

# POLICY ISSUE

## (Notation Vote)

August 25, 2007

SECY-07-0147

FOR: The Commissioners

FROM: Luis A. Reyes  
Executive Director for Operations /RA/

SUBJECT: RESPONSE TO U.S. GOVERNMENT ACCOUNTABILITY OFFICE  
RECOMMENDATIONS AND OTHER RECOMMENDATIONS TO  
ADDRESS SECURITY ISSUES IN THE U.S. NUCLEAR REGULATORY  
COMMISSION MATERIALS PROGRAM

### PURPOSE:

To request Commission approval of the staff's proposed Action Plan and associated funding to respond to recommendations to address security issues in the U.S. Nuclear Regulatory Commission's (NRC's) and Agreement States' materials programs.

### SUMMARY:

Early in 2007, the U.S. Government Accountability Office (GAO) staff used the name of a bogus company to obtain a valid NRC materials license authorizing the possession of portable gauges containing radioactive sources. Following notification of this fact by GAO, the staff took immediate actions to respond to the identified vulnerability. After a Congressional hearing in July, the NRC received recommendations from the GAO and the Senate Committee on Homeland Security and Governmental Affairs, Permanent Subcommittee on Investigations (PSI) staff. As directed by the Commission in the Staff Requirements Memorandum (SRM) dated August 17, 2007, the staff has developed a proposed Action Plan to address needed changes in NRC's process for issuing licenses for radioactive sources.

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The plan includes specific actions and recommends that three working groups develop additional recommendations: a proposed independent panel, a Pre-Licensing Guidance Working Group (already working), and a proposed Materials Program Working Group. In order to implement the plan, the staff requests additional resources: 15.5 Full Time Equivalent (FTE) and \$2.58 million in FY08 and 12.0 FTE and \$8.26 million in FY09.

#### BACKGROUND:

In late May 2007, staff members from the GAO notified the NRC staff of the results of an investigation, where GAO staff used the name of a bogus company to obtain a valid NRC materials license authorizing the possession of portable gauges containing radioactive sources. The GAO staff then modified the license using computer software to make it appear that a much greater number of gauges were authorized than allowed by the original license.

In the same time frame, GAO attempted to obtain a license from the State of Maryland using a similar bogus application. GAO investigators abandoned the effort when Maryland informed them that Maryland would conduct a pre-licensing visit prior to issuing a license.

Previously, in a 2006 Congressional hearing, GAO presented testimony (GAO-06-583T), which described a 2005 GAO investigation where GAO staff successfully brought small radioactive sources into the U.S. using counterfeit documentation, even though the sources were exempt and did not require a license. Also, in 2003, GAO issued a report (GAO-03-804) that concluded that NRC needed to improve the security of radioactive sources.

The Energy Policy Act of 2005 required the establishment of the Radiation Source Protection and Security Task Force, which is chaired by the NRC. The Task Force issued its first report on August 15, 2006. The report contains 10 recommendations and 18 actions, some of which relate to verification issues similar to those raised by the GAO investigation. Appropriate reference is made to them in the Action Plan that is the subject of this Commission Paper.

In response to the GAO notification in late May 2007, the NRC staff promptly took the following actions:

- We immediately informed our Federal partners and the Agreement States of GAO's findings.
- We promptly terminated the license issued to the bogus company.
- Within 24 hours, we suspended issuance of all new materials licenses for about two weeks, pending issuance of revised interim procedures to address the GAO concerns.
- In mid-June, we issued revised interim procedures that require on-site inspections or in-office meetings for new materials license applicants. Exceptions may be made for applicants who already possess, or are listed on, an NRC or Agreement State license.

- We completed a retrospective examination of certain licenses issued by the NRC to verify that the licensees are legitimate.

When members of the Senate were notified of the GAO investigation, a hearing was scheduled by the PSI for July 12, 2007, entitled "Dirty Bomb Vulnerabilities: Fake Companies, Fake Licenses, Real Consequences." Commissioner McGaffigan and representatives of GAO testified at the hearing. In its testimony, GAO made three recommendations, calling for: (1) improved pre-licensing guidance, including consideration of mandatory site visits for new applicants; (2) periodic oversight of license application reviewers; and (3) improved measures to prevent counterfeiting of licenses (GAO-07-1038T).

In conjunction with the July 12, 2007, hearing, the PSI released a staff report, "Dirty Bomb Vulnerabilities," which contained four additional recommendations to improve NRC's materials program. The recommendations called for NRC to: (1) re-examine its apparent "good-faith" presumption in the licensing process; (2) physically inspect applicants' facilities before issuance of licenses for Category 3 radioactive sources; (3) consider including Category 3 sources in the proposed National Source Tracking System (NSTS); and (4) quickly establish the planned Web-Based Licensing (WBL) system.

Earlier in 2007, the NRC Office of the Inspector General (OIG) released its Audit Report "Summary Report and Perspectives on Byproduct Material Security and Control" (OIG-07-A-12, March 30, 2007). The OIG report concluded that, while NRC has taken a number of steps to improve security of byproduct material, the efforts are incomplete. The OIG report recommended that NRC convene an independent panel of experts external to the agency to identify agency vulnerabilities concerning NRC's material licensing and tracking programs, and validate the agency's byproduct material security efforts.

Since the initial GAO notification in May 2007, the Commission and staff have continued to pursue both short-term and long-term actions to address materials security vulnerabilities. As part of these efforts, the staff discussed the issues with the Executive Boards of the Organization of Agreement States (OAS) and the Conference of Radiation Program Control Directors (CRCPD), and coordinated with the Federal Nuclear Government Coordinating Council (GCC) through contacts with the Department of Homeland Security (DHS).

In addition, the staff is preparing a generic communication to material licensees, which will provide updated guidance on verifying license and possession authorizations prior to transfers of licensed material. (Verification requirements have already been imposed by orders issued to licensees who transfer higher risk sources, and general verification guidance was included in an information notice (IN 2006-12) to all materials licensees in 2006.) In conjunction with preparation of the new notice, the staff is considering suggestions from a major portable gauge vendor on how to improve the verification process for licensees.

The staff discussed these security issues with the Commission in a closed meeting on July 18, 2007. Following the meeting, the Commission issued a SRM dated August 17, 2007, directing the staff to prepare a comprehensive plan to address needed changes in NRC's process for issuing licenses for radioactive sources, including the role of pre-licensing visits to verify applicant authenticity and mechanisms for source suppliers to verify the authenticity of a license; appropriate strategies for aligning Agreement State licensing with recommended

changes; and an independent review of NRC's licensing process. This paper responds to that SRM and presents a comprehensive Action Plan.

## DISCUSSION:

### Reasons for Continuing Concerns About Materials Security

Although NRC has worked continuously since the 9/11/01 attacks to improve security for all licensees, the GAO, PSI, and OIG reports illustrate continuing concerns about security vulnerabilities in the NRC's materials licensing process. Two of the key reasons for these continuing concerns are:

1. NRC efforts have focused on higher risk sources. This is consistent with the agency's policy of risk-informed regulation, and with the International Atomic Energy Agency (IAEA) Code of Conduct on the Safety and Security of Radioactive Sources. However, both the GAO and PSI reports raised questions as to why lower risk sources are not being protected to the same degree as higher risk sources. It is difficult to explain the differences to a large segment of the stakeholder population, who may not generally think in terms of the relative risks associated with varying levels of radiation exposure, and the relative costs and benefits involved in reducing the risk.
2. As pointed out by the PSI report, NRC retains an apparent "good faith" presumption in its licensing approach, which assumes that applicants do not harbor malicious motives. According to the PSI report, this presumption is manifested not just by the lack of pre-licensing visits for applicants involving low-risk licensees, but also by NRC licensing guidance which provides applicants with model language and stock responses.

The implications of the security concerns are broad. Some solutions to these concerns are straightforward - for example, increasing pre-licensing visits - but some are not. For example, 10 CFR Section 30.41(d) is a longstanding regulation which specifies acceptable methods for verification of authorization to receive a particular amount and form of licensed material. This regulation allows transfers based on copies of licenses, written certifications from transferees, and even (for emergency shipments) oral certifications from transferees. This regulation may have to be revised to strengthen the verification requirements, and, if so, Agreement States would need to make compatible revisions. The impact of revisions to this regulation would be broad, because many small vendors and other licensees who transfer material directly to other licensees would be affected, as well as large vendors and their customers.

### The Comprehensive Action Plan

As directed by the Commission in the SRM dated August 17, 2007, the staff has developed a proposed Action Plan (enclosed) to address needed changes in NRC's process for issuing licenses for radioactive sources. The Action Plan contains short-term, mid-term, and long-term actions, with timeframes ranging from a few months to more than two years. A milestone chart for the planned actions is included in the plan.

The Action Plan addresses all eight recommendations contained in the recent GAO, PSI, and OIG reports. Six of the recommendations are specific, and two are broad. In developing the

Action Plan, the staff took a comprehensive approach. Therefore, some of the proposed actions address issues that go beyond the recommendations, but that are nevertheless appropriate in order to address potential security vulnerabilities.

One of the broad recommendations (from OIG) calls for an independent review by an external panel of experts. The staff has developed a proposed charter for this panel (attached to the Action Plan), and, following Commission approval, will convene the panel in accordance with the agency's advisory committee process including consultation with the U.S. General Services Administration in accordance with 10 CFR 7.5. The panel will be chaired by a former Agreement State program manager, and will include another member who has not had substantial involvement in design or implementation of the current NRC materials program. The staff has identified specific individuals to fill these roles. These individuals have been selected based on their individual qualifications, knowledge of NRC regulatory programs, and impartiality with respect to the existing NRC materials policies and procedures. It is expected that another Federal agency, most likely the Defense Threat Reduction Agency, will provide a third qualified member.

The second broad recommendation (from the PSI report) calls for a reevaluation of the apparent "good-faith" presumption in the licensing process. As reflected in the enclosed Action Plan, the staff recommends that this issue be assigned to the external panel, because it challenges a fundamental premise of NRC's regulatory approach.

The plan proposes that the report of the independent review be completed by January 31, 2008. The panel's report will be provided to the Director, Office of Federal and State Materials and Environmental Management Programs (FSME) and a newly formed Materials Program Working Group, to consider adoption of the findings and recommendations for changes in the materials regulatory program. FSME and the working group will provide recommended actions to the Commission by Spring 08.

The Action Plan envisions two phases: development and implementation. Initially, proposals and actions must be developed to respond to recommendations and other known vulnerabilities. In addition to specific actions already identified, at least three working groups will be developing additional recommendations: the proposed independent panel, the Pre-Licensing Guidance Working Group, and the proposed Materials Program Working Group. Further, the plan recommends that consideration be given to expanding the NSTS and the associated rulemaking to include Category 3.5 sources, which are an order of magnitude smaller in amount of radioactivity than Category 3 sources. Category 3.5 does not appear in the IAEA Code of Conduct on Safety and Security of Radioactive Sources and is not well understood outside the agency. Adding Category 3.5 will require explanation and coordination with other government agencies to assure consistent implementation of the final NSTS. Also, in addition to the planned general license rulemaking, the plan recommends that a review be undertaken to identify any gaps or modifications that might be appropriate to ensure a consistent, risk-informed, graded approach for the general license program based on both safety and security.

As described in more detail in the Action Plan, the Pre-Licensing Guidance Working Group will develop and issue revised guidance to address pre-licensing reviews and visits, while the proposed Materials Program Working Group will identify other short-term and long-term measures to be implemented for both specific and general licensees. Subsequently, the

additional activities and recommendations arising from these groups must be evaluated, and implementation actions must be determined. Therefore, the proposed Action Plan focuses on the developmental phase, because full information on implementation will not be available until further progress is made by the working groups.

#### Strategies for Attaining Alignment with the Agreement States and NRC Regional Offices

To assure the consistent, nationwide implementation of the plan, it is likely that many of the actions implemented by the NRC will involve consideration of Agreement State compatibility. The resources required for the Agreement States to implement the recommendations and additional activities as a result of the Action Plan will be significant, because the Agreement States administer a much larger number of licenses than NRC (about 17,500 State licenses vs. about 4,500 NRC licenses). Funding for these activities will need to come from existing budgets which, in most States, are already stretched. In addition to programmatic changes, the plan also proposes enhancements to information technology systems (i.e., NSTS and Web-based Licensing (WBL)) that would include participation by Agreement States.

Coordination with other Federal agencies and the States during the development of these systems is ongoing and will continue. The elements of the Action Plan have been discussed with the Office of Infrastructure Protection, DHS and the major elements of the plan were entered into a list of important actions to improve security of radioactive sources discussed at a meeting of the GCC.

The staff initially coordinated with the Agreement States by discussing the Action Plan with a State program manager who oversees the license for a major portable gauge vendor, and with the Executive Boards of the OAS and the CRCPD. The State manager indicated a willingness to work with NRC to make improvements on license verifications. The OAS Executive Board recently sent a letter dated August 10, 2007, to Senator Carl Levin, which expresses concerns that the GAO testimony and PSI staff report do not provide adequate evidence or other basis to support the GAO and PSI recommendations, and that those recommendations could have a serious impact on the regulation of radioactive materials nation-wide. However, discussions with representatives of the OAS and CRCPD Boards indicate their willingness to work with the NRC staff to develop solutions in response to the Action Plan. Working groups established in conjunction with the plan will include Agreement State representatives. The staff will continue to coordinate closely with the Agreement States, to assure consistent, nation-wide implementation.

The plan has also been coordinated with the NRC Regions; regional representatives will participate in proposed Materials Program Working Group and in the planning and implementation of actions developed in response to the Action Plan.

The staff believes that implementation of the Action Plan and resulting regulatory improvements will improve safety, security, and public confidence by reducing the risk of fraudulent transfers, and establishing a more integrated, comprehensive regulatory framework for all radioactive sources.

RESOURCES:

While some of the activities in the Action Plan are ongoing and budgeted, the majority are unplanned activities that were not included in either the FY08 or FY09 budget process. The following table summarizes the unbudgeted NRC resources required for the Action Plan. Further details for each action item and the associated resources are included in the enclosed Action Plan.

FY08 Unbudgeted		FY09 Unbudgeted	
FTE	\$ (Thousands)	FTE	\$ (Thousands)
15.5	2,580	12.0	8,260

The table includes 1.0 FTE and \$400,000 in FY08 for the independent panel activities.

The resource estimates in this paper are a subset of the resource estimates recently provided to the Commission. Resource estimates for a few items, such as NSTS Categories 1 and 2, that were previously provided, have been excluded from this Action Plan, based on further reexamination of their relationship to the GAO findings. Estimates for comparable items in this paper have increased from the resource estimates previously provided by 3.0 FTE and \$110,000 in FY 2008.

The staff does not believe that the needed additional resources can be reallocated from other activities in the key program offices (FSME, the Office of Nuclear Security and Incident Response (NSIR), and the Office of Information Services (OIS)) without significantly impacting ongoing programs, given current resource constraints and the large amount of unbudgeted resources involved.

In addition to resource impacts for the NRC, the Agreement States will likely incur substantial unbudgeted costs to carry out recommendations coming from implementation of the Action Plan.

RECOMMENDATION:

That the Commission:

Approve the enclosed Action Plan to respond to the recommendations from the GAO, PSI, and OIG to address security issues in the NRC materials program.

Approve, as part of its review of the FY09 budget proposal and the supplemental information provided by the staff, the allocation of resources to fund the Action Plan.

Note that if the Action Plan is approved, the staff will prepare a communication plan in conjunction with its implementation.

COMMITMENTS:

The proposed commitments, subject to Commission approval, are included in the enclosed Action Plan.

COORDINATION:

This paper has been coordinated with the Office of the General Counsel which has no legal objection. The Action Plan involves significant unbudgeted resources, and the resource estimates have been coordinated with the Office of the Chief Financial Officer.

The Action Plan has also been coordinated with the Agreement States and Regions as discussed above.

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Executive Director  
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Enclosure:  
Action Plan to Respond to  
Recommendations to Address Security  
Issues in the NRC Materials Program

**ACTION PLAN TO RESPOND TO RECOMMENDATIONS TO ADDRESS  
SECURITY ISSUES IN THE  
U. S. NUCLEAR REGULATORY COMMISSION MATERIALS PROGRAM**

**INTRODUCTION**

This action plan provides a comprehensive, integrated set of proposed staff actions to respond to recommendations from three reports:

1. U.S. Government Accountability Office (GAO) Testimony, GAO-07-1038T, "Actions Taken by NRC to Strengthen Its Licensing Process for Sealed Radioactive Sources Are Not Effective," July 12, 2007
2. Senate Homeland Security and Governmental Affairs Committee, Permanent Subcommittee on Investigations (PSI) Staff Report: "Dirty Bomb Vulnerabilities," July 12, 2007
3. U.S. Nuclear Regulatory Commission (NRC) Office of the Inspector General (OIG) Audit Report, OIG-07-A-12, "Summary Report and Perspectives on Byproduct Material Security and Control," March 30, 2007

The reports contain eight recommendations. For reference purposes, the recommendations are numbered as follows:

1. GAO Testimony: G-1, G-2, and G-3
2. PSI Staff Report: S-1, S-2a, S-2b, and S-3
3. NRC OIG Report: N-1

Also, two additional actions, which are not specifically covered by the eight recommendations, are included as Additional Actions A-1 and A-2:

- A-1. Enhance communication with the public on the risk of exposure to radioactive materials
- A-2. General license rulemaking (ongoing, budgeted) and review of the general license regulatory framework (unbudgeted)

For each recommendation, the Action Plan presents the proposed action, completion date, discussion, office lead and supporting offices, and unbudgeted resources. If the action is already budgeted, this is indicated in the resources section.

The total unbudgeted resources to implement the Action Plan are as follows:

Enclosure

Recommendation	FY08 Unbudgeted		FY09 Unbudgeted	
	FTE	\$ (Thousands)	FTE	\$ (Thousands)
G-1, G-2, G-3, S-2a (Increase from previous estimate: 2.0 FTE and \$100,000 in FY08)	11.5	310	9.0	500
S-2b	1.0	760	1.0	5,910
S-3	1.5	1,100	2.0	1,850
N-1, S-1 (Increase from previous estimate: 0.5 FTE for FY08)	1.0	400	0.0	0
A-1		(Budgeted)		(Budgeted)
A-2 (Not included in previous estimate)	0.5	10	0.0	0
<b>TOTAL</b> (Increase from previous estimate: 3.0 FTE and \$110,00 for FY08)	<b>15.5</b>	<b>2,580</b>	<b>12.0</b>	<b>8,260</b>

**Recommendation G-1:**

The NRC should develop improved guidance for examining NRC license applications, in order to avoid allowing a malevolent group to obtain a license. The improved criteria should consider whether pre-licensing site visits to new licensees should be mandatory.

**Action:**

1. A Pre-Licensing Guidance Working Group has been convened, with an Agreement State program director as co-chair. The Group will develop and issue revised guidance to address pre-licensing reviews and visits. Exceptions will be addressed. The staff will coordinate with Agreement States to assure that the States implement compatible guidance.

2. A Materials Program Working Group will be formed, composed of NRC Headquarters, NRC Regional, and Agreement State representatives. The Group will identify short-term and long-term measures to be implemented for both specific and general licensees, pending completion of the Web-Based Licensing (WBL) system, the National Source Tracking System (NSTS), the interface between NSTS and WBL, the NSTS rulemaking and the

general license rulemaking. Licensing of imports and exports will be included, as well as prevention of counterfeiting as discussed under Recommendation G-3. The measures to be considered will include guidance or other actions to source suppliers with the objective of preventing unauthorized transfers. The staff will coordinate to assure that compatible compensatory measures are implemented in all Agreement States. The working group will also address the recommendations from the independent panel discussed under Recommendation N-1. A proposed charter for the group is Attachment 1 to this plan.

**Completion Dates:**

1. Complete revised guidance for pre-licensing visits: November 30, 2007
2. Develop corrective measures:
  - a. Short-term measures:
 

Improve license verification:	October 30, 2007
Reduce counterfeiting:	December 31, 2007
Reduce vulnerabilities in GL program:	March 30, 2008
  - b. Follow-up to independent review: April 30, 2008
  - c. Issue final corrective measures: September 30, 2008

**Discussion:**

Based on recently revised interim procedures, the staff is currently conducting pre-licensing visits or in-office meetings with new materials applicants, except those who already possess or are listed on an NRC or Agreement State license. The Pre-Licensing Guidance Working Group will further develop and issue revised guidance to address pre-licensing reviews and visits. This guidance would be implemented in FY08 after training of the Regional staff.

With respect to potentially broader requirements, the 2006 Radiation Source Protection and Security Task Force Report, Action 6-1, states that NRC should expeditiously implement fingerprinting provisions for Category 1 and 2 sources. NRC has already imposed fingerprinting requirements for a large number of Category 1 and 2 licensees, and is coordinating with the Agreement States to impose similar requirements on the remaining Category 1 and 2 licensees. In addition, in a followup to Action 6-3 in the Task Force Report, the staff is pursuing a Memorandum of Understanding with the Department of Homeland Security, which would allow access to the Systematic Alien Verification for Entitlements (SAVE) database in connection with background checks for materials licensee personnel.

**Office Leads:**

1. Revised Pre-licensing Guidance: Region I
2. Materials Program Working Group: FSME

**Support:** NSIR, OIP, OGC, ADM, Regions, Agreement States

**Resources:**

Action	FY08 Unbudgeted		FY09 Unbudgeted	
	FTE	\$ (Thousands)	FTE	\$ (Thousands)
Pre-Licensing Working Group	0.5	10	0.0	0
NRC Inspection Resources to Conduct Additional Site Visits	3.0	0	1.0	0
Development of Corrective Measures by the Materials Program Working Group (Increase from previous estimate: 2.0 FTE and \$100,000 for FY08)	4.0	200	0.0	0
NRC Implementation of Corrective Measures	4.0	100	8.0	500
<b>TOTAL</b> (Increase from previous estimate: 2.0 FTE and \$100,000 for FY08)	<b>11.5</b>	<b>310</b>	<b>9.0</b>	<b>500</b>

**Recommendation G-2:** The NRC should conduct periodic oversight of license application examiners so that NRC will be assured that any new guidance is being appropriately applied.

**Action:** The Materials Program Working Group (see G-1 above) will develop recommendations addressing current training and oversight procedures for both NRC and Agreement State licensing programs and staff, in order to assure effective, consistent implementation.

**Completion Date:** March 31, 2008

**Discussion:** NRC materials license reviewers undergo a rigorous, structured training and qualification program that takes approximately 24 months, with formal course work and on-the-job training. The Integrated Materials Performance Evaluation Program (IMPEP) periodically evaluates license reviewer training and qualification programs, as well as the actual performance of license programs and reviewers, in both NRC offices and the Agreement States. Also, the NRC Regions engaged in materials licensing conduct internal performance assessments at least twice per year. Until the working group completes its review and makes recommendations, the Regions will place emphasis in their

performance assessments to assure that pre-licensing guidance is consistently followed.

The working group will evaluate the existing training provided to reviewers, and the effectiveness of IMPEP procedures and regional assessments, and make recommendations for improvements. With regard to IMPEP, the working group will consider the topics that are addressed, the depth of the review, and the frequency of the review.

**Office Lead:** FSME

**Support:** NSIR, Regions, OGC

**Resources:** (Included in G-1 above.)

**Recommendation G-3:** The NRC should explore options to prevent individuals from counterfeiting NRC licenses, especially if the counterfeiting allows the purchase of more radioactive materials than authorized.

**Action:** The Materials Program Working Group (see G-1 above) will address and make recommendations on the issue of counterfeiting, as well as related verification issues. Import and export licenses will be included.

**Completion Date:** March 31, 2008

**Discussion:** As discussed in the PSI Staff Report, licenses may be copied or faxed, so it is not sufficient to prevent counterfeiting of the original license alone. Other verification methods must also be implemented. The 2006 Radiation Source Protection and Security Task Force Report, Action 4-1, states that NRC should consider imposing additional measures to verify the validity of licenses prior to transfers of risk-significant sources. NRC regulation 10 CFR Section 30.41(d) currently allows transfers of licensed material based on copies of licenses, written certifications from customers, or (for emergency shipments) oral certifications from customers. (Manufacturers and distributors have been issued orders which impose more stringent verification requirements for transfers of Category 1 and 2 sources.) This regulation and similar provisions will be reviewed. The working group's efforts will be coordinated with the Agreement States to assure development of a nation-wide solution to the counterfeiting issue. However, this is a short-term measure and is not comprehensive; the long-term solution requires the development of the integrated WBL and NSTS and associated rulemaking, and the inclusion of Agreement State licenses in WBL. Completion of these activities will make counterfeiting ineffective (see Recommendation S-3).

**Office Lead:** FSME

**Support:** ADM, OIP, NSIR

**Resources:** (Included in G-1 above.)

**Recommendation S-1:** The NRC should reevaluate the apparent good-faith presumption that pervades its licensing process.

**Action:** Include this topic within the scope of the independent, external review to be conducted under Recommendation N-1 below.

**Completion Date:** January 31, 2008

**Discussion:** This recommendation is broad in scope and calls into question a fundamental premise of the licensing approach used by the NRC staff and the Agreement States. Therefore, the staff has included it in the proposed charter for the independent, external panel (Attachment 2) to this Action Plan.

**Office Lead:** FSME

**Resources:** (Included in N-1 below.)

**Recommendation S-2a:** The NRC should physically inspect applicants' facilities before the issuance of a Category 3 Materials License.

**Action:** See G-1 above. Based on recently revised interim procedures, the staff is currently conducting pre-licensing visits or in-office meetings with new materials applicants, except those who already possess or are listed on an NRC or Agreement State license. The Pre-Licensing Guidance Working Group will further develop and issue revised guidance to address pre-licensing reviews and visits.

**Completion Date:** November 30, 2007

**Office Lead:** Region I

**Support:** FSME, OIP, NSIR, OGC, Regions, Agreement States

**Resources:** (See G-1 above.)

**Recommendation S-2b:** The NRC should consider including Category 3 sources in the proposed NSTS.

**Action:** As previously directed by the Commission in the Staff Requirements Memorandum (SRM) dated June 9, 2006, the NSTS rulemaking will include consideration of Category 3 sources. The staff currently plans to expand the NSTS to include Category 3 sources. (This is consistent with Action 11-3 of the Radiation Source Protection and Security Task Force Report.)

The staff recommends that the scope of the NSTS rulemaking be expanded to include Category 3.5 sources. This will require the additional resources listed in the table below. Note that Category 3.5 sources are a factor of 10 smaller in amount of radioactivity than Category 3 sources.

**Completion Dates:** For Category 3 Sources:  
 Proposed Rule to the Commission: March 2008  
 Final Rule : Late 2008 - Early 2009

Implement Expanded NSTS - Category 3: October 2009

Note: The schedule listed above is to complete the expansion of the NSTS and rulemaking to include Category 3, as directed by the SRM. If the recommendation in this Action Plan to include Category 3.5 sources is approved, the additional resources listed below will be needed. The staff is developing the technical basis that will allow the rulemaking including Category 3.5 to meet or exceed the dates above.

**Discussion:** The current budget covers inclusion of Category 3 sources in the NSTS rulemaking. Even though the recommendation covers Category 3 sources only, the staff's resource estimates below would allow for inclusion of additional sources, down to Category 3.5, in order to more comprehensively address the concerns underlying the recommendation; that is, that smaller sources could be aggregated into larger sources which would pose a significant safety and security hazard.

Most of the additional cost to expand the NSTS is not associated with the rulemaking or the NSTS database itself, but rather the cost of adding and certifying a larger number of additional licensees, who will be authorized to access the system to enter or verify data.

**Office Lead:** FSME

**Support:** OIS, NSIR, Agreement States

**Resources:**

Action	FY08 Unbudgeted		FY09 Unbudgeted	
	FTE	\$ (Thousands)	FTE	\$ (Thousands)
Expand Scope of NSTS Rulemaking from Category 3 to Category 3.5 Sources	0.5	10	0.5	10
Maintain Interim Inventory Database Down to Category 3.5, Pending Launch of NSTS	0.0	250	0.0	300
Expansion of NSTS to Include Category 3 and 3.5 Sources (Note: These resources do not include additional resources needed for initial development of the NSTS to include Category 1 and 2 sources.)	0.5	500	0.5	5,600*
<b>TOTAL</b>	<b>1.0</b>	<b>760</b>	<b>1.0</b>	<b>5,910</b>

\*A large part of this amount reflects the cost of adding and certifying additional licensees, so that they can access the system to enter or verify data.

**Recommendation S-3:**

The NRC should act quickly to establish a WBL system to ensure that source materials can be obtained only in authorized amounts by legitimate users.

**Actions:**

The staff will expand the WBL system to allow on-line verification of licenses, establish an interface with NSTS, and make the system externally accessible to licensees and government agencies who need to enter or verify data.

**Completion Dates:**

1. Develop and implement external WBL, including NRC licensees: October 2009
2. Add Agreement State licensees to WBL: FY-2010 and FY-2011

**Discussion:**

If the action to expand the WBL system is approved and budgeted, the externally accessible system would be implemented in October 2009, with NRC licensees included in the database. Addition of the much greater number of Agreement State licensees would begin in FY10 and extend through FY11, costing about \$6 million. Most of the cost for FY09 and beyond would be for verification of outside parties authorized to access the WBL system. The WBL activities will require extensive coordination

with Agreement States and other Federal agencies, so resources are included for that purpose. In addition to expenditures by NRC, the Agreement States will incur unexpected costs to support entering their data into WBL.

Recommendation S-3 addresses the concern that licensees could “shop around” and exceed their authorized quantities by buying authorized quantities from multiple vendors, a concern that intersects with the license counterfeiting considered in Recommendation G-3. The proposed solution includes an interface between the NSTS and WBL to allow vendors to review proposed purchases against the licensee’s current inventory and license possession limits. This interface, along with establishment of current information about NRC and Agreement State active licenses in WBL, will require the ongoing cooperation of the Agreement States to continually update the database. Other Federal agencies, including the Domestic Nuclear Detection Office and Customs and Border Protection are interested in assisting with the development of and using such a system. In addition, the Radiation Source Protection and Security Task Force Report, Action 6-2, states that the NRC should evaluate the feasibility of establishing a national database for materials licensees that would contain information on pending applications and information on individuals cleared for unescorted access. Action 11-2 states that NRC should consider programming the NSTS to provide automatic daily information to Customs officials on export/import shipment notifications. External accessibility will allow direct access by licensees and government agencies to verify or enter data.

**Office Lead:** FSME

**Support:** OIS, NSIR, Agreement States

**Resources:**

Action	FY08 Unbudgeted		FY09 Unbudgeted	
	FTE	\$ (Thousands)	FTE	\$ (Thousands)
Expand WBL System to Allow On-line Verification, Establish an Interface with NSTS, and Allow Access by Outside Parties	0.5	1,000	1.0	1,750
Coordination with Agreement States	1.0	100	1.0	100
<b>TOTAL</b>	<b>1.5</b>	<b>1,100</b>	<b>2.0</b>	<b>1,850</b>

**Recommendation N-1:** The NRC should convene an independent panel of experts external to the agency to identify agency vulnerabilities concerning NRC's material licensing and tracking programs, and validate the agency's byproduct material security efforts.

**Action:** NRC will arrange the independent, external review, as recommended. The proposed charter for this independent panel includes Recommendation S-1 above. As noted earlier, the panel's recommendations will be provided to the Materials Program Working Group for implementation.

**Completion Date:** January 31, 2008

**Discussion:** The panel will be chaired by a former Agreement State program manager, and will include and another person who has not had substantial involvement in design or implementation of the current NRC materials program. The staff has identified specific individuals to fill these roles who have been selected based on their individual qualifications, knowledge of NRC regulatory programs, and impartiality with respect to the existing NRC materials policies and procedures. It is expected that another Federal agency, most likely the Defense Threat Reduction Agency, will provide a third qualified member. The panel will be convened in accordance with the agency's advisory committee process including consultation with the General Services Administration in accordance with 10 CFR 7.5. The panel's review will include an assessment of the existing and potential security vulnerabilities related to the NRC specific, import, export and general license programs. Their assessment will include, as a minimum, pre-licensing guidance, licensing procedures, the licensing process, possession limits on licenses, and license reviewer training and oversight. The panel will gather data by reviewing NRC licensing procedures and appropriate background documents, interviewing staff and selected licensees, visiting NRC Regional Offices and Agreement State Offices, evaluating business processes, etc.

**Office Lead:** FSME

**Support:** ADM

**Resources:**

Action	FY08 Unbudgeted		FY09 Unbudgeted	
	FTE	\$ (Thousands)	FTE	\$ (Thousands)
Independent Panel Review (Increase from previous estimate: 0.5 FTE for FY08)	1.0	400	0.0	0

**Additional Action A-1:** Enhance communication with the public on the risk of exposure to radioactive materials.

**Action:**

1. The staff will continue to participate on the interagency Public Education Subcommittee, chaired by the Department of Homeland Security, established under the Chairman's Radiation Source Protection and Security Task Force. This subcommittee is preparing an Action Plan to improve public education on radioactivity and potential radiological attacks.
2. As directed in the Staff Requirements Memorandum dated June 25, 2007, the staff will support OPA to upgrade the NRC website to improve information on radiation and radiation risk.

**Completion Dates:**

1. Interagency Public Education Subcommittee Action Plan: December 31, 2007
2. NRC website improvements: Ongoing

**Office Lead:** OPA, FSME

**Support:** NSIR, RES

**Resources:** (Budgeted)

**Additional Action A-2:** General License Rulemaking and Regulatory Framework Review

**Action:** The staff, with the additional resources shown below, will conduct a review of the regulatory framework associated with the general license program for byproduct material, and prepare a report specifying the desired "end state" for that program.

The staff will continue planned, budgeted efforts in the current general license rulemaking for byproduct material. The scope of this rulemaking includes consideration of specifically licensing certain sources, devices and materials that are currently eligible for a general license.

- Completion Dates:**
1. Review general license regulatory framework: June 2008
  2. General license rulemaking for Byproduct Material:
 

Proposed Rule:	September 2008
Final Rule:	September 2009

**Discussion:** The review of the general license regulatory framework will be undertaken to identify any gaps in regulatory control or modifications that might be appropriate to ensure a consistent, risk-informed, graded approach for these sources, devices, and materials, based on both safety and security. This review will also include examining whether various types of sources and devices should be regulated through general or specific licenses, and whether other mechanisms, such as a more formal registration process, should be considered. The information and recommendations developed will be used as input to the general license rulemaking. The recommendations from this effort will also be provided to the Materials Program Working Group for its consideration and integration into its recommendations. Such an examination is important to ensure that the long-term result of the combined set of activities in this Action Plan create a defensible, complete system of regulatory controls for sources, devices, and materials which are currently generally licensed. Although these actions are outside the scope of the recommendations considered in this Action Plan, they are relevant, because general licensees by definition can obtain radioactive material without prior approval or screening by NRC. Therefore, the same security concerns that prompted the recommendations for specific licensees need to be considered for general licensees.

The general license rulemaking could result in a significant increase in the number of specific licenses. If this occurs, significant additional, ongoing costs would be incurred for both the NRC and Agreement States for licensing, inspection, enforcement, allegation resolution, etc.

**Office Lead:** FSME

**Support:** NSIR, Agreement States

**Resources:**

Action	FY08 Unbudgeted		FY09 Unbudgeted	
	FTE	\$ (Thousands)	FTE	\$ (Thousands)
Review of General License Regulatory Framework (not included in previous estimates)	0.5	10	0.0	0
General License Rulemaking		(Budgeted)		(Budgeted)

## Attachments:

1. Proposed Charter for Materials Program Working Group
2. Proposed Charter for Independent External Review to Identify Vulnerabilities in the NRC Material Licensing Program
3. Action Plan Milestones

## **MATERIALS PROGRAM WORKING GROUP**

### **PROPOSED CHARTER**

#### **PURPOSE**

The working group will identify short and long term measures in response to security vulnerabilities<sup>1</sup> identified in the reports discussed below and through its own assessment.

The Working Group is to assess specific and potential security vulnerabilities and weaknesses in the NRC Materials Program and provide recommendations to address them. The Group is to consider potential vulnerabilities in Agreement State Programs and the effect and likely effectiveness of its recommendations on Agreement State Programs.

#### **BACKGROUND**

In late May 2007, staff members from the U. S. Government Accountability Office (GAO) notified the NRC staff of the results of an investigation, where GAO staff used the name of a bogus company to obtain a valid NRC materials license authorizing the possession of portable gauges containing radioactive sources. The GAO staff then modified the license using computer software to make it appear that a much greater number of gauges were authorized than allowed by the original license.

Previously, in a 2006 hearing, GAO presented testimony (GAO-06-583T), which described a 2005 GAO investigation where GAO staff successfully brought small radioactive sources into the U. S. using counterfeit documentation. Also, in 2003, GAO issued a report (GAO-03-804) that concluded that NRC needed to improve the security of radioactive sources.

When the Senate was notified of the GAO investigation, a hearing was scheduled for July 12, 2007, entitled "Dirty Bomb Vulnerabilities: Fake Companies, Fake Licenses, Real Consequences." GAO and Commissioner McGaffigan testified at the hearing. In its testimony, GAO made three recommendations, calling for: (1) improved pre-licensing guidance, including consideration of mandatory site visits for new applicants; (2) periodic oversight of license application reviewers; and (3) improved measures to prevent counterfeiting of licenses (GAO-07-1038T).

In conjunction with the July 12, 2007 hearing, the Senate released a staff report, "Dirty Bomb Vulnerabilities," which contained four additional recommendations to improve NRC's materials program. The recommendations called for NRC to: (1) re-examine its apparent "good-faith" presumption in the licensing process; (2) physically inspect applicants' facilities before issuance of licenses for Category 3 radioactive sources; (3) consider including Category 3 sources in the

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<sup>1</sup>Security Vulnerability, as used in this charter, means a weakness which would allow or significantly increase the possibility that an entity could obtain radioactive material and use it to harm the public, the environment or the national interest.

proposed National Source Tracking System; and (4) quickly establish the planned web-based licensing system.

Earlier in 2007, the NRC Office of the Inspector General (OIG) released an audit report (OIG-07-A-12, March 30, 2007). The OIG report concluded that, while NRC has taken a number of steps to improve security of byproduct material, the efforts are incomplete. The OIG report recommended that NRC convene an independent panel of experts external to the agency to identify agency vulnerabilities concerning NRC's material licensing and tracking programs, and validate the agency's byproduct material security efforts. That recommendation is being addressed by a separate independent panel, which may interact with this group.

The Energy Policy Act of 2005 required the establishment of the Radiation Source Protection and Security Task Force, which is chaired by the NRC. The Task Force issued its first report on August 15, 2006. The report contains 10 recommendations and 18 actions, some of which relate to verification issues similar to those raised by the GAO investigation. Reference is made in the Action Plan, to those actions which are similar to tasks assigned to this working group. The group should take into consideration the activities undertaken by other groups as part of the Task Force.

## **MEMBERSHIP**

The working group will operate as an NRC/Agreement State working group as described under NRC's Management Directive 5.3 "Agreement State Participation in Working Groups." The working group will be co-chaired between NRC and a representative from the Organization of Agreement States (OAS). In addition to the co-chair, the OAS and Conference of Radiation Control Program Directors (CRCPD) will be requested to provide a staff member between them for the group. If CRCPD participates, the applicability of the Federal Advisory Committee Act (FACA) to the group must be considered.

The following personnel will serve on the working group:

NRC personnel:

FSME

Regions

NSIR

ADM

OIS

OGC

OIP

(Not all will contribute full time members, some offices may provide resource representatives as noted below.)

Agreement State Personnel:

CRCPD Representation:

Resource Representatives: At least representatives from offices listed above, that are not included in Working Group.

## OBJECTIVES

This Working Group has three tasks:

1. Review the following areas and recommend specific actions that can be taken quickly to respond to the security vulnerabilities contained in them. The recommendations should focus on achieving reductions in vulnerabilities in the quickest possible time:
  - a. Improve verification of authorization before transfer of radioactive material to a new licensee or licensee who has recently had a significant increase in their possession limit. Assess, among other possibilities, the effectiveness of issuing additional Orders to Manufacturers and Distributors that would require them to use specific methods, such as direct contact with the regulator, to verify authenticity/legitimacy of a license prior to making such a transfer. Recognize that existing Orders address verification for Category 1 and 2 sources. Determine what amount of radioactive material should require additional verification. Consider whether additional verification should apply to portable gauges.
  - b. Reduce the ability to successfully counterfeit NRC and Agreement State licenses. Assess NRC's and Agreement States' license documentation (specific, import and export) for vulnerability to modification, use after an amendment, etc. Consider what actions could be taken to reduce those vulnerabilities such as special paper or special stickers. Note that many such solutions will require a change to 10 CFR 30.41 for the affected licensees and might be best accomplished in coordination with Task 1.a above. The working group should focus on changes that can be accomplished quickly, even if they are not fully effective; long term changes will be considered as part of the NSTS.
  - c. Evaluate the NRC's general license (GL) program including: appropriateness of devices required to be registered as specified in 10 CFR 31.5 (c)(13)(I); ease of purchasing multiples of devices; ease of obtaining a large aggregate activity; controls that could be implemented in the short term to prevent aggregation; device/source transfer requirements; and Agreement State differences. The staff is engaged in rulemaking on this issue. The working group should coordinate staff preparing the rule to avoid duplicating the analysis involved in the rulemaking, but rather focus on short term actions such as requiring compliance with Increased Controls for general licensees possessing appropriate quantities of material. The working group should consider whether additional controls should be placed on the distribution of a subgroup of generally-licensed devices until the rulemaking is completed.
2. Review the results provided by the Independent Advisory Panel to Identify Vulnerabilities in the NRC Materials Licensing Program. Recommend to Division of Materials Safety and State Agreements (DMSSA) management what actions recommended by that panel should be implemented and describe actions to respond to any identified security vulnerabilities for which the Independent Advisory Panel did not make a specific

recommendation. Coordinate this activity with Task 3, below, to reduce duplication of effort.

3. Conduct a comprehensive review to assess the existing and potential security vulnerabilities in the NRC materials program including specific, import, export and general licenses. The review will include licensing, inspection and management control aspects of the program. The working group is to conduct the assessment using a risk-informed/significance approach and will take into consideration the Congressional and public perception of security as reflected in the reports discussed in the Background Section of this Charter. The working group will identify and propose resolutions for each vulnerability identified. The working group should identify those elements of the existing program that are effective in mitigating security vulnerabilities.

The working group should include in its review, as a minimum:

- a. NRC's specific licensing process for existing and potential vulnerabilities and weaknesses. The assessment will include pre-licensing guidance, procedures, the licensing process, pre-licensing inspection, possession limits, renewal frequency and license reviewer training. The review of the prelicensing guidance should be broader than that conducted by the recent Pre-Licensing Working group, including consideration of more extensive and expensive background checks, fingerprinting for smaller quantities of radioactive material, background checks by another agency or other entity before applying to NRC. Should NRC require additional documentation or information in support of a license application? Should there be additional training for reviewers in how to identify applicants with intentions to misuse radioactive material? Should additional attention be paid to license transfers or significant personnel changes by a licensee? Should procedures that broad licenses or Master Materials Licensees use to issue permits to their own personnel be strengthened to provide a level of assurance similar to NRC procedures?
- b. NRC's Inspection Manual Chapter 2800 and the inspection process. Determine whether inspection frequencies are appropriate in light of concerns about security vulnerabilities and the possible misuse of radioactive material. Note that Manual Chapter 2800 has been reviewed by the Increased Controls subgroup which is recommending inspection frequency changes.
- c. Integrated Material Performance Evaluation Program (IMPEP). Consider the appropriateness of IMPEP frequency, procedures, and whether there are additional areas that should be reviewed or areas that should receive more scrutiny. Particularly consider the effectiveness of the oversight of license reviewers.
- d. NRC's import and export licensing process.
- e. The importance of identifying radionuclides that are not already included in the International Atomic Energy Agency Categories, (e.g., Po-210) as needing

additional security controls. This subject is addressed in the Radiation Source Protection and Security Task Force Report, Recommendation 3-1.

- f. Review appropriate studies of safety and economic consequences of a radiological dispersal device to provide perspective on those events.
- g. To the extent consistent with accomplishing Task 1 rapidly, evaluate the effect of short-term actions on long-term recommendations and minimize undesired effects.
- h. The ongoing general license rulemaking and regulatory framework review that will be conducted by the staff.
- i. The expected effect of each recommendation on Agreement States and the regulated community.

## **SCHEDULE**

Offices, Agreement States and CRCPD identify representatives by October 1, 2007.

For Task 1, above, provide a complete report to the Director, DMSSA by March 31, 2008.

For Task 2, above, provide a complete report to the Director, DMSSA within 45 days of receiving the External Panel's report.

Meet with Director DMSSA and Steering Committee monthly to discuss progress and seek guidance. Additional interactions with the Steering Committee should take place as necessary.

Complete and submit a comprehensive report with recommendations to the Director, DMSSA by September 30, 2008.

In addition to documenting recommendations and the bases for those recommendations, the working group is to be particularly careful to document other options or recommendations which were considered and the reasons for not adopting them.

## **LEVEL OF EFFORT EXPECTED OF PARTICIPANTS**

It is expected that the working group will consist of NRC staff and Agreement State Co-chairs and 3 NRC staff and one Agreement State staff member who will work essentially full time on this working group until completed. Clerical support will be provided by DMSSA.

## **STEERING COMMITTEE**

A steering committee will be established for this working group. The steering committee will be composed of NRC management from DMSSA, NSIR, OIS and ADM as well as representatives from OAS.

**MEETINGS**

Working group meetings are not subject to the requirements of the FACA, but they will be announced in advance through the NRC Public Meeting Notice System. (If CRCPD participates, the applicability of the FACA to the working group must be considered.) Maximum use will be made of other appropriate media for facilitating interaction with the working group, for example, conference calls, facsimiles, and electronic mail. Working group meetings will be open to the public (unless predecisional information not normally publicly disclosed will be discussed) and will be held in the Washington, D.C., area or other locations as agreed upon by the working group members. Other persons attending working group meetings will be welcome to provide comments to the working group for its consideration in either written form or orally at times specified by the working group chair. Meeting minutes and draft and final documents produced by the working group will be publicly available from the NRC Public Electronic Reading Room, with the exception of exempt information.

**UNITED STATES NUCLEAR REGULATORY COMMISSION**

**INDEPENDENT EXTERNAL REVIEW TO IDENTIFY  
VULNERABILITIES IN THE U.S. NUCLEAR REGULATORY COMMISSION  
MATERIAL LICENSING PROGRAM**

**PROPOSED CHARTER**

1. **Committee's Official Designation:**

Independent Advisory Panel to Identify Vulnerabilities in the NRC Materials Licensing Program

This committee is established pursuant to Section 9 of Public Law 92-463 as an NRC discretionary committee.

2. **Committee's objectives, scope of activities and duties are as follows:**

As stated in the Action Plan to Respond to Recommendations to Improve the U.S. Nuclear Regulatory Commission Materials Program (Action Plan), the principal objective of this panel is to respond to the NRC Office of the Inspector General (OIG) recommendation (OIG-07-A-12), "...that the Executive Director for Operations convene an independent panel of experts external to the agency to identify agency vulnerabilities concerning NRC's material licensing and tracking programs and validate the agency's ongoing byproduct material security efforts."

The OIG report also stated, "Such an assessment should necessarily include examination of the management, operational, and technical security controls and the extent to which these controls are: (1) implemented correctly, (2) operating as intended, and (3) producing the desired outcome with respect to mitigating security vulnerabilities."

In responding to this recommendation, the panel will include in its review an assessment of the existing and potential security vulnerabilities related to NRC's specific, import, export and general license programs.

The panel is to also evaluate the apparent good-faith presumption that pervades the NRC licensing process (See Recommendation S-1 in the Action Plan).

The panel is expected to develop an agenda and plan for the review; this plan will include, as a minimum, assessment of pre-licensing guidance, licensing procedures, the licensing process, possession limits on licenses, and license reviewer training and oversight.

The panel will document each significant issue identified and make appropriate recommendations and propose corrective actions.

The panel will establish criteria for identifying vulnerabilities and will rank-order the vulnerabilities identified on a risk-informed basis and the perceived security risk based on the members' knowledge and experience.

The panel will also identify elements of the existing program that are effective in mitigating security vulnerabilities and should, therefore, be preserved.

The panel will provide a project plan to the Director, Office of Federal and State Materials and Environmental Management Programs (FSME) for comment within 30 days of initiating work.

The panel will complete and submit a report with recommendations to the Director of FSME by January 31, 2008. In addition to documenting its recommendations and the bases for those recommendations, the panel should be particularly careful to document other options that were considered and the reasons for not adopting them.

3. **Time period (duration of this Committee):**

Approximately 120 days.

4. **Official to whom this Committee reports:**

Director,  
Office of Federal and State Materials and Environmental Management Programs  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

5. **Agency responsible for providing necessary support to this Committee:**

U.S. Nuclear Regulatory Commission.

6. **A description of the duties for which the the Committee is responsible, and, if such duties are not solely advisory, a specification of the authority for such functions:**

The duties of the Committee are set forth in Item 2 above.

7. **Estimated annual direct cost of this Committee:**

Members are appointed by the Director, FSME as Special Government Employees (SGEs). Approximately 3 members will utilize 1 FTE (includes approximately 0.75 FTE for working group members and 0.25 FTE for NRC staff). It is estimated that \$400,000 will be expended for travel and other expenses of the panel.

8. **Estimated number of meetings per year:**

There will be between four and six meetings of the panel, including an initial meeting with the Director of FSME to provide the charge to the panel, a meeting when the panel presents its plan and another when it presents its findings. Additional meetings will likely be held to develop recommendations, as well as to prepare an early draft report, interim updates and a final report.

9. **The Committee's termination date.**

No later than two years after the work begins.

10. **Filing date:**

September ??, 2007

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Andrew L. Bates  
Advisory Committee Management Officer  
Office of the Secretary of the Commission

# Action Plan Milestones

