NRC INSPECTION MANUAL NMSS/DFM/NSIR/DSO

INSPECTION MANUAL CHAPTER 1247 APPENDIX C4

FUEL FACILITY PHYSICAL SECURITY INSPECTOR
TECHNICAL PROFICIENCY TRAINING AND QUALIFICATION

Effective Date: 05/01/2025

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INTRODUCTION

Inspection Manual Chapter (IMC) 1247, Appendix A, “Basic-Level Training and Certification Journal Fuel Facility Inspector” should be completed before completing any activities or courses in this journal. You may complete the General Proficiency requirements contained in IMC 1247, Appendix B “General Proficiency Level Training and Qualification Journal,” together with the Technical Proficiency requirements outlined in this journal. However, some of the required training courses in this appendix are only offered once per year. With your supervisor’s approval, you may attend required training for this appendix prior to fully completing IMC 1247 Appendix A and B. Consider enrolling for the required training courses as soon as you begin qualification.

This journal includes the certification requirements for fuel facility physical security inspectors at the Regions and Headquarters. The signature card and equivalency justification forms are at the end of this appendix. Inspectors who have qualified under a previous revision of Appendix C4 qualification journal are not required to take these courses. However, if these inspectors and their supervisor determine that one or all of these courses may be beneficial in enhancing the inspector’s abilities to accomplish the mission, then these courses may be taken by previously-qualified inspectors.

Security supervisors who would like to enhance their knowledge, skills, and abilities in the area of security are encouraged to consider taking the security courses listed below. These are not required classes for supervisors.

If the regional or headquarters inspector cannot attend one or more of the required courses listed because of circumstances beyond their control, an alternative acceptable course may be substituted with the documented permission of the regional or headquarters inspectors branch chief. Courses selected as an alternative should contain the fundamental information that will provide the inspector the basic knowledge, skills, and abilities as the course or courses being replaced.

Several of the topics have both individual study activities (ISA) and on-the-job training (OJT). With your supervisor’s approval, you may observe physical security inspections prior to having all of the ISAs and OJTs completed.

Before signing up for any course, ensure that you have met all of the prerequisites.

REQUIRED FUEL FACILITY PHYSICAL SECURITY INSPECTOR TRAINING COURSES

- Security Fundamentals Course (S-301)
- Access Authorization and Fitness for Duty Course (S-302)
- Weapons and Tactics Fundamentals Field Course (S-501)
- Explosives, Blast Effects, and Breaching Field Course (S-502)
- Advance Intrusion Detection Systems (S-503)
- Safeguards Information Designator Certification Training (Talent Management System (TMS))
- Online Introduction to the Design and Evaluation Process Outline (DEPO) for Nuclear Security (self-study) (S-118S)
- Plant Drawing Familiarization for Security (self-study) (TMS)

REFRESHER TRAINING

Refresher training shall be completed every 3 years. Management may include additional courses per their discretion.

- Security Counterpart & Technology Refresher (S-402)
- Participate in or perform a physical security inspection to maintain and update their knowledge in the inspection program

POST-QUALIFICATION TRAINING

None.

CONTINUING TRAINING

Courses, conferences, seminars, and other training opportunities should be sought out by the inspector following the completion of qualification and post qualification training courses. The inspector should propose courses to their supervisor and record any continuing training courses desired into the inspector's TMS learning plan and the individual development plan.

Fuel Facility Physical Security Inspector Technical Proficiency
Individual Study Activities

(ISA-PS-1) Title 10 of the *Code of Federal Regulations* (10 CFR)

PURPOSE:

The Nuclear Regulatory Commission (NRC) requires that fuel cycle facility licensees establish, operate, and maintain a physical protection system and security organization in accordance with prescribed requirements identified in 10 CFR. The 10 CFR provides the content and scope that various licensees must comply with or receive NRC approval to deviate from the requirements. For this reason, it is mandatory that all physical security inspectors gain a comprehensive knowledge of the contents of applicable security requirements in 10 CFR. This activity will provide the inspector with detailed knowledge of the contents of the requirements and how to apply the appropriate security regulation requirements.

COMPETENCY AREA: REGULATORY REQUIREMENTS
TECHNICAL EXPERTISE

LEVEL OF EFFORT: 48 hours

REFERENCES:

- 10 CFR 2.390 (d) “Public Inspections, Exemptions, Requests for Withholding”
- 10 CFR Part 10, “Criteria and Procedures for Determining Eligibility for Access to Restricted Data or National Security Information or an Employment Clearance”
- 10 CFR Part 11, “Criteria and Procedures for Determining Eligibility for Access to or Control over Special Nuclear Material”
- 10 CFR Part 25, “Access Authorization”
- 10 CFR Part 26, “Fitness for Duty”
- 10 CFR 73.15, “Authorization for Use of Enhanced Weapons and Preemption of Firearms Laws”
- 10 CFR 73.17, “Firearms Background Checks for Armed Security Personnel”
- 10 CFR 73.20, “General Performance Objective and Requirements”
- 10 CFR 73.21, “Protection of Safeguards Information: Performance Requirements”
- 10 CFR 73.22, “Protection of Safeguards Information: Specific Requirements”
- 10 CFR 73.23, “Protection of Safeguards Information – Modified Handling: Specific Requirements”
- 10 CFR 73.45,” Performance Capabilities for Fixed Site Protection Systems”

- 10 CFR 73.46, “Fixed Site Physical Protection Systems, Subsystems, Components, and Procedures”
- 10 CFR 73.67, “Licensee Fixed Site and In-transit Requirements for the Physical Protection of Special Nuclear Material of Moderate and Low Strategic Significance”
- 10 CFR 73.70, “Records”
- 10 CFR 73.1200, “Notification of Physical Security Events”
- 10 CFR 73.1205, “Written Follow-up Reports of Physical Security Events”
- 10 CFR 73.1210, “Recordkeeping of Physical Security Events”
- 10 CFR 73.1215, “Suspicious Activity Reports”
- 10 CFR Part 73, Appendix A, B, C, and D
- 10 CFR Part 95, “Facility Security Clearance and Safeguarding of National Security Information and Restricted Data”
- 10 CFR Part 110, “Export and Import of Nuclear Equipment and Material”
- 10 CFR 150.14, “Commission Regulatory Authority for Physical Protection”

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Identify, recognize, and locate specific security related topics presented in the CFR and appendices referenced above.
- Describe the general objective of a licensee’s security program with a focus on design basis threat.
- Recognize and discuss the definitions of terms and security processes identified in the CFR and appendices referenced above.
- Delineate the qualification and requalification for security personnel and weapons.
- Recognize and discuss security event reporting requirements.
- Discuss the fitness-for-duty requirements.
- Discuss activities related to the control and accounting of special nuclear material.

TASKS:

- Locate and review general and specific security activities described in 10 CFR.

- Review the definition of classified, safeguards information, and other sensitive information, and determine the appropriate control measures for the information.
- Review the information in the CFR related to the physical protection for fuel cycle facilities, fitness-for-duty, and material and control requirements.
- Review the description and application of the Design Basis Threat (DBT).
- Read and discuss 10 CFR Part 95.
- Discuss the difference between inspection and licensing.
- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card Item ISA-PS-1.

(ISA-PS-2) Regulatory Guidance

PURPOSE:

The purpose of this ISA is to help you become familiar with the regulatory guidance available for fuel cycle physical security inspectors.

COMPETENCY AREA: REGULATORY
FRAMEWORK INPSECTION

LEVEL OF EFFORT: 50 hours

REFERENCES:

- Regulatory Guides (RG) use the latest revision
- RG 5.7, "Entry/Exit Control for Protected Areas, Vital Areas, and Material Access Areas"
- RG 5.12, "General Use of Locks in the Protection and Control of Facilities and Special Nuclear Materials, Classified Matter, and Safeguards Information"
- RG 5.27, "Special Nuclear Material Doorway Monitors"
- RG 5.31, "Specially Designed Vehicle with Armed Guards for Road Shipment of Special Nuclear Material"
- RG 5.44, "Perimeter Intrusion Alarm Systems"
- RG 5.52, "Standard Format and Content of a Licensee Physical Protection Plan for Strategic Special Nuclear Material at Fixed Sites"
- RG 5.55, "Standard Format and Content of Safeguards Contingency Plans for Fuel Cycle Facilities"
- RG 5.59, "Standard Format and Content for a Licensee Physical Security Plan for the Protection of Special Nuclear Material of Moderate or Low Strategic Significance"
- RG 5.62, "Physical Security Event Notifications, Reports, and Records"
- RG 5.70, "Guidance for the Application of the Theft and Diversion Design-Basis Threat in the Design Development, and Implementation of a Physical Security Program that Meets CFR 73.45 and 73.46" (Classified)
- RG 5.79, "Protection of Safeguards Information"
- RG 5.86, "Preemption Authority, Enhanced Weapons Authority, and Firearms Background Checks"
- RG 5.87, Suspicious Activity Reports Under 10 CFR Part 73

- RG 5.89, "Fitness-for-Duty Programs for Commercial Power Reactor and Category I Special Nuclear Material Licensees"
- NRC Letter to Licensees, Guidance for Implementation of the April 2003 Supplemented Requirements to the Design Basis Threat for Category I Fuel Cycle Facilities (SGI)
- NUREG 1520, "Standard Review Plan for Fuel Cycle Facilities License Applications"
- NUREG 1885, "Report to Congress on the Security Inspection Program for Commercial Power Reactor and Category I Fuel Cycle Facilities: Results and Status Update-Annual Reports"
- NUREG 1964, "Access Control Systems: Technical Information for NRC Licensees"
- NUREG 2166, "Physical Security Best Practices for the Protection of Risk-Significant Radioactive Material"
- NUREG/CR-6668, "Standard Review Plan for Training and Qualifications Plans for Security Personnel at Category I Fuel Facilities"
- Any others as selected by your supervisor

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Discuss the general content of the guidance the NRC has for physical security at fuel cycle facilities.

TASKS:

- Locate and review the RG's listed in the references section.
- Locate and review the NUREGs listed in the references section.
- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card Item ISA-PS-2.

(ISA-PS-3) Generic Communications for Security at Fuel Cycle Facilities

PURPOSE:

The purpose of this ISA is to help you become familiar with the NRC's generic communications related to physical security at fuel cycle facilities.

COMPETENCY AREA: REGULATORY
FRAMEWORK INSPECTION

LEVEL OF EFFORT: 6 hours

REFERENCES:

- Generic Letter (GL) 88-19, Use of Deadly Force by Licensee Guards to Prevent Theft of Special Nuclear Material
- GL 89-20, Protected Area Long-Term Housekeeping
- Information Notices (IN) 96-71, Licensee Response to Indications of Tampering, Vandalism, or Malicious Mischief
- IN 98-05, Criminal History Record Information
- IN 99-16, Federal Bureau of Investigation's Nuclear Site Security Program
- Bulletin 38, Necessary Penetrations of Material Access Area Barriers (issued by Licensee Safeguards Guidance Group) (Classified)
- Regulatory Issue Summary (RIS) 2018-03, National Terrorism Advisory System and Protecting Measures for the Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material
- Any others as selected by your supervisor

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Discuss the general content of each of the generic communications the NRC has for physical security at fuel cycle facilities.

TASKS:

- Locate and review the GLs listed in the references section.
- Locate and review the INs listed in the references section.

- Locate and review the Bulletin listed in the references section.
- Locate and review the RIS listed in the references section.
- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card Item ISA-PS-3.

(ISA-PS-4) Physical Barrier System and Intrusion Detection and Assessment Equipment

PURPOSE:

The NRC requires each fuel cycle facility licensee to establish and implement physical barriers in accordance with 10 CFR 73.2, 10 CFR 73.45, and 10 CFR 73.46. A description of the physical barrier system is provided in the facility's security plans. Operation, maintenance, and testing of the physical barrier system are described in the facility's security plan implementing procedures. Because security plans provide the basis for the implementation of regulatory requirements in 10 CFR Part 73 associated with physical barriers, physical security inspectors should be familiar with the licensee's security plans before conducting an inspection at the facility. This activity will provide guidance on how to review a facility's security plans, which are in the NRC's regional offices and headquarters, before an inspection and the security implementing procedures associated with the physical barrier system, which are available at the facility, during an inspection.

Additionally, the NRC requires that each fuel cycle facility licensee establishes, maintains, and uses onsite intrusion detection and assessment equipment as part of a physical protection system, which is designed to protect against the design basis threat for theft or diversion of strategic special nuclear material and radiological sabotage. The detection and assessment of penetration or attempted penetration of the protected area or isolation zone adjacent to the protected area barrier is required to assure that the security organization can adequately respond. The licensee's physical security plan provides the required specifications and capabilities related to this equipment. Consequently, it is mandatory that all of NRC physical security inspectors have a detailed understanding of the design, capability, and requirements relating to the licensee's intrusion detection and assessment equipment as required by 10 CFR 73.45 and 10 CFR 73.46.

NOTE: The following courses must be completed before beginning this activity:

1. Online Introduction to the Design and Evaluation Process Outline (DEPO)
2. Safeguards Information Designator Certification Training

COMPETENCY AREA: INSPECTION
TECHNICAL EXPERTISE

LEVEL OF EFFORT: 32 hours

REFERENCES:

- The NRC-approved Physical Security Plan for a facility designated by your supervisor.
- The NRC-approved Training and Qualification Plan for a facility designated by your supervisor.
- The NRC-approved Safeguards Contingency Plan for a facility designated by your supervisor.

- 10 CFR 73.2, 10 CFR 73.20, 10 CFR 73.45, and 10 CFR 73.46
- RG 5.52, Standard Format and Content of a Licensee Physical Protection Plan for Strategic Special Nuclear Material at Fixed Sites
- RG 5.55, Standard Format and Content of Safeguards Contingency Plans for Fuel Cycle Facilities
- NUREG-1959, Intrusion Detection Systems and Subsystems
- NUREG 1964, Access Control Systems

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Discuss the general content of the applicable portions of the security plans related to physical barriers and their regulatory basis.
- Discuss the specific areas where you would expect the licensee to have developed more detailed implementing procedures (e.g., compensatory measures, physical barrier testing and surveillance, etc.).
- Discuss the definition of terms associated with physical barriers provided in the security plans.
- Discuss in general terms the operation of various types of intrusion detection systems currently used at fuel cycle facilities.
- Discuss design goals of the vehicle barrier system. Describe how licensees use barriers and vehicle controls to satisfy the requirements of 10 CFR 73.45 and 10 CFR 73.46.
- Discuss the concept of multiple physical barriers to protect a vital area and material access area.
- Discuss the fundamental principles of operation and typical design features associated with commonly used protected area perimeter, material access area, and vital area intrusion assessment equipment including:
    - E-field detection devices
    - Infrared detection devices
    - Microwave detection devices
    - Motion detection devices
    - Vibration detection devices
    - Balanced magnetic switches
    - Any other intrusion detection system sensors and devices utilized by licensees
- Discuss the fundamental principles of operation and typical design features associated with commonly used protected area perimeter and vital area intrusion assessment equipment including:

- Pan-tilt-zoom cameras (PTZ)
- Closed circuit televisions (CCTV)
- Low light/night vision camera systems
- Video image capture systems
- Video recording systems
- Any other assessment systems and devices utilized by licensees

- Identify the 10 CFR 73 requirements for fuel cycle facilities associated with the above intrusion detection and assessment devices and equipment.

- Explain how a licensee incorporates applicable requirements into its plant specific requirements (e.g., system performance criteria and plant procedures).

- Explain how an NRC physical security inspector inspects the above intrusion detection and assessment devices and equipment through use of associated NRC inspection procedures.

- Describe how NRC advisors that work with force-on-force (FOF) and licensees test the above intrusion detection and assessment devices.

- Discuss lighting and the use of technology to augment lighting capabilities at a site in a loss of offsite power situation.

TASKS:

- Locate copies of the regulatory requirements, regulatory guides, and NUREG documents identified in the references section above.

- Locate a copy of the Security Plans for the assigned facility.

CAUTION: The Physical Security Plan, Contingency Plan, and the Training and Qualifications Plan are generally CLASSIFIED and should be controlled accordingly.

- Review the security plans, regulatory and guidance documents, and any other supporting documentation necessary to be able to discuss the topics identified in the evaluation criteria section above.

- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card Item ISA-PS-4.

(ISA-PS-5) Review of Significant Fuel Cycle Security Events

PURPOSE:

The purpose of this ISA is to help you become familiar with past security incidents at fuel cycle facilities.

COMPETENCY AREA: INSPECTION

LEVEL OF EFFORT: 16 hours

REFERENCES:

- NRC Inspection Report 2013402, ML13197A252 (Non-public)
- NRC Response to Violation, ML13316B164 (Non-public)
- NRC Inspection Report 2015403, ML15244B261 (Non-public)
- NRC Choice Letter, ML15264A673 (Non-public)
- NRC Enforcement Action Letter, ML15309A459 (Non-public)
- NRC Inspection Report 2009401 & 2009406, ML090270105 (Non-public)
- NRC Enforcement Action, ML091210255 (Non-public)
- NRC Inspection Report 2009402, ML090620134 (Non-public)
- NRC Inspection Report 2009403, ML090570339 (Non-public)
- NRC Inspection Report 2009404, ML090920727 (Non-public)
- NRC Inspection Report 2009409, ML091950176 (Non-public)
- NRC Inspection Report 2007407, ML080360482 (Non-public)
- NRC Inspection Report 2012401, ML12054A792 (Non-public)
- NRC Inspection Report 2015406, ML15323A424 (Non-public)
- NRC Inspection Report 2010401, ML110560757 (Non-public)
- NRC Inspection Report 2014401, ML14176A247 (Non-public)

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Understand how previous security events at fuel cycle and conversion facilities have impacted the regulatory framework.
- Learn how to use insights gained from past security events to support physical security inspections.

TASKS:

- Locate copies of the listed NRC inspection reports and final enforcement actions.
- Review the inspection reports and final enforcement actions and any other supporting documentation necessary to be able to discuss the topics identified in the evaluation criteria section above.
- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card Item ISA-PS-5.

(ISA-PS-6) Orders Issued to Fuel Cycle Facilities

PURPOSE:

The purpose of this ISA is to help you become familiar with previous security orders that have been issued to fuel facilities.

COMPETENCY AREA: INSPECTION

LEVEL OF EFFORT: 10 hours

REFERENCES:

- Category I Fuel Cycle Facility Orders
    - EA-02-CATI, “Interim Compensatory Measures for Category I Fuel Cycle Facilities”, dated August 21, 2002 (CLASSIFIED)
    - EA-03-087, “Revised Design Basis Threat Order”, dated April 29, 2003 (CLASSIFIED)
- Category III Fuel Cycle Facility Orders
    - EA-06-230, “Additional Security Measures Order,” dated December 12, 2006 (SGI) NS108321 and NS108322
- BWXT Lynchburg Technology Center (LTC) Order
    - EA-07-011, “Additional Security Measures for LTC,” dated January 16, 2007 (SGI) NS103698
- GE Hitachi Vallecitos Nuclear Center Category-Neutral Security Order
    - EA-14-1944, “Security Measures for Vallecitos Nuclear Center,” dated April 22, 2015 (SGI) NS113240
- Framatome
    - EA-03-062, “Interim Compensatory Measures,” dated February 6, 2003 (SGI) NS 101336
- Westinghouse
    - EA-03-063, “Interim Compensatory Measures,” dated February 6, 2003 (SGI) NS 111783

- GNF-A
    - EA-03-066, “Interim Compensatory Measures,” dated February 6, 2023 (SGI) NS 101334
- URENCO
    - EA-06-230, “Additional Security Measures”, dated December 12, 2006
- Conversion Facility (Part 40) Security Orders
    - EA-02-025, “Interim Compensatory Measures Order for Honeywell, dated March 25, 2002 (SGI) NS125910
    - EA-03-096, “Additional Security Measures for Access Authorization to Honeywell,” dated August 18, 2004 (SGI) NS111232 and NS111263

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Discuss the general content of each of the facility specific security orders.
- Discuss how the specific security orders impact the regulatory framework.
- Review the different security requirements placed on each facility.

TASKS:

- Locate and copies of the listed security orders for each facility. These orders are either classified or safeguards information.
- Review the security orders and any other supporting documentation necessary to be able to discuss the security requirements placed on each facility identified in the evaluation criteria section above.
- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card ISA-PS-6.

(ISA-PS-7) Licensee Protective Strategies

PURPOSE:

The NRC requires that a licensee be able to adequately defend its plant against the design basis threat (DBT) addressed in 10 CFR 73.1. This rule specifies the specific elements of the DBT against which each licensee is required to defend. For this reason, it is essential that all physical security inspectors gain a detailed knowledge of the actions that a licensee must complete to meet these requirements. This activity will provide security inspectors with detailed knowledge of the contents of the rule requirements and how to apply the DBT requirements.

COMPETENCY AREA: INSPECTION
TECHNICAL EXPERTISE

LEVEL OF EFFORT: 24 hours

REFERENCES:

- 10 CFR 73.1
- 10 CFR 73.45
- 10 CFR 73.46
- Inspection procedure (IP) 81700.05, “Category I Fuel Cycle Facility Physical Protection Program and Protective Strategy”
- IP 81700.06, “Licensee Conducted Force-on-Force Exercises at Category I Fuel Cycle Facilities”
- IP 81700.11, “Annual Observation of Licensee Conducted Force-on-Force Exercises at Category I Fuel Cycle Facilities”
- IP 96001, “NRC Force-on-Force Inspections at Category 1 Fuel Cycle Facilities”
- RG 5.70, “Guidance for the Application of Radiological Sabotage Design-Basis Threat in the Design, Development and Implementation of a Physical Security Program that Meets CFR 73.45 and 73.46 Requirements” (CLASSIFIED)
- Licensee Physical Security Plan (CLASSIFIED)

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Discuss the regulatory requirements for the design, development, and implementation of a security defense strategy.

- Discuss the DBT and its associated characteristics.

- Demonstrate the ability to review and evaluate a licensee's overall Safeguards Contingency Response Plan. This should include an evaluation of the licensee's ability to respond to external DBT by focusing on: (1) the interactions between a licensee's operations, material control and accounting (MC&A), and security departments in establishing priorities for protecting equipment and material, (2) the overall protective strategies used, and (3) results of table-top and force-on-force exercises.

- Discuss a licensee's: (1) established target areas and its responsiveness and effectiveness in implementing its strategy to protect these areas, (2) conduct of table-top drills and real-time force-on-force exercises, (3) use of force training, (4) ability to interdict adversarial forces.

- Discuss how to evaluate the level of security officers' regulatory and site-specific training to include proper application, weapons employed, overall weapons training, manipulation of weapons, and marksmanship proficiency.

- Discuss how to evaluate the effectiveness of licensee's communication system, security alarm stations, detection and assessment aids, and physical barrier systems during conduct of drills, exercises, and force-on-force inspections.

- Discuss how to evaluate the licensee's command and control during the conduct of tactical response drills and force-on-force exercises.

TASKS:

- Read and obtain in-depth understanding of the regulatory requirements included in 10 CFR 73.45 and 10 CFR 73.46.

- Review and evaluate the protective strategy by reviewing at least one licensee protective strategy briefing. If able, attend and observe either IP 81700.05, 81700.06, 81700.11, or 96001 inspections at a licensee facility designated by your supervisor.

- Review two force-on-force inspection reports to understand how the evaluations were used to assess the licensee response to the simulated event.

- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card Item ISA-PS-7.

(ISA-PS-8) Enforcement Framework

PURPOSE:

The purpose of this ISA is for a physical security inspector to gain the requisite knowledge, understanding, and practical ability to be able to use the enforcement process to determine and document the significance of security-related inspection findings.

COMPETENCY AREA: INSPECTION
ENFORCEMENT TECHNICAL EXPERTISE

LEVEL OF EFFORT: 16 hours

REFERENCES:

- Inspection Manual Chapter (IMC) 0616, "Fuel Cycle Safety and Safeguards Inspection Reports"
- IMC 0616 Appendix B, "Examples of Minor Violations"
- IMC 2600, "Fuel Cycle Facility Operational Safety and Safeguards Inspection Program"
- IMC 2600 Appendix B, "NRC Core Inspection Requirements"
- IMC 2681, "Physical Protection and Transport of Special Nuclear Material and Irradiated Fuel Inspections of Fuel Facilities"
- NRC Enforcement Policy

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Identify documentable security-related findings from either a licensee's problem identification system, events, or NRC inspector observations.
- Screen the above potential violations using IMC 0616 Appendix B.
- Verify the efficacy of the licensee's efforts to correct deficiencies associated with the potential violations.
- Assign the potential violations a significance using the NRC's enforcement policy into one of the following: Severity level (SL) IV, SL III, SL II, or SL I.

TASKS:

- Evaluate and document at least three inspection violations in accordance with IMC 0616. The individual's supervisor or designee may assign mock violations for the trainee to evaluate and document.

- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card Item ISA-PS-8

Fuel Facility Physical Security Inspector
On-the-Job Activities

(OJT-PS-1) Licensee Security Training and Qualification Program

PURPOSE:

The purpose of this ISA is to help you become familiar with the NRC's physical security inspection program.

COMPETENCY AREA: INSPECTION

LEVEL OF EFFORT: 25 hours

REFERENCES:

- Licensee Training and Qualification Plan (CLASSIFIED)
- IP 81700.07, "Category I Fuel Cycle Facility Security Training"
- 10 CFR 73.46
- 10 CFR Part 73
- Any applicable Federal, State, or Local references the licensee has adopted for safety and construction of the range.

EVALUATION CRITERIA:

When you have completed this activity, you will be able to do the following:

- Determine which aspects of licensee training relate to regulatory requirements.
- Describe the training and qualification criteria that must be met by personnel assigned to the licensee's security organization before assuming security related duties.
- Evaluate the licensee's employment of weapons (rifles, handguns, and shotguns) to determine if the employment of those weapons is safe and effective.
- Evaluate firing range safety conditions according to Federal, State, or Local references licensees have adopted to be used at the range.
- Evaluate the effectiveness of the licensee's weapons qualification courses and the licensee's training facilities to determine whether the course of fire is representative of the criteria listed in 10 CFR Part 73, Appendix B, and the NRC approved Training and Qualification plan.

TASKS:

1. Locate the security officer training related requirements in 10 CFR Part 73, Appendix B and in the licensee's training and qualification plan.

2. Before going to a licensee facility, meet with a qualified fuel cycle physical security inspector or your supervisor and discuss the following:

    a) NRC policy related to handling licensee weapons

    b) NRC policy on evaluating licensee staff shooting at the firing range

    c) NRC expectations on basic firearm safety

3. Attend an on-site inspection during the implementation of IP 81700.07, "Category I Fuel Cycle Facility Security Training."

4. Review previous inspection reports for items related to security training. Remember to look for issues where the corrective action involved training the security officers.

5. Identify and review security implementing procedures related to security training.

6. Review the licensee's security officer training schedule to identify training or qualification activities that well be occurring during the inspection.

7. Observe weapons training and qualification activities.

8. Review training records to determine if they reflect the training and qualification plan.

9. Meet with a qualified fuel facility physical security inspector to discuss your independent assessments of the licensee performance relative to the tasks above. Be prepared to defend your assessment and provide examples to support your conclusions.

10. Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Proficiency Level Qualification Signature Card Item OJT-PS-1.

(OJT-PS-2) Physical Barrier Systems

PURPOSE:

Fuel cycle facilities are required to install and maintain physical barriers that protect the facility in conformance with regulatory requirements. It is vital that the inspector obtain the necessary information to make an informed and knowledgeable judgment regarding the effectiveness of security barriers. Upon completion of this OJT, you will be able to identify information sources that could be used to assess the adequacy and appropriateness of physical security barriers.

COMPETENCY AREA: INSPECTION

LEVEL OF EFFORT: 40 hours

REFERENCES:

- Licensee Physical Security Plan (CLASSIFIED)
- IP 81700.04, “Category I Fuel Cycle Facility Security Equipment Performance, Testing, and Maintenance”
- 10 CFR 73.2, “Physical Barriers”
- 10 CFR 73.45
- 10 CFR 73.46

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Describe and categorize physical barrier systems and intrusion detection systems that are required by regulations to be installed and maintained.
- Describe how you would verify the effectiveness of physical barriers.
- Describe how a licensee tests different intrusion detection equipment at a site.
- Describe which reference documents you would consult to verify that physical barriers were installed and maintained in accordance with commitments.
- Identify methodologies to verify security organization activities that evaluate physical barriers effectiveness.

TASKS:

- Read security plan commitments that identify and describe how physical barriers are installed and maintained to ascertain that the barriers are in conformance with regulatory requirements.

- Attend an onsite inspection during the implementation of IP 81700.04, “Category I Fuel Cycle Facility Security Equipment Performance, Testing, and Maintenance.”

- Observe physical barriers to ascertain whether the barriers are adequate and appropriately installed for their intended function.

- Review appropriate licensee documentation that identifies maintenance-related activities and problem identification and resolution issues. Verify that maintenance and testing activities are conducted in a timely and effective manner and in accordance with the regulation and licensee implementing procedures.

- Observe functionality testing or challenge testing of an intrusion detection system at a licensee facility. Identify the process the licensee utilizes to receive an alarm during the test, how they conduct the test, and which procedures they used to test the equipment.

- Interview selected security personnel to determine their duties and responsibilities related to physical barrier activities testing, maintenance, and oversight.

- Conduct an evaluation of results regarding physical barrier effectiveness against those reached by the licensee. If there are differences, discuss the differences with your supervisor or a qualified physical security inspector to understand why the differences exist.

- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card Item OJT-PS-2

(OJT-PS-3) Access Controls

PURPOSE:

Each fuel cycle facility is required to ensure that only authorized and cleared personnel, materials, and vehicles enter the protected area, material access area, and vital areas. Licensees are required to check personnel, materials, and vehicles for proper identification and authorization, and search for devices such as firearms, explosives, and incendiary devices or other items which could be used for theft and diversion or radiological sabotage prior to admittance into the protected area. The purpose of this activity is to provide information and guidance for a physical security inspector to adequately review a licensee's access control program and methods in place to ensure that personnel controlling access points properly identify, authorize, and search all personnel, materials, and vehicles entering the protected area.

COMPETENCY AREA: INSPECTION

LEVEL OF EFFORT: 27 hours

REFERENCES:

- Licensee Physical Security Plan (CLASSIFIED)
- 10 CFR 73.45
- 10 CFR 73.46
- RG. 5.7, "Entry/Exit Control for Protected Areas, Vital Areas, and Materials Access Areas"
- IP 81700.02, "Category I Fuel Cycle Facility Access Control Measures"

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

- Describe which reference documents you would consult to verify that hardware devices and physical barriers in place to control access were installed and maintained in accordance with commitments.
- Describe how you would verify the effectiveness of the access control methods.
- Describe the purpose and use of an electronic key card system for gaining access to the protected area, material access area, and vital areas.
- Describe the purpose, use, and types of available biometric devices in use at fuel cycle facilities.

- Describe the functions served by the central and secondary alarm stations in ensuring that only authorized personnel are granted unescorted access to the facilities protected area, material access area, and vital areas.
- Describe “tailgating” and methods that licensees may use to prevent or minimize it.
- Describe the importance of always wearing a security badge while inside the facilities protected area, material access area, and vital areas.
- Describe what occurs if an individual loses their security badge.

TASKS:

- Read IP 81700.02, “Category I Fuel Cycle Facility Access Control Measures.”
- Read 10 CFR 73.45 and 10 CFR 73.46.
- Attend an onsite inspection during the implementation of IP 81700.02, “Category I Fuel Cycle Facility Access Control Measures.”
- Meet with your supervisor or a qualified fuel facility physical security inspector to discuss any questions you may have as a result of this activity. Discuss the answers to the questions listed under the Evaluation Criteria section of this study guide with your supervisor or designee.

DOCUMENTATION: Fuel Facility Physical Security Inspector Technical Proficiency Level Qualification Signature Card Item OJT-PS-3

Form 1: Regional/Headquarters Fuel Facility Physical Security Inspector Technical Proficiency Level Signature Card and Certification

Inspector's Name:	Employee Initials Date	Supervisor's Signature/Date
Required Training Courses		
Security Fundamentals Course (S-301)		
Access Authorization and Fitness for Duty Course (S-302)		
Weapons and Tactics Fundamentals Field Course (S-501)		
Explosives, Blast Effects, and Breaching Field Course (S-502)		
Advance Intrusion Detection Systems (S-503)		
Safeguards Information Designator Certification Training (TMS)		
Online Introduction to the Design and Evaluation Process Outline (DEPO) for Nuclear Security (self-study) (S-118S)		
Plant Drawing Familiarization for Security (self-study) (TMS)		
Individual Study Activities		
(ISA-PS-1) Title 10 of the Code of Federal Regulations (10 CFR)		
(ISA-PS-2) Regulatory Guidance		
(ISA-PS-3) Generic Communications for Security at Fuel Cycle Facilities		
(ISA-PS-4) Physical Barrier System and Intrusion Detection and Assessment Equipment		
(ISA-PS-5) Review of Significant Fuel Cycle Security Events		
(ISA-PS-6) Orders Issued to Fuel Cycle Facilities		
(ISA-PS-7) Licensee Protective Strategies		
(ISA-PS-8) Enforcement Framework		

	Employee Initials Date	Supervisor's Signature/Date
On-the-Job Activities		
(OJT-PS-1 Licensee Security Training and Qualification Program		
(OJT-PS-2) Physical Barrier Systems		
(OJT-PS-3) Access Controls		

Supervisor's signature indicates successful completion of all required courses and activities listed in this journal and readiness to appear before the Oral Board, if applicable.

Supervisor's Signature: _____ Date: _____

Form 2: Regional/Headquarters Fuel Facility Physical Security Inspector Technical Proficiency Level Equivalency Justification

Inspector's Name:	Identify equivalent training and experience for which the inspector is to be given credit.
Security Fundamentals Course (S-301)	
Access Authorization and Fitness for Duty Course (S-302)	
Weapons and Tactics Fundamentals Field Course (S-501)	
Explosives, Blast Effects, and Breaching Field Course (S-502)	
Advance Intrusion Detection Systems (S-503)	
Safeguards Information Designator Certification Training (TMS)	
Online Introduction to the Design and Evaluation Process Outline (DEPO) for Nuclear Security (self-study) (S-118S)	
Plant Drawing Familiarization for Security (self-study) (TMS)	
<u>Individual Study Activities</u>	
(ISA-PS-1) Title of the Code of Federal Regulations (10 CFR)	
(ISA-PS-2) Regulatory Guidance	
(ISA-PS-3) Generic Communications for Security at Fuel Cycle Facilities	
(ISA-PS-4) Physical Barrier System and Intrusion Detection and Assessment Equipment	
(ISA-PS-5) Review of Significant Fuel Cycle Security Events	
(ISA-PS-6) Orders Issued to Fuel Cycle Facilities	
(ISA-PS-7) Licensee Protective Strategies	
(ISA-PS-8) Enforcement Framework	
<u>On-the-Job Activities</u>	
(OJT-PS-1 Licensee Security Training and Qualification Program	

(OJT-PS-2) Physical Barrier Systems	
(OJT-PS-3) Access Controls	

Supervisor's Recommendation: _____ Date: _____

Division Director's Approval: _____ Date: _____

Copies to: Inspector and official training file

Attachment 1: Revision History for IMC 1247 Appendix C4

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional Non-Public Information)
	ML25078A241 05/01/25 CN 25-010	Initial issuance of Appendix C4. Inspector qualification was moved from IMC 1246 to IMC 1247. Content was adapted to the new format. Revision in its entirety. P-404, Hazard Analysis was removed from the requirement list.	None	N/A