

SELF-ASSESSMENT OF INTEGRATED MATERIALS PERFORMANCE EVALUATION  
PROGRAM (IMPEP)

U.S. Nuclear Regulatory Commission  
Office of Federal and State Materials and Environmental Management Programs  
Division of Materials Safety and State Agreements

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## EXECUTIVE SUMMARY

Based on a Charter approved by the Director of the Division of Materials Safety and State Agreements, a five-person team, comprised of staff from NRC Headquarters, the Regions, and two Agreement States, evaluated the Integrated Materials Performance Evaluation Program (IMPEP) to determine if changes or enhancements were warranted.

In conducting its work, the team reviewed the 2009 OIG report and recommendations; conducted structured interviews of 25 stakeholders (Agreement State and NRC) and new IMPEP team members; reviewed applicable guidance and procedures for the program; reviewed IMPEP reports and related documentation; and audited the 2010 IMPEP training. The team also discussed its plans with leadership of the Organization of Agreement States (OAS) and the Conference of Radiation Control Program Directors (CRCPD) and sought their feedback on the draft charter. The team met twice, once in NRC Headquarters in late March 2010 to develop its work plan and once in Austin, TX in late May, 2010 to share the results of that work and develop findings and recommendations.

Overall, the team found the program to be highly effective in fulfilling its basic objective (evaluating the adequacy and compatibility of Agreement State and NRC materials activities using a common set of performance review criteria and a similar review methodology). That said, the team did develop a set of recommendations and enhancements, listed below that could, if implemented, result in an even stronger and more efficient IMPEP for the future. Those recommendations and enhancements are listed below:

*Recommendation 1 (substantive): The team recommends that IMPEP review of Increased Controls, NSTS, and other aspects of security currently addressed under TI-002 be integrated into the existing common performance indicators through modification of Management Directive 5.6 and the associated SA procedures for implementation of IMPEP. The existing set of common performance indicators remains effective and no new indicators are needed at this time.*

*Recommendation 2 (substantive): The team recommends that treatment of reciprocity inspections be made more performance-based and that the current 20% requirement for reciprocity inspections be removed from the IMPEP program along with corresponding changes to Inspection Manual Chapters 2800 and 1220.*

*Recommendation 3 (substantive): While the team does not recommend any additional gradations of performance within the existing indicators, it does recommend that a mechanism be put into place to recognize consistently high-performing organizations. Building on the language already contained in SA-106, two consecutive IMPEP findings of satisfactory on all indicators would lead to a letter of recognition and an extension in IMPEP interval from 4 years to 5 years, along with a press release acknowledging the organization's high level of performance.*

Recommendation 4 (enhancement): The team recommends that the IMPEP reports add an executive summary at the front of the report which will provide at a glance the key findings from the review, any recommendations made by the team as well as any good practices identified. The executive summary would also include a table showing the status of all applicable indicators.

Recommendation 5 (enhancement): The team recommends that the NRC encourage States to increase use of electronic documents to the extent possible to increase efficiency of the onsite review. This could include, for example, providing as much information about the program as possible in electronic format in advance of the review to allow team members to better prepare. For IMPEP reviews of NRC Regions, this would mean expanded use of ADAMS documents in advance of the review.

Recommendation 6 (enhancement): The team recommends that NRC take appropriate steps to assure a consistent high level of management participation at Management Review Board meetings (for formal IMPEP reviews as well as mid-cycle reviews involving performance issues) both in terms of NRC attendees and Agreement State program and liaison attendees.

Recommendation 7 (enhancement): The team recommends that new MRB members as well as OAS Liaisons to the MRB receive an orientation to MRB functions, roles and responsibilities.

Recommendation 8 (substantive): The team recommends that, to better address issues of continuing degraded performance in a program, that a more explicit trigger point for MRB consideration of placing a program on probation be included in SA-113.

Recommendation 9 (substantive): The team recommends that NRC employ a more performance-based approach (e.g., allowing the use of legally-enforceable license conditions while rulemaking is underway) to findings of compatibility in Agreement State programs utilizing the flexibility contained in Management Directive 5.6.

Recommendation 10 (substantive): The team recommends that greater focus be placed on inspector accompaniments under the common performance indicator for Technical Quality of Inspection. Specifically, the IMPEP review team should attempt to accompany 50% of a State's or Region's inspectors in each IMPEP review. To minimize the resource impacts of these additional accompaniments, they could be scheduled over the 4 year period between formal reviews.

Recommendation 11 (enhancement): The team recommends that in the interest of program effectiveness and succession planning, that the pool of Team Leaders for IMPEP reviews be expanded and that Team Leader training be added to the agenda for routine IMPEP training.

Recommendation 12 (enhancement): The team recommends that FSME continue to work with Regional and Agreement State managers to assure that individuals selected for IMPEP training possess the appropriate technical skills, assessment skills, interpersonal skills and political savvy to serve as effective IMPEP team members.

*Recommendation 13 (enhancement): The team recommends that MD 5.6 be revised to reflect current organizational structure, roles and responsibilities, and references to current appropriate SA procedures.*

*Recommendation 14 (substantive): The team recommends that the scope of IMPEP be expanded to include additional FSME functions, including Exempt Distribution licensing, General Licensing; Uranium Recovery licensing and complex decommissioning cases. This will require modifications to MD 5.6 and other Management Directives as well as corresponding SA procedures and development of new SA procedures.*

*Recommendation 15 (substantive): The team recommends that self-assessments of the IMPEP program be conducted in the future on a frequency of 4-6 years. A draft procedure to guide the conduct of these assessments has been prepared for FSME management consideration as Appendix C to this report.*

## INTRODUCTION

In FY96, NRC began implementation of the Integrated Materials Performance Evaluation Program (IMPEP) in evaluation of Agreement State and Regional materials programs to assure a consistent level of protection of public health and safety in the use of nuclear materials nationwide. IMPEP employs teams of NRC and Agreement State staff in assessing materials programs through the use of common indicators and criteria that focus primarily on performance. Additional areas have been identified as non-common performance indicators and are also addressed in the assessments, as appropriate. The IMPEP assessments are based on an Agreement State or Regional program's response to a questionnaire, field accompaniments of inspectors, an intensive onsite examination of records and interviews of program personnel. The IMPEP team leader issues a draft report to the Agreement State or Region for comment on its factual accuracy. The team leader addresses those comments and prepares a proposed final report which is reviewed and discussed with a Management Review Board (MRB), composed of senior NRC managers and an Agreement State manager who serves as the Agreement State liaison to the MRB. The MRB makes the final determination of program adequacy and compatibility.

In the 2001-2002 time frame a Working Group (WG) composed of NRC and Agreement State managers and staff conducted a lessons learned of IMPEP. The WG's charter included the following tasks; 1) evaluation of IMPEP performance for additional enhancements; 2) utilization of performance data in the National Materials Event Database (NMED) and expansion of review criteria to assess program initiatives; 3) effectiveness of between-IMPEP interactions; 4) areas for specific examination during IMPEP; and 5) voting rights for the Agreement State Liaison to the Management Review Board. The WG issued its report on April 1, 2002. The report made findings and recommendations to improve program effectiveness.

On March 16, 2009, NRC's Office of the Inspector General (OIG) issued an audit report titled, "Audit of NRC's Agreement State Program." The objective of the audit was to assess NRC's oversight of the adequacy and compatibility of Agreement State programs. The OIG focused its review on IMPEP as well as other elements of the Agreement State program. The OIG made the following findings in its report:

- 1) Management does not effectively monitor IMPEP operational issues.
- 2) NRC could be challenged to re-exert authority over an Agreement State program in the event of an emergency.
- 3) NRC lacks standardization in communications with, and collection from, the Agreement States.
- 4) Weaknesses exist in NRC's review of Agreement State event reporting.

The OIG made several recommendations in response to those findings:

- 1) Develop a mechanism for conducting self-assessments and capturing lessons learned for IMPEP on a regular basis.
- 2) Develop formal procedural guidance for identifying what information is needed about Agreement State programs and materials licensees in the event that an Agreement

State is no longer capable of adequately performing its function of protecting public health and safety for an indeterminate period of time.

- 3) Develop a set of procedures that standardizes communications from NRC to the Agreement States.
- 4) Develop a standardized data collection process that can be used as the basis of an information sharing tool on a national level.
- 5) Revise the applicable IMPEP procedure(s) to include a review of Agreement State events that are not recorded in NMED for an analysis of whether they should have been included in NMED.

The NRC has concluded that it is time for a critical self-assessment of IMPEP. This is in recognition of the fact that self-assessments are an integral part of how high-performing organizations establish and maintain those levels of performance. It is also reflective of the length of time since the 2002 Lessons Learned WG report as well as the findings and recommendations of the OIG in 2009.

## OBJECTIVE

The objective of this effort is to: 1) conduct a documented self-assessment of the IMPEP program with appropriate findings/recommendations to improve its efficiency and/or effectiveness; and 2) prepare an internal procedure for conducting future periodic systematic self assessments and capturing lessons learned.

## SCOPE AND METHODOLOGY

The work was undertaken by a team comprised of NRC Headquarters and Regional staff and Agreement State representatives. (See Appendix D for a list of team members) The team undertook the following tasks:

- 1) Evaluate the program's performance to determine if changes or enhancements are warranted, including whether the current set of IMPEP performance indicators is complete and sufficiently focused, whether changes are needed in the indicator criteria and metrics based on fact-of-life changes to the overall materials program, and whether there are any patterns or issues identified from MRB review and discussions during MRB meetings that need to be addressed. For example, should IMPEP indicators and/or criteria be revised to reflect the increased focus on security since 2001? Is the frequency of IMPEP reviews still appropriate and are the reviews looking deeply enough to identify performance issues? Are there current or emerging issues in Agreement States or Regional programs not currently addressed by IMPEP that need to be addressed?
- 2) Examine the effectiveness of between-IMPEP interactions, such as monitoring and heightened oversight as well as the periodic meeting process.
- 3) Assess the methods by which team members and team leaders are selected and the IMPEP training program to determine if team members and team leaders have the

necessary knowledge and skills to successfully execute their responsibilities in future IMPEP reviews.

- 4) Evaluate program documentation, procedures and administrative controls to assure that they are adequate to support the program and capture lessons learned.
- 5) Identify areas that should be considered for specific examination during IMPEP reviews, based on the review experience to date, such as the handling of complex or controversial licensing actions or the impact of program effectiveness as it relates to program funding levels.
- 6) Assess current roles and responsibilities of those involved in IMPEP, as identified in Management Directive 5.6, to determine if enhancements are warranted to improve program effectiveness.
- 7) Evaluate whether additional NRC Headquarters functions not currently evaluated in IMPEP should be included in the program.
- 8) Determine how and when future self-assessments of IMPEP should be conducted and prepare a procedure which will govern those self-assessments.
- 9) Review the recommendations of the 2002 IMPEP lessons learned to determine if any unaddressed recommendations should be considered for adoption.
- 10) Observe three IMPEP teams (TX, AL and Region I) and assess their implementation of the program in the field.

In undertaking these tasks, the team reviewed the 2009 OIG report and recommendations; conducted structured interviews of more than 25 stakeholders (Agreement State and NRC) and new IMPEP team members; reviewed applicable guidance and procedures for the program; reviewed IMPEP reports and related documentation; and audited the 2010 IMPEP training. The team also discussed its plans with leadership of the Organization of Agreement States (OAS) and the Conference of Radiation Control Program Directors (CRCPD) and sought their feedback on the draft charter. The team met twice, once in NRC Headquarters in late March 2010 to develop its work plan and once in Austin, TX in late May, 2010 to share the results of that work and develop findings and recommendations.

## FINDINGS AND RECOMMENDATIONS

The findings and recommendations of the team are listed below and organized according to the tasks outlined above. These findings and recommendations reflect a consensus view of the team based on: the stakeholder interviews, document reviews, and observation of IMPEP teams in the field, audit of the 2010 training and professional experience and judgment.



Recommendations are listed as either substantive or enhancements. Those recommendations listed as substantive may have budget implications or require policy adjustments while those listed as enhancements are considered to be operational in nature, with no appreciable budget or policy implications.

### Task 1—Evaluation of IMPEP Performance/ Fact of Life Changes

Based on interviews with stakeholders, review of IMPEP reports, IMPEP documentation and procedures, operational experience, and discussions between the team members, the team determined that IMPEP continues to be a program that is fundamentally sound. There was a clear consensus among the team members and the stakeholders that the program is effective, fair and consistent in assessing the performance of Agreement State and Regional materials programs. In addition, stakeholders commented that the results of IMPEP reviews frequently benefit the States and Regions by providing an independent assessment of their materials programs by a team comprised of experienced NRC and Agreement State staff and also by raising the visibility of their programs within State government. The program also provides an effective means to monitor operational issues through its numerous opportunities to receive feedback (i.e., IMPEP training, NRC management presence at IMPEP exit meetings, review of the draft IMPEP report and MRB meetings) and translate that feedback into appropriate programmatic adjustments. At the same time, many of the stakeholders and the team members felt that the IMPEP program could be made more efficient and effective, as described in the following sections.

#### Common and Non-Common Performance Indicators

IMPEP is based on a series of common (used for both Agreement State and NRC Regions) and non-common performance indicators to assess the adequacy and compatibility of radioactive materials programs. These indicators are listed in Management Directive 5.6 and in various SA procedures. The team concluded that the existing indicators continue to work well in assessing the adequacy and compatibility of radiation control programs in the Agreement States and NRC Regions and does not recommend any fundamental changes to the indicators. There were a number of concerns from the States regarding how NRC applies the non-common indicator on Compatibility of Regulations and these will be discussed in greater detail below.

The team notes that there have been substantial changes to Agreement State and NRC Regional materials licensing and inspection programs as a result of the events of 9/11. These programmatic changes include: issuance of Orders to licensees for security-related Increased Controls (IC's); security training for Agreement State and Regional licensing and inspection staff; pre-licensing visits for new licensees; inspection of licensee implementation of the IC's and development and implementation of the National Source Tracking System, to name a few. To date, assessment of these changes has been incorporated into IMPEP reviews of State or Regional programs through Temporary Instruction TI-002, Integration of Increased Controls into the Integrated Materials Performance Evaluation Program (IMPEP). The team specifically

queried stakeholders and discussed among the team members how these changes might best be incorporated into IMPEP reviews on a permanent basis. More specifically, should these programmatic changes be placed into a new common performance indicator (s) or incorporated into the existing common performance indicators? The clear consensus of the interviews with stakeholders and the team's discussions was that it was best to integrate review of these changes into the existing common performance indicators. The basis for this view was that security of licensed material has always been considered as an integral part of materials licensing and inspection. IMPEP's review of those areas as a separate indicator(s) on Increased Controls and other security measures would not reflect that approach and would not enhance the program.

***Recommendation 1 (substantive): The team recommends that IMPEP review of Increased Controls, NSTS, and other aspects of security currently addressed under TI-002 be integrated into the existing common performance indicators through modification of Management Directive 5.6 and the associated SA procedures for implementation of IMPEP. The existing set of common performance indicators remains effective and no new indicators are needed at this time.***

#### Treatment of Reciprocity Inspections Under IMPEP

SA-101, Reviewing the Common Performance Indicator on Status of Materials Inspection Program calls for IMPEP reviewers to "...verify that candidate reciprocity licensees are inspected in accordance with the frequencies in Inspection Manual Chapter (IMC) 1220...." IMC 1220 calls for inspecting 20 percent of candidate licensees from the candidate pool each year. Often, reciprocity licensees are only physically present within a State's or Region's jurisdiction for a short period of time and/or in remote locations which makes it problematic for programs to meet this requirement. For example, the State of Kansas' radiation control program is located in the eastern part of the state in Topeka. Radiography licensees typically work under reciprocity largely in the western part of the state often with little advance notice and for only a day or so. As a result, Kansas has been challenged to place inspectors in the field to meet the 20 percent requirement. Both stakeholder comment and team discussions confirmed that this IMPEP criterion---that the State or Region inspects 20 percent of the candidate licensees each year---is often difficult to meet, resource-intensive and not performance-based. Agreement States and Regions, in an effort to meet the 20 percent requirement, often send inspectors out to remote locations to single licensees, resulting in inefficient use of inspector time and increasingly scarce travel funds

Two options emerged from the team's discussion on how to make better use of resources with respect to reciprocity inspections. The first derives from a June 27, 2007 Continuous Improvement Initiative Working Group Report prepared by Robert Gattone of NRC's Region III for Charles Miller, Director, FSME. That report noted that "...NRC's reciprocity inspection effort has decreased incrementally, in part due to the: (1) difficulty in locating reciprocity licensees while they conducted activities at temporary job sites; (2) cost of travel to the typically remote job sites; and (3) increased cumulative experience and the availability of other means to evaluate licensees' programs." The report went on to recommend that IMC 1220 be revised to

require that only 5 percent of the core reciprocity licensees be inspected each year as opposed to the current 20 percent. The WG examined operational data in development of this recommendation and determined that reciprocity licensees operating at temporary job sites are no more likely (in fact are less likely) to have significant violations leading to escalated enforcement than NRC licensees operating at temporary job sites. The WG concluded that the data supported their recommendation to relax the inspection requirement in IMC 1220.

A second option would be to: (1) eliminate the 20 percent criterion in IMC1220 entirely and (2) replace it with a requirement that when a licensing authority receives a request for reciprocity, that authority would make contact with the home Agreement State or Region for the reciprocity licensee to get information on recent events, significant violations, or escalated enforcement involving the licensee. This information would be used to make a performance-based determination on whether or not a temporary job site inspection should be conducted. This would allow Agreement State or Regions to pursue the more safety-significant reciprocity licensees and not necessarily seek to meet a mere percentage of reciprocity inspections.

The team concluded that either of these options---the 5 percent inspection option or the performance-based option---would be preferable to the current approach and would save scarce inspector and travel resources.

***Recommendation 2 (substantive): The team recommends that treatment of reciprocity inspections be made more performance-based and that the current 20% requirement for reciprocity inspections be removed from the IMPEP program along with corresponding changes to Inspection Manual Chapter 2800 and 1220.***

#### Additional Gradations of Performance within the Indicators

At the present time, the gradations of performance under the IMPEP performance indicators are:

- 1) Satisfactory;
- 2) Satisfactory, But Needs Improvement; or
- 3) Unsatisfactory

Stakeholders' comments and team discussion confirmed that these gradations remain generally acceptable. However, some wondered whether there might be a mechanism to better recognize high-performing organizations, rather than merely giving them a "Satisfactory." The team was sensitive to these comments, but noted that at the time that IMPEP was developed, consideration was given to identifying a higher level of performance than "Satisfactory" for each of the individual performance indicators. That proposal was ultimately not adopted, based primarily on input from the Agreement States that it could lead to inappropriate and unwarranted comparisons of States. The team noted that the SA-106 procedure, Management Review Board, has a provision under Section V, Guidance, Subsection F, Special Recognition that allows for issuing a letter commending a program that has had two consecutive IMPEP reviews

in which all performance indicators have been found Satisfactory. The team considered that this provision could provide a mechanism to address the concern about recognizing high-performing organizations without modifying the existing gradations of performance. More specifically, SA-106 could be expanded to provide more recognition to high-performing organizations by linking continued high performance with an extension of the interval between formal IMPEP reviews.

***Recommendation 3 (substantive): While the team does not recommend any additional gradations of performance within the existing indicators, it does recommend that a mechanism be put into place to recognize consistently high-performing organizations. Building on the language already contained in SA-106, two consecutive IMPEP findings of satisfactory on all indicators would lead to a letter of recognition and an extension in IMPEP interval from 4 years to 5 years, along with a press release issued by the NRC acknowledging the organization's high level of performance.***

#### Concurrence/Review Process

The IMPEP process has a timeliness goal of 104 days from completion of the onsite review to issuance of the final report. As a general matter, the team determined that IMPEP reports are being issued timely: approximately 90% of reports over the past 5 years were issued within 104 days. For those reports that were issued later than 104 days, the delays were usually associated with getting the Management Review Board (MRB) meeting dates established, most often due to the busy schedules of the executives involved. The team interviewed stakeholders about the process for concurrence and issuance of the draft and final reports to determine if there might be efficiencies to improve timeliness. There was no significant concern about report timeliness among interviewees or the team members and no consensus recommendation about how to improve timeliness. The team considered one suggestion----to eliminate several layers of internal NRC management review and concurrence on the final post-MRB report, since the report at that time is essentially locked once the MRB has met and significant changes to the report seldom take place. However, the team did not consider that elimination of some concurrences would result in a significant savings of time and chose not to make a recommendation in this regard.

#### Report Formats

The team discussed the format and content of IMPEP reports with the stakeholders. A number of those interviewed felt that the reports contained a lot of boilerplate text that did not add to the content and made reading the reports difficult. These individuals felt that streamlining the report through less use of text, greater use of bullets and /or an executive summary would be helpful. An equal number of those interviewed felt that the reports as currently written contained useful information about how the IMPEP reviews are conducted and how teams came to the conclusions and recommendations that they did. Elimination of that text could make the process less transparent and open to those reading the reports, particularly members of the

public. The team considered these views and determined that addition of an executive summary at the front of the IMPEP report could help address certain concerns while assuring that the important details of the report were not lost.

***Recommendation 4 (enhancement): The team recommends that the IMPEP reports add an executive summary at the front of the report which will provide at a glance the key findings from the review, any recommendations made by the team as well as any good practices identified. The executive summary would also include a table showing the status of all applicable indicators.***

#### Frequency of IMPEP Reviews

The normal frequency for IMPEP reviews of Agreement States and Regions is 4 years. Programs having performance issues may receive more frequent IMPEP reviews as directed by the MRB. The team discussed changing the frequency of reviews with the stakeholders. The majority of the responses indicated that a norm of 4 years was about right, with the ability to shorten the frequency when performance issues warrant it. Several stakeholders indicated that a high performing program could go out as far as 5 years, but that should not be the norm. Some of the concerns with extending the frequency of reviews included: too great a possibility of things changing substantially within a State over that long a period; potential credibility issue for NRC; and/or possible loss of some degree of visibility within State government in the absence of IMPEP reviews. The team considered these views and concluded that extension of the IMPEP frequency out to 5 years could be done in States and Regions which have had exceptional records of performance for two consecutive IMPEP reviews. This conclusion is reflected in Recommendation 3 above.

#### Enhanced Use of Information Technology

The team noted that a considerable amount of an IMPEP onsite review involves review of paper files, including: licensing and inspection files, procedures, management reports and program-related correspondence. One way to increase efficiency of the onsite IMPEP review could be to make enhanced use of information technology (IT), before and during the review. The team specifically solicited the views of stakeholders on the use of IT to improve IMPEP efficiency and effectiveness. Several interviewees noted that significant improvements had been made in the use of IT—for example, the online IMPEP toolbox, which includes the IMPEP questionnaire as well as reports, policies and procedures. These individuals also acknowledged that better advance time use of IT could be beneficial, by freeing IMPEP reviewer time for more focused, in-depth interviews while onsite. However, the wide variability in State information systems and data bases were considered significant impediments to across-the-board expanded use of IT to enhance IMPEP at this time. At least one stakeholder noted that implementation of Web-based Licensing could help alleviate this to some degree. The team also noted that NRC's Agency Document and Management System (ADAMS), which has captured virtually all materials licensing and inspection documents since 2000, could help IMPEP reviewers for NRC Regions

to better prepare in advance of the onsite portion of the review. Taking these factors into account, the team concluded that NRC's role in better use of IT for IMPEP purposes should be limited to one of encouragement of States to increase the use of electronic document capture and record-keeping.

***Recommendation 5 (enhancement)—The team recommends that the NRC encourage States to increase use of electronic documents to the extent possible to increase efficiency of the onsite review. This could include, for example, providing as much information about the program as possible in advance of the onsite review to allow team members to better prepare. For IMPEP reviews of NRC Regions, this would mean expanded use of ADAMS documents in advance of the review.***

#### How the Management Review Board (MRB) is Working

The MRB is a pivotal part of IMPEP and, accordingly, the team sought the views of stakeholders on how well the MRB was functioning. The consensus view of those interviewed as well as the team itself was that the MRB is functioning very well. It continues to serve the function that it was intended to serve: that of an impartial executive level panel that would make the final decisions on the adequacy and compatibility of Agreement State and Regional programs. Having an Agreement State liaison as part of the Board was considered to be a particularly strong part of the MRB process. The MRB also provides State officials with greater access to senior NRC management than had been the case before IMPEP was developed. Stakeholders felt that the MRB's decisions are fair and reflective of the input of all parties to the meeting. There was some concern expressed that, of late, some of the normal attendees at the MRB meetings, both NRC and Agreement State, were delegating participation on the MRB down to lower-level managers due to the press of other business on the permanent members of the Board. While it is understandable that some members are not always able to attend, if this practice continued, the team concluded that it can be counterproductive to the high-level, strategic focus and continuity that the MRB was intended to have.

The team did note that turnover in the composition of the MRB from time- to-time has occurred and will continue to occur and determined that it would be advisable for all new MRB members to receive orientation in that function.

***Recommendation 6 (enhancement): The team recommends that NRC take appropriate steps to assure a consistent high level of management participation at Management Review Board meetings (for formal IMPEP reviews as well as mid-cycle reviews involving performance issues) both in terms of NRC attendees and Agreement State program and liaison attendees.***

***Recommendation 7 (enhancement): The team recommends that new MRB members as well as OAS Liaisons to the MRB receive an orientation to MRB functions, roles and responsibilities.***

## Difficult Issues from IMPEP/MRB

The team's review of interviews with stakeholders and its own professional experience with IMPEP identified three issues (programmatic/financial support; compatibility of regulations; and IMPEP team member preparation) that have been most difficult to deal with in the program.

The first issue included what might be considered non-technical issues, such as budget, resource and management support. More often than not, the underlying cause behind significant performance issues in a radiation control program has been shown to be lack of adequate budgeted resources, inadequate fees to support the program, low salary levels, personnel turnover and, in some cases, lack of support for the program at the management level. The team concluded that these are particularly difficult for IMPEP to deal with because the circumstances vary widely from State to State and do not lend themselves to a specific performance indicator or set of indicators. These types of issues are also difficult for NRC to deal with effectively because they often reflect decisions made by parties external to the radiation control program, such as State legislative and executive branches.

However, in cases where these issues of budget, fees, or salaries continue unabated for an extended period of time, the agency has been challenged to deal effectively with them, as in the recent case of Arizona. Several interviewees indicated that this was, at least in part, a reflection of the NRC's apparent reluctance to take the next step from Heightened Oversight to placing a program on Probation and that for IMPEP to have credibility; NRC needs to take this step when circumstances are warranted. The team agreed that the use of Probation and its attendant higher visibility of performance issues in a program—ie, press release, notification of Congressional representatives, etc.—could make IMPEP more effective. The team concluded that one way to address this would be to modify the IMPEP procedures to denote specific conditions under which Probation will be considered by the MRB. At the present time those procedures, specifically SA-113, only list conditions under which Probation may be considered.

***Recommendation 8 (substantive): The team recommends that, to better address issues of continuing degraded performance in a program, that a more explicit criterion for MRB consideration of placing a program on probation be included in SA-113.***

A second difficult issue for IMPEP and the MRB to address has been under the non-common indicator for compatibility of State regulations. The length of time that it takes for development of compatible Agreement State regulations vary widely from State to State. At one extreme are States which choose to adopt NRC-promulgated rules by reference, which is a relatively straight-forward process. At another extreme are States that are required to go through the full rulemaking, notice and comment process and where, due to unique State administrative procedures, it may take more than 18 months to 2 years to adopt rules compatible with those of the NRC. The team acknowledged that NRC provides 3 years for Agreement States to adopt compatible regulations, but that time period can prove to be a challenge and in some cases has led to States being placed on Heightened Oversight on compatibility issues alone. The team concluded that there is apparent flexibility in the criteria in Management Directive 5.6 that would allow the MRB to recognize unique State circumstances. That is, MD 5.6 states on page 8 that

“NRC regulations that should be adopted for purposes of compatibility or health and safety should (emphasis added) be adopted in a time frame so that the effective date of the State requirement is not later than the 3 years after the effective date of NRC’s final rule.”

***Recommendation 9 (substantive): The team recommends that NRC employ a more performance-based approach (e.g., allowing the use of legally-enforceable license conditions while rulemaking is underway) to findings of compatibility in Agreement State programs utilizing the flexibility contained in Management Directive 5.6.***

A third issue that has come up in IMPEP reviews has been adequate preparation of team members and team leaders in advance of the onsite review and knowledge of their respective indicators. This issue was identified by several stakeholders and was also brought up as part of the 2009 OIG report on Agreement State programs. The team acknowledged that this has been a problem from time to time, but based on observation of 3 IMPEP teams in the field this year and the 2010 IMPEP training, the team concludes that the issue has been adequately addressed. Additional detail on this item is provided under Task 10 below.

#### Resource Burden of IMPEP/Questionnaire/Alternatives

In its interviews of stakeholders and its internal discussions, the team focused on the resource burden attendant to the IMPEP process, specifically, the burden associated with preparation of the questionnaire, the onsite review, inspector accompaniments, the MRB meeting and periodic meetings held between formal IMPEP reviews. Most of those interviewed felt that while there is a certain burden associated with IMPEP, it is acceptable given that, for most States/Regions, that burden occurs only once every four years. It is predictable and has a distinct benefit resulting from the thoroughness of the review process. The burden associated with filling out the questionnaire has been reduced somewhat by making it available online in the IMPEP toolbox so that States or Regions can prepare it in advance of the formal request from NRC. Interviewees recognized that the questionnaire, properly filled out and reviewed by the IMPEP team before coming onsite, makes the onsite review much less burdensome than might otherwise be the case. As noted above, enhanced use of IT could help reduce the burden associated with the onsite review itself and allow the IMPEP team to better focus its interviews during that period. At least one interviewee noted that the size of IMPEP teams should be reviewed; in cases of very small State programs, the IMPEP onsite team may be larger than the program itself. The team members discussed these observations and concluded that no recommendations were necessary.

#### Availability of Staff During Onsite IMPEP Reviews

The team asked stakeholders the question of what our expectations should be in terms of availability of staff of the program being reviewed during the week of the onsite review. That is, should a program undergoing an IMPEP review keep all staff in the office during that week so



that they are available for interviews, if necessary, or should the program undertake business as usual, with inspectors in the field? IMPEP procedures do not speak to this directly and various State and Regional programs have taken different approaches. The interviews resulted in a consensus that the program being reviewed should make an effort to have people available, either in person or by phone, but should not disrupt its normal inspection and licensing activities. Those staff who are in the office and needed for interviews can be interviewed in person and inspectors who are in the field can be interviewed by telephone. There was also consensus that managers should be available throughout the onsite review. The team agrees with this consensus.

### Inspector Accompaniments

Accompaniments of inspectors by IMPEP team leaders or team members prior to the onsite review is a key part of the IMPEP program. The team asked stakeholders whether greater weight should be placed on accompaniments. The IMPEP procedure SA-102, Reviewing the Common Performance Indicator Technical Quality of Inspections, states that the goal is to accompany one-half of inspectors, but for larger Agreement States or NRC Regions the goal is to accompany four or five inspectors. Both the team and those stakeholders who were interviewed considered that accompaniments provide a truer measure of inspection quality than file reviews and that greater emphasis should be placed on them than is currently the case. The goal of accompanying one-half of a program's inspectors in each IMPEP is considered to be a good one, even in large Agreement States and NRC Regions. The team recognizes that there are resource and scheduling problems that will need to be resolved in increasing the number of accompaniments, but thinks that these could be addressed by scheduling the accompaniments over the four years between IMPEP reviews rather than attempting to perform them in the months and weeks immediately before the onsite review, as is currently the case. This approach could also help address an issue in the timely use of trained IMPEP personnel that is mentioned later in this report.

***Recommendation 10 (substantive): The team recommends that greater focus be placed on inspector accompaniments under the common performance indicator for Technical Quality of Inspection. Specifically, the IMPEP review team should attempt to accompany 50% of a State's or Region's inspectors in each IMPEP review. To minimize the resource impacts of these additional accompaniments, they should be scheduled over the 4 year period between formal reviews.***

### Task 2-Effectiveness of Between-IMPEP Interactions

The team examined the Periodic Meeting process as captured in SA-116, Periodic Meetings Between IMPEP Reviews and discussed the effectiveness of this process during stakeholder interviews. These meetings take place at approximately 24 months for a program that is on the normal 4 year IMPEP cycle and may happen more frequently at the MRB's direction. A periodic meeting is conducted with an Agreement State or Region to provide an informal

discussion of program status and performance and an early indication of any issues that the program may be experiencing. The results of Periodic Meetings are documented and discussed with the MRB, usually as a group of 2-3 meeting summaries for efficiency purposes. The stakeholder interviews varied considerably, with some feeling that the meetings were very effective and others thinking that they did not accomplish a lot. No clear consensus emerged from these interviews. The team considered this and in light of its own experiences with the periodic meeting process concluded that no recommendations were warranted. The team noted, however, that in some cases, MRB discussion of periodic meetings took place as long as 6 months after the meetings themselves, which stood to diminish the timeliness and effectiveness of the discussion. While not a formal recommendation, the team concluded that MRB discussions of periodic meetings should occur in a more timely manner.

The team also discussed a suggestion offered by an Agreement State representative that Regional State Agreement Officers should take advantage of the annual Organization of Agreement State meeting to meet informally, as a group, with the Agreement States in their Region on issues of mutual concern. The team concluded that this suggestion had merit.

The team also examined implementation of the other processes used between formal IMPEP reviews, Monitoring and Heightened Oversight. These processes are governed by SA-122, Heightened Oversight and Monitoring. Heightened oversight is a formal process that is usually invoked when a program has an IMPEP finding of Unsatisfactory for one or more performance indicators. Heightened Oversight requires the State to prepare and submit for NRC approval a Program Improvement Plan (PIP), submit periodic status reports, and participate in periodic conference calls, usually on a bimonthly basis. Monitoring is an informal process to address programmatic weaknesses. It does not require development of a PIP, but does involve periodic conference calls.

The interviews and team discussions resulted in a range of views on Heightened Oversight, but most concluded that it was effective and could help a program improve its performance, often by affording the State Program Director a mechanism to leverage NRC findings to influence more senior State officials to make necessary changes. The major criticism of Heightened Oversight was that it was a process with no apparent end point, and that States could continue in this status for several years, because as noted above, the NRC has not gone to the next step, that of Probation. For IMPEP to have credibility, the team and many of the stakeholders determined that States need to know that there is a consequence of inaction in addressing programmatic weaknesses. The team concluded that Recommendation 8 above could help to address this concern.

There were no significant issues identified with the monitoring process and the team has no recommendations in this regard.

### Task 3—Effectiveness of IMPEP Training

The team also looked into the methods by which team members and team leaders were selected and the IMPEP training program to determine if team members and team leaders had

the necessary knowledge and skills to successfully execute their responsibilities in IMPEP reviews. This training review was done through interviews of stakeholders, interviews of new IMPEP team members, observation of IMPEP teams in the field, review of the training materials, and relevant program guidance (Management Directive 5.10 and SA-111) and observation of the IMPEP training given in Orlando, FL in February 2010. The consensus view is that the IMPEP training program is effective.

The 2010 training was given by NRC and Agreement State representatives, all of whom had direct IMPEP experience. The training covered all major aspects of the IMPEP process including common and non-common performance indicators, performance-based and risk-based reviews, policies and procedures, use of the National Materials Events Database (NMED), preparation and the onsite review, report preparation, and the MRB. Instructors emphasized topics related to the 2002 Working Group Report as well as the 2009 OIG Audit of the Agreement State program, including assessment of underlying causes of performance problems. Training also included group exercises intended to apply concepts and procedures discussed during the instructor-led subjects. Feedback from the training attendees was very positive and suggestions for improvement will be considered in developing future sessions. New IMPEP team members who took the training this year and participated in IMPEP reviews indicated that the training more than adequately prepared them for the onsite review as a whole and their specific indicators, as well.

While team members appear to be getting the requisite training to carry out their functions, it is not clear that Team Leaders (TL's) are receiving the kind of training for their functions, which are critical to the success of IMPEP reviews. This is particularly important because several stakeholders noted that the pool of IMPEP TL's is relatively limited at present and NRC needs to be developing the next generation of TL's. Adding a half-day to the annual training to focus on TL issues could be an important step to insure the future success of the program.

The process for selection and approval of staff to participate in IMPEP reviews as team members is documented in SA-111. Interviews also identified how important it is for persons selected for IMPEP training and approved for participation in reviews to have the right mix of skill sets. The most basic of these skills are inspector or license reviewer qualifications. However, to be an effective member of an IMPEP team, there are critical non-technical skills that managers need to assure are present in those they recommend. For example, these include interpersonal skills, political savvy, and assessment skills. The team considers it important to periodically remind Agreement State and Regional managers of the need to take these factors into account in their recommendations of staff to participate in IMPEP.

The team also considered the timeliness of training, in that due to the relatively limited number of IMPEP reviews conducted each year, some individuals have undergone IMPEP training and then not been selected to serve on a review that year. The practical effect has that those individuals have had to go back to take refresher training before going out on an IMPEP review. Some stakeholders suggested that a way to address this would be for these individuals to attend an IMPEP as an observer and thereby gain first-hand knowledge of what is required as a team member. Others indicated that that would stress limited State budgets for participation in these activities. The team considered this issue and concluded that a better approach might be

using IMPEP-trained individuals who were not timely selected to serve on a team, could perhaps maintain their qualifications by assisting in the conduct of inspector accompaniments during the 4 year IMPEP interval, as described above.

***Recommendation 11 (enhancement): The team recommends that in the interest of program effectiveness and succession planning, that the pool of Team Leaders for IMPEP reviews be expanded and that Team Leader training be added to the agenda for routine IMPEP training.***

***Recommendation 12 (enhancement): The team recommends that FSME continue to work with Regional and Agreement State managers to assure that individuals selected for IMPEP training possess the appropriate technical skills, assessment skills, interpersonal skills and political savvy to serve as effective IMPEP team members.***

#### Task 4—Evaluation of Program Documentation, Procedures and Administrative Controls

The team reviewed program documentation, procedures and administrative controls to assure that they were adequate to support the IMPEP program and capture lessons-learned. This included review of selected SA procedures, management directives, IMPEP reports, and MRB minutes. The team's conclusion is that the program has an excellent documentation and procedural basis contained in the SA procedures and applicable Management Directives. SA procedures are comprehensive, well-organized and are reviewed and updated on approximately a 3 year frequency. They provide the direction and details to the implementation of IMPEP, including roles and responsibilities of participants and appropriate guidance. The Management Directives related to IMPEP provide the broader framework of the program and they appear to be adequate, although Management Directive 5.6 is in need of updating to reflect, among other things, the changes in organization and roles and responsibilities that came out of the 2006 reorganization that created the Office of Federal and State Materials and Environmental Management Programs. MD 5.6 was last revised in 2004.

***Recommendation 13 (enhancement): The team recommends that MD 5.6 be revised to reflect current organizational structure, roles and responsibilities, references to current appropriate SA procedures, and any other changes determined to be appropriate as a result of this self-assessment.***

#### Task 5—Additional Areas for Specific Review During IMPEP Reviews

The team considered areas that should be identified for specific examination during future IMPEP reviews, based on the review experience to date, such as the handling of complex or controversial licensing actions or the impact of program effectiveness as it relates to program funding levels. Mechanisms exist at present for capturing these through: 1) the results of periodic meetings and 2) Question 19 on the IMPEP questionnaire which asks programs to identify "...any major, unusual or complex licenses which were issued, received a major

amendment, were terminated, decommissioned, submitted a bankruptcy notification or renewed in this period.”

The team believes that these mechanisms adequately bound unusual or problematic issues that the onsite review should consider. As a result of these and other communication means, certain types of facilities or issues are identified which require time and resources beyond the normal one-week IMPEP onsite review to address. One example was a State’s approval of clearance levels for volumetrically contaminated materials which involved an IMPEP team member being present on site for an additional week prior to the normal one week onsite. Other examples could include performance issues identified during the periodic meeting, decommissioning cases involving restricted releases or significant inadequacies in financial assurance or approvals of new technologies which may have trans-boundary implications. In these instances the team concludes that it is essential for the Regional State Agreements Officer and the IMPEP Project Manager to continue to communicate well in advance of the scheduled IMPEP review to assure that appropriate resources and expertise are brought to bear on the issue (e.g., expertise added to the IMPEP team during the onsite week or beforehand).

#### Task 6—Enhancements to Roles and Responsibilities

The team considered current roles and responsibilities of those involved in IMPEP, as identified in Management Directive 5.6, to determine if enhancements were warranted to improve program effectiveness and did not identify any specific enhancements. In this regard, a continuing challenge is one of assuring that team members and team leaders recognize that the role of evaluating an Agreement State or Regional materials program is fundamentally different from inspecting a licensee or applicant for a license. However, the team concluded, based on interviews and its observation of several IMPEP’s, that challenge is being adequately addressed through the IMPEP training and reinforced in Team Leader conference calls held the week before the onsite review.

#### Task 7—Evaluation of Additional NRC HQ Functions to IMPEP Reviews

The team discussed with stakeholders the issue of including additional NRC Headquarters (HQ) functions within the purview of IMPEP. At present, the only NRC HQ function that is reviewed under IMPEP is the Sealed Source and Device certification program. Both the stakeholders and team members felt that HQ programs such as uranium recovery licensing, complex decommissioning program, exempt distribution licensing and the general licensing program would benefit from an IMPEP review. The team also notes that this was a recommendation of the 2002 WG report. The inclusion of uranium recovery licensing is considered particularly important given the substantial increase in new applications for uranium recovery licenses and the potential equity issues that could result from reviewing this program in Agreement States under IMPEP, but not within NRC (other than uranium recovery inspections).

***Recommendation 14 (substantive): The team recommends that the scope of IMPEP be expanded to include additional FSME functions, including Exempt Distribution licensing;***

***General Licensing; Uranium Recovery licensing and complex decommissioning cases. This will require modifications to MD 5.6 and other Management Directives as well as corresponding SA procedures and development of new SA procedures.***

#### Task 8—Future Self-Assessments of IMPEP

The team considered, as its tasking from the charter, establishment of a mechanism for future self-assessments of IMPEP, including how and when such self-assessments should be conducted. As noted earlier, the last review of the IMPEP program was begun in 2001 and completed in 2002. The team believes that critical self-assessments are an integral part of a high-performing organization and that, notwithstanding the strong feedback loop that is part of IMPEP, the program would benefit from periodic self-assessments. In terms of how frequently this effort should be undertaken, the team believes that the interval should be no less than one full-IMPEP cycle, which would be a minimum of 4 years but depending on resources could be as long as 6 years. An interval of less than 4 years would not, in the team's opinion, include sufficient operational experience to be of benefit. Lessons learned from the self-assessment should be considered by FSME management and, taking into account resources and other priorities, should be entered into the agency's internal tracking system, assigned for action and followed to completion.

The scope of the review should follow closely the scope of this self-assessment, but should build into it operational experience and programmatic changes captured in the intervening years, as this one has. The review should be conducted by a team that assures adequate representation of the Agreement States, NRC Regions and NRC HQ, which means 3-5 persons. This will assure the necessary diversity of background, experience and representation to result in a strong self-assessment. The work should be coordinated with the leadership of the Organization of Agreement States, the Conference of Radiation Control Program Directors and the NRC Regions. And finally, taking into account the experience of this review and the scheduled commitments of managers and senior staff that make up the team, the effort should be completed in less than 6 months.

***Recommendation 15 (substantive)---The team recommends that self-assessments of the IMPEP program be conducted in the future on a frequency of 4-6 years. A draft procedure to guide the conduct of these assessments has been prepared for FSME management consideration as Appendix C to this report.***

#### Task 9—Recommendations from the 2002 WG Report

The team reviewed the recommendations from the 2002 WG report and determined that the recommendations had been addressed by management and that no outstanding recommendations remain at this time.

## Task 10—Onsite Observations from 2010 IMPEP Reviews

As part of the team's charter, two members of the IMPEP self-assessment team observed three IMPEP teams in the field for the reviews of the Texas program, the Region I program, and the Alabama program. The self-assessment team members were present from the beginning of each review through its completion. This included being involved in pre-onsite conference calls, daily meetings with the IMPEP team to go over findings and issues, and entrances and exits with all levels of management in the program under review. These observations found that IMPEP team leaders planned, coordinated, and communicated effectively, both within their own teams and with State/Regional management. Entrances and exit meetings with the various levels of State and Regional management were well-organized, well-executed and appeared to be well-received. As a result, the reviews proceeded smoothly and affected parties felt that they were kept fully informed. The TL's also were proactive in identifying issues that their team members were having and in taking appropriate steps to resolve them.

Team members were well-qualified, had prepared in advance of the review, appeared knowledgeable in their respective areas, and were familiar with the questionnaire responses and applicable program and IMPEP guidance. Interaction between team members was very good and resulted in sharing of information and/or asking probing questions based on previous experience. Team members came prepared to meetings and clearly understood roles and responsibilities of the Team Leader and team members. Indeed, several new IMPEP team members gave the appearance of seasoned IMPEP team members. These new team members indicated that they found the IMPEP training to be beneficial and they thought that it prepared them adequately for the review.

The results of these IMPEP field observations informed the deliberations discussed above and did not result in additional recommendations.

## **APPENDIX A - CHARTER FOR A SELF-ASSESSMENT OF THE INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM (IMPEP)**

### **PURPOSE**

The purpose of this effort is to: 1) conduct a documented self-assessment of the IMPEP program with appropriate findings/recommendations to improve its effectiveness; and 2) prepare an internal procedure for conducting future periodic systematic self assessments and capturing lessons learned.

### **BACKGROUND**

In FY96, NRC began implementation of the IMPEP in evaluation of Agreement State and Regional materials programs to assure a consistent level of protection of public health and safety in the use of nuclear materials nationwide. IMPEP employs teams of NRC and Agreement State staff in assessing materials programs through the use of common indicators and criteria that focus primarily on performance. Additional areas have been identified as non-common performance indicators and are also addressed in the assessments, as appropriate. The IMPEP assessments are based on an Agreement State or Regional program's response to a questionnaire, field accompaniments of inspectors, an intensive onsite examination of records and interviews of program personnel. The IMPEP team leader issues a draft report to the Agreement State or Region for comment on its factual accuracy. The team leader addresses those comments and prepares a proposed final report which is reviewed and discussed with a Management Review Board (MRB), composed of senior NRC managers and an Agreement State manager who serves as the Agreement State liaison to the MRB. The MRB makes the final determination of program adequacy and compatibility.

In the 2001-2002 time frame a Working Group (WG) composed of NRC and Agreement State managers and staff conducted a lessons learned of the IMPEP program. The WG's charter included the following tasks; 1) evaluation of IMPEP performance for additional enhancements; 2) utilization of performance data in the National Materials Event Database (NMED) and expansion of review criteria to assess program initiatives; 3) effectiveness of between-IMPEP interactions; 4) areas for specific examination during IMPEP; and 5) voting rights for the Agreement State Liaison to the Management Review Board. The WG issued its report on April 1, 2002. The report made findings and recommendations to improve program effectiveness. Most, but not all, of the recommendations have been adopted since that time.

On March 16, 2009, NRC's Office of the Inspector General (OIG) issued an audit report titled, "Audit of NRC's Agreement State Program." The objective of the audit was to assess NRC's oversight of the adequacy and compatibility of Agreement State programs. The OIG focused its review on IMPEP as well as other elements of the Agreement State program. The OIG made the following findings in its report:

- 1) Management does not effectively monitor IMPEP operational issues.
- 2) NRC could be challenged to re-exert authority over an Agreement State program in the event of an emergency.



- 3) NRC lacks standardization in communications with, and collection from, the Agreement States.
- 4) Weaknesses exist in NRC's review of Agreement State event reporting.

The OIG made several recommendations in response to those findings:

- 6) Develop a mechanism for conducting self-assessments and capturing lessons learned for IMPEP on a regular basis.
- 7) Develop formal procedural guidance for identifying what information is needed about Agreement State programs and materials licensees in the event that an Agreement State is no longer capable of adequately performing its function of protecting public health and safety for an indeterminate period of time.
- 8) Develop a set of procedures that standardizes communications from NRC to the Agreement States.
- 9) Develop a standardized data collection process that can be used as the basis of an information sharing tool on a national level.
- 10) Revise the applicable IMPEP procedure(s) to include a review of Agreement State events that are not recorded in NMED for an analysis of whether they should have been included in NMED.

The IMPEP has been and continues to be recognized by the Agreement States and the Regions as an effective means of evaluating performance over the nearly 14 years since it began operation on a routine basis. In addition, in 2004, it was selected as a finalist by Harvard University for its Innovations in American Government program. However, the NRC believes that it is time for a critical self-assessment of IMPEP. This is in recognition of the fact that self-assessments are an integral part of how high-performing organizations establish and maintain those levels of performance. It is also reflective of the length of time since the 2002 Lessons Learned WG report as well as the findings and recommendations of the OIG in 2009.

## **SCOPE OF WORK**

The scope of work will include the IMPEP process as it has been documented and conducted since the 2002 WG report and will make appropriate findings and recommendations to improve program effectiveness. The scope also includes preparation of a procedure which will result in periodic conduct of self-assessments in the future.

## **TASKS**

The work should be undertaken by a team comprised of NRC Headquarters and Regional staff and Agreement State representatives. The team should address the following tasks at a minimum and make appropriate findings and recommendations. Recommendations should be evaluated and prioritized against the NRC's strategic goals of safety and security.

- 1) Evaluate the program's performance to determine if changes or enhancements are warranted, including whether the current set of IMPEP performance indicators is complete and sufficiently focused, whether changes are needed in the indicator criteria and metrics based on fact-of-life changes to the overall materials program, and whether there are any patterns or issues identified from MRB review and discussions during MRB meetings that

need to be addressed. For example, should IMPEP indicators and/or criteria be revised to reflect the increased focus on security since 2001? Is the frequency of IMPEP reviews still appropriate and are the reviews looking deep enough to identify performance issues? Are there current or emerging issues in Agreement States or Regional programs not currently addressed by IMPEP that need to be addressed?

- 2) Examine the effectiveness of between-IMPEP interactions, such as monitoring and heightened oversight as well as the periodic meeting process.
- 3) Assess the methods by which team members and team leaders are selected and the IMPEP training program to determine if team members and team leaders have the necessary knowledge and skills to successfully execute their responsibilities in future IMPEP reviews.
- 4) Evaluate program documentation, procedures and administrative controls to assure that they adequate to support the program and capture lessons learned.
- 5) Identify areas that should be considered for specific examination during IMPEP reviews, based on the review experience to date, such as the handling of complex or controversial licensing actions or the impact of program effectiveness as it relates to program funding levels.
- 6) Assess current roles and responsibilities of those involved in IMPEP, as identified in Management Directive 5.6, to determine if enhancements are warranted to improve program effectiveness.
- 7) Evaluate whether additional NRC Headquarters functions not currently evaluated in IMPEP should be included in the program.
- 8) Determine how and when future self-assessments of IMPEP should be conducted and prepare a procedure which will govern those self-assesments.
- 9) Review the recommendations of the 2002 IMPEP lessons learned to determine if any unaddressed recommendations should be considered for adoption.
- 10) Observe three IMPEP teams (TX, AL and Region I) and assess their implementation of the program in the field.

The team will develop a detailed work plan and will conduct the review in the allocated time developing appropriate written products. The plan will include reviews of program documentation including MRB minutes; review of the 2009 OIG report and recommendations; structured interviews of key stakeholders and new IMPEP team members; an observation of the 2010 IMPEP training and an observation of three IMPEP reviews of Agreement State and Regional programs.

## **REPORT TIME FRAME**

The team's written products, including at a minimum a documented self-assessment and a procedure for conduct of future self-assessments, shall be provided to the Director, Division of Materials Safety and State Agreements no later than June 30, 2010.

## **SELF-ASSESSMENT TEAM ORGANIZATION AND OPERATIONS**

The team will include representatives from NRC Headquarters and Regional offices as well as Agreement State programs. Team members should be knowledgeable and experienced in IMPEP but should not have day-to-day IMPEP responsibilities.

Logistical and travel support for team meetings and other aspects of the self-assessment (i.e., audit of the IMPEP training scheduled for February, 2010) including travel and per diem for Agreement State members, will be provided by NRC.

## APPENDIX B - PROJECT PLAN FOR IMPEP SELF ASSESSMENT

### Personnel

GPangburn, project lead

Agreement State rep(s)--- Cindy Cardwell, TX; Earl Fordham, WA

NRC HQ rep(s)— George Deegan

NRC Regional rep---Bryan Parker

### Key Steps/Leads to Accomplish

- 1) Identify/ Confirm Personnel; coordinate with OAS leadership and Regional/HQ managers to identify and secure commitments of team members (RLewis/GPangburn)
- 2) Prepare for Initial Meeting: meeting logistics, email to participants welcoming them, providing charter and project plan, and expectations for initial meeting. (GPangburn)
- 3) Hold Initial Meeting (late March): Discuss and align on charter and project plan, approach, deliverables, schedule and key milestones. Assign individual tasks within charter; develop questionnaire for interviews of key stakeholders; discuss the IMPEP process in its current state and gain initial views of team members of areas for improvement. (Team)
- 4) Individual work period: (April-May): Team members return to home locations to review documentation, consider team discussions and begin to formulate thoughts on gaps, areas for improvement, recommendations. Interview key stakeholders and some recent IMPEP team members to be conducted and attend agreed-upon IMPEP reviews (TX, AL and Region I). (Team)
- 5) Brief OAS leadership on status and get additional thoughts as part of OAS Executive Board meeting (April 6-7) (GPangburn/RLewis)
- 6) Hold Substantive Meeting (Week of May 17): Team reconvenes in Austin, TX. Systematically discuss work results and formulate recommendations. Prepare annotated outline of review findings and recommendations. Brief MSSA management on nature and substance at conclusion of week. (Team)
- 7) Prepare and submit draft report sections and draft procedure (late May) (Team)
- 8) Assemble and integrate report sections into draft report and procedure (early June) (GPangburn/GDeegan)
- 9) Circulate draft report to team for comment (mid June)(GPangburn)

- 10) Incorporate comments and prepare final report for MSSA Director (late June)  
(GPangburn/GDeegan)
- 11) Brief NRC senior management, as appropriate.
- 12) Discuss self-assessment results, including findings and recommendations at OAS Annual Meeting in August.

**Resources Needed:**

Following information for all team members is available on NRC web site:

- 1) Management Directive 5.6
- 2) Appropriate SA Procedures
- 3) OIG report
- 4) 2002 WG on IMPEP Lessons Learned

Travel funds to support Agreement State and Regional involvement in 2 working meetings, OAS Executive Board meeting and review of IMPEP teams in TX, AL and Region I.

Conference rooms to support 2 working meetings

## APPENDIX C- FSME PROCEDURE APPROVAL

Self-Assessment Process for the Integrated Materials Performance Evaluation Program  
(IMPEP)

SA-XXX

Issue Date:

Review Date:

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Robert J. Lewis

Director, MSSA

James Luehman

Deputy Director, MSSA

Aaron T. McCraw

Procedure Contact, MSSA

## **I. INTRODUCTION**

As part of its Charter, the 2010 Working Group convened to conduct a documented self-assessment of the IMPEP policies and practices, was also asked to develop a procedure to govern how future self-assessments of the program would be conducted. This procedure provides this information.

## **II. OBJECTIVES**

- A. To establish scoping and content guidelines to be followed for conducting future self-assessments of IMPEP.
- B. To provide scheduling and staffing directions.

## **III. BACKGROUND**

The IMPEP process was developed in the mid-1990's as a means of evaluating NRC's nuclear materials program activities and Agreement State radiation control programs based on a similar methodology and a set of common performance indicators. Management Directive 5.6, "XXXXXXXXXX" provides the overall structure and framework for the IMPEP process, and it describes the review criteria.

In 2001-2002, an NRC and Agreement State Working Group reviewed the IMPEP and made a series of recommendations, most of which were implemented over time. In 2009, the NRC Inspector General (IG) conducted an audit, "Audit of NRC's Agreement State Program", OIG-09-A-08, dated March 16, 2009, which included a recommendation that NRC should "develop a mechanism for conducting self-assessments and capturing lessons learned for IMPEP on a regular basis". OMB Circular A-123, "Management's Responsibility for Internal Control," also recommends that "...periodic assessments should be integrated as part of management's continuous monitoring of internal control, which should be ingrained in the agency's operations."

In spring 2010, another Working Group, which included members from the Office of Federal and State Materials and Environmental Management Programs (FSME), Region I, and two Agreement State representatives, conducted another self-assessment of the program. Included in its Charter was direction to the team to develop a formalized mechanism that would determine how and when future self-assessments should be conducted. The Group's report included an Appendix which served as the draft upon which this procedure was based.

## **IV. ROLES AND RESPONSIBILITIES**

- A. Director, Division of Materials Safety and State Agreements (MSSA/FSME)
  - 1. Provides over-arching expectations to review team participants.
  - 2. Provides staffing and resource support to team members, including coordination and confirmation of necessary support from Regions and the Agreement States.
  - 3. Receives the team's report.

4. Makes prioritization and resource decisions on which of the team's recommendations can, and should, be implemented.
- B. IMPEP Project Manager
1. Ensures that open recommendations are acted upon in a timely manner.
  2. Modifies procedures, training programs, or other IMPEP activities, as appropriate.
- C. Regions, Division of Nuclear Materials Safety
1. Provides staffing support for the IMPEP self-assessment team (as needed).
- D. Organization of Agreement States
1. Based on agreements reached with the MSSA Director, provides staffing support for the IMPEP self-assessment team (as needed).

## **V. GUIDANCE**

- A. Frequency of Self-Assessments.
1. Detailed self-assessments of IMPEP should occur at 4-6 year intervals.
  2. This interval can be adjusted if:
    - a) FSME office management determines the program is strong enough to sustain a longer interval.
    - b) Workload or resource restraints would suggest to FSME office management that the resources involved to conduct the self-assessment would be better applied elsewhere based on the health and safety considerations.
    - c) IMPEP weaknesses are identified by NRC staff, the IG, Agreement States, or others that would cause suggest the need for a tighter review interval.
- B. Self-Assessment Team.
1. Should be comprised of 3-5 members with representation from FSME, the NRC Regions, and Agreement States in order to provide a variety of viewpoints and perspectives.
  2. Review team members should have some form of first-hand (preferably, but not necessarily recent) IMPEP experience as either a member of the Management Review Board, an IMPEP team leader, IMPEP team member, and/or a person whose program was reviewed under IMPEP.



C. Scope of Self-Assessment Review.

The team should conduct its review based on a Charter that has been approved by the FSME/MSSA Division Director. Although there is no prescribed level of effort or duration dictated for the self-assessment, the expectation is that it be both thorough and complete. Thus, the effort should include, at a minimum, the following components:

1. Interviews with IMPEP Stakeholders. A representative cross-section of IMPEP stakeholders should be interviewed using a detailed questionnaire to determine their views on IMPEP effectiveness, efficiency, strengths, and weaknesses. This cross-section should include senior NRC managers who have first-hand IMPEP experience, such as MRB participants, IMPEP Team Leaders, Regional State Agreement Officers, IMPEP team members, past or current IMPEP Project Managers, Regional and State participants, especially those whose programs were recently reviewed under IMPEP. If possible, between 15-25 interviews should be conducted to ensure all viewpoints are represented. The 2010 self-assessment questionnaire could be used as a benchmark.
2. Monitoring of IMPEP Training. A member of the team should monitor the IMPEP training provided to new IMPEP members in order to assess the effectiveness of the training as a means of conveying the IMPEP philosophy and its lessons learned to new members, and to prepare them to conduct their IMPEP duties.
3. Observation of IMPEP Teams during Onsite Activities. Without intruding upon the necessary duties of the IMPEP team, or the program under IMPEP review, a member(s) of the team should observe at least two onsite IMPEPs. Ideally, this should include at least one regional IMPEP and one Agreement State IMPEP.
4. Review of IMPEP Documentation. This includes a review of:
  - a) Management Directive 5.6
  - b) a representative sample size of IMPEP reports.
  - c) all SA procedures related to IMPEP activities
  - d) the 2002 and 2010 IMPEP self-assessments.
5. If any of the above functions are conducted by someone outside the self-assessment team, their findings should be shared with the self-assessment team leader and reflected as appropriate in the team's report at the discretion of the team leader.

#### D. Documentation of Results.

Unless otherwise directed in its Charter, the self-assessment team will document its results in the form of a written report to the FSME/MSSA Division Director or his/her designee. The responsibility for implementation of the team results rests within FSME, and not the team itself, although the team should take into account the practicality of its recommendations (especially with respect to the resources that may be required to implement its findings).

#### E. Tracking of Action Items.

Any recommendations that have been accepted and endorsed by FSME/MSSA Division management will be tracked (either in Agency systems such as EDATS, or in Office or Division tracking systems or Operating Plans) to their completion.

## **APPENDIX D - SELF-ASSESSMENT TEAM MEMBERS**

George Pangburn, Team Leader (Former Deputy Director, FSME)

Cindy Cardwell, Texas

George Deegan, FSME

Earl Fordham, Washington

Bryan Parker, Region I

James Dwyer, Region I (Assessment of IMPEP Training)

## **APPENDIX E - LIST OF STAKEHOLDERS INTERVIEWED**

Darise Bailey, Manager, Radioactive Materials Inspection Group, TX Department of Health Services (TX DSHS)

Karen Cyr, General Counsel (Retired), NRC (former MRB member)

Elmo Collins, Regional Administrator, Region IV, NRC

Robert Free, Manager, Environmental Monitoring and Investigation Group, TX DSHS

Debbie Gilley, Environmental Manager, Training and Quality Assurance Program, Florida Bureau of Radiation Control (past CRCPD Chair)

Art Howell, Director, Division of Nuclear Material Safety, Region IV, NRC

John Kinneman, Director, Division of Nuclear Material Safety, Region I, NRC

Jim Kottan, Regional State Agreements Officer, Region I, NRC

Robert Lewis, Director, Division of Materials Safety and State Agreements, FSME, NRC

Jim Lynch, Regional State Agreements Officer, Region III, NRC

Aaron McCraw, IMPEP Project Manager, Region III, NRC

Jim McNees, Director, Office of Radiation Control, Alabama State Department of Public Health

Charles Miller, Director, Office of Federal and State Materials and Environmental Management Programs, NRC

Richard Ratliff, Manager, Radiation Safety Licensing Branch, TX DSHS

Adela Salame-Alfie, Assistant Director, Division of Environmental Health Investigations, New York State Health Department (current CRCPD Chair)

Cynthia Sanders, Manager, Radioactive Materials Program, Georgia Department of Natural Resources

Julia Schmitt, Manager, Office of Radiation Health, Nebraska Department of Health and Human Services (former OAS Chair)

Shawn Seeley, Senior Radioactive Materials Inspector, Radiation Control Program, Maine Division of Environmental Health (current OAS Chair)

Jared Thompson, Program Leader, Radioactive Materials Program, Arkansas Department of Health

Martin Virgilio, Deputy Executive Director for Reactor and Preparedness Programs, NRC (former Chair of MRB)

David Walter, Radiation Physics Supervisor, Radioactive Material Licensing, Office of Radiation Control, Alabama State Department of Public Health

Duncan White, Branch Chief, Agreement States Program Branch, MSSA, FSME, NRC