and belt-fed ammunition (first link)
 - c. Blue and orange for MILES and DMC hybrid firearms
 - d. Red or blue for inert firearms and weapons
9. During an arrest scenario, limit physical contact to that force necessary for searching and handcuffing while refraining from violent physical contact.
10. Never attempt to disarm a participant by grabbing their firearm or person.
11. Ascend or descend from elevated positions using a ladder, stairs, or approved urban ascent/descent techniques.
12. Avoid hot propellant gases vented from weapons' systems.

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13. Immediately report all injuries to the nearest instructor. Anyone observing an injured or ill participant must immediately advise the nearest instructor.
14. Report any damage to vehicles and equipment to an instructor no later than the termination of the performance testing (PT).

E.2 ESS Safety Procedures

1. All firearms and weapons used in ESS exercises and training activities must be permanently modified and dedicated for ESS use only.
2. All MILES firearms must be equipped with live-round inhibiting devices or ported chambers, plus one or more engineered safety controls, to prevent the accidental introduction of live rounds.
3. Only DMC firearms equipped with DMC conversion kits and DMC ammunition approved by DOE may be used. All DMC conversion kits must be designed to inhibit live rounds from being chambered. DMC systems may be fired only at participants who are at least 1 meter away.
4. ESS firearms must not be loaded until authorized by an instructor.
5. Only blank ammunition may be fired in ESS equipment.
6. MILES firearms equipped with blank fire adapters or blast deflectors may be fired only at participants who are at least 10 feet away.
7. Maintenance and adjustments to laser transmitters must be performed only by the supplier or by qualified technicians approved by the supplier.
8. ESS firearms must be cleaned after each exercise. If ESS firearms are malfunctioning or damaged, they must be repaired or removed from service.
9. All ESS firearms must be inspected by a DOE-certified gunsmith and certified at least every 12 months. All engineered safety controls incorporated in an ESS weapon must also be inspected.
10. Lightweight Anti-Armor Weapons (LAWs), Rocket-Propelled Grenades (RPGs), and VIPERS:
 - a. Must not be cocked until the target is identified. If the simulator is not fired at a given target but will probably be fired at another target during the exercise, it must be uncocked again until the target is sighted. If the simulator is not fired, it must be unloaded with the tube empty prior to turn-in.
 - b. Must be used only in designated areas.
 - c. Must be used only for training purposes when exclusion distances and conditions are established as though an actual LAW was being fired. The exclusion distance for the LAW/RPG/VIPER is 5 feet to either side and 30 feet to the rear.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX F – U.S. FOREST SERVICE FIRE CONDITION WARNING SIGNS AND RESTRICTIONS

It is Kirtland Air Force Base (KAFB) policy to be one level above the Cibola National Forest Fire Danger Rating.

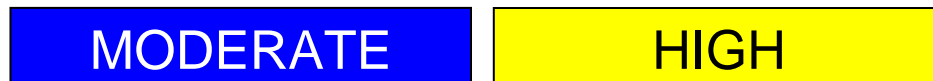
KAFB will never be at a low Fire Danger Rating.

Ascertain the current fire and weather conditions prior to conducting activities in Coyote Canyon and, in particular, note if a “Red Flag Warning” is in effect for Albuquerque through the National Oceanic and Atmospheric Administration (NOAA) website. Activities outside the confines of the Live Fire Range (LFR) will be terminated or suspended if a “Red Flag Warning” condition is in effect.

The Fire Danger Classes listed below provide specific guidance relative to conditions and restrictions.

F.1 Fire Ratings: Moderate and High

Moderate fire rating is indicated by blue background with white lettering, and **High** fire rating is indicated by yellow background with black lettering.



Either of these ratings restricts fires (open flame) and smoking to developed test sites. Use of pyrotechnics or blank ammunition will be permitted on developed test sites in approved sandbagged or pitted areas and on the blacktop of “No Sweat Boulevard”. Vehicles are restricted to paved or dirt roads or low-grass areas.

Additional guidance:

1. Use of flares is prohibited.
2. Pyrotechnics are only authorized for use inside the perimeter fence of ISSTEC and building 9820. Smoke grenades will be limited to white smoke Combined Tactical Systems (CTS) Models 6210 or 8210 and NFDDs Model 7290.
3. Pyrotechnics will only be deployed inside the perimeter fence at the ISSTEC and Building 9820. Pyrotechnics used outside will be exploded in bang cans or on hard surfaces clear of combustible material. Deviations must be approved by the Range Master (or designee).
4. Only designated instructors will deploy pyrotechnics in the above-mentioned approved areas under this fire danger classification.
5. Fire extinguishers will be readily available.
6. Off-road vehicle traffic should be minimized and limited to established roads and paths or low-grass areas.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

F.2 Fire Rating: Very High

Very High fire rating is indicated by orange background with black lettering.

VERY HIGH

This rating restricts fires (open flames), smoking, and pyrotechnics. Smoking is permitted in non-government vehicles or approved smoking areas only. Use of pyrotechnics is permitted only in approved sandbagged or pitted areas; vehicles are restricted to paved or graded roads. "Burn Site" testing that emits embers with sufficient thermal capacity to start a fire outside of the cleared facility area is not allowed. Welding operations are restricted to areas cleared for 35 feet of weeds and other materials capable of burning.

Additional guidance:

1. Use of flares is prohibited.
2. Pyrotechnics are only authorized for use inside the perimeter fence at the NTC's Integrated Safety and Security Training and Evaluation Complex (ISSTEC) and Building 9820. Smoke grenades will be limited to white smoke Combined Tactical Systems (CTS) Models 6210 or 8210 and NFDDs Model 7290.
3. Pyrotechnics will only be deployed inside the perimeter fence at the ISSTEC and Building 9820. Pyrotechnics used outside will be exploded in bang cans or on hard surfaces clear of combustible material. Deviations must be approved by the Range Master (or designee).
4. Only designated instructors will deploy pyrotechnics in the above mentioned approved areas under this fire danger classification.
5. Fire extinguishers will be readily available.
6. Off-road vehicle traffic should be minimized and limited to established roads and paths or low-grass areas.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

F.3 Fire Rating: Extreme

Extreme fire rating is indicated by red background with white lettering.

EXTREME

This rating restricts fires (open flames) and pyrotechnics. Use of pyrotechnics will be approved on a case-by-case basis to meet critical mission requirements. Smoking is allowed only inside non-government vehicles. **No outside smoking is allowed in the remote Research and Development areas.** “No Sweat Boulevard” is off limits to all individuals, even if pyrotechnics are not being used. Suspend non-essential testing operations. Welding operations are restricted to indoor areas or areas that have been shielded by partitions or welding drapes.

Additional guidance:

1. Use of flares is prohibited.
2. Pyrotechnics are only authorized for use inside the perimeter fence at the NTC’s ISSTEC and Building 9820. Smoke grenades will be limited to white smoke CTS Models 6210 or 8210 and NFDDs Model 7290.
3. Pyrotechnics will only be deployed inside the perimeter fence at the ISSTEC and Building 9820. Pyrotechnics used outside will be exploded in bang cans or on hard surfaces clear of combustible material. Deviations must be approved by the Range Master (or designee).
4. Only designated instructors will deploy pyrotechnics in approved areas under this fire danger classification.
5. Fire extinguishers will be readily available.
6. Off-road vehicle traffic should be minimized and limited to established roads and paths or low-grass areas.

NOTE: The Sandia Site Office will evaluate use of “No Sweat Boulevard” on a case-by-case, activity-specific basis. Contact the Environmental Office at 845-5542 and the 377th ABW Fire Marshall (or delegate). Both have the authority to supersede restrictions.

APPENDIX G – MARKING SYSTEMS ACTIVITIES

G.1 General Requirements

1. All dye-marking cartridge (DMC) exercises must be monitored by a firearms instructor who either is certified or has received specialized training that has been approved by the PFTD Manager (or designee).
2. A sufficient number of instructors must participate in the training activities to ensure adequate control.

G.2 Safety Considerations

In addition to the safety considerations described in Appendix E, the following safety considerations specific to DMC activities must be included in training activities which use DMC.

1. All DMC PPE must be visually inspected prior to each use.
2. DMC systems must not be fired at personnel closer than 1 meter.

G.3 Personal Safety Requirements for Force-on-Force Type Activities

1. Hearing protection is required.
2. Clothing (e.g., battle dress uniforms [BDUs]) is required to cover and protect exposed skin.
3. For DMC training, eye protection meeting the requirements of American National Standards Institute (ANSI)/International Safety Equipment Association (ISEA) Z87.1-2020, *American National Standard for Occupational and Educational Personal Eye and Face Protection Devices*, with side protection is required when training.
4. For DMC training, the following are required:
 - a. Full face, head, and neck protection
 - b. Gloves
 - c. Groin protection
 - d. If body armor is used, it must be dedicated for DMC use only.

G.4 Force-on-Target Training

Training may be conducted using DMC systems to fire at training targets such as the DOE TQ-15, decisional targets, or other targets. Such training does not involve force-on-force. PPE for force-on-target training only requires safety glasses and hearing protection.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX H – RULES OF ENGAGEMENT

H.1 Halting an Engagement Simulation Systems Activity

Engagement simulation system (ESS) training activities may be halted at any time for safety, emergency, real-time security events, or administrative reasons.

1. Exercise Freeze. A command that is used to halt an exercise when it is necessary to correct safety-related problems or respond to an emergency.
 - a. Any person observing a safety problem must announce an “exercise freeze.”
 - b. Instructors must relay the “exercise freeze” announcement throughout the training area.
 - c. Every participant must immediately freeze in place (stop at their locations and cease fire, movement, communication, and any other action) until the command “Resume exercise!” is given by the Lead Instructor.
2. Administrative Hold. An “administrative-hold” is used to halt an ESS training activity when it is necessary to correct problems of an administrative or procedural nature. The use of the command may be planned when it is necessary to put a temporary hold on activities to set the stage for continuation of the training.
 - a. The effect of an “administrative hold” can be limited to a specific location(s) or activity.
 - b. The command “administrative hold” must not be called to correct safety problems or respond to emergencies.
 - c. Only an instructor can declare an “administrative hold” halt training activities. The instructor will announce the hold in the affected area and all participant activity in that area will immediately halt until the instructor gives the command to continue.

H.2 Danger Close or Close Kill

A 10-foot rule applies during any ESS training activities using MILES equipment. This means that if a participant hears either term (“Danger Close” or “Close Kill”), the participant is too close to fire their weapon at another individual. The instructor will make the call as to who is eliminated from the activity and who may continue participating in the scenario.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX I – ESS TRAINING PLAN SAMPLE

I.1 Objectives

The engagement simulation system (ESS) training plan objective(s) must be stated succinctly, including a concise statement of the goal(s) (e.g., to evaluate against established requirements, to enhance preparedness through training, and/or to evaluate potential upgrades to systems or equipment).

I.2 Scenario Description

1. Describe the Threat Scenario. Define the target and the threat to provide an understanding of the nature of the training.
2. Describe the Facilities Involved. Establish the exercise boundaries and provide clear indication of the training area, the facilities involved, and out-of-play areas.
3. Define the Required PF Response. Provide a description of the desired PF response to adversarial actions. This may entail citing the applicable existing response plan or a standing operating procedure. Specific information may be classified.
4. Establish the Schedule. Define training initiation, time and date, and schedule of events.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX J – ESS SAFETY BRIEFING

Four General Firearms Safety Rules

Although the Four General Firearms Safety Rules are directed toward live-fire training, it is NTC policy to apply them also to engagement simulation system (ESS) training in order to ensure the safety of participants.

1. All firearms are always loaded.
 2. Never point a firearm at anything you are not willing to destroy.
 3. Keep your finger off the trigger until your sights are on the target.
 4. Be sure of your target.
-
1. Only students who have received ESS training and have received the safety briefing can participate in training involving ESS weapons.
 2. ESS weapons will be issued in a predesignated sanitized area only.
 3. All participants and equipment will be inspected by instructors for any live ammunition or weapons prior to entering the sanitized issue area.
 4. Participants must monitor their own physical condition for signs of overexertion.
 5. Participants must ascend or descend from elevated positions by ladder, stairs, or using approved urban ascent/descent techniques.
 6. Only authorized personnel are allowed on the designated rooftop observation platform of 9825H.
 7. All personal protective equipment must be worn when required.
 8. All injuries—no matter how slight—must be reported immediately.
 9. All posted signs and barriers must be obeyed.
 10. No live weapons or ammunition can be mixed with ESS equipment.
 11. Each person will visually inspect their magazines and ammunition to ensure no live rounds are present.
 12. No MILES firearm will be fired at another player within 10 feet. No dye-marking cartridge (DMC) will be fired at another player within 3 feet. Participants must be cautious of hot gases vented from ESS weapons.
 13. Two types of laser transmitters are used as part of the MILES gear. Transmitters are labeled as Class 1 or 3a depending on the laser power level. When using Class 1 transmitters, do not look directly into the beam any closer than 3 meters with the naked eye or less than 20 meters through an optical instrument. Class 3a distances are 10 meters with the naked eye and NO distance is allowed with an optical instrument.
 14. Training with MILES gear requires eye protection and hearing protection.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

15. If an encounter occurs within 10 feet with MILES or within 3 feet with DMC weapons, the participants will announce “danger close” or “close kill” and the instructor will declare a “kill.”
16. Participants will not stare directly into the beam of the laser on MILES equipment.
17. Use of physical force, hand-to-hand combat, etc., will not be allowed. Players taken out of play will sit down in place, and place all weapons on safe, on the ground and point them in a safe direction.
18. Anyone witnessing an unsafe act or condition must call out “CEASE FIRE!” Activities will not resume until the situation has been resolved.
19. In the event of an actual medical emergency, an announcement will be made of an “EXERCISE FREEZE.” The Lead Instructor will suspend all activities, and ISSTEC emergency procedures will be initiated.
20. If vehicles are used in training, all drivers must observe the following:
 - A. Obey laws related to vehicle operations.
 - B. All vehicles used for ESS training must be cleared of live firearms and ammunition and other prohibited articles prior to use.
 - C. Observe posted speed limits during the exercise and do not exceed either 10 miles per hour in the controlled exercise area or a lower speed limit set by the Lead Instructor.
 - D. Ensure all vehicle occupants wear personal restraints, which are mandatory.
 - E. Do not operate vehicle off roadways unless necessary for the exercise and with approval from instructors.
 - F. Prohibit individuals from riding on the outside of the vehicle.
 - G. Report any damage to vehicles and equipment to instructors immediately.
 - H. Prohibit mounting or dismounting the vehicle until it has come to a full stop with the transmission in park and the parking brake set.

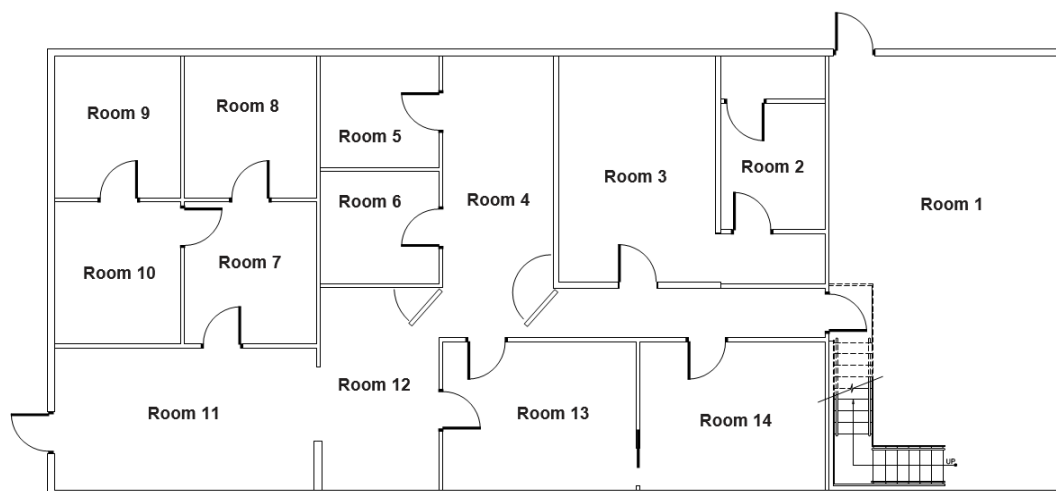
NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX K – BUILDING 9820 PRE- AND POST-TRAINING WALK-THROUGH FORM

Organization: _____ Representative (Printed): _____

Day: _____ Month: _____ Year: _____ Time: _____

☐ Pre-Walk-Through ☐ Post-Walk-Through Ammunition Used _____**NOTE:** Damage to moveable walls or partitions must be indicated on the provided diagram.

Comments: _____

Prior to training in the NTC Building 9820, the user shall perform a walk-through inspection of the facility and identify all damages.

9820 INSPECTION

- 1. Walls (loose panels, clean of DMC input)
- 2. Doors (on hinges, open and closing properly)
- 3. Floors (water, snow, ice, debris)
- 4. Elevated Observation Control Platform (EOCP – catwalk)
- 5. Roof (sound-deadening, nests)
- 6. Lighting (bulb, fixtures, rheostats)

****Please report all discrepancies to the Range Master or designee.**

Upon completion of training, the user shall perform another walk-through inspection of the facility and identify any of damages listed above. The completed inspection forms are to be placed in the form box located at the entrance to Building 9820, upon completion of inspection. Failure to document all damage(s) found in the facility could result to termination of use privileges and collection of repair cost from their agency. Any questions should be directed to the Range Master or designee.

User Signature _____

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX L – BUILDING 9825H PRE- AND POST-TRAINING WALK-THROUGH FORM

Organization: _____ Representative (Printed): _____

Day: _____ Month: _____ Year: _____ Time: _____

☐ Pre-Walk-Through ☐ Post-Walk-Through Ammunition Used _____**NOTE:** Damage to moveable walls or partitions must be indicated on the provided diagram.

Comments: _____

Prior to training in the NTC Building 9825H, the user shall perform a walk-through inspection of the facility and identify all damages.

9825H INSPECTION

- 1. Walls (loose panels, clean of DMC input)
- 2. Doors (on hinges, open and closing properly)
- 3. Floors and stairs (water, snow, ice, debris)
- 4. HVAC or ventilation operation
- 5. Lighting (bulb, fixtures)

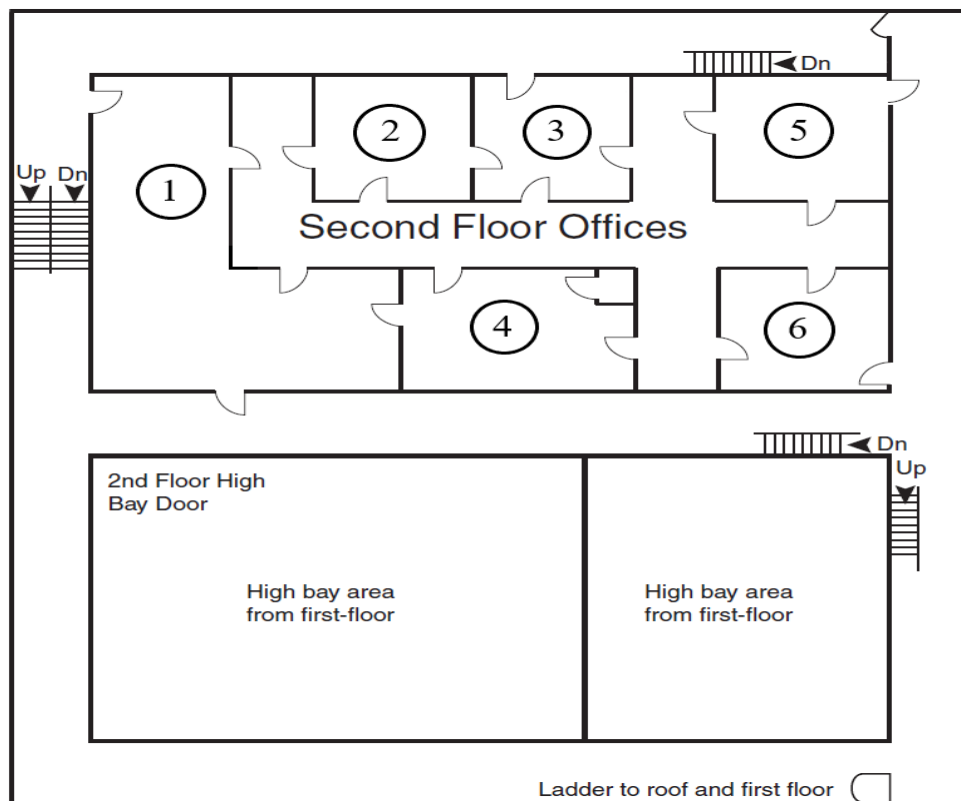
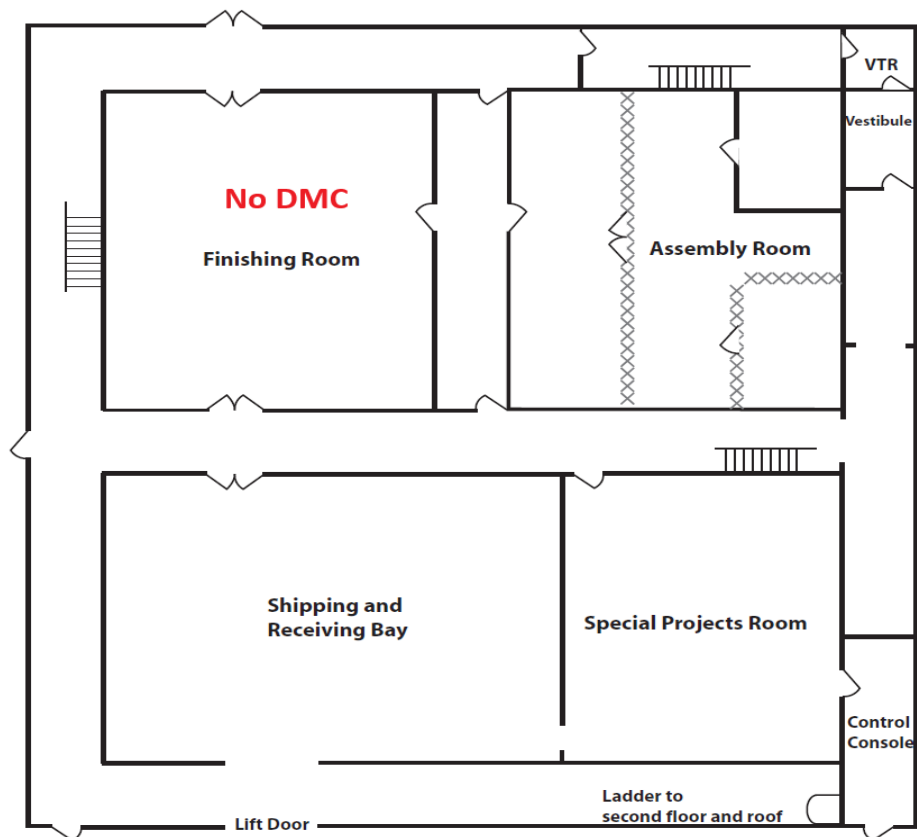
****Please report all discrepancies to the Range Master (or designee) or the LFR/ISSTEC Technology Manager.**

Upon completion of training, the user shall perform another walk-through inspection of the facility and identify all damages listed above. The completed inspection forms are to be provided to the LFR/ISSTEC Technology Manager upon completion of inspection. Failure to document all damage(s) found in the facility could result to termination of use privileges and collection of repair cost from their agency. Any questions should be directed to the Range Master (or designee).

User Signature _____

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

**NON-PROPRIETARY INFORMATION**

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

APPENDIX M – COMPLETE REVISION HISTORY TABLE

Rev.	Date	Description of Revision
12	See Final Signature	<ul style="list-style-type: none"> Reference 4.2: Changed “DOE-STD-1212-2012, Explosives Safety” to “DOE-STD-1212-2019, Chg Notice 1 (2021) Explosives Safety”. Section 5.0, Definitions: <ul style="list-style-type: none"> Authorized ISSTEC Instructor: Replaced with 5.4, Instructor. ESS Activity Visitor: Deleted (term no longer used in procedure). ESS Activity Participant: Deleted (term no longer used in procedure). (Renumbered) 5.2, ESS Training Areas: Changed “OC weapons” to “OC canisters”. (Renumbered) 5.3.B, DMC Systems, and 5.3.D, Blank Fire System: Changed “specially modified duty” to “specially modified”. (Renumbered) 5.3.C, Hybrid Dye Marking Cartridge ESS Firearm: Changed “feeds and functions DMC ammunition” to “feeds and functions DMC and blank ammunition”. (Renumbered) 5.3.E: Changed “Inert Weapons System. System consisting of simulated firearms and weapons or actual firearms and weapons that have been rendered incapable of firing live or blank fire ammunition” to “Inert Weapons. Weapons modified to prevent the acceptance or firing of any type of ammunition”. (Previous) “5.3.F, Airsoft System. System consisting of replica duty weapons that propel plastic or biodegradable BBs by means of either rechargeable batteries or Green Gas (HFC 143a). Sometimes referred to as soft air system. (Currently, not included in the NTC inventory.)”: Deleted (no longer used at NTC). (Renumbered) 5.3.F, Other Types of ESS: Changed “Other types of ESS and associated equipment that may be used during PF PT and training activities to simulate adversary and PF actions and real world incidents” to “Types of ESS and associated equipment that may be used during training activities at the ISSTEC to simulate adversary and PF actions and real world incidents”. Section 6.0: <ul style="list-style-type: none"> Item E: Added “Visitors must have authorization from the Range Master (or designee) and the PFTD Manager (or designee) to enter the ESS training area solely to observe training activity. The Range Master or PFTD Manager are responsible for notifying the General Manager in advance of visitors on site”. Item L: Changed “Any activities conducted outside of the fence line must be coordinated through the Range Master” to “NTC ISSTEC activities conducted outside of the ISSTEC fence line must be coordinated with the Range Master or designee”. Section 7.3, Assistant Range Master: Replaced itemized responsibilities with “The Assistant Range Master serves as the designee to the Range Master and completes tasks as assigned”. Item 7.6.1: Deleted “Note: No ammunition (of any type) is allowed in classrooms”. Item 7.6.5, 10.b: Changed “ensures the test plan and risk analysis report are submitted to the Range Master at least 2 weeks in advance for review and approval” to “ensures the test plan and risk analysis report are submitted to the Range Master at least 4 weeks in advance for review and approval”. Section 7.9, ES&H Department: Replaced with 7.9, Lead ES&H Specialist, and 7.10, LFR Safety Specialist. Section 9.3: Changed “Appendix E” to “Appendix J”. Section 9.6, Item 3 “Maintain the master file for all completed RACR forms in accordance with current DOE and NTC recordkeeping requirements”: Deleted.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

Rev.	Date	Description of Revision
		<ul style="list-style-type: none"> Section 9.7.1: Changed “A minimum of 2 weeks in advance, a test plan and risk analysis report must be developed and submitted to the Range Master” to “At least 4 weeks in advance, a test plan and risk analysis report must be developed and submitted to the Range Master”. Item 9.7.3.b: Added Training Director. Section 9.8 Note: Changed “No permanent or semi-permanent modifications may be made to the ISSTEC configuration without the prior approval of the Range Master or LFR/ISSTEC Technology Manager and the Facilities Director” to “No permanent or semi-permanent modifications may be made to the ISSTEC configuration without the prior approval of the Range Master or LFR/ISSTEC Technology Manager, and with notification to the Facilities Director”. Item 10.1.1: Changed “Prior to performing any activities at the ISSTEC, submit a completed RUA to the NTC Director and obtain approval” to “Prior to performing any activities at the ISSTEC, submit a completed RUA to the NTC Range Master (or designee), who will submit the RUA to the NTC Director for approval”. Section 10.4: Changed normal duty hours from (0730–1630) to (0700–1630). Section 11.2: Replaced guidance/reference to PFT-SOP-644 Appendix G with “ESH-PM-504 details actions to be taken in the event of an emergency at the LFR. A summary of emergency actions is posted at the emergency telephone located at each range”. Section 11.3, Emergency Exercises “LFR Safety Specialist and Range Master (or Designee): As an alternative to the annual LFR emergency exercise, may schedule an annual emergency exercise at ISSTEC to ensure proper actions are taken by emergency responders. Exercises may include supporting organizations such as SNL, KAFB Fire Department, and EMS evacuation assets”: Added. Appendix C, Access and Use of 9825H Glove Box Room: Added “The GB room has been determined as a suitable training area for Protective Force Training Department (PFTD training. Training iterations will be restricted to blank ammunition only and no dye-marking cartridge (DMC) projectiles. The chain barriers separating the glove box will not be crossed during any PFTD training iterations”. Appendix F, U.S. Forest Service Fire Condition Warning Signs and Restrictions: Replaced for consistency with PFT-SOP-644. Section G.1, Item 1: Changed “All dye-marking cartridge (DMC) exercises must be monitored by a firearms instructor who either is certified or has received specialized training that has been approved by the Range Master” to “All dye-marking cartridge (DMC) exercises must be monitored by a firearms instructor who either is certified or has received specialized training that has been approved by the PFTD Manager (or designee)”. Appendix L, Building 9825 H Pre- and Post-Training Walk-Through Form: Added.
11	08/25/22	<ul style="list-style-type: none"> Global: <ul style="list-style-type: none"> Replaced “DOE Order 473.3A, Protection Program Operations” with “DOE Order 473.2A, Protective Force Operations”. Reassigned tasks from “Rangemaster” to “Range Master or Assistant Range Master”. Changed “non-normal hours” and “non-operational hours” to “non-duty hours”. Section 2.0, Scope: <ul style="list-style-type: none"> 1st para: Changed “This document applies to all individuals that use the ISSTEC facilities, including Federal and contractor employees, NTC students (regardless of their place of employment), non-DOE agencies, and visitors.” to “This document applies to all individuals authorized to use the ISSTEC facilities.” 2nd para: Moved “ISSTEC operations include training, rehearsals, testing and evaluations, and dry-run exercises involving engagement simulation systems (ESS) under both day and night conditions.” to Section 1.0.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

Rev.	Date	Description of Revision
		<ul style="list-style-type: none"> • Section 5.0, Definitions: <ul style="list-style-type: none"> – 5.1, Authorized ISSTEC Instructor: Changed “Instructor who has formal training and has been reviewed and approved by the Range Master and the PFTD Manager. Non-NTC authorized instructors must be listed on an approved RUA.” to “Instructor who has completed the NTC ESS training module and is either an NTC instructor or listed on an approved and current RUA.” – 5.3, ESS Activity Visitor: Changed “Individual who has authorization to enter the ESS training area solely to observe training activity.” to “Individual who has authorization from the Range Master and the PFTD Manager (or designee) to enter the ESS training area solely to observe training activity.” – 5.4, ESS Activity Participant: Changed “must be trained in ESS use” to “must be briefed in ESS use”. – 5.6.C, Hybrid Dye Marking Cartridge ESS Firearm: Deleted “DMC rounds have very limited effective and maximum ranges. Thus, both systems are typically used during limited-scope performance tests (LSPTs) and training activities to simulate close quarters battle (CQB) and decision shooting situations”. – 5.6.F, Airsoft System: Added “(Currently, not included in the NTC inventory.)” – 5.6.H, Training Aids: Deleted “Note: Training aids are authorized for use at the LFR but may not be pointed at humans or used for any force-on-force activities”. – 5.7, Non-DOE User: Deleted. • Section 6.0, Policy: <ul style="list-style-type: none"> – Item B: <ul style="list-style-type: none"> ▪ Changed “suspend all training activities” to “suspend all training activities (call a “cease fire” and declare an “exercise freeze”)”. ▪ Changed “secure all ESS weapons and blank ammunition” to “secure all ESS weapons and ammunition”. – Item C “All Federal, state, and local (law enforcement or military) agencies must have a current Range Use Agreement (RUA) with the NTC to use the ISSTEC facilities”: Added. – Item E “Approval from the Range Master, Assistant Range Master, or ISSTEC/LFR Technology Manager must be obtained before any observation activities can be conducted”: Added. – Item L “Any activities conducted outside of the fence line must be coordinated through the Range Master”: Added. • Section 7.2, Range Master: <ul style="list-style-type: none"> – Item 7.2.2 and 7.3.2: Changed “Ensures a yellow flag is displayed when access to the facility is limited” to “Ensures a yellow flag is displayed when access to the facility is limited for maintenance or medical emergency conditions”. – Section 7.2.3: <ul style="list-style-type: none"> ▪ Changed “Supervises Assistant Rangemaster” to “Supervises ISSTC/LFR Technology Manager”. ▪ Item A: Changed “Delivery of required PFTD equipment and materials and supplies to the ISSTEC” to “Delivery and proper storage of required equipment and supplies to the ISSTEC facility.” ▪ Item B “Preparation for training activities outside the ISSTEC that require coordination with the KAFB Controlled Firing Area Committee (CFAC).”: Deleted. ▪ Item E: <ul style="list-style-type: none"> ○ Deleted “Reviews and approves modifications to or construction at the ISSTEC facility.” ○ Changed “Oversees construction projects” to “oversees projects” ▪ Item F “Ensures required ISSTEC supplies and ammunition are budgeted for, purchased, and stored correctly.”: Deleted.

NON-PROPRIETARY INFORMATION

This document was prepared by the LFR Operations Department and is scheduled for annual review in September 2024.

Rev.	Date	Description of Revision
		<ul style="list-style-type: none"> Section 7.3, Assistant Range Master: <ul style="list-style-type: none"> Added new section of responsibilities. Item 7.3.2: Changed “Ensures a yellow flag is displayed when access to the facility is limited” to “Ensures a yellow flag is displayed when access to the facility is limited for maintenance or medical emergency conditions”. Section 7.4, PFTD Manager: <ul style="list-style-type: none"> Changed “responsible for safe ESS operations at the ISSTEC facility” to “responsible for safe ESS training at the ISSTEC facility during NTC PFTD courses”. (Previous) Item 7.4.8 “Ensures training is provided for maintenance staff on the safe use of equipment used at the ISSTEC.”: Deleted. Section 7.5, ISSTEC/LFR Technology Manager: Added. Section 7.6, Lead Instructor: <ul style="list-style-type: none"> Item 7.6.6 Note: Changed “NTC training courses may be conducted on a temporary basis without the presence of a paramedic with prior approval from the Range Master or PFTD Manager, and with notification to the ES&H Specialist. Approval is based on the presence at the training site of an NTC instructor who is currently trained and certified in first aid, cardiopulmonary resuscitation (CPR), and the handling of gunshot wounds, and is in possession of a medical trauma kit.” to “The absence of a paramedic may be granted on a temporary basis with prior approval from the NTC Range Master or PFTD Manager, and with notification to the LFR Safety Specialist.” Item 7.6.3 “Signs-in and signs-out on the ISSTEC Use Sign-in/Sign-out Sheet at Building 9825I”: Deleted. Items 7.6.1 and 7.7.1: Changed or added “Ensures no live weapons or ammunition are brought onto the ISSTEC site” to “Ensures no live ammunition, unconverted or unmarked weapons, unmarked magazines, edged or impact weapons, or chemical agents are allowed into the ISSTEC training area.” Items 7.6.1, 7.7.1, and 10.5.1: Added “Note: No ammunition (of any type) is allowed in NTC classrooms”. Item 7.9.5 “Completes and maintains RACR forms for ISSTEC activities”: Added. Section 7.10, introductory paragraph: Deleted “as appropriate” from “Lead instructors are responsible for ensuring ISSTEC users and visitors comply with this procedure”. Section 8.0, Building 9825F: Added “PFTD instructor’s office”. Item 9.2.4 Note: Deleted “PFTD Manager” from “Channel B-4 will be monitored by the LFR Operations Administrative Assistant, Range Master, ISSTEC/LFR Technology Manager, or designee(s).” Section 9.5 Item 6: Deleted “PFTD Manager” from “Report any item needing repair to the ISSTEC/LFR Technology Manager or Range Master”. Item 9.6.2: Added “ISSTEC/LFR Technology Manager”. Item 9.6.5 “The Range Master will provide a copy of all RACRs, sign-in logs, and a copy of the LFR scheduling report for review by the General Manager.”: Deleted. Section 10.2 Item #2: Changed “forward the conflict to the Range Master or PFTD Manager for resolution” to forward the conflict to the Range Master for resolution”. Item 10.7.2 “Prior to any personnel conducting observation activities, approval must be granted by the Rangemaster, Assistant Rangemaster, or PFTD Manager.”: Deleted.

NON-PROPRIETARY INFORMATION

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		<ul style="list-style-type: none"> • 10.8.1 Item 2: <ul style="list-style-type: none"> – Changed “Ensure all weapons loading is conducted in accordance with safe weapons handling procedures.” to “Ensure all weapons loading and unloading are conducted in accordance with safe weapons handling procedures.” – Added “All individuals will wear appropriate eye protection during loading and unloading.” • Item 10.9.2: Changed “verify the action is open” to “visually verify the action is open”. • Item 10.11.1: Added “Cutting torches/saws may be allowed with prior approval of the Range Master based on current fire conditions and restrictions.” • Item 10.15.2: Changed “ISSTEC/LFR Technology Manager will empty the “Bad Ammo” cans and transfer the contents to Bunker # 4 in the LFR Ammunition Storage Area.” to “ISSTEC/LFR Technology Manager will empty the “Bad Ammo” cans and transfer the contents to 9825C for storage to be included with bad ammunition disposal.” • Section 11.1.3: Added “ISSTEC/LFR Technology Manager” to emergency phone list. • Section 11.2, Item B: Changed “Outside users will notify the NTC Range Master or PFTD Manager as soon as possible.” to “Outside users will notify the NTC Range Master as soon as possible.” • Appendix C, Access and Use of 9825H Glove Box Room: Revised in its entirety. • Section E.2 Item 3: Changed “DMC ammunition approved by the AU may be used” to “DMC ammunition approved by DOE may be used”. • Appendix F: <ul style="list-style-type: none"> – 2nd para: Changed “Activities outside the confines of the LFR” to “Activities outside the confines of ISSTEC/Building 9820”. – Section F.1, Fire Rating: Moderate and High, Additional Guidance: <ul style="list-style-type: none"> ▪ Deleted “Normal activities involving the use of small arms ammunition within the NTC LFR are permitted. No tracer ammunition is allowed.” ▪ Changed “Pyrotechnics are only authorized for use at the LFR R&D Range.” to “Pyrotechnics are only authorized for use inside the perimeter fence of ISSTEC and Building 9820.” ▪ Changed “Pyrotechnics will only be deployed in the LFSHs or outside in bang cans or hard surfaces clear of combustible material. Deviations must be approved by the Range Master or PFTD Manager.” to “Pyrotechnics will only be deployed inside the perimeter fence at the ISSTEC and Building 9820. Pyrotechnics used outside will be exploded in bang cans or on hard surfaces clear of combustible material. Deviations must be approved by the Range Master.” – Section F.2, Fire Rating: Very High, Additional Guidance: <ul style="list-style-type: none"> ▪ Deleted “Normal activities involving the use of small arms ammunition within the NTC LFR are permitted. Rounds must be contained within the confines of the range berms. No tracer ammunition is allowed.” ▪ Changed “Pyrotechnics are only authorized for use at the LFR R&D Range and inside the perimeter fence at the NTC’s ISSTEC” to “Pyrotechnics are only authorized for use inside the perimeter fence at the NTC’s ISSTEC and Building 9820”.

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		<ul style="list-style-type: none"> ▪ Changed “Pyrotechnics will only be deployed at the LFR R&D Range and inside the perimeter fence at the ISSTEC. Pyrotechnics used outside will be exploded in bang cans or on hard surfaces clear of combustible material. Deviations must be approved by the Range Master or PFTD Manager.” to “Pyrotechnics will only be deployed inside the perimeter fence at the ISSTEC and Building 9820. Pyrotechnics used outside will be exploded in bang cans or on hard surfaces clear of combustible material. Deviations must be approved by the Range Master.” – Section F.3, Fire Rating: Extreme, Additional Guidance: <ul style="list-style-type: none"> ▪ Deleted “Normal activities involving the use of small arms ammunition within the NTC LFR are permitted. Rounds must be contained within the confines of the range berms. No tracer ammunition is allowed.” ▪ Changed “Pyrotechnics are only authorized for use at the LFR R&D Range and inside the perimeter fence at the NTC’s ISSTEC” to “Pyrotechnics are only authorized for use inside the perimeter fence at the NTC’s ISSTEC and Building 9820”. ▪ Changed “Pyrotechnics will only be deployed at the LFR R&D Range and inside the perimeter fence at the ISSTEC. Pyrotechnics used outside will be exploded in bang cans or on hard surfaces clear of combustible material. Deviations must be approved by the Range Master or PFTD Manager.” to “Pyrotechnics will only be deployed inside the perimeter fence at the ISSTEC and Building 9820. Pyrotechnics used outside will be exploded in bang cans or on hard surfaces clear of combustible material. Deviations must be approved by the Range Master.” • Section G.1: Changed “All DMC exercises must be monitored by a certified firearms instructor or has received specialized training that is approved by the Range Master or the PFTD Manager.” to “All DMC exercises must be monitored by a certified firearms instructor or has received specialized training that is approved by the Range Master.”
10	01/11/21	<ul style="list-style-type: none"> • Reference 4.3 and Section G.3 Item 3: Updated reference from 2015 to 2020: ANSI/ISEA Z87.1-2020, <i>American National Standard for Occupational and Educational Personal Eye and Face Protection Devices</i>. • Reference 4.9, ESH-GP-538, <i>Coronavirus (COVID-19) Control</i>: Added. • Section 6.0, Policy: Added “Activities will comply with NTC health and safety guidelines (e.g., ESH-GP-538, <i>Coronavirus (COVID-19) Control</i>). These guidelines apply to all Federal employees, NTC contractor employees, and visitors at ISSTEC facilities”.
9	01/10/20	<ul style="list-style-type: none"> • Global: <ul style="list-style-type: none"> – “Observer” changed to “Visitor”. – “Armorer” changed to “Gunsmith”. – “PFTD Administrative Assistant” changed to “LFR Operations Administrative Assistant”. • 2.0, Scope: <ul style="list-style-type: none"> – Changed “including NTC Federal and contractor employees” to “including all Federal and contractor employees”. – Deleted “NOTE: ESS weapons are not authorized for use at the NTC’s Live Fire Range (LFR)”. • 6.0, Policy: Deleted “or PFTD Manager” from “Any activities conducted outside of the fence line must be coordinated through the Rangemaster.”

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		<ul style="list-style-type: none"> • (New) Item 7.4.6: Added “Ensures blue and orange flag is displayed when ESS activities are in progress and access to the facility is prohibited. When visibility is limited by weather conditions or darkness, the flashing blue and orange beacon must be used. The flag will be secured and/or the flashing blue and orange beacon will be turned off at the conclusion of ESS activities.” • Item 7.4.9: Changed “Channel A4” to “Channel B4”. • Item 7.4.10: <ul style="list-style-type: none"> – Changed “Maintains the following ISSTEC records” to “Maintains the following ISSTEC records”. – Added “e. Building 9820 Pre- and Post-Training Walk-Through Form (Appendix K)”. • Item 7.5.5: Deleted “PFTD Manager”. • Item 7.5.6.11: Replaced “ESS exercise plan” with “test plan”. • Item 7.8.1: Added “testing, demonstration, and evaluation of equipment, vehicles, weapon systems and munitions, and technologies”. • Section 8.0, Facilities: <ul style="list-style-type: none"> – Added “Building 9825K: A communications building. It is a “No Access – Area Out of Play” building during ESS training.” – Building 9820: Added “It is intended to replicate a residential facility. “ – Added “Building 9820A: A storage building. It is a “No Access – Area Out of Play” building during ESS training.” • Item 9.2.2: <ul style="list-style-type: none"> – Changed “An emergency use phone” to “A phone”, and changed “for off-hour and/or weekend emergency use” to “for emergency use”. – Added “A phone is located inside Building 9820 for emergency use.” • Item 9.5.2: Deleted “DMC and SecuriBlank™”. • Item 9.6.2: Deleted “3. PFTD Manager”. • Item 9.7.1: Changed “A test plan and a risk analysis report must be developed for activities not addressed in NTC SOPs or risk analysis reports, and submitted to the Rangemaster a minimum of 4 weeks in advance.” to “A test plan and a risk analysis report must be developed for all activities conducted at ISSTEC, including testing, demonstration, and evaluation of equipment, vehicles, weapon systems and munitions, and technologies, and submitted to the Rangemaster a minimum of 2 weeks in advance.” • Section 9.7.2 Item f: Added “and technologies”. • Item 9.8 Note: Changed “prior approval of the Rangemaster and PFTD Manager” to “prior approval of the Rangemaster or Assistant Rangemaster and the Facilities Director”. • Item 10.2: Changed “will forward the conflict to the requesting department manager” to “will forward the conflict to the Rangemaster or PFTD Manager for resolution”. • Section 10.4.2 Item 1: Changed “these hours” to “normal duty hours”. • Section 10.3, ISSTEC Priority: Removed and renumbered subsequent sections. • Item 10.7.4: Changed “In Building 9825H” to “Inside Buildings 9825H and 9820”. • Item 10.8.2: Added “Assistant Rangemaster”. • Item 10.11.2: Changed “FX blank” to “blank”.

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		<ul style="list-style-type: none"> Item 11.1.2: Replaced “An emergency use phone is located on the outside of ISSTEC building 9825H for off hour and/or weekend emergency use. A lock box next to the phone contains a charged radio for emergency use. The ISSTEC key opens the lock box.” with “A phone is located on the outside of the Classroom 9825F and Building 9825H for emergency use. A lock box next to the phone on Classroom F contains a charged radio for emergency use. The ISSTEC key opens the lock box. A phone is located inside Building 9820 for emergency use.” Item 11.1.3: <ul style="list-style-type: none"> Phone List: Updated to match PFT-SOP-644, LFR Operations, and added “Assistant Rangemaster” with phone number. Note: Added “9820”. Section 11.2, Emergency Actions: Deleted/replaced section with “Actions to Take in Response to Significant Events” to match PFT-SOP-644, LFR Operations. Section 12.0, Appendices: Added “K – Bldg. 9820 Pre- and Post-Training Walk-Through Form”. (New) Figure B-5, Floor Plan for Building 9820: Added. (New) Appendix K, Bldg. 9820 Pre- and Post-Training Walk-Through Form: Added.
8.1	09/05/19	<ul style="list-style-type: none"> (Added) “7.2.5 Issues appropriate keys for ISSTEC use during non-normal hours to approved users.” Item 7.4.10: Changed “Maintains ISSTEC Use Logs (Appendix A) and Key issue log.” to “Maintains the following ISSTEC records: a. ISSTEC Use Logs (Appendix A); b. ISSTEC Pre-Activity Statements, as required; c. ISSTEC Post-Activity Statements and Reports, as required; d. Key issue control and key logs. (Added) “7.4.16 Issues appropriate keys for ISSTEC use during non-normal hours to approved users.” Section 8.0, Facilities: Added bullet for Building 9820. Item 10.5.2: Changed “Approved users will be issued appropriate keys for ISSTEC use during non-normal hours.” to “The NTC Rangemaster or Assistant Rangemaster will issue appropriate keys for ISSTEC use during non-normal hours to approved users.” Figure B.1, ISSTEC General Site Layout: Replaced with updated figure that includes new Building 9820.
8	07/03/19	<ul style="list-style-type: none"> Global changes (reassignment of duties): <ul style="list-style-type: none"> “PFTD Operations Officer” changed to “PFTD Manager”. “ISSTEC Coordinator” changed to “Assistant Rangemaster”. “Oversight Programs Director” changed to “Facilities Director”. Item 9.2.1: Changed “forms of communication (e.g., landlines or Verizon cell phones and radios)” to “forms of communication (e.g., landline phones and radios)”. Item 9.2.2: Changed “An emergency use phone is located on the outside of the ISSTEC Building 9825H for off hour and/or weekend emergency use. A lock box next to the phone contains a charged radio for emergency use. The ISSTEC key opens the lock box.” to “An emergency use phone is located on the outside of the Classroom 9825F and Building 9825H for off hour and/or weekend emergency use. A lock box next to the phone on Classroom F contains a charged radio for emergency use. The ISSTEC key opens the lock box.” Item 10.8.1: Deleted “Training on the rooftop of ISSTEC building 9825H is prohibited for students and outside users. The northwest and southeast corners, respectively, of the roof on Building 9825H have been approved for rooftop fighting. Only NTC instructors are authorized to engage from these positions. Personnel shall NOT attempt to walk on the roof or roof edges of the building.”

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7.2	02/05/19	Updated references to ANSI/ISEA Z87.1-2015, <i>American National Standard for Occupational and Educational Personal Eye and Face Protection Devices</i> .
7.1	10/19/18	<ul style="list-style-type: none"> Sections 6.0 and 10.12.1: Added "NOTE: Climbing on any fence at the ISSTEC is strictly prohibited."
7	05/07/18	<ul style="list-style-type: none"> Signature block: Changed "Officially Designated Federal Security Authority" to "Officially Designated Security Authority". Items 9.2.2 and 9.2.3: Added to address new emergency use phone. Item 9.2.3, The SNL EOC can be reached using radio channel C-1: Deleted. Section 11.0, Emergency Procedures: <ul style="list-style-type: none"> Deleted "NOTE: NTC-PM-504, <i>NTC Emergency Management Plan</i>, details actions to be taken in the event of an emergency at the ISSTEC." Item 11.1: Added "from a landline phone". Item 11.2: Added "An emergency use phone is located on the outside of ISSTEC building 9825H for off hour and/or weekend emergency use. A lock box next to the phone contains a charged radio for emergency use. The ISSTEC key opens the lock box." Section 11.2, Emergency Actions: Added. Item 11.3.1, "Weather conditions involving long-term periods of dryness can adversely affect ESS activities due to increased fire hazard in Coyote Canyon. This includes the ISSTEC and LFR areas": Added. Item 11.3.2, "LFR Safety Specialist: Post the appropriate Fire Conditions Warning Signs and determine when conditions limit certain types of activities. This determination will be made in conjunction with U.S. Forest Service criteria (see Appendix F for such restrictions)": Renumbered existing text as 11.3.2. Section 12.0, Fire Conditions and Restrictions: Renumbered as 11.3. Section 13.0, Appendices: Renumbered as 12.0.
6	04/10/17	<ul style="list-style-type: none"> Definitions 5.1, 5.3, 5.4, 5.5, 5.6, 5.9: Revised. Definition 5.1, Authorized ISSTEC Instructor: Removed "Controller". Definition 5.5, Item B: Changed "submachine gun" to "machine gun". Definition 5.7, Non-DOE Responsible Point-of-Contact: Deleted. 6.0, Policy: Revised. Items 7.2.2 and 7.4.15: Added (transferred from Lead Instructor, 7.5.5, to Rangemaster). Section 7.5: Deleted "Individual instructors may fulfill various controller duties as described in DOE O 473.3A at various stages throughout the course of the training." and revised 7.5.6. Section 9.6.3: Deleted "The designation of who will fill out the RACR form(s) for any specific event will be determined by the Rangemaster, the PFTD Operations Officer, or the LFR Safety Specialist." Section 10.6.4.1: Changed "smoke and diversionary devices" to "pyrotechnics". Section 10.7.9: Added "noise/flash". Section 10.8.2: Added "kernmantle". Section 10.8.3: Added. Section 10.9.1: Added "unexpended" to "...account for all ammunition...". Section 10.13.5: Added "Only authorized cleaning materials, including solvents, chemicals, and lubricants, are allowed in the cleaning rooms. No outside materials may be introduced into the cleaning rooms." Section 10.14.1: Deleted (Section 10.14.2 changed to unnumbered paragraph).

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		<ul style="list-style-type: none"> Section 10.15: <ul style="list-style-type: none"> Deleted "2. Approach the device wearing the required PPE." Added to the new #2: "wearing fire-resistant gloves, long-sleeved shirt, and proper eye and ear protection". Section 11.3: Added updated phone list and note. Section C.3: Deletion of Glove Box Room requirements. Item E.1.8: Changed to "Red or blue for inert firearms and weapons". Section E.2: Revised items 2 and 3. Section F.3: Revised. Section G.2: Added. Item I.20: Added item B.
5.4	02/22/17	<ul style="list-style-type: none"> Section 2.0: Added note on ESS weapons. Item 5.5.H: Updated definition and added note.
5.3	12/06/16	<ul style="list-style-type: none"> Section 10.7.5: Changed 15 minutes to 7 minutes for smoke plume exposure without a respirator.
5.2	11/07/16	<ul style="list-style-type: none"> Global change: Updated reference to DOE O 473.3A. Section 5.1: <ul style="list-style-type: none"> Added "(CONTROLLER)" Revised "Authorized" to "Non-NTC authorized" in "Non-NTC authorized instructors must be listed on an approved RUA". Item 10.7.9: Added.
5.1	07/21/16	<ul style="list-style-type: none"> Section 7.5.4: Corrected to "...ensures the blue and orange flag..." Section 9.6: Revised RACR text to match SOP 644, Section 9.12. Appendix D: Removed "under 10 CFR 851" from the statement "Have the staff, students, and employees been informed of their "stop work" rights under 10 CFR 851?" in response to a corrective action identified as the result of PFTD's assessment approved 05/16/16.
5	04/26/16	Total rewrite that combined previous PFT-SOP-643, <i>ISSTEC Operations</i> , and PFT-SOP-646, <i>Engagement Simulation Systems</i>
4.1	01/07/16	Updated for consistency with PFT-SOP-644, Live Fire Range Operations (11/23/15): <ul style="list-style-type: none"> Revised Section 8.16, Risk Analysis Compliance Review. Added Section 8.17, Training Aids.
4	06/04/15	<ul style="list-style-type: none"> Reassigned responsibilities (ISSTEC Steering Committee, ISSTEC Area Facility Specialist) to other staff. Updated to reflect current contractor organization. Revised 2.0 Scope to include ISSTEC Training RAR. Revised 3.0 References to include NTC-PM-505. Revised ISSTEC Users and Visitors responsibilities (7.7.2.A and 7.7.3). Revised 8.1.4; 8.2; 8.3.2.B, 8.4; 8.5.3.1.1; 8.5.3.3; 8.5.7; 8.13.1; and 8.13.2. Revised note in 8.14.
3.1	03/07/13	Updated Section 8.3.
3	02/28/13	<ul style="list-style-type: none"> Removed Sections 7.1, NTC Director, and 7.5, Armory Operations, from Responsibilities section. Added text on dual usage of ISSTEC to Section 8.1. Updated NTC job titles and references. Added Section 8.5.7, Test Plans, as a corrective action.
2	01/07/11	Annual review/revision approved.
1	06/29/09	Annual procedure review/revision approved.

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Rev.	Date	Description of Revision
0	09/27/08	Original procedure approved.

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