



Office of Nuclear Material Safety and Safeguards Procedure Approval

Reviewing the Common Performance Indicator, Technical Quality of Inspections State Agreements (SA) Procedure, SA-102

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ML20188A044

NOTE

**Any changes to the procedure will be the responsibility of the NMSS Procedure Contact.
Copies of NMSS procedures are available through the NRC Web site at
<https://scp.nrc.gov>.**

I. INTRODUCTION

This document describes the procedure for conducting reviews of Agreement States and U.S. Nuclear Regulatory Commission (NRC) radiation control programs (Programs) for the common performance indicator, Technical Quality of Inspections, as specified in the (NRC) Management Directive (MD) 5.6, *Integrated Materials Performance Evaluation Program (IMPEP)*.

II. OBJECTIVES

- A. To verify, through inspector accompaniments and casework review, that the Agreement State and NRC inspections of licensed activities focus on health, safety, and security issues in accordance with NRC Inspection Manual Chapter (IMC) 2800, *Materials Inspection Program* and the applicable Inspection Procedure (IP) (IPs 86740, and 87102 through 87250), or Agreement State equivalent procedure.
- B. To verify that processes or procedures are established and followed to capture and address inspection-related findings that indicate the need to modify, correct, or amend licenses.
- C. For Agreement States, to determine that inspection policies, procedures, and guidance are consistent with NRC policies, procedures, and guidance, and are being implemented by the Program.
- D. To verify that the inspection findings are well-founded and well-documented in inspection records and lead to appropriate and prompt regulatory action.
- E. To verify that the inspections address the necessary focus elements and that inspection records and findings are reviewed promptly by supervisors or management.
- F. To verify that established procedures are used to identify root causes of findings and poor licensee performance. [NOTE: if there is a compatibility issue with the Program's procedures, see the Non-Common Program Performance Indicator "Legislation, Regulations, and Other Program Elements (LROPE)."]
- G. To confirm that inspections address previously identified performance issues.
- H. To confirm that supervisors ensure accompaniments of each inspector are conducted annually to evaluate the inspector's performance; and to assess whether the methods utilized for conducting accompaniments are effective in identifying performance issues.

III. BACKGROUND

This performance indicator is a companion to the common performance indicator, Status of Materials Inspection Program, and is meant to elicit information about the quality of inspections. IMPEP team member(s) will accompany a sample of the inspectors performing different types of licensed activities to directly evaluate the performance of the inspectors. IMPEP team member(s) will also conduct in-depth, on-site reviews of a representative sample of completed inspection files. These reviews will focus on the

scope, completeness, and technical accuracy of completed inspections and related documentation.

IV. ROLES AND RESPONSIBILITIES

A. IMPEP Review Team Leader (Team Leader):

1. In coordination with the IMPEP Program Manager, the Team Leader determines which team member is assigned lead review responsibility.
2. Assigns team member(s) to perform inspector accompaniments.
3. Gathers the information from the Program necessary to select the inspectors to be accompanied and licensed activities to be inspected.
4. Selects inspections based upon radiological safety and security significance of the licensed activity, from the Program's pending inspections. The Team Leader may delegate these actions to the principal reviewer.
5. Communicates the team's findings to Program management and ensures that the team's findings are in alignment with MD 5.6.

B. Principal Reviewer:

1. Reviews and evaluates selected inspection casework files, conducts staff discussions, and maintains a reference summary document of all inspection casework reviewed.
2. Conducts inspector accompaniments (unless they are conducted by an alternate team member(s)) and maintains a reference summary document related to the accompaniments.
3. Informs the Team Leader of the team's findings throughout the on-site review.
4. Presents the team's findings to the Program at the staff exit meeting.
5. Completes their portion of the IMPEP report for the Technical Quality of Inspections performance indicator.
6. Attends the Management Review Board meeting for the IMPEP review; presents and discusses the team's findings for the Technical Quality of Inspections performance indicator (this can be done either in person or remotely).

V. GUIDANCE

A. Scope

1. This procedure applies to the review of the technical quality of completed radioactive materials inspection actions performed in the period since the last review. The principal reviewer for this indicator may find it necessary to perform a limited review of earlier inspection actions to ensure that, for

example: recommendations identified during a previous IMPEP review have been addressed; findings from previous inspections have been addressed; or to verify that inspections conducted during the review period were performed in accordance with the time frames established in procedures and commensurate with the risk.

2. This procedure includes inspection accompaniments to observe the inspectors' performance and demonstration of proper inspection techniques. The number of accompaniments to be performed depends on the size of the Program. In most cases, the goal is to accompany at least one-half of the Program's inspectors. Inspectors hired and qualified since the last IMPEP review should be accompanied. For a Program with a small number of inspectors, consideration should be given to accompanying all the inspectors.
3. This procedure specifically excludes the Agreement State and NRC inspections of licensees that are not authorized for the possession, use, distribution, or storage of byproduct material, source material, or special nuclear material less than critical mass quantities (i.e., agreement materials), inspections of licensees with non-Atomic Energy Act material (e.g., naturally occurring radioactive material (NORM)), and generally licensed radioactive material.

B. Preparation

1. Prior to the inspector accompaniments, the assigned reviewer(s) should:
 - a. Remind the Program that all materials inspectors are candidates for inspector accompaniments.
 - b. Identify and select for accompaniments, those inspectors that are newly qualified and were not accompanied during the previous review. If all the program's inspectors were accompanied during the last IMPEP review, the review team should still conduct inspector accompaniments. In this case, consideration should be given to performing accompaniments of the inspectors for different types of licensed activities than were accompanied during the previous review. For example, if an inspector was accompanied on a medical inspection during the previous review, the inspector can be accompanied on an industrial inspection during the current review. Confirm the inspector's qualifications prior to the accompaniments to ensure the inspector is qualified to perform the particular inspection assigned.
 - c. Schedule inspector accompaniments in advance of the on-site portion of the IMPEP review. For example, risk-significant/complex licensees are inspected every 1-3 years. For a smaller Program, with fewer risk-significant licensees, it may be necessary to conduct accompaniments up to a year in advance of the on-site IMPEP review to ensure inspection accompaniments of such licensees.
 - d. Consider performing an increased number of inspector accompaniments involving a particular type of licensed activity to cover previously identified weaknesses.

- e. Ensure that inspector accompaniments do not cause any inspection to become overdue.
- f. Consider selecting inspections that typically take 1 workday to perform. The reviewer should give priority to 1 workday inspections in order to observe the inspector conduct the entire inspection process from beginning to end. This will also allow for the reviewer to maximize efficiency and conduct additional accompaniments during the week. However, inspections of complex licensees may take longer than 1 day and are acceptable candidates for inspector accompaniments.
- g. Consider including licensees implementing security requirements for Category 1 and Category 2 quantities of radioactive material as one of the risk-significant licensees.
- h. Coordinate with the Program's inspector(s) to be accompanied as to the logistics of the accompaniment, such as when and where to meet. Information should be gathered as to any specific security requirements, attire, or personal protective equipment that may be required for access to the licensed facilities being inspected (e.g., safety shoes, safety glasses).
- i. Obtain a copy of the license, the previous inspection documentation, and any licensee submitted corrective actions from the previous inspection, if applicable for inspection accompaniments. The purposes of these documents would be limited to evaluating the inspector and not be used to review a licensee's radiation safety program.
- j. Discuss with each inspector the extent of the reviewer's role in the inspection. It is not the role of the reviewer to help with the inspection effort or participate in the inspection, but rather to observe the inspector's performance during the conduct of the inspection. Observation of the inspector may include discreetly interacting with the inspector and asking the inspector questions. IMPEP inspector accompaniments are performance-based evaluations of inspector effectiveness.
- k. Discuss with each inspector the methods (see *Inspector Accompaniment Summary Sheet* in the IMPEP Toolbox on the state communications portal Web site) that will be used in evaluating the inspector's performance and how feedback will be provided to the inspector and his or her management.
- l. Agreement State procedure for inspection performance should be compatible to IMC 2800. IMC 2800 contains criteria for inspections to include the observation of licensed activities and review of documents for verification that operations are in compliance. The essential objective of an inspection procedure is to ensure that inspections are performed to identify real or potential health, safety or security issues. The method(s) used to achieve the objective should not be strictly "performance" or "compliance" based, rather the inspector should use their judgement in determining the best balance of methods to assess compliance.

2. If either the accompaniments or inspection case files reveal weaknesses, the reviewer(s) should:
 - a. Attempt to determine whether the issue is isolated or represents a programmatic weakness and should inform the Team Leader as soon as possible. The reviewer(s) should attempt to determine the root cause(s) of any identified weaknesses.
 - b. Under no circumstance should the reviewer(s) conducting an inspector accompaniment allow an item that is of immediate health and safety or security concern to continue to be unidentified during an inspection. If this occurs, it is the responsibility of the reviewer to bring the concerns to the attention of the inspector during the inspection and inform the inspector's supervisor as well as the Team Leader as soon as is practicable. If the concerns are not of immediate health and safety or security significance, or are of unknown health and safety or security significance, the reviewer should allow the accompaniment to continue, but document the concerns in the accompaniment report and discuss the issues with the inspector at the conclusion of the inspection, and subsequently (e.g. end of the day, end of the week, or the following week) with the inspector's supervisor as well as the Team Leader. In all cases, after the inspector has concluded the on-site inspection, the IMPEP review team member should take a few moments with the inspector and discuss any observed or identified performance issues with the inspector. This will allow for meaningful dialogue between the reviewer and the inspector to clarify any issues prior to the reviewer briefing the inspector's supervisor and/or program management.

C. Review Guidelines

1. For each inspector accompanied, the reviewer should evaluate the inspector's performance:
 - a. Inspections should be of sufficient scope to determine whether the health, safety, and security of licensed activities were adequately addressed.
 - b. Inspectors should gather sufficient information to substantiate any identified violations or non-compliances; inspection findings and expectations regarding corrective actions should be clearly communicated at the conclusion of the inspection.
 - c. Any violations, non-compliances, or unresolved items identified during previous related inspections should be reviewed during the inspection to assure that they were appropriately addressed by the licensee.
 - d. Inspectors should use appropriate and calibrated instrumentation for performing independent or confirmatory measurements for the type of licensed activity inspected. Inspectors should utilize proper techniques when using instrumentation.
 - e. Inspectors should observe licensee activities including activities at temporary job sites, field stations, or satellite facilities, and ensure the activities observed are appropriately described.

- f. Inspectors should demonstrate proper evaluation of radiation safety conditions as well as the security of licensed materials.
 - g. Any concerns should be discussed with the Team Leader as soon as possible. If the inspector accompaniments indicate a potential weakness on the part of one inspector or with respect to inspections of certain types of licensed activities, the Team Leader should assess whether additional inspection accompaniments are necessary and discuss this matter with the Program management.
2. Prior to the full team on-site review, the Principal Reviewer(s) should:
- a. Evaluate the response generated by the Program to relevant questions in the IMPEP questionnaire. Depending on the level of detail of the information provided, the response to the questionnaire relative to this indicator may be useful to focus the review.
 - b. Obtain a list containing the inspector name, inspection completion dates, name of licensee, and type of licensed activity from the Program for the review period. The Principal Reviewer can make their casework selection from this list.
 - c. Select a representative risk-informed inspection casework sample considering the following:
 - i. Select 15-25 casework files from a list of all material inspections started or completed by the Program since its last performance review. For NRC and applicable Agreement State programs, the reviewer may use the Web-Based Licensing (WBL) system as part of the review of case files.
 - ii. Select files that cover the qualified inspectors for the review period; focus on a variety of priority 1, 2, and 3 licensed activities (e.g., risk-significant radioactive material licensees). The casework may include the inspection documentation from the inspection accompaniments and initial inspections. The use of risk-informed sampling, rather than random sampling, maximizes the effectiveness of the review of inspection casework files. Focusing on safety and security risk-significant inspection activities, assures the identification of programmatic weaknesses that may impact public health, safety, and security of licensed materials.
 - iii. Inspection casework review should represent a cross section of the Program's inspectors.
 - iv. Select a representative sample of inspections of licensees implementing security requirements for Category 1 and Category 2 quantities of radioactive materials.
 - v. Select a cross-section of licensed activities, including medical, industrial, and academic uses. Casework selected for review should focus on higher risk-significant activities, such as medical activities

requiring written directives, emerging medical technologies, panoramic and underwater irradiators, industrial radiography, radiopharmacy, isotope production/cyclotron, manufacturers/distributors, broad scope licensees, complex decommissioning, service providers approved for Category 2 and higher radioactive materials, and other appropriate activities.

- vi. Select reciprocity inspections, temporary job site inspections, inspections related to license termination, bankruptcy, and decommissioning activities, as appropriate.
 - vii. Include additional casework if a previous programmatic weakness was identified in the last IMPEP review to assure that the weakness has been addressed.
- d. Obtain a copy of IMC 2800 or equivalent Agreement State Program procedure.
3. The Principal Reviewer should evaluate the following during the on-site review:
- a. The review of inspection casework files and the inspector accompaniments should be used to demonstrate that the program is consistently implementing an established inspection program. Through observations and interviews of inspectors, determine if the inspection staff is familiar with the inspection policies, procedures, and guidance and their implementation. Verify that Agreement State inspection policies, procedures, and guidance are in place and are consistent with NRC inspection policies, procedures, and guidance. These should include procedures to help identify root causes and other causal factors related to identified findings and poor licensee performance.
 - b. Verify that processes have been established by the Program to capture inspection-related findings that indicate the need to modify, correct, or amend licenses. If the Program has identified any such inspection-related findings, confirm independently that those actions have been completed as necessary. For Programs with separate inspection and licensing staff, determine how inspection-related matters are communicated to licensing staff and how licensing actions are initiated and completed as necessary. For each inspection casework file selected, the reviewer should evaluate that the file adequately documents or contains (as appropriate):
 - i. All relevant documents, letters, file notes, email correspondence, and telephone conversations related to the inspections. These documents should be complete and, in the file, or are otherwise easily retrievable.
 - ii. Sufficient detail to demonstrate that each inspection was adequate to assess the health, safety, and security of licensed activities.
 - iii. A description of the scope of each inspection such that a future inspector will understand which items or aspects of the licensed

activities were reviewed, and which were not and may warrant review during future inspections.

- iv. Sufficient information to substantiate any identified violations or non-compliances; that regulatory actions issued to licensees are appropriate for the safety or security significance of the identified violations; that violations are clearly communicated to licensees and dispatched in accordance with the established procedures; and any violations, non-compliances, or unresolved items identified during previous inspections were appropriately addressed by the licensee.
 - v. Program management review of inspection documentation has been performed and is sufficient to ensure that deficiencies, if present, were identified (e.g., unsupported conclusions and opinions in the inspection documentation, violations not properly substantiated, and apparent violations not cited). This documentation should confirm that these deficiencies were brought to the attention of the inspector for resolution.
 - vi. Review of licensee responses have been evaluated by the Program for adequacy and that any subsequent follow-up actions taken were appropriate.
 - vii. Instrumentation used by inspectors for independent or confirmatory measurements were calibrated at appropriate intervals and were appropriate for the types of licensed activities that were inspected.
 - viii. Licensee activities observed by the inspector(s), including activities at temporary job sites, field stations, or satellite facilities, were appropriately described.
 - ix. If the initial review indicates a performance weakness in the technical quality of inspections, but limited to a specific inspection case file on the part of one inspector or problems with respect to one or more type(s) of inspections, additional files of a similar nature should be identified, selected and reviewed to determine whether this is a programmatic weakness. The reviewer should seek to determine the extent of condition of the issue, and the root cause(s). 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.
- c. For supervisory accompaniments of inspectors, the reviewer should:
- i. Verify that the Program supervisor ensures all inspectors are accompanied on at least one inspection per year to evaluate the inspector's performance.
 - ii. Assess who performed the inspector accompaniment and confirm that the individual is familiar with the types of inspection on which they are accompanying their inspectors. It is not required that the individual who performs accompaniments be a qualified inspector. However, individuals that perform accompaniments should be familiar with the

program's inspection practices and procedures. The individual should be familiar with the type of licensed activity and specific requirements related to the type of licensed activity being inspected during the accompaniment. A supervisor that may not be familiar with inspections of licensed materials may have inspection experience from other program areas and can apply that experience to the accompaniment evaluation. Familiarity with the program's practices and procedures, the licensed activities inspected, and proper inspection techniques will enable the supervisor to provide more constructive feedback regarding the inspector's performance.

It is expected that supervisors generally conduct the accompaniments; however, for Agreement States, it is acceptable for senior program staff to perform inspector accompaniments when necessary and justified. For example, in an Agreement State where there is a vacancy in a supervisory position, the accompaniments may be performed by qualified, experienced senior staff during the time the vacancy is unfilled rather than not perform accompaniments at all due to the vacancy.

- iii. Verify that supervisors who perform inspections are also accompanied annually. In Agreement States, sometimes Program Directors perform inspections and it is not practical to have the Program Director's supervisor perform an accompaniment. During previous IMPEP reviews, NRC has found it acceptable for a senior or more experienced inspector to accompany a supervisor that performs inspections. However, in some cases, State labor or personnel practices would prohibit or discourage this approach. Because every possible scenario cannot be described here, Agreement States that have supervisors that perform inspections should develop and implement a policy that describes its approach to performing and documenting accompaniments of supervisors.
- iv. Assess whether the methods utilized for conducting accompaniments are effective in identifying performance issues that need to be corrected.
- v. Verify that for qualified inspectors who no longer routinely perform inspections, the individual should be evaluated at an appropriate frequency, as established by management, relative to their other assigned duties.
- vi. Verify when an inspector is not accompanied annually that there is documentation that includes an explanation and a proposed schedule for performing the accompaniment.
- vii. Ensure the Program documents the annual inspector accompaniments.

D. Review Information Summary

1. At a minimum, the inspection casework summary reviewed by the Principal Reviewer will include:
 - a. Licensee name.
 - b. License number.
 - c. Location(s) inspected (city, state).
 - d. Inspection priority (for consistency, the reviewer should document the appropriate NRC inspection priority).
 - e. Description of licensed activity;
 - f. Inspector(s) name;
 - g. Type of inspection (e.g., routine/initial/special/reciprocity, announced/unannounced, office/temporary job site).
 - h. Date(s) of inspection.
 - i. Inspection findings.
 - j. Date inspection findings were issued.
 - k. Reviewer's comments related to identified performance issues.
2. At a minimum, the information maintained by the assigned reviewer for the inspector accompaniments will include:
 - a. The name of the inspector accompanied.
 - b. Licensee name.
 - c. License number.
 - d. Location(s) inspected (city, state).
 - e. Inspection priority (for consistency, the reviewer should document the appropriate NRC inspection priority).
 - f. Description of licensed activity inspected.
 - g. Type of inspection (e.g., routine/initial/special/reciprocity, announced/unannounced, office/temporary job site).
 - h. Date(s) of inspection.
 - i. Reviewer's comments related to observed performance issues and discussed with the inspector.

3. The *Inspection Casework Review Summary Sheet* can be found in the IMPEP Toolbox on the state communications portal Web site. The Inspection Casework Review Summary Sheet provides a template for recording the necessary information that should be maintained by the principal reviewer. The reviewer is not required to use this summary sheet but may find it to be a useful tool for recording the necessary information.
4. The *Inspector Accompaniment Summary Sheet* can be found in the IMPEP Toolbox of the state communications portal Web site. The Inspector Accompaniment Summary Sheet was developed to assist the reviewer in performing and documenting the inspector accompaniments. The reviewer is not required to use this summary sheet but may find it to be a useful tool.
5. Not all the information maintained in the reviewer's summary of the inspection casework files reviewed or inspection accompaniments performed will be included in the IMPEP report. The Team Leader can provide guidance as to what information is necessary to include in the report. Any information that is included in the IMPEP report must be factual, should be concise, and should concentrate on identified or observed performance deficiencies and their root cause(s).

E. Evaluation Process

1. The Principal Reviewer should refer to Part III, *Evaluation Criteria*, of MD 5.6 for specific evaluation criteria. As noted in MD 5.6, the criteria for a satisfactory program is as follows:
 - a. IMPEP inspector accompaniments indicate that inspectors are knowledgeable of the requirements for license types being inspected; are able to identify potential health, safety, and security concerns; and demonstrate proper inspection technique.
 - b. An evaluation of inspection casework (e.g., 15-25 casework files, depending on the size of the Program) indicates that inspections are complete, inspection findings are well founded, and inspection results are reviewed promptly by Program management.
 - c. The Program's inspection procedures are compatible with the criteria in IMC 2800, the applicable Inspection Procedure (IP) (IPs 86740, and 87102 through 87250 series).
 - d. The Program's inspection procedures are implemented by the inspectors.
 - e. Inspection findings lead to appropriate and prompt regulatory action.
 - f. Supervisors or designated senior staff accompany all inspectors on an annual basis.
 - g. Follow-up actions regarding inspection findings are performed in accordance with the criteria in IMC 2800 and this procedure, or compatible Agreement State procedure.

Note: *Examples of Less than Satisfactory Findings of Program Performance* can be found on the IMPEP Toolbox on the state communications portal Web site and contains examples to assist the reviewer in identifying less than fully satisfactory findings of a Program's performance.

F. Discussion of Findings with the Radiation Control Program

1. The reviewer should follow the guidance given in NMSS Procedure SA-100, *Implementation of the Integrated Materials Performance Evaluation Program (IMPEP)*, for discussing technical findings with inspectors, supervisors, and management.
2. If the IMPEP review team identifies programmatic performance issues, the IMPEP review team should seek to identify the root cause(s) of the issues, which can be used as the basis for developing recommendations for corrective actions. The NMSS procedure SA-100 contains criteria regarding the development of recommendations by the IMPEP team.

VI. REFERENCES

Management Directives (MD) available at <https://scp.nrc.gov>

NMSS SA Procedures available at <https://scp.nrc.gov>

NRC Inspection Manual Chapters available at <https://www.nrc.gov/reading-rm/doc-collections/insp-manual/manual-chapter>

NRC Inspection Procedures available at <https://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/>

IMPEP Toolbox (e.g., inspector casework review summary sheet, inspector accompaniment summary sheet, and examples of a less than satisfactory program) available at <https://scp.nrc.gov/impeptools.html>

VII. 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).

No.	Date	Document Title/Description	Accession Number
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

5	5/17/07	FSME-07-048, Opportunity to Comment on Draft Revision to FSME Procedure SA-102	ML071400011
6	6/25/07	FSME Procedure SA-102, Resolution of Comments	ML072160007
7	7/23/07	FSME Procedure SA-102	ML072160005
8	1/6/16	NMSS Procedure SA-102	ML15090A159
9	1/6/16	Resolution of Comments	on SCP website
10	12/18/19	NMSS Procedure SA-102	ML19134A273
11	7/5/20	Resolution of Comments	ML20189A007
12	9/15/20	Final NMSS Procedure SA-102	ML20188A044