

**LICENSEE-OWNED MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEMS USED
DURING FORCE-ON-FORCE INSPECTIONS
GUIDANCE DOCUMENT**

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1. Introduction

The purpose of this document is to provide standards for licensee-owned Engagement Simulation Systems (ESS) weapons and Multiple Integrated Laser Engagement System (MILES) sensor equipment used during the U.S. Nuclear Regulatory Commission (NRC)-conducted force-on-force (FOF) exercises. The use of ESS MILES during FOF exercises enhances the realism of engagements between licensee security responders and mock adversary forces.

The standards presented in this document do not constitute new NRC requirements. The robust safety features described in the standards provide assurance that live rounds will not be inadvertently introduced during NRC-conducted FOF exercises.

This document also describes the level of oversight NRC staff will provide for licensees that request to utilize licensee-owned ESS MILES equipment during NRC-conducted FOF exercises.

2. Description of Acceptable ESS MILES Equipment

Licensees that wish to use their ESS MILES equipment during NRC-conducted FOF exercises shall establish a robust training and maintenance program. Licensees should have an active maintenance program for all ESS MILES equipment in their inventory. This should not be limited to, but include, routine cleaning, minor maintenance, testing and calibration, and periodic checks for functionality and software or firmware updates to the systems. The programs should be inspectable and established in licensee procedures before use in NRC-conducted inspections. ESS MILES equipment must be operable, reliable, and able to perform its intended function. To achieve the highest levels of safety, licensee ESS MILES equipment used during NRC-conducted FOF exercises shall adopt the requirements outlined in U.S. Department of Energy (DOE) Order (O) 473.3A, "Protection Program Operations."

These safety features include:

1. Ultimate Training Munitions (UTM) Bolt – Offset Firing Pin (Firing pin is offset 3mm and will not impact the primer of center fire cartridge.)
2. UTM Blue Safety Magazine (The UTM magazine cannot be loaded with live ammunition. These magazines are used exclusively with UTM systems.)
3. Barrel Chamber Porting Modification (This engineered safety device features six holes drilled into the barrel of the ESS weapon, which allows all the pressure to escape if a live round is fired. A live round will only be able to travel about 3 to 6 inches down the barrel.)
4. Barrel Shroud (A shroud surrounds the barrel "porting" and protects the shooter's hand if a live round is fired from the weapon.)
5. Blast Deflector (UTM ESS weapons are equipped with blast deflectors on the muzzle to deflect propellant gasses and flames exiting the barrel.)

In order for the NRC to fully evaluate the licensee's physical protection program in the outcome of the exercise, the licensee's ESS MILES equipment must be able to generate an after-action report with the following items:

1. Participant neutralization information (MILES neutralization or controller "key fob" initiated)
2. Participant neutralization date and time stamp
3. Near misses recorded throughout the exercise

4. Number of rounds fired by the engaging participant(s)
5. Participant identification (differentiate between licensee responder and mock adversary)

In addition to the robust physical modifications to ensure safety, licensees must maintain a “sanitized” area when issuing ESS MILES equipment to ensure that a live round is not inadvertently introduced.

Licensees should control any safeguards information generated while producing after-action reports in accordance with Section 73.21 of Title 10 of the *Code of Federal Regulations*, “Protection of Safeguards Information: Performance Requirements.”

3. NRC Oversight of ESS MILES Equipment

The use of ESS MILES equipment during FOF exercises is a key factor in providing the realism of engagements between licensee security responders and mock adversary forces. The NRC staff will provide oversight of licensee-owned ESS MILES programs, to ensure they meet the standards set forth in DOE O 473.3A and Section 2 of this document. This would include verification and assessment of licensee-owned ESS MILES programs prior to use during NRC-conducted FOF inspections.

During NRC-conducted FOF inspections, NRC staff will provide oversight of licensees during the issuance and return of ESS MILES equipment to ensure licensees maintain a “sanitized” area so that a live round is not inadvertently introduced during an exercise.

4. References

Inspection Procedure 71130.03, “Contingency Response – Force-on-Force Testing”

Inspection Procedure 71130.05, “Protective Strategy Evaluation and Performance Evaluation Program”

Inspection Procedure 96001, “Contingency Response – Force-on-Force Testing Category-1 Fuel Cycle Facilities”

Title 10 of the *Code of Federal Regulations* 73.21 “Protection of Safeguards Information: Performance Requirements”

U.S. Department of Energy (DOE) – Order DOE O 473.3A, Protection Program Operations (available online at www.directives.doe.gov)

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