



## FSME Procedure Approval

### *Reviewing the Common Performance Indicator, Technical Quality of Inspections - SA-102*

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#### ***NOTE***

*These procedures were formerly issued by the Office of State and Tribal Programs (STP). Any changes to the procedure will be the responsibility of the FSME Procedure Contact as of October 1, 2006. Copies of FSME procedures will be available through the NRC website.*

 <p><b>Procedure Title:</b> <i>Reviewing the Common Performance Indicator, Technical Quality of Inspections</i> <b>Procedure Number: SA-102</b></p>	<p><b>Page: 1 of 9</b></p> <p><b>Issue Date:</b> <b>7/23/2007</b></p>
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## I. INTRODUCTION

This document describes the procedure for conducting reviews of U.S. Nuclear Regulatory Commission (NRC) Regional and Agreement State radioactive materials programs using the common performance indicator, Technical Quality of Inspections [NRC Management Directive (MD) 5.6, *Integrated Materials Performance Evaluation Program (IMPEP)*].

## II. OBJECTIVES

- A. To ensure that inspections of licensed activities focus on health and safety issues in accordance with NRC Inspection Manual Chapter 2800, *Materials Inspection Program*.
- B. To ensure that inspection findings are well-founded and well-documented in reports.
- C. To verify that inspections are complete and reviewed promptly by supervisors or management.
- D. To determine that procedures are in place and used to help identify root causes and poor licensee performance.
- E. To confirm that followup inspections address previously identified open items and/or past violations.
- F. To verify that inspection findings lead to appropriate and prompt regulatory action.
- G. To confirm that supervisors conduct annual accompaniments of each inspector to assess performance and assure application of appropriate and consistent policies and guides.
- H. For programs with separate licensing and inspection staffs, to verify that procedures are established and followed to provide feedback information to license reviewers.
- I. For Agreement States, to determine that inspection guides are consistent with NRC guidance and that they are being used consistently by inspectors to assure uniform and complete inspection practices.
- J. To determine the status of complex decommissioning sites formerly managed by the NRC under the Site Decommissioning Management Plan (SDMP) and transferred to States whose Agreements became effective after August 26, 1999.

### **III. BACKGROUND**

This performance indicator provides a qualitative balance to the common performance indicator, Status of Materials Inspection Program, which looks at the status of an inspection program on a quantitative basis. Review team members will accompany a sample of inspectors at different types of licensed facilities to evaluate the knowledge and capabilities of inspectors firsthand. Review team members will also conduct in-depth, on-site reviews of a cross section of completed inspection reports. These reviews will focus on the scope, completeness, and technical accuracy of completed inspections and related documentation.

### **IV. ROLES AND RESPONSIBILITIES**

#### **A. Team Leader:**

Determines which team member(s) is assigned as the principal reviewer for this performance indicator.

#### **B. Principal Reviewer:**

1. Conducts inspector accompaniments (unless they are completed by an alternate team member), reviews and evaluates selected inspection casework, conducts staff discussions, and maintains a reference summary of all inspection casework reviewed.
2. Meets the appropriate requirements, as specified in MD 5.10, *Formal Qualifications for Integrated Materials Performance Evaluation Program (IMPEP) Team Members*.

### **V. GUIDANCE**

#### **A. Scope**

1. This procedure applies only to the review (for adequacy, accuracy, completeness, clarity, specificity, and consistency) of the technical quality of completed radioactive materials inspection actions performed by the NRC Region or Agreement State in the period since the last review. The principal reviewer for this indicator may, nonetheless, find it necessary to review earlier inspection actions to ensure that outstanding items found in a previous review of inspection casework have been addressed.

2. This procedure specifically excludes inspections of non-Atomic Energy Act materials and inspections conducted by NRC Headquarters personnel.

B. Evaluation Procedures

1. The principal reviewer should refer to Part III, *Evaluation Criteria*, of MD 5.6 for specific evaluation criteria. The definitions of the terms "Materials Inspection" and "Overdue Core Inspections" can be found in the Directive's Glossary.
2. Depending on the size of the NRC Regional or Agreement State radioactive materials program under review, the principal reviewer should select 10-25 inspection casework examples for review, concentrating on inspections of Priority 1, 2, and 3 licenses and initial inspections.
  - a. All materials inspections conducted by the NRC Region or Agreement State since its last performance review are candidates for evaluation.
  - b. Inspections of license terminations, bankruptcies, and decommissionings will be treated as a subset of this performance indicator.
  - c. Inspection casework should be selected to represent a cross section of the program's workload, including as many different inspectors, license categories, and geographic locations as practical. The principal reviewer should perform a risk-informed sample of the program's inspection casework based upon safety significance. The use of risk-informed sampling, rather than "random" sampling, maximizes the effectiveness of the review of casework. By focusing on safety significant inspection actions, the reviewer has a greater probability of identifying programmatic weaknesses that would have the greatest impact on public health and safety.
  - d. The principal reviewer should select a mix of medical and academic uses (e.g., hospitals; medical centers; brachytherapy, including high-dose rate remote afterloaders; gamma stereotactic radiosurgery units; emerging technologies; and universities) and industrial uses (e.g., industrial radiography, irradiators, and manufacturers/distributors) for review.
  - e. Reciprocity inspections should be included, as appropriate.

- f. Inspections of complex decommissioning sites should be reviewed, if available, including inspections of sites formerly managed by the NRC under SDMP that were transferred to States with Agreements that became effective after August 26, 1999.
  3. If the initial review indicates a systematic weakness on the part of one inspector or problems with respect to one or more inspection procedures, additional similar inspection files should be obtained and reviewed in order to determine the magnitude of the programmatic weakness and its root cause(s).
  4. If previous reviews indicate a programmatic weakness in a particular area, additional casework in that area should be reviewed to assure that the weakness has been addressed.
  5. If the evaluation of 10-25 casework examples does not reveal any programmatic weaknesses, no additional casework needs to be reviewed.
  6. For the NRC Regions, no attempt should be made to evaluate performance on a state-by-state basis for this indicator.
- C. Review Guidelines
1. Prior to the on-site review, the principal reviewer should review:
    - a. The response generated by the NRC Region or Agreement State radioactive materials program to relevant questions in the IMPEP questionnaire. The response to the questionnaire relative to this indicator should be used to focus the review.
    - b. For the NRC Regions, tallies of completed inspections can be obtained from the License Tracking System (LTS). This information can be obtained prior to the on-site review from the Office of Federal and State Materials and Environmental Management Programs (FSME). The LTS has limited ability to sort these records, depending on the needs of the principal reviewer. Once the appropriate files are selected, a call to the Regional office can be made to have the inspection files pulled and ready for review at the time of the visit.
    - c. For Agreement States, inspection reports are not normally submitted to FSME. The principal reviewer should work with the IMPEP team leader in selecting the appropriate inspection files for review.

D. Review Details

To determine the technical quality of inspections, the principal reviewer should evaluate the following:

1. Inspection report documentation. For each case selected, the inspection report should adequately document (as appropriate):
  - a. the scope of the inspection and the licensed program;
  - b. the licensee's organization and the persons contacted;
  - c. the licensee's administrative controls and procedures; facilities and equipment; radiation safety procedures for procurement, use, transfer and disposal; posting and labeling; personnel monitoring; gaseous and liquid effluents; surveys and bioassay; incidents and overexposures; and radioactive waste packaging and shipping;
  - d. operations observed including operations at temporary job sites, field stations or satellite facilities;
  - e. interviews of workers;
  - f. independent measurements;
  - g. status of previous violations;
  - h. new violations noted;
  - i. the exit interview with management;
  - j. the substance of discussions with licensee's management;
  - k. licensee's response to any violations.
2. Completeness of the inspection files. The reviewer should ensure that all relevant documents, letters, file notes, and telephone conversations are complete and in the file;
3. Detail of inspection reports. The reviewer should ensure that inspection reports are sufficiently detailed to show that each inspection was adequate to address the health and safety of licensed operations;
4. Substantiation of any violations and safety recommendations;
5. Appropriateness of regulatory actions taken in response to violations;
6. Documentation of violations. The reviewer should ensure that violations are written using appropriate regulatory language and dispatched in a timely manner;

7. Documentation and resolution of unresolved items. The reviewer should ensure that any unresolved items identified during inspections were pursued to a satisfactory conclusion;
  8. Management review of inspection reports. The reviewer should ensure that management identifies report deficiencies (e.g., unsupported conclusions and opinions in the report, violations not properly substantiated, and apparent violations not cited) and bring these deficiencies to the attention of the inspector;
  9. Review of licensees' responses. The review should ensure that licensees' responses were evaluated for adequacy and that any subsequent actions taken by management were appropriate;
  10. Instrumentation. The review should ensure that instrumentation is adequate, calibrated, and functioning properly for surveying license operations (e.g., survey meters, air samplers, lab counting equipment for smears and isotope identification); and,
  11. Effectiveness of the NRC Region's or Agreement State's internal program to evaluate its inspectors in the field. The reviewer should ensure that the NRC Regional or Agreement State supervisors evaluate all inspectors on at least one inspection in the field per year.
- E. Review Information Summary
1. At a minimum, the summary maintained by the principal reviewer will include:
    - a. Licensee name;
    - b. License number;
    - c. Licensee location (city, state);
    - d. Inspection priority;
    - e. Type of licensed operation (e.g., program code or license category);
    - f. Inspector's initials;

- g. Type of inspection (e.g., routine, reactive, followup, announced, unannounced, team, or other);
    - h. Date of inspection;
    - i. Date inspection findings were issued; and,
    - j. Comments related to performance issues.
  - 2. Appendix A, Inspection Casework Review Summary Sheet, provides a template for recording the necessary information that should be maintained by the principal reviewer. The principal reviewer should not feel obligated to use Appendix A, but may find it as a useful means of recording the necessary information.
  - 3. Due to the NRC policies on sensitive information, not all the information maintained in the reviewer's summary will appear in the list of inspection casework reviews in the report's appendix. Please contact the IMPEP Project Manager for the current guidance and format on the report's inspection casework appendix.
  - 4. Comments in regard to inspection casework that will appear in the report's appendix should be factual, concise, and concentrate on casework deficiencies and their root cause(s).
- F. Inspector Accompaniments
- 1. In addition to performing a file review of the selected inspections, the principal reviewer for this indicator (or another qualified IMPEP team member, as appropriate) should complete an appropriate number of accompaniments of the NRC Region's or Agreement State's inspectors to observe, on a first-hand basis, the inspectors' demonstration of proper inspection techniques and areas of emphasis. Accompaniments should be performed prior to the on-site portion of the IMPEP review, if possible. In accordance with the NRC Region's or Agreement State's work schedules, the reviewer should attempt to observe a representative sample of inspectors and licensee types, concentrating on inspections of licensed facilities which have greater health and safety potential. One-day inspections are preferable for accompaniments, so that the reviewer may observe the entire inspection process from entrance to exit.

2. In most cases, the goal for an Agreement State review is to accompany one-half of the program's inspectors. For larger Agreement States and NRC Regions, the goal is to accompany four or five inspectors. Priority should be given to newly qualified inspectors and those that have not been accompanied during previous IMPEP reviews.
3. IMPEP accompaniments are performance-based evaluations of inspector effectiveness. It is important that these accompaniments focus on health and safety issues. It is not the role of the reviewer to help with the inspection effort, but rather to observe the inspector's work.
4. Prior to the inspection, the reviewer and inspector should discuss:
  - a. the extent of the reviewer's participation in the inspection (observation, not active participation);
  - b. the way the reviewer's presence will be explained to the licensee; and
  - c. the method that will be used in evaluating the inspector's performance.
5. Unless determined otherwise by the team leader, results of the inspector accompaniments should be communicated to the inspector and the program's management the week of the accompaniment, especially if the evaluation uncovers performance weaknesses. If possible, the review team member completing the accompaniments should schedule a close-out meeting with program management to ensure that all findings are fully communicated and understood. The review team member performing the accompaniments should communicate to the program's management that the results of the accompaniments are preliminary and will be used in the overall assignment of a finding for this indicator.
6. Appendix B, Inspector Accompaniment Guidance, was developed to assist the reviewer in completing the inspector accompaniments. The reviewer should not feel compelled to address every item on the evaluation form. Inspector accompaniment information should be summarized as described in Section E, above.

G. Discussion of Findings with NRC Region or Agreement State

The reviewer should follow the guidance given in FSME Procedure SA-100, *Implementation of the Integrated Materials Performance Evaluation Program (IMPEP)*, for discussing technical findings with inspectors, supervisors, and managers.

## **VI. APPENDIXES**

- A. Inspection Casework Review Summary Sheet
- B. Inspector Accompaniment Guidance
- C. Frequently Asked Questions

## **VII. REFERENCES**

- 1. NRC Management Directive 5.6, *Integrated Materials Performance Evaluation Program (IMPEP)*.
- 2. NRC Management Directive 5.10, *Formal Qualifications for Integrated Materials Performance Evaluation Program (IMPEP) Team Members*.
- 3. NRC Inspection Manual Chapter 2800, *Materials Inspection Program*.
- 4. FSME Procedure SA-100, *Implementation of the Integrated Materials Performance Evaluation Program (IMPEP)*.

## **VIII. ADAMS REFERENCE DOCUMENTS**

For knowledge management purposes, listed below are all previous revisions of this procedure, as well as associated correspondence with stakeholders, that have been entered into the NRC's Agencywide Document Access Management System (ADAMS).

<b>No.</b>	<b>Date</b>	<b>Document Title/Description</b>	<b>Accession Number</b>
1	6/28/04	STP-04-045, Opportunity to Comment on Draft Revisions to STP Procedure SA-102	ML041800434
2	3/28/05	Summary of Comments on SA-102	ML052250018
3	4/12/05	STP-05-030, Final STP Procedure SA-102	ML051080398
4	4/12/05	STP Procedure SA-102	ML052250016





APPENDIX B (continued)

**SUMMARY OF EVALUATION**

1. INSPECTOR'S PERFORMANCE RATING:  
 MEETS OR EXCEEDS GUIDELINES  NEEDS IMPROVEMENT

2. COMMENTS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. THE INSPECTOR MIGHT BENEFIT FROM ADDITIONAL TRAINING IN:  
 \_\_\_\_\_  
 \_\_\_\_\_

4. EVALUATION DISCUSSED WITH \_\_\_\_\_  
 ON \_\_\_\_\_

ITEM	O.K.	COMMENTS OR QUESTIONS
<b>INSPECTOR'S PREPARATION</b>		
ADEQUATE REVIEW OF LICENSE AND COMPLIANCE HISTORY		
INSPECTION PLAN OR FIELD FORM		
APPROPRIATE SURVEY INSTRUMENTS CALIBRATED <input type="checkbox"/> INSTRUMENT RESPONSE CHECK <input type="checkbox"/>		
SUPPLEMENTAL MATERIALS: REGS <input type="checkbox"/> FORMS <input type="checkbox"/> ID <input type="checkbox"/> DOSIMETRY <input type="checkbox"/> SOURCES <input type="checkbox"/> ANEMOMETER <input type="checkbox"/>		
<b>OPENING</b>		
INTERVIEW CONDUCTED AT APPROPRIATE LEVEL		
EXPLANATION OF INSPECTION PURPOSE, SCOPE, METHOD		
<b>INSPECTION</b>		
USE OF APPROPRIATE FORM OR CHECKLIST		
"WALK THROUGH" AT BEGINNING OF INSPECTION		
OBSERVATION OF OPERATION AND HANDLING OF RAM		
FACILITIES CHECKED FOR PROPER POSTING, LABELING		
SECURITY VERIFIED		
WORKERS CHECKED FOR PERSONAL DOSIMETRY		
WORKER INTERVIEWS RAM USERS <input type="checkbox"/> ANCILLARY WORKERS <input type="checkbox"/>		
WIPES, SURVEYS, MEASUREMENTS TAKEN		

APPENDIX B (continued)

ADHERENCE TO ALARA EVALUATED		
INSPECTION CONDUCTED IN SUFFICIENT SCOPE & DEPTH		
VERIFICATION OF CORRECTIONS TO PREVIOUS VIOLATIONS		
REVIEW OF INCIDENTS, OVEREXPOSURES, ETC.		
<b>ITEM</b>	<b>O.K.</b>	<b>COMMENTS OR QUESTIONS</b>
RECORDS VERIFIED AGAINST ORAL STATEMENTS FOR: PROCUREMENT & INVENTORY <input type="checkbox"/> RECEIPT & TRANSFER OF MATERIAL <input type="checkbox"/> INTERNAL AUDITS <input type="checkbox"/> SURVEYS & MONITORING <input type="checkbox"/> PERSONNEL DOSIMETRY, BIOASSAY <input type="checkbox"/> QUALIFICATION AND TRAINING OF PERSONNEL <input type="checkbox"/> EMERGENCY PLAN & PROCEDURES <input type="checkbox"/> COMMITTEE MEETINGS, MINUTES <input type="checkbox"/> AUTHORIZED USERS <input type="checkbox"/> INSTRUMENT CALIBRATION <input type="checkbox"/> DOSE CALIBRATOR TESTS; UTILIZATION LOG <input type="checkbox"/> LEAK TESTS <input type="checkbox"/> GENERATOR - ASSAY, MOLY BREAKTHROUGH, LOGS <input type="checkbox"/> WASTE MANAGEMENT, DISPOSAL <input type="checkbox"/> RELEASE OF AIR & SEWER EFFLUENTS <input type="checkbox"/> QA & QC; MAINTENANCE <input type="checkbox"/>		
<b>INSPECTOR'S PROFESSIONALISM</b>		
USE OF PROPER HEALTH PHYSICS TECHNIQUES (SELF MONITORING, ETC.)		
ACCURATE EVALUATION OF RADIATION SAFETY		
KNOWLEDGE OF HEALTH PHYSICS & REGULATIONS		
APPROPRIATE APPEARANCE FOR LICENSE TYPE		
SKILL IN WORDING QUESTIONS		
SUITABLE RAPPORT WITH MANAGEMENT AND WORKERS		
<b>CLOSING</b>		
PREPARATION FOR EXIT INTERVIEW; ASSEMBLY OF SUPPORTING MATERIAL		
EXIT CONDUCTED AT APPROPRIATE MANAGEMENT LEVEL		
VIOLATIONS FULLY EXPLAINED; LICENSE CONDITION OR REGULATION CITED		
RECOMMENDATIONS CLEARLY DISTINGUISHED FROM VIOLATIONS		
IMPENDING ENFORCEMENT ACTIONS EXPLAINED		
LICENSEE ADVISED OF EXPECTED RESPONSE AND REQUIREMENTS FOR CHANGE		

APPENDIX B (continued)

VIOLATIONS	O.K.

## Appendix C

### Frequently Asked Questions

- Q: How often should an inspector be accompanied by their supervisor?
- A: Inspectors should be accompanied by their supervisor at least annually as described in the U.S. Nuclear Regulatory Commission's (NRC) Inspection Manual Chapter 2800, *Materials Inspection Program*. In the event that an inspector is not accompanied by his/her supervisor in a particular calendar year, it should be documented in the inspector's personnel file. The documentation should include an explanation, a proposed schedule for the next expected accompaniment, and the supervisor's signature.
- Q: What if the inspector only does occasional inspections, such as a cross-trained license reviewer?
- A: If the inspector only performs occasional inspections, the inspector should still be accompanied by his/her supervisor annually, if possible, unless the program has a policy or procedure that allows a longer interval between accompaniments. If there is a policy or procedure that allows for a longer interval, the program should perform accompaniments of inspectors who perform occasional inspections in accordance with that policy or procedure. We are aware of an NRC Region that has a policy in place to perform accompaniments of cross-trained license reviewers every 18 months. This is acceptable because their policy is documented.
- Q: Should the supervisor who performs the accompaniments be experienced?
- A: Yes, supervisors that perform accompaniments should be experienced in the program's inspection practices and procedures. The supervisor should also at least be familiar with the type of license being inspected during the accompaniment. The experience and knowledge will allow the supervisor to perform a better evaluation of the inspector. A supervisor experienced in inspections will know areas of concerns for certain license types and will be able to provide more constructive feedback of the inspector's competency.
- Q: In Agreement States, can senior staff conduct accompaniments?
- A: Yes, it is acceptable to have senior staff perform inspector accompaniments under certain circumstances. In Agreement States where the program manager is the immediate supervisor, accompaniments may be performed by experienced senior staff instead of the program manager, if the program manager is fulfilling other obligations. In an Agreement State that is experiencing staffing issues where there is a vacancy in a supervisory position, the accompaniments may be performed by experienced senior staff during the time the vacancy is unfilled. It is expected that supervisors generally conduct the accompaniments; however, it is preferable to have the accompaniments conducted by

## Appendix C (continued)

an experienced, qualified inspector in the circumstance that the supervisor is not available to accompany the inspectors.

Q: What should the reviewer do if during the accompaniment it is discovered that the inspector has not been qualified to perform that particular type of inspection?

A: In the circumstance that the reviewer discovers that an inspector is not qualified to perform a particular type of inspection during that type of inspection, the reviewer should document the issue and discuss with the inspector and his/her supervisor following the review. The reviewer should allow the inspection to continue as long as there are no health and safety concerns. In the event that the inspector's lack of qualification causes health and safety concerns to go unnoticed or undocumented, the reviewer should bring the concern to the attention of the program's management. Program management should explain the health and safety concern to the licensee. During the accompaniment close-out meeting, the reviewer should mention to the inspector's supervisor and/or program management that the inspector was not qualified to perform that type of inspection.

Q: All the inspectors were accompanied during the last IMPEP review, does the review team need to conduct any accompaniments during the current review?

A: Yes, even if all the program's inspectors were accompanied during the last IMPEP review, the review team should still conduct inspector accompaniments. The review team member responsible for performing the accompaniments must ensure that the technical quality of inspections and the technical competency of the inspectors has remained adequate over the review period.

Q: What if the Agreement State is performing only compliance-based inspections?

A: There are no requirements that prohibit Agreement States from performing compliance-based inspections. It is at the Agreement State's discretion to implement a performance-based inspection policy. The review should be conducted in a manner that is consistent with all IMPEP guidance documents applicable to this indicator and the inspection policy of the State.

Q: If a supervisor routinely performs inspections in an Agreement State, should the supervisor be accompanied annually also?

A: Yes, supervisors who routinely perform inspections should be accompanied. During an IMPEP review in 2003, a recommendation was made to the NRC to develop specific guidance on what level of supervisor needs to be accompanied, how often, and what documentation is necessary. Until this guidance is finalized, it should be assumed that any supervisor that performs inspections routinely should be accompanied at least annually.

## Appendix C (continued)

Q: What if there are concerns regarding an inspector's performance during an inspector accompaniment?

A: If concerns about an inspector's performance are raised during an inspector accompaniment, the reviewer should evaluate the potential implications. If the concerns are not of health and safety significance, the reviewer should allow the accompaniment to continue, but document the concerns in the accompaniment report and discuss the issues with the inspector and his/her supervisor after the accompaniment. If the concerns are of health and safety significance, it is the responsibility of the reviewer to bring the concerns to the attention of the inspector and his/her supervisor. During the accompaniment close-out meeting, the reviewer should discuss the performance issues with the inspector and his/her supervisor and/or program management.