APPENDIX C4

 TRAINING REQUIREMENTS AND QUALIFICATION JOURNAL FOR

FUEL CYCLE SAFEGUARDS - PHYSICAL SECURITY INSPECTOR

**I. TRAINING REQUIREMENTS**

A. Applicability

The training described below is required of NMSS program inspectors assigned to perform physical security inspections at fuel cycle facilities.

B. Training

 1. Required Initial Training.

 a) Self-Study and On-The-Job Training:

 (1) NRC Orientation.

 (2) Code of Federal Regulations.

 (3) Office Instructions/Regional Procedures.

 (4) Regulatory Guidance.

 (5) NRC Inspection Manual.

 (6) Industry Codes and Standards.

 (7) Inspection Accompaniments.

 (8) NRC Management Directives.

 (9) Review of significant security events at licensees

 (10) Directed Review of Selected Site Security Plans and Procedures

 b) Core Training. These courses establish minimum formal classroom training requirements. Refer to Section 1246-09 for exceptions to these requirements.

 (1) Fundamentals of Inspection Course (G-101) or Inspection Procedures Course (G-108)

 (2) Root Cause/Incident Investigation Workshop (G-205)

 (3) Effective Communications for NRC Inspectors (PDC)

 (4) OSHA Indoctrination Course (G-111)

 (5) Site Access Training (H-100)

 (6) Physical Security Fundamentals Course (S-301) or equivalent

 (7) Intro to Security Systems Course Self-Study (S-118S)

 (8) Fuel Cycle Processes Directed Self-Study Course (F-201S)

 (9) Hazards Analysis for DOE SARs and QRAs (P-404)

 c) Specialized Training. Depending on the inspector's previous work experience and planned inspection activities, additional courses may be required in order to gain knowledge necessary for specialized inspection activities. Management will make this determination on an individual basis. For example, if an inspector is assigned activities in one of the areas listed below then that inspector should attend the appropriate training course or have equivalent experience as determined by their management.

 (1) Safety Officers Practical Training Orientation Course (S-105)

 (2) Explosive Threat Recognition, Prevention and Response Course (S-106)

2. Supplemental Training. Additional training beyond that identified as Core Training. This training will be determined by the supervisor and will depend on the individual's previous work experience and planned inspection activities in specific areas.

3. Refresher Training. Refresher training will be conducted every 3 years after initial certification. Refresher training will include the following courses and other courses, as determined by management:

 (1) Fundamentals of Inspection Refresher Course (G-102)

(2) Safeguards Technology Refresher Course (S-402)

**II. QUALIFICATION JOURNAL**

Applicability

This NRC Inspector Qualification Journal implements NRC Manual Chapter 1246, by establishing the minimum training requirements for personnel assigned to perform fuel cycle safeguards inspection (physical security) activities at fuel facilities.

The NRC Inspector Qualification Journal serves as a guideline for the development of a Qualification Journal, and establishes the minimum training requirements consistent with NRC Manual Chapter 1246. The Qualification Journal must provide traceable documentation to show that minimum requirements are met for each inspector.

The NRC Inspector Qualification Journal consists of a series of qualification guides and signature cards. Each signature card is used to document task completion, as indicated by the appropriate signature blocks. The corresponding qualification guide establishes the minimum knowledge levels or areas of study that must be completed for each signature card.

Most of the qualification guides are divided into sections. The review sections of the qualification guides identify references with general application to the inspector's qualification. The inspector is expected to have a general familiarity with these references. Other sections of the qualification guides identify specific references that have direct application to an inspection discipline. The inspector is expected to demonstrate detailed knowledge of the inspection discipline specific references.

In order to support the review of upper tier documents, programs, and policies, the inspector's immediate supervisor will assign one or more specific fuel facilities as reference facilities. The selection of a reference facility is intended to provide the inspector's management with the ability to tailor the qualification process to the experience and training level of the inspector, and to meet the inspection needs of the NRC. The use of specific real world material will reinforce the qualification process.

 INSPECTOR QUALIFICATION JOURNAL

 Fuel Cycle Safeguards Inspector - Physical Security

Name Title Branch Section

To complete your qualification as a Fuel Cycle Safeguards Inspector - Physical Security you are to complete the following signature cards. All signoffs shall include the signature of the responsible reviewer and the date. Maintain these cards in a notebook along with any background or written material required by the program. This notebook will comprise your NRC Inspector Qualification Journal.

Signature When Complete Date

1. NRC Orientation \_\_\_\_\_\_\_

 First Line Supervisor

 2. Code of Federal Regulations

First Line Supervisor

 3. Office Instructions/

Regional Procedures First Line Supervisor

 4. Regulatory Guidance

First Line Supervisor

 5. NRC Inspection Manual

Chapters (MC) First Line Supervisor

 6. Industry Codes and Standards

First Line Supervisor

 7. Inspection Accompaniments \_\_\_\_\_\_\_\_

First Line Supervisor

 8. NRC Management Directives

First Line Supervisor

 9. Review of Significant Fuel

Cycle Security Events

First Line Supervisor

10. Review of Site Security Plans

and Procedures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

First Line Supervisor

11. Formal Training \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

First Line Supervisor

Qualification Board

Requirement Met

 Second Level Supervisor

or Board Chairman

Recommended as a qualified inspector

Second Level Supervisor

Certification Memo Issued

Second Level Supervisor

Qualification Card 1

 NRC Orientation

A.Site Orientation Initials Date

1. New employee processing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

package completed Employee

2. Facility tour and introduction \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

 First Line Supervisor

B. NRC Organization

1. Review of NRC headquarters

and regional organization \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

2. Discussion of NRC organization \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

First Line Supervisor

 Qualification Card 2

 Code of Federal Regulations (CFR)

Initials Date

A. Familiarization with selected

CFR parts completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

B. Discussion completed on CFR

parts related to the fuel cycle

safeguards physical security

inspection program \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

First Line Supervisor

Qualification Card 3

Office Instructions/Regional Procedures

Initials Date

A. Familiarization with office/

regional policies and procedures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

B. Discussion completed on

office/regional

policies and procedures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

First Line Supervisor

 Qualification Card 4

 Regulatory Guidance

Initials Date

A. Review of regulatory guidance

1. Regulatory Guides \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

2. Information Notices

/Bulletins \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

3. NUREGs \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

4. Generic Letters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

5. Federal Register Notices \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Employee

6. NRC Branch Technical

Positions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Employee

B. Discussion of regulatory guidance

with application to the fuel

cycle safeguards physical

security inspection program \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

First Line Supervisor

 Qualification Card 5

 NRC Inspection Manual Chapters (MC)

Initials Date

A. Review of appropriate NRC

MCs completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

B. Discussion of NRC MCs

and their relation

to the fuel cycle safeguards

physical security

inspection program \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

First Line Supervisor

 Qualification Card 6

 Industry Codes and Standards

Initials Date

A. Review of selected codes

and standards completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

B. Discussion of the application

of codes and standards in the

fuel cycle safeguards physical

security inspection program \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

First Line Supervisor

 Qualification Card 7

 Inspection Accompaniments

Initials Date

A. Inspections completed

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Facility Employee

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Facility Employee

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Facility Employee

4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Facility Employee

B. Discussion of inspection and

employee's role

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Facility First Line Supervisor

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Facility First Line Supervisor

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Facility First Line Supervisor

4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Facility First Line Supervisor

 Qualification Card 8

 NRC Management Directives

Initials Date

A. Review of selected portions of

the NRC Management Directives

completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

B. Discussion of the application

of the NRC Management Directives

to the fuel cycle safeguards

physical security

inspection program \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

First Line Supervisor

 Qualification Card 9

 Review of Significant Fuel Cycle Security Events

Initials Date

A. Review of selected significant

historical fuel cycle security

events \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Employee

B. Discussion of the importance

of these events and lessons

learned \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

First Line Supervisor

 Qualification Card 10

 Review of Site Security Plans and Procedures

Initials Date

A. Review of selected portions

of site security plans and

procedures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Employee

B. Discussion of site security

plans and procedures and their

relationship to the fuel cycle

safeguards physical security

inspection program \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

First Line Supervisor

 Qualification Card 11

 Formal Training

1. CORE TRAINING: Initials Date

1. Fundamentals of Inspection

Course (G-101) or Inspection

Procedures (G-108) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Training Coordinator

2. Root Cause/Incident Investigation

Workshop (G-205) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Training Coordinator

3. Effective Communication for

NRC Inspectors \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Training Coordinator

4. OSHA Indoctrination Course (G-111) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Training Coordinator

5. Site Access Training (H-100) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Training Coordinator

6. Physical Security Fundamentals

Course (S-301) or equivalent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Training Coordinator

7. Introduction to Physical Security

 Systems Self-Study (S-118S) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Training Coordinator

8. Fuel Cycle Processes Directed

Self-Study Course (F-201S) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_

Training Coordinator

9. Hazards Analysis for

 DOE SARs and QRAs(P-404) \_\_\_\_\_

 Training Coordinator

1. SPECIALIZED TRAINING

Other training courses required for inspectors performing inspections in specific areas:

Course Title Course # Initials Initials Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_

Supervisor Training Coordinator

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_

Supervisor Training Coordinator

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_

Supervisor Training Coordinator

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_

Supervisor Training Coordinator

 Qualification Guide 1

 NRC Orientation

 A. Site Orientation

1. The qualifying individual should read and complete, as appropriate, the following forms for processing into the NRC:

a. Personnel information

b. Health insurance elections

c. Retirement plan elections

d. Savings elections (e.g. U.S. Savings Bonds, TSP, etc.)

e. Fitness for Duty requirements and physical examination

f. Any other forms which may be required by NRC Office of

Human Resources

g. Forms for issuance of tagged, controlled NRC equipment

h. Payroll forms and time cards

i. Regulatory Information Tracking System (RITS)

2. The First Line Supervisor should orient the qualifying individual to the facility as follows:

a. Tour the facility and introduce the qualifying individual to the staff

b. Indicate to the qualifying individual the location of controlled documents, reference material, supplies, office equipment, etc.

B. NRC Organization

1. The qualifying individual should review and become familiar with:

a. Organizational charts of division, NMSS, regions and headquarters and overall NRC organization (NUREG 0325)

b. Role of Headquarters in policy and interpretation of regulations

c. Role of NRC General Counsel

d. Role of NRC Inspector General

e. Role of NRC Public Affairs

f. Role of NRC Office of Investigations

g. Role of NRC Office of Enforcement

h. Physical location of NRC offices and regions

i. Role of NRC as a regulatory agency

(1) 10 CFR Part 1 (Organization)

(2) Atomic Energy Act of 1954, as amended

(3) Energy Reorganization Act of 1974, as amended

(4) NRC Enforcement Policy (NUREG 1600)

(5) Incident Response Plan (NUREGs 0728 and 0845)

 (6) Energy Policy Act of 1992

2. The First Line Supervisor should discuss NRC organization and role with the qualifying individual to ensure the qualifying individual has a full understanding of NRC's organization and mission and the role of the inspector in that mission.

 Qualification Guide 2

 Code of Federal Regulations (CFR)

A. A selection of currently applicable CFR Parts should be made by the First Line Supervisor. The selection should include the references listed below and be documented. The qualifying individual should be expected to have a general knowledge of the topics addressed in the references. This review may be accomplished by self-study, study-quizzes, briefings, or discussions.

1. 10 CFR Part 1 Statement of organization and general information

2. 10 CFR Part 2 Rules of practice for domestic licensing proceedings and issuance of orders

3. 10 CFR Part 9 Public Records

4. 10 CFR Part 19 Notices, instructions and reports to workers; inspections

5. 10 CFR Part 20 Standards for protection against radiation (includes selected Questions and Answers, Q & As)

6. 10 CFR Part 21 Reporting of defects and noncompliance

 7. 10 CFR Part 25 Access Authorization for Licensee Personnel

8. 10 CFR Part 30 Rules of general applicability to domestic licensing of byproduct material

9. 10 CFR Part 40 Domestic licensing of source material

10. 10 CFR Part 51 Environmental protection regulations for

domestic licensing

11. 10 CFR Part 61 Licensing requirements for land disposal of radioactive waste

12. 10 CFR Part 70 Domestic licensing of special nuclear material

13. 10 CFR Part 71 Packaging and transportation of radioactive material

14. 10 CFR Part 73 Physical protection of plants and materials

15. 10 CFR Part 74 Material control and accounting of special nuclear material

16. 10 CFR Part 75 Safeguards on nuclear material

17. 10 CFR Part 76 Certification of Gaseous Diffusion Plants

18. 10 CFR Part 95 Security facility approval and safeguarding of national security information and restricted data

19. 10 CFR Part 170 Fees for facilities, materials, import and export licenses and other regulatory services under the Atomic Energy Act of 1954, as amended

1. 10 CFR Part 171 Annual fees for reactor operating licenses, and fuel cycle licenses and materials licenses including holders of certificates of compliance, registrations, and quality assurance program approvals and government agencies licensed by NRC

21. 29 CFR Part 1910 Occupational Safety and Health Standards

B. Following completion of the qualifying individuals self study of the listed 10 CFR Parts, a discussion will be held with the qualifying inspector by the First Line Supervisor to test the qualifying inspectors knowledge of these Parts. To the extent possible, recent application of various sections, new regulatory initiatives, and current industry issues should be emphasized.

Qualification Guide 3

Office Instructions/Regional Procedures

A. Office/Division Policies and Procedures

1. Read the NMSS Policy and Procedures Manual

2. The qualifying individual should review the NMSS policies and practices on:

a. Travel, including Management Directive 14.1 Official Temporary Duty Travel

b. Telephone use

c. Policies on use of annual leave and sick leave and excused leave, including Bulletin 4135, Leave Administration.

d. Work schedule, including NRC Appendix 4136, Hours of Work and Premium Pay

e. Use of government equipment, including computers (NUDOCS and ADAMS) and Management Directive 13.1, Property Management

f. Union activities, including Management Directive 10.102. Labor-Management Relations Program for Federal Employees

g. Communications outside NRC

h. Policies on outside employment and acceptance of gifts

i. Participation in political activities

j. Routing of mail and procedures for sending mail and materials (via U.S. Mail, Federal Express, etc.), including Management Directive 3.23, Mail Management

k. Ordering of documents (e.g NUREGs)

l. Emergency and evacuation procedures

m. Employee appraisal system and Individual Development Plan (IDP)

(1) Employee trial period (Management Directive 10.14, Employment and Staffing)

(2) Employee appraisals (Management Directive 10.67, Non-SES Performance Appraisal System)

n. Differing Professional Views or Opinions (Management Directive 10.159, General Personal Management Provisions)

B. The First Line Supervisor should discuss these policies and practices with the qualifying individual to ensure that the qualifying individual has a full and complete understanding.

 Qualification Guide 4

 Regulatory Guidance

A. A selection of currently applicable regulatory guidance should be identified by the First Line Supervisor. It should be noted that not all of the referenced regulatory guides will be applicable to each inspector's area of responsibility. These references should be selected from those listed below and should be documented. The qualifying individual should be expected to have a general knowledge of the topics addressed in the references. The review may be accomplished by self-study, study-quizzes, briefings, or discussions. Note that many Regulatory Guides reference or endorse industry codes and standards listed in Qualification Guide 6. Study of corresponding and subtier codes and standards is recommended.

1. Regulatory Guides (use latest revision)

3.71 Nuclear Criticality Safety Standards for Fuels and Materials Facilities (Draft DG-3013 published 1/98) (Guide Withdraws RG 3.1, 3.4, 3.43, 3.45, 3.47, 3.57, 3.58, 3.68, 3.70, and 8.12)

5.7 Entry/Exit Control for Protected Areas, Vital Areas, and Material Access Areas

5.11 Nondestructive Assay of Special Nuclear Material Contained in Scrap and Waste

5.12 General Use of Locks in the Protection and Control of Facilities and Special Nuclear Materials

5.13 Conduct of Nuclear Material Physical Inventories

5.15 Tamper-Indicating Seals for the Protection and Control of Special Nuclear Material

5.21 Nondestructive Uranium 235 Enrichment Assay by Gamma Ray Spectrometry

5.26 Selection of Material Balance Areas and Item Control Areas

5.31 Specially Designed Vehicle with Armed Guards for Road Shipment of Special Nuclear Material

5.37 In Situ Assay of Enriched Uranium Residual Holdup

5.43 Plant Security Forces

5.52 Standard Format and Content of a Licensee Physical Protection Plan for Strategic Special Nuclear Material at Fixed Sites

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

5.61 Intent and Scope of the Physical Protection Upgrade Rule Requirements for Fixed Sites

5.62 Reporting of Safeguards Events

5.65 Vital Area Access Controls, Protection of Physical Security Equipment, and Key and Lock Controls

5.67 Material Control and Accounting For Uranium Enrichment Facilities Authorized to Produce Special Nuclear Material of Low Strategic Significance

8.1 Radiation Symbol

8.5 Criticality and Other Interior Evacuation Signals

8.7 Instructions For Recording and Reporting Occupational Radiation Exposure Data

8.10 Operating Philosophy for Maintaining Occupational Radiation Exposure As Low As Is Reasonably Achievable

8.13 Instruction Concerning Prenatal Radiation Exposure

8.29 Instruction Concerning Risks from Occupational Radiation Exposure

2. Information Notices (IN) and Bulletins(BL)

IN 89-24 Nuclear Criticality Safety

IN 90-09 Extended Interim Storage of Low-Level Radioactive Waste by Fuel Cycle and Materials Licensees

IN 91-84 Problems with Criticality Alarm Components/Systems

IN 92-11 Soil and Water Contamination at Fuel Cycle Facilities

IN 92-14 Uranium Oxide Fires at Fuel Cycle Facilities

IN 93-60, Reporting Fuel Cycle and Materials Events to the

 Supplement 1 NRC Operations Center

IN 94-73 Clarification of Criticality Reporting Criteria

IN 96-71 Licensee Response to Indications of Tampering, Vandalism, or Mischief

IN 98-05 Criminal History Record Information

IN 98-35 Threat Assessments and Considerations of Heightened Physical Protection Measures

IN 99-16 Federal Bureau of Investigations Nuclear Site Security Program

BL 91-01 Reporting Loss of Criticality Safety Controls

Supplement 1

Bulletin 38 Necessary Penetrations of Material Access Area Barriers (issued by Licensee Safeguards Guidance Group, LSGG)

Others as selected by the First Line Supervisor

3. NUREGs (latest revision, where applicable)

NUREG 0674 Security Personnel Training and Qualification Criteria

NUREG 0845 Agency Incident Response Actions

NUREG 1189, Assessment of the Public Health Impact From the Accidental Vol. 1 and 2 Release of UF6 at the Sequoyah Fuels Corporation Facility at Gore, Oklahoma

NUREG 1198 Release of UF6 From A Ruptured Model 48Y Cylinder at Sequoyah Fuels Corporation Facility

NUREG 1198, Release of UF6 From a Ruptured Model 48Y Cylinder at

Supplement No. 1 Sequoyah Fuels Corporation Facility: Lessons-Learned Report

NUREG 1324 Proposed Method for Regulating Major Materials Licensees

NUREG 1450 Potential Criticality Accident at the General Electric Nuclear Fuel and Component Manufacturing Facility, May 29, 1991

NUREG 1520 Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility

NUREG/BR 0006 Instructions for Completing Nuclear Material Transaction Reports

NUREG/BR 0007 Instructions for Completing Material Balance Reports and Physical Inventory Listings

NUREG/BR 0096 Instructions and Guidance for Completing Physical Inventory Summary Reports

NUREG/CR 2078 Handbook of Nuclear Safeguards Measurement Methods

NUREG/CR 4604 Statistical Methods For Nuclear Material Management

Others as selected by the First Line Supervisor

4. Generic Letters(GL)

GL 88-19 Use of Deadly Force by Licensee Guards to Prevent Theft of Special Nuclear Material

NMSS Letter Letter to CAT-I Licensees, Night Firing Light Levels, dated November 22, 1988

GL 89-20 Protected Area Long Term Housekeeping

GL 91-003 Reporting of Safeguard Events

GL 95-001 NRC Staff Technical Position on Fire Protection For Fuel Cycle Facilities

Others as selected by the First Line Supervisor

5. Federal Register Notices

U.S. Nuclear Regulatory Commission, "Guidance on Management Controls/Quality Assurance, Requirements for Operation, Chemical Safety, and Fire Protection for Fuel Cycle Facilities," *Federal* *Register* 54 (No. 53), 11590-11598, March 21, 1989

U. S. Nuclear Regulatory Commission, "Guidance on Fire Protection for Fuel Cycle Facilities," *Federal Register* 57 (No. 154), 35607-35613, August 10, 1992

Others as selected by the First Line Supervisor

6. NRC Branch Technical Positions

None

B. The application of these guidance documents to the fuel cycle safeguards physical security inspection program should be studied in detail by the qualifying individual and covered by the First Line Supervisor in discussions, interviews, or oral quizzes.

 Qualification Guide 5

 NRC Inspection Manual Chapters (MC)

A. A selection of currently applicable NRC MC and Inspection Procedure (IP) references with direct application to the fuel cycle safeguards physical security inspection program should be identified by the First Line Supervisor. The application of the specific references to the fuel cycle safeguards physical security inspection program should be studied in detail by the qualifying individual.

1. REPORTS/COMMUNICATIONS/FOLLOW-UP

MC 0030 Policy and Guidance for Development of NRC Inspection Manual Programs

MC 0230 Morning Report

MC 0610 Inspection Reports

MC 0620 Inspection Documents and Records

MC 0720 NRC Bulletins and Information Notices

MC 0730 Generic Communications Regarding Materials and Fuel Cycle Issues

MC 0801 Inspector Feedback

MC 1120 Preliminary Notifications

IP 92701 Follow-up

IP 92703 Follow-up of Confirmatory Action Letters

1. INSPECTIONS

MC 0300 Announced and Unannounced Inspections

MC 0312 Technical Assistance for Radiation Safety Inspections at Nuclear Fuel Cycle Facilities and Material Licensee's Sites

MC 0630 Analysis of the Impact of Noncompliance with Physical Security Requirements

MC 1246 Formal Qualification Programs in Nuclear Material Safety and Safeguards

 Program Area

MC 2600 Fuel Cycle Facility Operational Safety and Safeguards

Inspection Program

MC 2681 Safeguards Inspection of Fuel Facilities, Transport of SNM and Irradiated Fuel, and SNM Imports and Exports

MC 2682 Technical Assistance for Safeguards MC & A Inspections at Fuel Facilities

MC 8800 Fuel Facility Inspection

IP 88102 Surveillance Observations

1. INTERACTIONS WITH OTHER FEDERAL AGENCIES

MC 1007 Interfacing Activities Between Regional Offices of NRC and OSHA

IP 93001 OSHA Interface Activities

4. INCIDENT RESPONSE

MC 1300 Incident Response Actions - Responsibility and Authority

MC 1301 Response to Radioactive Material Incidents that Do Not Require Activation of the NRC Incident Response Plan

MC 1302 Action Levels for Radiation Exposures and Contamination Associated with Materials Events Involving Members of the Public

MC 1360 Use of Physician and Scientific Consultants in the Medical Consultant Program

IP 88003 Reactive Inspection for Events at Fuel Cycle Facility Program

1. WASTE MANAGEMENT

MC 8400 Radioactive Waste Management

1. FUEL CYCLE SAFETY PROGRAM

MC 8100 Physical Security

MC 8500 Material Control and Accountability

MC 8800 Fuel Facility Inspection

1. RADIATION PROTECTION

MC 8300 Radiation Protection

1. OTHER

MC 1100 Notification of Significant Meetings

MC 1201 Conduct of Employees

MC 2900 Performance Appraisal Program

B. The First Line Supervisor will hold discussions, interviews, or oral quizzes to test the qualifying individual's knowledge and understanding of the application of the selected references to the fuel cycle safeguards physical security inspection program.

 Qualification Guide 6

 Industry Codes and Standards

A. A selection of currently applicable industry codes and standards should be identified by the First Line Supervisor. These references should be selected from those listed below for the specific area of the inspector's responsibility and be documented. The qualifying individual should be expected to have a general knowledge of the topics addressed in the references. This review may be accomplished by self study, study quizzes, briefings, or discussions.

1. American National Standards Institute (ANSI)

ANSI N15.15 Nuclear Materials - Assessment of the Assumptions of Normality (Employing Individual Observed Values)

ANSI N15.18 Nuclear Materials - Mass Calibration Techniques

for Control

ANSI N15.19 Nuclear Materials Control - Volume

Calibration Techniques

ANSI N15.20 Guide to Calibrating Nondestructive Assay Systems

ANSI N15.22 Nuclear Materials - Plutonium-Bearing Solids - Calibration Techniques for Calorimetric Assay

ANSI N15.28 Nuclear Materials Control - Guide for Qualification and Certification of Safeguards and Security Personnel

ANSI N15.37 Guide to the Automation of Nondestructive Assay Systems for Nuclear Material Control

ANSI N15.41 Derivation of Measurement Control Programs -

General Principles

ANSI N15.51 Nuclear Materials Management - Measurement Control Program

- Nuclear Materials Analytical Chemistry Laboratory

ANSI N15.54 Instrumentation - Radiometric Calorimeters - Measurement Control Program

ANSI/ANS 8.1 Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors

ANSI/ANS 8.3 Criticality Accident Alarm System

ANSI/ANS 8.5 Use of Borosilicate-Glass Raschig Rings as a Neutron Absorber in Solutions of Fissile Material

ANSI/ANS 8.7 Guide for Nuclear Criticality Safety in the Storage of Fissile Materials

ANSI/ANS 8.9 Nuclear Criticality Safety Criteria for Steel-Pipe

 Intersections Containing Aqueous Solutions of

Fissile Material

ANSI/ANS 8.17 Criticality Safety Criteria for the Handling, Storage, and Transportation of LWR Fuel Outside Reactors

ANSI/ANS 8.19 Administrative Practices for Nuclear Criticality Safety

ANSI/ANS 8.20 Nuclear Criticality Safety Training

ANSI NQA-1 Quality Assurance Requirements for Nuclear Facilities

Others as selected and documented by the First Line Supervisor

ANSI NFPA Standards as selected and documented by the First Line Supervisor (NOTE: a list is provided in Section 8.4.2 of NUREG 1520).

Institute of Electrical and Electronic Engineers (IEEE) standards associated with security and analysis equipment

2. American Society for Testing and Materials (ASTM)

ASTM F792-82 Standard Practice for Design and Use of Ionizing Radiation Equipment for the Detection of Items Prohibited in Controlled Access Areas

3. General Service Administration (GSA)

W-A-450C/1 Federal Specification Components for Interior Alarm Systems, Balanced Magnetic Switches

W-A-450B Federal Specification Interior Security Components for Alarm Systems

4. Sandia National Laboratory (SAND)

SAND 87-1927 Entry Control Systems Technology Transfer Manual

SAND 87-1926 Access Delay Technology Transfer Manual

SAND 89-1924 Video Assessment Technology Transfer Manual

SAND 78-0400 Security Seal Handbook

5. Underwriters Laboratory

Underwriters Laboratories, Inc. (UL) Standard 555, "Standard for Fire Dampers and Ceiling Dampers"

6. NRC Accepted HP Computer Codes

PC-DOSE

Varskin

RASCAL

REMIT

7. Other Draft Regulatory Guide, DOE/NCT-04, A Review of Criticality Accidents, W. R. Stratton, Revised by D. R. Smith, U.S. DOE, March 1989

B. The First Line Supervisor should test the qualifying individual's knowledge of application of these codes and standards to the fuel cycle safeguards physical security inspection program by discussions, interviews, or oral quizzes.

 Qualification Guide 7

 Inspection Accompaniments

A. Each inspector should accompany certified inspectors on at least four inspections. At least two of these inspections should be performed at a facility other than the designated lead plant.

B. The following is a guide for material that should be studied and discussed with the inspector in charge during these inspection accompaniments. The First Line Supervisor will discuss these items, as appropriate, following each inspection accompaniment.

1. The Inspection Program

MC 2600 Fuel Facility Inspection Program

MC 2681 Safeguards Inspection of Fuel Facilities, Transport of SNM and Irradiated Fuel, and SNM Imports and Exports

MC 2681/05 Physical Security Inspection for Category I Fuel Cycle Facilities

MC 8100 Physical Security

IP 81000 Physical Security Procedure series

White Paper Risk-Informed and Performance-Based Regulation

2. Scheduling and Preparation for Inspections

MC 0300 Announced and Unannounced Inspections

3. Scope of Inspection

4. Entrance/Exit Interviews

5. Conduct of Inspection, Accumulation of Data

6. Post-inspection Activities of Inspectors

MC 0610 Inspection Reports

MC 0630 Analysis of the Impact of Noncompliance with Physical Security Requirements

MC 1100 Notification of Significant Meetings

7. Morning Reports

MC 0230 Morning Report

8. Non-routine Licensee Events

MC 1110 Potential Abnormal Occurrences

Management Directive 8.3 NRC Incident Investigation Program

Management Directive 8.9 Accident Investigation

9. Preliminary Notification

MC 1120 Preliminary Notifications

10. Bulletins/Information Notices

MC 0720 NRC Bulletins and Information Notices)

11. Use of Consultants of NRC

MC 1360 Use of Physician and Scientific Consultants in the Medical

Consultant Program

Management Directive 10.6 Use of Consultants & Experts

12. Allegations and Investigations

Management Directive 8.8 Management of Allegations

13. Communication outside NRC

Management Directive 5.5 Public Affairs Program

Management Directive 3.6 Distribution of Unclassified NRC

 Staff/Contractor-Generated Reports

 Qualification Guide 8

 NRC Management Directives

A. A selection of currently applicable NRC Management Directive (MD) references should be identified by the First Line Supervisor. These references should include those listed below and be documented. The qualifying inspector should be expected to have a general knowledge of the topics addressed in the references. This review may be accomplished by self-study, study-quizzes, briefings, or discussions. The selection should include:

1. NRC MD 9.1 Organization Management

2. NRC MD 9.29 Organization and Function of Regional Offices

3. NUREG 0335 USNRC Functional Organization Chart

4. NRC MD 3.2 Privacy Act

5. NRC MD 3.1 Freedom of Information Act

6. NRC MD 10.130 Safety and Health Program Under the Occupational Safety and Health Act

7. NRC MD 10.131 Protection of NRC Employees Against Ionizing Radiation

8. NRC MD 14.1 Official Temporary Duty Travel

9. NRC MD 10.159 Differing Professional Views or Opinions

10. NRC MD 10.42 Hours of Work and Premium Pay

11.NRC MD 10.43 Time and Attendance Reporting

12. NRC MD 10.67 Non-SES Performance Appraisal System

13. NRC MD 10.101 Employee Grievances

14. NRC MD 8.3 NRC Incident Investigation Program

15. NRC MD 8.8 Management of Allegations

B. Application of the selected NRC Management Directives to the fuel cycle safeguards physical security inspection program will be discussed with the qualifying individual by the First Line Supervisor to test the qualifying individual's knowledge.

 Qualification Guide 9

 Review of Significant Fuel Cycle Security Events

A. A selection of significant historical fuel cycle security-related events should be identified by the First Line Supervisor. These events should be studied in detail by the qualifying individual. Such events would include the following. Other events may be chosen but in any case the events chosen should be documented.

1. Sequoyah Fuels accidents in 1986 and in 1992

2. Potential criticality at the GE Wilmington plant in 1991

3. Y-12 criticality accident in 1958

4. UO2 fires at fuel fabrication plants

5. United Nuclear - Wood River Junction in 1964

B. The First Line Supervisor should discuss the selected events in detail with the qualifying inspector and go over recommendations made, lessons learned, and changes identified to prevent recurrence. The relevance of the event to the overall fuel cycle safeguards physical security inspection program should be stressed.

 Qualification Guide 10

 Review of Site Security Plans and Procedures

A. The inspector should become generally familiar with several site security plans and procedures as selected by the First Line Supervisor. The inspector's review should include the safety analysis and security plan associated with the license application with special emphasis in the following areas, as appropriate.

1. Site characteristics

2. Process systems

3. Safety features

4. Electric power systems

5. Quality assurance

6. Material control systems

7. Radiation protection and radwaste

B. Each selected site security plan and procedure should be reviewed with an emphasis on its application to the fuel cycle safeguards physical security inspection program. After reviewing the selected documents, the inspector will be able to specifically address its application to the fuel cycle safeguards physical security inspection program. The inspector may demonstrate knowledge through discussions, interviews or quizzes. These discussion activities should be conducted by the First Line Supervisor or alternatively, by senior inspectors to illustrate recent application of regulatory guidance to the fuel cycle safeguards physical security inspection program. Completion of the discussion activities must be documented.

 Qualification Guide 11

 Formal Training

The standards for each Training Course are provided in the NRC Technical Training Division Course Catalog and will not be duplicated in the Qualification Guide.

Attachment 1

Revision History for IMC 1246, Appendix C4

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| --- | --- | --- | --- | --- | --- |
| Commitment Tracking Number | Document Accession Number and Issue Date | Description of Change | Training Needed | Training Completion Date | Comment Resolution Accession Number |
| N/A | ML11230B33910/26/11CN 11-022 | “Training Requirements” section from IMC 1246A04 has been merged with IMC1246 B04 and renamed IMC 246, Appendix C4, “Training Requirements and Qualification Journal for Fuel Cycle Safeguards - Physical Security Inspector.” Revision history page added.  | None | N/A | ML11235A854 |