SECTION II

MATERIALS HEALTH PHYSICS INSPECTOR
NRC INSPECTOR QUALIFICATION JOURNAL

Applicability

This NRC Inspector Qualification Journal implements NRC Manual Chapter 1246, Appendix A, Section II, by establishing the minimum training requirements for personnel assigned to perform safety inspection activities at materials facilities.

The NRC Inspector Qualification Journal serves as a guideline for the development of a Regional Qualification Journal, and establishes the minimum training requirements consistent with NRC Manual Chapter (MC) 1246. The Regional 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 first line 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
Materials Health Physics Inspector

Name Title Branch Section

To complete your qualification as a Materials Health Physics Inspector 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 events at materials licensees _____
First Line Supervisor

10. Directed review of selected inspection casework _____ _____
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

	Initials	Date
A. Site Orientation		
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 materials 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	_____
7. Policy and Guidance Directives	_____ Employee	_____
8. Sealed Source and Device Registry	_____ Employee	_____
9. Technical Assistance Requests	_____ Employee	_____
B. Discussion of regulatory guidance with application to the materials 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 materials 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 materials 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 materials inspection program	_____ First line supervisor	_____

Qualification Card 9
Review of Significant Events at Materials Licensees

	Initials	Date
A. Review of selected significant historical materials events	_____	_____
	Employee	
B. Discussion of the importance of these events and lessons learned	_____	_____
	First Line Supervisor	

Qualification Card 10
Directed Review of Selected Inspection Casework

		Initials	Date
A.	Review of selected inspection casework	_____ Employee	_____
B.	Discussion by first line supervisor of directed review of the selected casework and its relation to the materials inspection program	_____ First Line Supervisor	_____

Qualification Card 11
Formal Training

A. CORE TRAINING:	Initials	Date
1. Fundamentals of Inspection Course (G-101) or Inspection Procedures Course (G-108)	_____ Training Coordinator	_____
2. Root Cause/Incident Investigation Workshop (G-205)	_____ Training Coordinator	_____
3. Inspecting for Performance Course - Materials Version (G-304)	_____ Training Coordinator	_____
4. Effective Communications for NRC Inspectors	_____ Training Coordinator	_____
5. OSHA Indoctrination Course (G-111)	_____ Training Coordinator	_____
6. NMSS Radiation Worker Training (H-102)	_____ Training Coordinator	_____
7. Health Physics Technology Course (H-201)	_____ Training Coordinator	_____
8. Diagnostic and Therapeutic Nuclear Medicine Course (H-304)	_____ Training Coordinator	_____
9. Safety Aspects of Industrial Radiography Course (H-305)	_____ Training Coordinator	_____
10. Teletherapy and Brachytherapy Course (H-313)	_____ Training Coordinator	_____
11. Transportation of Radioactive Materials Course (H-308)	_____ Training Coordinator	_____

B. SPECIALIZED TRAINING

Other specialized training courses required for inspectors performing inspection activities 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 region, NMSS, 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.

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 26 Fitness for duty programs

9. 10 CFR Part 30 Rules of general applicability to domestic licensing of byproduct material

10. 10 CFR Part 31 General domestic licenses for byproduct material

11. 10 CFR Part 32 Specific domestic licenses to manufacture or transfer certain items containing byproduct material

12. 10 CFR Part 33 Specific domestic licenses of broad scope for byproduct material

13. 10 CFR Part 34 Licenses for radiography and radiation safety requirements for radiographic operations

14. 10 CFR Part 35 Medical use of byproduct material

15. 10 CFR Part 36 Licenses and radiation safety requirements for irradiators

16. 10 CFR Part 39 Licenses and radiation safety requirements for well logging

17. 10 CFR Part 40 Domestic licensing of source material

18.	10 CFR Part 61	Licensing requirements for land disposal of radioactive waste
19.	10 CFR Part 70	Domestic licensing of special nuclear material
20.	10 CFR Part 71	Packaging and transportation of radioactive material
21.	10 CFR Part 110	Export and import of nuclear equipment and material
22.	10 CFR Part 150	Exemptions and continued regulatory authority in agreement states and in offshore waters under section 274
23.	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
24.	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
25.	29 CFR Part 1910	Occupational safety and health standards
26.	40 CFR Part 61	National emission standards for hazardous air pollutants (emphasis on Subpart I)
27.	40 CFR Part 190	Environmental radiation protection for nuclear power operations (uranium fuel cycle standards)
28.	40 CFR Part 141	National primary drinking water regulations
29.	49 CFR Parts 171 through 180	Transportation

B. Following completion of the qualifying individual’s 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 inspector’s knowledge of these Parts. To the extent possible, recent application of various sections, new regulatory initiatives, and current industry issues should be emphasized.

A. Office/Region Policies and Procedures

1. Read the Region Policy and Procedures Manual

2. The qualifying individual should review the Office/Regional 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(ADAMS & NUDOCS) 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. Region 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 Personnel 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.

A. A selection of currently applicable regulatory guidance should be identified by the First Line Supervisor. These references should include those listed below (documents marked by an asterisk must be included as a minimum) 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)

4.6 Measurements of Radionuclides in the Environment - Strontium-89 and Strontium-90 Analyses

4.13 Performance, Testing and Procedural Specifications for Thermoluminescence Dosimetry: Environmental Applications

4.15 Quality Assurance for Radiological Monitoring Programs

4.20 Constraint on Releases of Airborne Radioactive Materials to the Environment for Licensees other than Power Reactors.

*6.1 Leak Testing Radioactive Brachytherapy Sources

6.2 Integrity and Test Specifications

6.3 Design, Construction, and Use of Radioisotopic Power Generators for Certain Land and Sea Applications

6.4 Classifications of Containment Properties of Sealed Radioactive Sources

*6.5 General Safety Standard for Installations Using Nonmedical Sealed Gamma Ray Sources

6.6 Acceptance Sampling Procedures for Exempted and Generally Licensed Items Containing Byproduct Material

6.7 Preparation of an Environmental Report to Support a Rule Making Petition Seeking an Exemption for a Radionuclide-Containing Product

*6.8 Identification Plaque for Irretrievable Well-Logging Sources

6.9 Establishing Quality Assurance Programs for the Manufacture and Distribution of Sealed Sources and Devices containing Byproduct Material

*7.1 Administrative Guide for Packaging and Transporting Radioactive Material

*7.2 Packaging and Transportation of Radioactively Contaminated Biological Materials

*7.3 Procedures for Picking Up and Receiving Packages of Radioactive Material

*7.4 Leakage Tests on Packages for Shipment of Radioactive Materials

7.5 Administrative Guide for Obtaining Exemptions from Certain NRC Requirements over Radioactive Material Shipments

*7.7 Administrative Guide for Verifying Compliance with Packaging Requirements for Shipments of Radioactive Materials

*7.10 Establishing Quality Assurance Programs for Packaging Used in the Transport of Radioactive Material

*8.1 Radiation Symbol

*8.2 Guide for Administrative Practices in Radiation Monitoring

*8.4 Direct Reading and Indirect Reading Pocket Dosimeters

8.5 Criticality and Other Interior Evacuation Signals

8.6 Standard Test Procedure for Geiger Muller Counters

*8.7 Instructions for Recording and Reporting Occupational Radiation Exposure Data

*8.9 Acceptable Concepts, Models, Equations and Assumptions for a Bioassay Program

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

8.11 Applications of Bioassay for Uranium

*8.13 Instruction Concerning Prenatal Radiation Exposure

*8.14 Personnel Neutron Dosimeters

*8.15 Acceptable Programs for Respiratory Protection

*8.18 Information Relevant to Ensuring that Occupational Radiation Exposures at Medical Institutions Will be As Low As Reasonably Achievable

*8.20 Applications of Bioassay for I-125 and I-131

*8.21		Health Physics Surveys for Byproduct Material at NRC Licensed Processing and Manufacturing Plants
8.22		Bioassay at Uranium Mills
*8.23		Radiation Safety Surveys at Medical Institutions
8.24		Health Physics Surveys During Enriched Uranium 235 Processing and Fuel Fabrication
*8.25		Air Sampling in the Workplace
8.26		Applications of Bioassay for Fission and Activation Products
*8.28		Audible Alarm Dosimeters
*8.29		Instruction Concerning Risks from Occupational Radiation Exposure
8.30		Health Physics Surveys in Uranium Mills
*8.31		Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Mills Will Be As Low As Reasonably Achievable
*8.32		Criteria for Establishing a Tritium Bioassay Program
*8.33		Quality Management Program
*8.34		Monitoring Criteria and Methods to Calculate Occupational Radiation Doses
*8.35		Planned Special Exposures
*8.36		Radiation Doses to the Embryo/Fetus
*8.37		ALARA Levels For Effluents From Materials Facilities
*8.39		Release of Patients Administered Radioactive Materials
*10.4		Guide for the Preparation of Applications for Licenses to Process Source Material
10.12		Preparation of Petitions for Rulemaking Under 10 CFR 2.802 and Preparation and Submission of Proposals for Regulatory Guidance Documents

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

IN 91-002	Brachytherapy Source Management
IN 91-003	Management of Wastes Contaminated With Radioactive Materials ("Red Bag" Waste and Ordinary Trash)

IN 91-014	Recent Safety-Related Incidents at Large Irradiators
IN 91-023	Accidental Radiation Overexposures to Personnel Due to Industrial Radiography Accessory Equipment Malfunctions
IN 91-030	Inadequate Calibration of TLDs Utilized to Monitor Extremity Dose at Uranium Processing and Fabrication Facilities
IN 91-035	Labeling Requirements for Transporting Multi-Hazard Radioactive Materials
IN 91-049	Enforcement of Safety Requirements for Radiographers
IN 91-060	False Alarms of Alarm Ratemeters Because of Radiofrequency Interference
IN 91-071	Training and Supervision of Individuals Supervised by an Authorized User
IN 92-010	Brachytherapy Incidents Involving Iridium-192 Wire Used in Endobronchial Treatments
IN 92-034	New Exposures Limits for Airborne Uranium and Thorium
IN 92-062	Emergency Response Information Requirements for Radioactive Material Shipments
IN 92-072	Employee Training and Shipper Registration Requirements for Transporting Radioactive Materials
IN 92-084	Release of Patients Treated With Temporary Implants
IN 93-004	Investigation and Reporting of Misadministrations by the Radiation Safety Officer
IN 93-005	Locking of Radiography Exposure Devices
IN 93-006	Potential Bypass Leakage Paths Around Filters Installed in Ventilation Systems
IN 93-007	Classification of Transportation Emergencies
IN 93-010	Dose Calibrator Quality Control
IN 93-014	Clarification of 10 CFR 40.22, Small Quantities of Source Material
IN 93-018	Portable Moisture-Density Gauge User Responsibilities During Field Operations
IN 93-030	NRC Requirements for Evaluation of Wipe Test Results; Calibration of Count Rate Survey Instruments
IN 93-031	Training of Nurses Responsible for the Care of Patients With Brachytherapy Implants

IN 93-036	Notifications, Reports, and Records of Misadministrations
IN 93-060	Reporting Fuel Cycle and Materials Events to the NRC Operations Center
IN 93-069	Radiographic Events At Operating Power Reactors
IN 93-100	Reporting Requirements for Bankruptcy
IN 94-007	Solubility Criteria For Liquid Effluent Releases to Sanitary Sewerage Under the Revised 10 CFR Part 20
IN 94-009	Release of Patients With Residual Radioactivity From Medical Treatment and Control Areas ... Revised 10 CFR Part 20
IN 94-015	Radiation Exposures During an Event Involving a Fixed Nuclear Gauge
IN 94-016	Recent Incidents Resulting in Offsite Contamination
IN 94-017	Strontium-90 Eye Applicators: Submission of Quality Management Plan (QMP), Calibration, and Use
IN 94-037	Misadministration Caused By a Bent Interstitial Needle During Brachytherapy Procedure
IN 94-039	Identified Problems in Gamma Stereotactic Radiosurgery
IN 94-047	Accuracy of Information Provided to NRC During the Licensing Process
IN 94-065	Potential Error in Manual Brachytherapy Dose Calculations Generated Using a Computerized Treatment Planning System
IN 94-070	Issues Associated with the Use of Strontium-89 and Other Beta Emitting Radiopharmaceuticals
IN 94-074	Facility Management Responsibilities for Purchased or Contracted Services for Radiation Therapy Programs
IN 94-081	Accuracy of Bioassay and Environmental Sampling Results
IN 95-007	Radiopharmaceutical Vial Breakage During Preparation
IN 95-025	Valve Failure During Patient Treatment with Gamma Stereotactic Radiosurgery Unit
IN 95-039	Brachytherapy Incidents Involving Treatment Planning Errors
IN 95-039	Brachytherapy Incidents Involving Treatment Planning Errors

IN 95-050	Safety Defect in Gammamed 12I Bronchial Catheter Clamping Adapters
IN 95-051	Recent Incidents Involving Potential Loss of Control of Licensed Material
IN 96-004	Incident Reporting Requirements for Radiography Licensees
IN 96-035	Failure of Safety Systems on Self-Shielded Irradiators Because of Inadequate Maintenance and Training
IN 96-047	Recordkeeping, Decommissioning Notifications for Disposals of Radioactive Waste by Land Burial Authorized under Former 10 CFR 20.304, 20.302, and Current 20.2002
IN 96-057	Incident-reporting Requirements Involving Intakes During a 24-hour Period That May Cause a Total Effective Dose Equivalent in Excess of 0.05 SV (5 rems)
IN 96-066	Recent Misadministrations Caused by Incorrect Calibrations of Strontium-90 Eye Applicators
IN 96-072	Undetected Failures That May Occur During Patient Treatments with Teletherapy Devices
IN 97-030	Control of Licensed Material During Reorganizations, Employee-Management Disagreements, and Financial Crises
IN 97-042	Management Weaknesses Resulting in Failure to Comply With Shipping Requirements for Special Nuclear Material
IN 97-043	License Condition Compliance
IN 97-055	Calculation of Surface Activity for Contaminated Equipment and Material
IN 97-065	Failures of High-Dose-Rate Remote Afterloading (HDR) Device Source Guide Tubes, Catheters, and Applicators
IN 97-075	Enforcement Sanctions Issued as a Result of Deliberate Violations of NRC Requirements
IN 97-091	Recent Failures of Control Cables Used on Amersham Model 660 Posilock Radiography Systems
IN 98-001	Thefts of Portable Gauges
IN 98-004	Enforcement Sanctions for Deliberate Violations of NRC Employee Protection Requirements

IN 98-005	Criminal History Record Information
IN 98-006	Unauthorized Use of License to Obtain Radioactive Materials, and its Implications under Expanded Title 18 of the U.S.Code
IN 98-010	Probable Misadminstrations Occurring During Intravascular Brachytherapy with Novoste Beta-Cath System
IN 98-012	Licensee’s Responsibilities Regarding Reporting and Follow-Up Requirements for Nuclear-Powered Pacemakers
IN 98-018	Recent Contamination Incidences Resulting From Failure to Perform Adequate Surveys
IN 99-004	Unplanned Radiation Exposures to Radiographers, Resulting from Failures to Follow Proper Radiation Safety Procedures
IN 99-009	Problems Encountered When Manually Editing Treatment Data on the Nucletron Microselectron-HDR (New) Model 105.999
IN 99-11	Incidents Involving the Use of Radioactive Iodine-131
IN 99-24	Broad-Scope Licensees' Responsibilities for Reviewing and Approving Unregistered Sealed Sources and Devices
IN 99-27	Malfunction of Source Retraction Mechanism in Cobalt-60 Teletherapy Treatment Units
BL 86-004	Defective Teletherapy Timer That May Not Terminate Treatment Dose
BL 88-006	Actions To Be Taken for the Transportation of Model No. SPEC 2-T Radiographic Exposure Device
BL 92-002	Safety Concerns Related to "End of Life" of Aging Theratronics Teletherapy Units
BL 92-003	Release of Patients After Brachytherapy
BL 93-001	Release of Patients After Brachytherapy Treatment With Remote Afterloading Devices
BL 95-001	Quality Assurance Program For Transportation of Radioactive Material
BL 97-001	Potential for Erroneous Calibration, Dose Rate, or Radiation Exposure Measurements with Certain Victoreen Model 530 and 530SIElectrometer/Dose-Meters
BL 97-002	Puncture Testing of Shipping Packages Under 10 CFR Part 71

Others as selected by the First Line Supervisor

3. NUREGs (latest revision, where applicable)

NUREG 1324 Proposed Method for Regulating Major Materials Licensees

NUREG 1400 Air Sampling in the Workplace

NUREG 1460 Guide to NRC Reporting and Recordkeeping Requirements

NUREG 1507 Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions

NUREG 1556 Consolidated Guidance About Materials Licenses

Vol. 1: Program-Specific Guidance About Portable Gauge Licenses

Vol. 2: Program-Specific Guidance About Industrial Radiography Licenses

Vol. 3: Applications for Sealed Source and Device Evaluation and Registration

Vol. 4: Program-Specific Guidance About Fixed Gauge Licenses

Vol. 5: Program-Specific Guidance About Self-Shielded Irradiator Licenses

Vol. 6: Program-Specific Guidance About 10 CFR Part 36 Irradiator Licenses

Vol. 7: Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope

Vol. 8: Program-Specific Guidance About Exempt Distribution Licenses

Vol. 9: Program-Specific Guidance About Medical Use Licenses

Vol. 10: Program-Specific Guidance About Master Material Licenses

Vol. 11: Program-Specific Guidance About Licenses of Broad Scope

Vol. 12: Program-Specific Guidance About Possession Licenses for Manufacturing and Distribution

Vol. 13: Program-Specific Guidance About Commercial Radiopharmacy Licenses

Vol. 14: Program-Specific Guidance About Well Logging, Tracer, and Field Flood Study Licenses

Vol. 15: Program-Specific Guidance About Changes of Control and About Bankruptcy Involving Byproduct, Source, or Special Nuclear Material Licenses

Vol. 16: Program-Specific Guidance About Licenses Authorizing Distribution to General Licensees

Vol. 17: Program-Specific Guidance About Service Provider Licenses

Vol. 18: Program-Specific Guidance About Special Nuclear Material of Less than Critical Mass Licenses

Vol. 19: Guidance For Agreement State Licensees About NRC Form 241, Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, or Offshore Waters, and Guidance for NRC Licensees Proposing to Work in Agreement State Jurisdiction (Reciprocity)

Vol. 20: Program-Specific Guidance About Administrative Licensing Procedures

NUREG 1575 Multi-Agency Radiation Site Survey and Investigation Manual(MARSSIM)

NUREG 1600 General Statements of Policy and Procedures for NRC Enforcement Actions

NUREG/BR 0195 NRC Enforcement Manual

NUREG/BR 0216 Radioactive Waste: Production, Storage, Disposal

NUREG/BR 0240 Reporting Safety Concerns

NUREG/BR 0241 NMSS Handbook for Decommissioning Fuel Cycle and Materials Licenses

NUREG/CR 4884 Interpretation of Bioassay Measurements

NUREG/CR 5849 Manual for Conducting Radiological Surveys in Support of License Termination

Others as selected by the First Line Supervisor

4. Generic Letters (GL)

GL 86-011 Distribution of Products Irradiated in Research Reactors

GL 88-004 Distribution of Gems Irradiated In Research Reactors

GL 94-004 Voluntary Reporting of Additional Occupational Radiation Exposure Data

GL 95-09 Monitoring and Training of Shippers and Carriers of Radioactive Material

GLl 99-001 Recent Nuclear Materials Safety and Safeguards Decision on Bundling Exempt Sources

Others as selected by the First Line Supervisor

5. Federal Register Notices

U. S. Nuclear Regulatory Commission, "Decommissioning, Recordkeeping and License Termination: Documentation Additions - Final Rule," *Federal Register* 58 (No. 141), 39628-39635, July 26, 1993

U. S. Nuclear Regulatory Commission, "General Requirements for Decommissioning Nuclear Facilities - Final Rule, *Federal Register* 53 (No. 123), 24018-24056, June 27, 1988

Others as selected by the First Line Supervisor

6. NRC Branch Technical Positions

Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material, April 1993

7. Policy and Guidance Directives

As selected by the First Line Supervisor

8. Sealed Source and Device Registry

9. Technical Assistance Requests

As selected by the First Line Supervisor

B, The application of these guidance documents to the materials license review program should be studied in detail by the qualifying individual and covered by the First Line Supervisor in discussions, interviews, or oral quizzes.

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

1. REPORTS/COMMUNICATIONS/FOLLOW-UP

MC 0230 Morning Report
MC 0610 Inspection Reports
MC 0620 Inspection Documents and Records
MC 0720 NRC Bulletins and Information Notices
MC 0801 Inspector Feedback
MC 1120 Preliminary Notifications

IP 92701 Followup
IP 92703 Followup of Confirmatory Action Letters

2. INSPECTIONS

MC 0300 Announced and Unannounced Inspections
MC 0312 Technical Assistance for Radiation Safety Inspections at Nuclear Fuel Cycle Facilities and Materials Licensees' Sites
MC 1246 Formal Qualification Programs in Nuclear Material Safety and Safeguards Program Area
MC 2800 Materials Inspection Program (Inspection Priorities and Scheduling)

3. INTERACTIONS WITH OTHER FEDERAL AGENCIES

MC 1007 Interfacing Activities between Regional Offices of NRC and OSHA

IP 87102 Maintaining Effluents from Materials Facilities As Low As Is Reasonably Achievable (ALARA) [EPA][1]

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 1330 Response to Transportation Accidents Involving Radioactive Materials
MC 1360 Use of Physician and Scientific Consultants in the Medical Consultant Program

[1] Required for non-sealed source licensees.

IP 87103 Inspection of Material Licensees Involved in an Incident or Bankruptcy Filing

5. LOW-LEVEL WASTE/WASTE MANAGEMENT

MC 2401 Near-Surface Low-Level Radioactive Waste Disposal Facility Inspection Program

IP 84750 Radioactive Waste Treatment, and Effluent and Environmental Monitoring
IP 84850 Radioactive Waste Management - Inspection of Waste Generator Requirements of 10 CFR Part 20 and 10 CFR Part 61
IP 84900 Low-Level Radioactive Waste Storage

6. MATERIALS SAFETY PROGRAM

IMC 1220 Processing of NRC Form 241, Inspection of Agreement State Licensees Operating under the Reciprocity Provisions of 10 CFR 150.20
IMC 2800 Materials Inspection Program
IMC 2810 Materials Inspection Program Programs for Multisite, and Multiregional Broad Licensees
IMC 2815 Construction and Preoperational Inspection of Panoramic, Wet-Source Storage Gamma Irradiators
IP 87101 Performance Evaluation Factors
IP 87102 Maintaining Effluents from Materials Facilities As Low As Is Reasonably Achievable (ALARA)
IP 87103 Inspection of Material Licensees Involved in an Incident or Bankruptcy Filing
IP 87110 Industrial/Academic/Research Programs
IP 87111 Materials Processor/Manufacturer Programs
IP 87112 Irradiator Programs
IP 87113 Well Logging Programs
IP 87114 Fixed and Portable Gauge Programs
1P 87115 Nuclear Medicine Programs
IP 87116 Medical Teletherapy Programs
IP 87117 Radiopharmacy Programs
IP 87118 Brachytherapy Programs
IP 87119 Medical Broad-Scope Programs
IP 87120 Industrial Radiography Programs
IP 87250 Locating Missing Materials Licensees

7. RADIATION PROTECTION

MC 8300 Radiation Protection
IP 83726 Control of Radioactive Materials and Contamination, Surveys, and Monitoring
IP 83728 Maintaining Occupational Exposures ALARA
IP 83750 Occupational Radiation Exposure
IP 83822 Radiation Protection
IP 83890 Closeout Inspection and Survey
IP 83895 Radiation Protection - Followup on Expired Licenses

8. TRANSPORTATION

MC 1330 Response to Transportation Accidents Involving Radioactive Materials

IP 86721 Transportation (Basic)
IP 86740 Inspection of Transportation Activities
IP 86750 Solid Radioactive Waste Management and Transportation of Radioactive Materials

9. OTHER

MC 1010 Independent Assessment and Analysis
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 materials inspection program.

A. A selection of currently applicable industry codes and standards should be identified by the First Line Supervisor. These references should include those 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. American National Standards Institute (ANSI)

ANSI N13.1	Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities
ANSI N13.2	Guide for Administrative Practices in Radiation Monitoring
ANSI N13.5	Performance Specifications for Direct Reading and Indirect Reading Pocket Dosimeters for X and Gamma Radiation
ANSI N13.7	Criteria for Photographic Film Dosimeter Performance
ANSI N13.27	Performance Requirements for Pocket Sized Alarm Dosimeters and Alarm Ratemeters
ANSI N42.12	Calibration and Usage of Sodium Iodide Detection Systems
ANSI N42.13	Calibration and Usage of Dose Calibrator Ionization Chambers for the Assay of Radionuclides
ANSI N42.14	Calibration and Use of Germanium Spectrometers for the Measurement of Gamma Ray Emission Rates of Radionuclides
ANSI N42.15	Performance Verification of Liquid Scintillation Counting Systems
ANSI N43.3	General Radiation Safety - Installations Using Non-Medical X-Ray and Sealed Gamma-Ray Sources, Energies up to 10 MeV
ANSI 43.7	Safe Design and Use of Self Contained Dry Source Storage Gamma Irradiators (Category I)
ANSI N43.8	Classification of Industrial Ionizing Radiation Gaging Devices

ANSI N43.10	Safe Design and Use of Panoramic Wet Source Storage Gamma Irradiators (Category IV)
ANSI N44.1	Integrity and Test Specifications for Selected Brachytherapy Sources
ANSI N44.2	Leak Testing Radioactive Brachytherapy Sources
ANSI N44.3	Thyroid Radioiodine Uptake Measurements Using a Neck Phantom
ANSI N319	Personnel Neutron Dosimeters
ANSI N322	Inspection and Test Specifications for Direct and Indirect Reading Quartz Fiber Pocket Dosimeters
ANSI N323	Radiation Protection Instrumentation Test and Calibration
ANSI N449	Guidelines for Maintaining Cobalt-60 and Cesium-137 Teletherapy Equipment
ANSI N449.1	Procedures for Periodic Inspection of Cobalt-60 and Cesium-137 Teletherapy Equipment
ANSI N542	Sealed Radioactive Sources Classification
ANSI Z88.2	Practices for Respiratory Protection

ANSI Standards as selected and documented by the First Line Supervisor

2. NRC Accepted HP Computer Codes

PC-DOSE
Varskin
RASCAL
REMIT

3. National Council on Radiation Protection and Measurements (NCRP)

NCRP Reports No. 8, 30, 37, 40, 41, 47, 49, 50, 57, 58, 59, 61, 65, 69, 70, 71, 84, 87, 93, 94, 95, 99, 100, 101, 102, 105, 107, 110, 111, 112, 114, 115, 116, 117, 121, 122, 123, 124, 125, 127, 129

NCRP Commentaries No. 9, 11

4. International Commission on Radiological Protection (ICRP)

ICRP 19, 23, 25, 26, 27, 28, 30 and Supplements, 35, 44, 51, 52, 53, 54, 56,
60, 61

5. U.S. Environmental Protection Agency (EPA)

EPA Federal Guidance Report No.11

6. Committee on the Biological Effects of Ionizing Radiation (BEIR)

   BEIR Reports (As selected by supervisor)

7. International Commission on Radiological Units (ICRU)

   ICRU 12, 18, 20, 22, 24, 32, 38

8. International Atomic Energy Agency (IAEA)

   Safety Series No. 1, 25, 33, 38

   Technical Report Series No. 120, 133

B. The First Line Supervisor should test the qualifying individual's knowledge of application of these codes and standards to the materials 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.

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 2800 Materials Inspection Program

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 0620 Inspection Documents and Records

| 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 8.10 NRC Medical Event Assessment 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 0325 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 Procedures

15. NRC MD 8.8 Management of Allegations

16. NRC MD 8.10 NRC Medical Event Assessment Program

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

A. A selection of significant historical materials related events should be identified by the First Line Supervisor. These events should be documented and studied in detail by the qualifying individual.

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 materials inspection program should be stressed.

A. The First Line Supervisor will select documents from the file of a licensed facility and direct their review by the qualifying individual. The qualifying individual will study in detail the selected documents. The selection should be documented. Such documents would include:

1. Initial license application and facility description

2. Associated licensing correspondence (NRC staff comments and licensee responses)

3. License renewal applications and associated NRC correspondence

4. Copy of the license

5. Inspection reports related to that licensee's activities

B. The First Line Supervisor will discuss in detail with the qualifying individual the selected documents and their relation to the overall material inspection program.

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