Rulemaking Plan

Material Control and Accounting of Special Nuclear Material Amendments
10 CFR Parts 30, 33, 39, 70, 72, 74, 76

INTRODUCTION

The Nuclear Regulatory Commission's (NRC's) material control and accounting (MC&A) regulations were first issued in the 1960s and are designed to protect facilities against internal threats. Over the years NRC revised the MC&A regulations (now found in Part 74) in part to incorporate the concept of graded safeguards and to reflect changes in enrichment facilities and technologies. These regulations have typically focused on preventing an adversary from obtaining sufficient material to construct an improvised nuclear device (IND).

Following the terrorist events of September 11, 2001 (9/11), NRC conducted a comprehensive review of its safeguards and security programs. This review included an in-depth evaluation of NRC's physical protection requirements -- which are designed to protect against external threats -- set forth in 10 CFR Part 73 ("Physical Protection of Plants and Materials"). Between 2002 and 2004, NRC issued a series of Orders to implement new physical protection measures, known as Interim Compensatory Measures. While the NRC has not issued MC&A Orders after 9/11, the staff has been considering possible MC&A regulatory changes because of the relationship between the physical protection and MC&A programs. Specifically, physical protection programs protect against external threats to facilities, while MC&A programs protect against internal threats related to theft or diversion. As such, certain physical protection measures within facilities, such as using badge readers to restrict access to certain rooms, also reflect material control measures.

The current threat environment requires that security and safeguards programs provide robust protection against the possibility of diversion or theft of material that could be used to fabricate an IND. Nuclear materials safeguards programs should also consider the possibility of multiple perpetrators who are willing to sacrifice themselves in order to accomplish their goals.

In 2005, staff prepared a paper, SECY 05-0143 (ML050870212), which submitted for Commission consideration a number of proposed changes to NRC MC&A regulations. The Commission subsequently issued a Staff Requirements Memorandum (SRM) (ML053220618) directing staff to prepare a rulemaking plan. The Commission directed the staff to: (1) include a discussion of the scope of the problem and potential solutions, including a broad overview of how MC&A is integrated with other regulatory activities; (2) clearly identify which activities require policy decisions by the Commission; (3) be coordinated with all appropriate NRC offices; (4) clearly define the relationship between MC&A and physical security; (5) identify the level of effort and resources needed for developing the rulemaking and associated regulatory guidance, including a rough estimate of the impact on industry and the staff; (6) provide for timely development of regulatory guidance for any new regulatory requirements, including an overview of the methodology for implementing new requirements such as the diversion path analysis (DPA); (7) discuss development of risk-informed MC&A methods; (8) limit the rulemaking scope to special nuclear material (SNM); and (9) provide for the maintenance and revision of existing regulatory guidance.

In 2007, the Department of Energy (DOE) completed a detailed technical review of its SNM categorization table that proposed revisions to provide more appropriate protection for SNM based on material quantity, concentration, and form. Specifically, the proposed DOE table takes into consideration the relative attractiveness of the SNM for fabricating devices of interest in its categorization scheme. The proposed DOE table also revises SNM threshold values and includes the non-SNM elements neptunium and americium.

This rulemaking plan addresses not only the issues previously raised in SECY-05-0143, but also considers aligning NRC regulations with the recommended DOE categorization table. The specific issues for Commission consideration in this rulemaking plan include whether or not to revise NRC's MC&A regulations to generally align with the DOE's proposed SNM categorization table, whether a DPA should be required of certain licensees, and whether Part 74 should be updated and consolidated.

REGULATORY ISSUE

NRC's MC&A regulations were originally written to deter or prevent the unauthorized diversion or theft of material in a quantity sufficient to make an IND. The 9/11 terrorist attacks have changed the nature of the threat environment. The threat environment also now includes the possibility that multiple adversaries would be willing to sacrifice themselves in order to accomplish their objectives. Therefore, NRC should update and revise its regulations to provide a regulatory infrastructure which considers the current threat environment, can readily be applied to activities under NRC's regulatory authority, and which provides risk-informed protection to SNM based on its relative attractiveness to potential adversaries.

Relationship Between MC&A and Physical Protection. Physical protection and MC&A programs complement each other in safeguarding nuclear materials from unauthorized use or diversion by providing for a variety of measures to promptly identify and help withstand sabotage, theft, or diversion attempts. MC&A primarily focuses on detecting covert theft or diversion, especially by potential facility insiders, while physical protection focuses on areas such as penetration by an external threat.

MC&A and physical protection programs at a given facility share certain risk considerations, such as relevant internal adversary aspects in safeguards threats, and comparable SNM thresholds for triggering protective measures against theft or diversion commensurate with its strategic worth. In particular, these programs interface with each other in the areas of containment, surveillance, access control, and movement vantage points.

A sound MC&A program should deter theft or diversion by using practices and procedures that enable early detection of unauthorized changes in the material inventory and that trigger an appropriate and timely response. NRC's MC&A regulations should consider and complement the physical protection program. Such an approach will produce a risk-informed regulatory structure, minimize redundancy, take credit for the synergistic relationship between the two programs, and optimize licensee actions to safeguard SNM.

In a risk-oriented scenario, all SNM should be accounted for at a gram quantity level. Varying types and quantities should also be controlled and, of these, certain levels need to be physically protected.

Diversion Path Analysis. A DPA is an analytical tool for discovering system vulnerabilities and weaknesses against postulated attack scenarios involving covert internal threats. A diversion path is a description of the malevolent activities (such as providing false information or substituting SNM with a different material) that might be performed by overt or covert adversaries. Therefore, a DPA requires an in-depth study of the facility-specific operations, knowledge of the functions and activities of licensee personnel having access to nuclear material, and an understanding of all aspects of the facility safeguards and security practices. The goal of the DPA is to identify diversion paths which are remotely but physically possible within the bounds of facility designs. To achieve this goal, existing facility safeguards measures are evaluated to determine whether modifications to existing counter-diversion measures are necessary to effectively protect the nuclear materials within the facility.

The analysis includes five basic steps: (1) information and data gathering; (2) process characterization; (3) analysis of diversion paths; (4) identification of results; and (5) documentation. The critical action for an adversary is acquiring sufficient nuclear material for use in an IND. Therefore, an important countermeasure would be to create multiple barriers, either physical or systematic, that seriously impede or prevent the undetected removal of SNM to an unauthorized location. MC&A and physical protection countermeasures efficiently placed along diversion paths could effectively deter or delay adversaries, thereby permitting their capture or interdiction.

Additional information about the DPA process was provided in Section IA of the Attachment to SECY-05-0143. Provision for a DPA as a part of a facility safeguards program was endorsed by the Commission as part of the requirements in the Geological Repository Operations Area security and MC&A proposed rule effort (SECY-07-0126).

A new DPA requirement would be applicable to only four existing facilities licensed by the NRC. Specifically, it would apply to the operating enrichment facilities, and to the operating nuclear facilities possessing a Category I quantity of SNM (i.e., fuel fabrication facilities that process high enriched uranium or plutonium). The DPA would be limited to these types of facilities due to the nature and attractiveness of the material typically possessed by these types of licensees. A new DPA requirement would also affect those applicants seeking authority to operate an enrichment facility (currently 3), and the applicant seeking authority to operate a mixed oxide fuel fabrication facility. Whether to add a DPA requirement to Part 74 is a policy decision that requires Commission approval.

Current Grading and Possible Changes for SNM MC&A Requirements. NRC's safeguards regulations for SNM are presently graded similar to the nuclear material categorization format employed in the International Atomic Energy Agency's (IAEA's) INFCIRC/225, Rev. 4, "The Physical Protection of Nuclear Material and Nuclear Facilities." NRC uses a categorization by material type, quantity, and enrichment, where decreasing levels of protection are required for material of high, moderate, and low strategic significance (Categories I, II, and III). There are minimal requirements (mostly reporting) for material that is not covered by the other three categories. The ease of separability of SNM from other radioactive materials and external radiation levels are also considered, to a varying degree, in the establishment of the classes of requirements. The categorization is used for both the MC&A program and the physical protection program (Part 73). In general, NRC's current MC&A categorization does not consider SNM forms and their attractiveness to potential adversaries. NRC currently has four grades (general and Categories I, II, and III) for SNM. Within Category I, NRC regulations consider the

spectrum of forms and configurations of SNM with a limited amount of subcategorization. Specifically, Category I materials are divided into two subcategories as defined in § 74.4, and are factored into § 74.53 requirements for process monitoring and § 74.55 requirements for item monitoring. However, there is a need to broaden and extend these safeguards grading concepts (e.g., using attractiveness levels as one potential factor) to give greater consideration to the chemical and physical forms of the materials.

Material categorization alone does not necessarily reflect the relative risk of certain SNM in different forms and configurations. In some situations and configurations, Category I quantities may not be of high strategic significance in that their form may not be conducive to making devices of concern. Likewise, Category III materials are not always of low strategic significance; if the form is conducive to making a device of concern and sufficient quantities can be gathered together, the strategic significance of Category III materials could be high.

NRC's current regulations do not have an SNM categorization table. Instead, MC&A requirements for differing quantities of materials requirements are defined in textual form throughout Part 74. This has caused some confusion for licensees and NRC staff in determining what requirements apply to a particular facility. A categorization table would help clarify what requirements apply to a particular facility. Creation of a categorization table based on current requirements in either guidance documents or in the regulations could be conducted under the Executive Director of Operation's (EDO's) authority.

DOE is considering revision of its SNM categorization table to provide a risk-informed structure which provides more appropriate protection for SNM based on material quantity, concentration, and form. The proposed DOE categorization table uses attractiveness levels as factors to consider material types, concentrations, forms, and composition to more comprehensively reflect the relative ease/difficulty and handling required to convert the various materials to a form more amenable to malicious use by an adversary.

NRC should create further categorizations (e.g., subcategorizations using risk-informed attractiveness levels). Such extended and refined subcategorizations should more routinely cover all SNM under NRC regulation and would additionally consider as a practical standard - aside from quantities, enrichment, and irradiation - their unique physical and chemical forms and special safeguards attributes.

NRC's material categorization scheme and MC&A requirements should be revised to explicitly include requirements for all forms of SNM under NRC regulatory authority. Additionally MC&A requirements should encompass for all phases of operation and extend through the decommissioning process. Specifically, NRC should consider placing the material categorization threshold values into a table and adopting the proposed DOE methodology as the basis for these thresholds. Doing so would establish a comprehensive material safeguards framework which aligns well with the proposed DOE SNM categorization table. The adoption of the DOE methodology and use of attractiveness factors is a policy decision that requires Commission approval to implement.

The proposed DOE categorization table contains two elements (americium and neptunium) that are neither considered nor treated as SNM by the NRC. While neither americium nor neptunium is considered to be SNM, both americium and neptunium are fissile elements. Although the November 18, 2005, SRM on SECY 05-0143 directed the staff to not expand the

scope of the NRC's MC&A program beyond SNM, the staff is recommending inclusion of americium and neptunium in the NRC MC&A program. The Commission was criticized by the Government Accountability Office in a classified audit in 2007 for differences in regulations governing the handling and accounting of the same type of nuclear materials and the inclusion of these two elements would address that issue in part. Americium and neptunium will also need to be addressed for the upcoming Global Nuclear Energy Partnership licensing activities (which would include spent fuel reprocessing).

There are several issues associated with adding americium and neptunium to the MC&A program that will need to be addressed during any rulemaking. Executive Branch agencies have expressed concern over treating these elements as SNM because of possible impacts on international treaties and questions of whether NRC would push for the same changes internationally. Additional discussion with Executive branch agencies would be necessary to further explore these issues. Both of these elements are currently licensed by Agreement States and the addition of these elements would impose NRC requirements on Agreement State licensees. NRC would need to discuss this with the Agreement States. The area of MC&A for SNM has historically been reserved to the NRC, Agreement Stats do not regulate this area, and the current thinking is to reserve any MC&A requirements on these elements to the NRC. Therefore, NRC would be responsible for reviewing and inspecting the new MC&A programs at the Agreement State licensees. Adding these elements would also require changes to the scope of the NMMSS contract with a resultant increase in cost. Programming changes would be necessary to allow the NRC and Agreement State licensees to report americium and neptunium transactions to NMMSS. DOE already reports americium and neptunium information to NMMSS. This rulemaking would not address changes to the physical protection or safety aspects of licensing americium and neptunium. The inclusion of americium and neptunium in the MC&A program is a policy decision that requires Commission approval to implement.

Risk-Informed Regulation. Greater risk-oriented attention should be given to clarifying what adversary conditions and scenarios NRC wishes to counteract with those systems under its oversight. The risk informing of safeguards needs to more explicitly factor in potential facility vulnerabilities as part of the design, establishment, and maintenance of performance-based MC&A systems. NRC should confirm that requirements for facility system capabilities are sufficiently risk oriented, particularly in controlling, tracking, and verifying the current amount, location, and status of all SNM that is possessed, used, or stored at fixed sites. MC&A systems also should be able to assure that any actual loss, or attempt to steal or divert, would be detected and responded to on a timely basis. The absence of anomalies or other indicators of loss or misuse should provide assurance of the continued secured presence of SNM under NRC regulations.

Current MC&A regulations primarily focus on facility operations covering SNM in use or storage. The requirements and guidance need to address other facilities that may not clearly fall under the definition of a Category I, II, or III facility. Such facilities include power reactors, Independent Spent Fuel Storage Installations (ISFSIs), decommissioning facilities, and small quantity licensees. The regulations and guidance need to be clear on when it is acceptable to transition from one set or requirements to less stringent requirements during decommissioning. One aspect of NRC's requirements that should be addressed is the general performance objectives and system capabilities for MC&A programs. Currently only Categories I, II, and III facilities and enrichment facilities have performance objectives and system capabilities. Facilities outside the three categorization levels (i.e., reactors, ISFSIs, decommissioning

facilities, small quantity facilities) do not have performance objectives or system capabilities. The objectives and system capabilities need to be evaluated to ensure that they reflect current thinking and are risk informed.

MC&A regulations should be broad enough to address all facilities, during all stages of operation, by creating a risk-informed, performance-based MC&A program which could be applied to any nuclear facility under NRC authority. NRC should establish a regulatory framework that is robust, flexible and effective. The regulations should support the timely detection of material theft or unauthorized diversion of materials which, in the aggregate, could be used to fabricate a viable device of concern. Some of the changes necessary to further risk inform the regulations may involve policy changes that require Commission approval.

Revision and Consolidation of MC&A Regulations. The staff believes that all MC&A regulations pertaining to SNM for NRC licensees should be in Part 74. This would provide a focal point and complete framework/umbrella for controlling and accounting for all SNM under NRC oversight. Part 74 was created for SNM MC&A requirements in 1985 to separate them from the other safety requirements and to present the requirements in an orderly format. Since that time, most of the MC&A requirements have been moved to Part 74. All that remains to be moved are the requirements in Part 72 that apply to ISFSIs, monitored retrievable storage facilities, and a geologic repository operations area. Changes related to the consolidation of MC&A requirements into Part 74 could be accomplished under the EDO's authority.

Many of the current MC&A requirements were developed more than 20 years ago and warrant a fresh look. Over this time, a number of issues have surfaced that should be addressed in the regulations, instead of on a case-by-case basis. Some of the exemptions in the regulations should be deleted or modified. As an example, the regulations permit an exemption for items individually containing less than 500 grams of uranium-235 (up to a total of 50 kilograms) from the requirement to maintain current knowledge of items. This exemption could permit significant quantities of material to not be adequately accounted for or protected. There are also some exemptions for sealed sources that allow a facility to ignore the sources in determining whether a facility is a Category II or III facility.

MC&A guidance documents currently use terms that are not defined in the regulations. The concepts of waste and discards are not used consistently across the industry. These issues should be corrected by revising Part 74 to include definitions for some new terms and to clarify the definitions of some terms. Terms such as item, material balance area, receipt, reconciliation, and waste should be added to Part 74 or clarified.

Part 74 should also be revised to add requirements related to the "two-person" rule and strengthen requirements related to tamper-indicating device programs. The two-person rule as a material control measure would be to minimize the possibility of an individual having sole access to SNM in areas such as a storage vault or processing area. The tamper-indicating device program would require and strengthen common practices and procedures for all facility types for SNM item control and inventory programs that protect against unauthorized and unrecorded removal of items or material from items.

These types of changes do not involve new policy issues and could be approved by the EDO.

International Program Implications. The International Atomic Energy Agency (IAEA) has established nuclear material accountancy measures to detect diversion at a national level, where a government itself might be clandestinely diverting materials. Each country is responsible for protecting materials within their borders against potential threats from subnational groups. In order to minimize any adverse impacts on domestic and international commerce, NRC must consider the provisions of standing U.S. treaties and international safeguards, as well as the nature of import and export activities.

EXISTING REGULATORY FRAMEWORK

MC&A requirements are primarily found in 10 CFR Part 74, "Material Control and Accounting of Special Nuclear Material." Subpart A (General Provisions) principally consists of the scope and definitions sections. Subpart B (General Reporting and Recordkeeping Requirements) includes the general reporting and recordkeeping requirements. Included in this subpart are the NMMSS reporting requirements for most facilities and the requirement to timely report the loss or theft or diversion or any attempted theft or diversion of SNM, as well as any unauthorized production of enriched uranium. Also included in this subpart are the general requirements for recordkeeping for records related to MC&A, requirements for a physical inventory (if authorized to possess > 350 grams of SNM), and a requirement to establish, maintain, and follow written MC&A procedures (if authorized to possess > one effective kilogram of SNM). The recordkeeping requirements in Subpart B do not apply to Part 72 licensees, enrichment facilities, and Categories I, II, and III facilities. Subpart C (SNM of Low Strategic Significance) provides the MC&A requirements for Category III fuel fabrication facilities and uranium enrichment facilities authorized to produce low enriched SNM. The subpart contains requirements for general performance objectives, system capabilities, inventory, and recordkeeping. Subpart D (SNM of Moderate Strategic Significance) provides the MC&A requirements for Category II fuel fabrication facilities. The subpart contains requirements for general performance objectives, system capabilities, inventory, and recordkeeping. Subpart E (Formula Quantities of Strategic Special Nuclear Material) provides the MC&A requirements for licensees of Category I fuel fabrication facilities authorized to possess five or more formula kilograms of strategic SNM. The subpart contains requirements for general performance objectives, system capabilities, inventory, and recordkeeping. Subpart F (Enforcement) principally addresses inspections and violations.

Part 72 contains NMMSS reporting requirements, requirements to report the loss or theft of SNM, records requirements, physical inventory requirements, and procedure requirements. The Part 72 MC&A related requirements currently apply to ISFSIs, monitored retrievable storage facilities, and a geologic repository operations area.

Part 40 contains NMMSS reporting requirements for source material. Part 150 applies to Agreement State licensees and contains NMMSS reporting requirements for both source material and SNM. Part 75 establishes a system of nuclear material accounting and nuclear material control to implement the Agreement between the United States and the IAEA for the Application of Safeguards in the United States. These requirements would apply to any NRC or Agreement State licensee that was selected to be under IAEA safeguards.

In addition, there are sections in Parts 60, 63, 70, 73, and 76 that contain references to sections in Part 74 or require the submittal of a fundamental nuclear material control plan.

Neptunium and americium are considered to be byproduct material and as such are licensed under Parts 30 - 39. Currently there are no MC&A requirements for these elements; however, there are inventory requirements that could be considered to be part of an MC&A program. Americium sources (greater than $1/10^{th}$ of the Category 3 level has been proposed) will be reported to the National Source Tracking System. This system can be considered part of an accounting program.

RULEMAKING OPTIONS

The staff has identified four rulemaking options to address the issues and concerns noted above. In addition, a fifth guidance only option is identified. The no action alternative is included as a sixth option. The options, along with their advantages and disadvantages, are discussed below.

Option 1 – Major Revision to Part 74 MC&A Requirements to Include SNM Categorization Table, DPA, Revision and Consolidation of MC&A Requirements In Part 74.

Under option 1, the staff would: (1) revise Part 74 to create an SNM categorization table, including americium and neptunium; (2) require a DPA for certain types of licensees; (3) relocate MC&A requirements from Part 72 to Part 74; (4) add general performance objectives; remove some exemptions; and add additional requirements for Categories I, II, and III facilities; and (5) make other miscellaneous changes. The major changes contemplated under this option are discussed in the following paragraphs.

NRC would create an SNM categorization table that would be informed by the recent DOE effort. The categorization table would not only address quantity and enrichment of SNM but would also include attractiveness factors based on chemical and physical attributes. The adoption of the categorization table would result in some revised category threshold quantities, with subcategories based on attractiveness level. For example, the threshold for Category II material might shift either up or down. This could result in some licensees needing to upgrade their MC&A program to meet the requirements in a higher level (i.e. from Category II to Category I). The change could also result in some licensees being able to relax their MC&A program because the licensee now falls into a lower category. At this point, it is not known how many licensees would be impacted in either direction as it is highly dependent on licensee possession limits. As part of the regulatory analysis for a proposed rule, the staff would need to evaluate specific licenses to determine the actual impact to industry. Some licensees may opt to revise their possession limits to avoid the need to upgrade the MC&A program or to take advantage of a lower threshold and downgrade their program.

This option would also result in revision of the requirements in each category (Categories I, II, and III) to address the subcategories that would be based on the attractiveness of the material. As an example, process monitoring would still be required for Category I materials; however, the actual frequency of the monitoring or the quantity thresholds would be dependent on the attractiveness level. A higher attractiveness factor would result in more frequent and/or lower threshold monitoring than would a lower attractiveness factor. This option would result in the imposition of SNM MC&A requirements on neptunium and americium, including NMMSS reporting requirements.

A new requirement would be created to conduct a DPA as part of a detection and response program to mitigate potential safeguards vulnerabilities. The DPA requirement would be limited to enrichment facilities and fuel fabrication facilities that are authorized to possess Category I quantities of SNM.

The cost for conducting a DPA would be dependent on the complexity of the facility. It is estimated that on average a DPA would cost each affected facility approximately $100,000. Depending on the results of the analysis, additional costs may be incurred in addressing any vulnerability that is identified by the DPA.

MC&A requirements for SNM would be consolidated in Part 74. This would result in the relocation of the NMMSS-related reporting requirements for ISFSIs that are currently located in Part 72. Similar requirements already exist in Subpart B of Part 74. This relocation would complete an effort to consolidate MC&A requirements that began in the 1980s. There are NMMSS reporting requirements that are located in Part 40 that apply to source material. These requirements would not be moved as they are not applicable for SNM. There are also NMMSS reporting requirements in Part 150 that apply to Agreement State licensees. These requirements would not be relocated to Part 74.

In addition, Part 74 would be revised to make it clear what requirements apply to different types of facilities. Although the Subpart B general provisions apply to almost all facilities that are authorized to possess and use SNM, some licensees and NRC staff have expressed confusion as to what requirements apply to a particular facility. The staff plans to revise Part 74 so that it is clear what provisions apply to various types of facilities.

In addition, the general provisions do not currently contain performance objectives for the MC&A program. The staff plans to include general performance objectives that would apply to nearly all licensees. Examples of possible performance objectives are the need to confirm the presence of SNM and to resolve indications of missing material. The staff is also considering the addition of some basic system capabilities such as an item control program. These new performance objectives and system capabilities would apply to nearly all licensees that are authorized to possess and use SNM. A new performance objective related to DPA would be added for Category I and enrichment facilities.

Some exemptions in the current regulations would be deleted or modified. A couple of examples include the exemption for sealed sources and exemptions in the item control program. Part 74 would be revised to include definitions for some new terms and to clarify the definitions of some terms. Terms such as item, material balance area, receipt, reconciliation, and waste would be added or clarified.

Part 74 would also be revised to add requirements related to the “two-person” rule and strengthen requirements related to tamper-indicating device programs. Other miscellaneous changes would also be made to Part 74 requirements for Categories I, II, and III facilities. Because it is hard to follow and understand some of the requirements, plain language revisions would also be made to Subparts C, D, and E.

Lastly, conforming changes would be made to other Parts to reflect changes made in Part 74.

Part 74 would not be revised to reflect new technologies such as reprocessing or the Global Nuclear Energy Partnership. The revised regulations may be applicable, at least in part, to those potential future facilities.

Under this option the staff would need to revise existing guidance to reflect new and revised requirements. The staff would need to revise the following guidance documents:

- NUREG-1280, Rev. 1, “Standard Format and Content Acceptance Criteria for the Material Control and Accounting (MC&A) Reform Amendment,”
- NUREG-1065, Rev. 2, “Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Facilities,”
- NUREG/CR-5734, "Recommendations to the NRC on Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Enrichment Facilities,"
- NUREG/BR-0096, “Instructions and Guidance for Completing Physical Inventory Summary Reports,”
- NUREG/BR-0006, “Instructions for the Preparation and Distribution of Material Transaction Reports,” and
- NUREG/BR-0007, “Instructions for the Preparation and Distribution of Material Status Reports.”

In addition, the staff would need to develop a new guidance document for Category II facilities (because there is no current document) and a guidance document for the DPA requirement. Total staff expenditure for the guidance documents is estimated to be 1.2 FTE and $640,000 in contract costs.

This option would result in a burden on licensees. Licensees would need to expend some effort in determining what category their license and facility now fall under. This effort should only involve a few hours for each licensee. As noted above, it is estimated that on average a DPA would cost each affected facility about $100,000. Some licensees will need to revise their MC&A program. These revisions would be triggered by the potential shift into a new category because of the new category threshold, revisions to reflect new requirements and performance objectives, and revisions to address DPA results. Significant effort may be required to revise MC&A programs, including a new fundamental nuclear material control plan, revised procedures, and training on the new procedures. For some licensees, this effort could run as high as $300,000 - $400,000. NRC staff resources would be expended to review DPAs and to review and approve all of the new or revised MC&A plans (at a cost of about 0.15 FTE per plan). Some licensees may opt to revise their license to lower their possession limits. Licensees would expend effort to prepare amendment packages, and the NRC staff would expend resources to conduct the reviews. At this time, the staff does not have an estimate on how many licensees might submit amendment requests to revise possession limits.

In addition, MC&A requirements for neptunium and americium would result in increased burden on both NRC and Agreement State licensees. NRC resources would be needed to review the new licensee programs and to conduct inspections at both NRC and Agreement State licensees. Until the thresholds and other requirements are determined, the staff is uncertain as to the number of licensees that will be affected by these changes and the additional NRC

resources that will be necessary to implement the new requirements. The NMMSS contract costs would also increase due to the extra work load and necessary reprogramming.

Option 1 Advantages

SNM Categorization Table

- NRC's new material categorizations would more comprehensively consider the chemical and physical forms of SNM, thereby further risk-informing NRC's regulations by considering the ease of detecting theft or diversion, and any additional processing steps necessary to convert diverted SNM into a form amenable for fabricating devices of concern.
- NRC's nuclear material categorizations would more closely align with DOE's recommended revisions to its SNM categorization table, and therefore, NRC would directly address the OIG recommendation to document the basis used for risk-informing NRC's oversight of MC&A activities during the rulemaking process and in the regulations themselves.
- The revised regulations would provide a comprehensive, risk-informed regulatory framework for application to a growing and more varied industry in a changing threat environment.

DPA

- DPAs would be required for fuel fabrication facilities that possess Category I quantities of SNM and enrichment facilities, thereby further risk-informing NRC's MC&A regulations.
- A DPA will consider the interactions and relationships between a facility's MC&A and physical protection programs.
- By including a DPA and related requirements in the regulations, affected licensees would develop a more risk-informed, performance-based safeguards program that considers a wider range of malevolent activities that might involve facility insiders.

Revise and Consolidate Requirements

- Applicability of MC&A requirements for certain facilities would be clarified.
- MC&A requirements would be revised for plain language and be easier to understand.
- Existing guidance documents would be updated to provide for new technological developments and take into account lessons learned.
- Performance objectives would be developed for the majority of facilities.

Option 1 Disadvantages

- Staff resources would be required to develop the MC&A-related rulemaking and to revise and develop associated guidance documents.
- New burdens would be imposed upon licensees in that licensee MC&A programs would have to be revised to meet the new categorization table and changes resulting from the revision and consolidation of the current MC&A regulations.
- A new burden would be imposed on licensees that possess americium and neptunium.

- A new burden would be imposed upon some licensees to conduct a DPA and address any identified vulnerability.
- Staff resources would be expended to review the DPA and changes to the MC&A programs, to review any amendment requests to lower possession limits, and to review and inspect the new licensee programs for americium and neptunium.
- Issues associated with imposing NRC requirements (related to americium and neptunium) on Agreement State licensees will need to be addressed with the Agreement States.
- The NRC NMMSS contract costs would be higher due to the inclusion of americium and neptunium.

More detailed advantages and disadvantages of adopting the proposed DOE categorization table will be provided in a Commission Paper to be provided by the Office of Nuclear Security and Incident Response (NSIR) in the late spring timeframe.

Option 2 – Rulemaking Limited To Adding A New NRC SNM Categorization Table.

Under this option, NRC would create an SNM categorization table that would be informed by the recent DOE effort recommending changes to its SNM categorization table. The categorization table would not only address quantity and enrichment of SNM but would also include attractiveness factors based on chemical and physical attributes. The adoption of the categorization table would result in some revised category threshold quantities, with subcategories based on attractiveness level. For example, the threshold for Category II material might shift either up or down. This could result in some licensees needing to upgrade their MC&A program to meet the requirements in a higher level (i.e., from Category II to Category I). The change could also result in some licensees being able to relax their MC&A program because the licensee now falls into a lower category. At this point, it is not known how many licensees would be impacted in either direction as it is highly dependent on possession limits. As part of the regulatory analysis for a proposed rule, the staff would need to evaluate specific licenses to determine the actual impact to industry. Some licensees may opt to revise their possession limits to avoid the need to upgrade the MC&A program or to take advantage of a downgrade to the program.

This option would also result in revision of the requirements in each category (Categories I, II, and III) to address the subcategories that would be based on the attractiveness of the material. As an example, process monitoring would still be required for Category I materials; however, the actual frequency of the monitoring or the quantity thresholds would be dependent on the attractiveness level. A higher attractiveness factor would result in more frequent and/or lower threshold monitoring than would a lower attractiveness factor. This option would result in the creation of MC&A requirements for neptunium and americium, including NMSS reporting requirements.

Under this option, the staff would need to revise existing guidance to reflect the new categorization thresholds and to add graded levels to the requirements to reflect the attractiveness level. The staff would need to revise the following guidance documents:

- NUREG-1280, Rev. 1, “Standard Format and Content Acceptance Criteria for the Material Control and Accounting (MC&A) Reform Amendment,”

- NUREG-1065, Rev. 2, “Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Facilities,”
- NUREG/CR-5734, "Recommendations to the NRC on Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Enrichment Facilities,"
- NUREG/BR-0096, “Instructions and Guidance for Completing Physical Inventory Summary Reports,”
- NUREG/BR-0006, “Instructions for the Preparation and Distribution of Material Transaction Reports,” and
- NUREG/BR-0007, “Instructions for the Preparation and Distribution of Material Status Reports.”

In addition, the staff would need to develop a new guidance document for Category II facilities because there is no current document. Total staff expenditure for the guidance documents is estimated to be 0.7 FTE and $320,000 in contract costs.

This option would result in a burden on licensees. Licensees would need to expend some effort in determining what category their license and facility now fall under. This effort should only involve a few hours for each licensee. For those licensees that shift into a new category because of the new category threshold, significant effort would be required to revise its MC&A program, including a new fundamental nuclear material control plan, revised procedures, and training on the new procedures. For some licensees, this effort could run as high as $300,000 - $400,000. NRC staff would need to review and approve all of the new plans at a cost of about 0.1 FTE per plan.

In addition, MC&A requirements for neptunium and americium would result in increased burden on both NRC and Agreement State licensees. NRC resources would be needed to review the new licensee programs and to conduct inspections at both NRC and Agreement State licensees. Until the thresholds and other requirements are determined, the staff is uncertain as to the number of licensees that will be affected by these changes and the additional NRC resources that will be necessary to implement the new requirements. The NMMSS contract costs would also increase due to the extra work load and necessary reprogramming.

Option 2 Advantages

- NRC’s new material categorizations would more comprehensively consider the chemical and physical forms of SNM, thereby further risk-informing NRC’s regulations by considering the ease of detecting theft or diversion, and any additional processing steps necessary to convert diverted SNM into a form amenable for fabricating devices of concern.
- NRC’s nuclear material categorizations would more closely align with DOE’s recommended revisions to its SNM categorization table, and therefore, NRC would directly address the OIG recommendation to document the basis used for risk-informing NRC’s oversight of MC&A activities during the rulemaking process and in the regulations themselves.
- The revised regulations would provide a comprehensive, risk-informed regulatory framework for application to a growing and more varied industry in a changing threat environment.

Option 2 Disadvantages

- Additional staff resources would be required to develop the MC&A-related rulemaking and to revise and develop associated guidance documents.
- New burdens would be imposed upon licensees in that certain licensee MC&A programs would have to be revised to accommodate the new categorization scheme.
- Staff resources would be required to review changes to licensee safeguards plans.
- Issues associated with imposing NRC requirements (related to americium and neptunium) on Agreement State licensees will need to be addressed with the Agreement States.
- The NRC NMMSS contract costs would be higher due to the inclusion of americium and neptunium.
- New burdens would be imposed on NRC and Agreement State licensees to address the new MC&A requirements for americium and neptunium.
- Additional NRC resources would be necessary to review the americium and neptunium MC&A programs and to conduct inspections on the new programs.
- None of the other identified improvements to the regulations would be addressed.

Option 3 – Rulemaking Limited To Adding A DPA Requirement.

Under this option, the staff is proposing to add a new DPA requirement for enrichment facilities and nuclear facilities possessing a Category I quantity of SNM (i.e., fuel fabrication facilities that process high enriched uranium or plutonium and any MOX fuel fabrication facility). The DPA would be part of a detection and response program to mitigate potential safeguards vulnerabilities. The DPA would be limited to these types of facilities due to the nature and attractiveness of the material typically possessed by these types of licensees. This option would include the development of a new DPA guidance document. The DPA requirement would affect four existing NRC licensed facilities. It would also affect any applicants for an enrichment facility (currently 3) or a MOX fuel fabrication facility (currently 1).

The cost for conducting a DPA would be dependent on the complexity of the facility. It is estimated that on average a DPA would cost each facility approximately $100,000. Depending on the results of the analysis, additional costs may be incurred in addressing any vulnerability that is identified by the DPA. Staff resources would be expended to review the DPA and to review any changes that might result to the MC&A program. The staff estimates that about 0.05 FTE would be expended for each review. Development of the DPA guidance document would cost about 0.4 FTE and $213,000 in contract costs.

Option 3 Advantages

- DPAs would be required for fuel fabrication facilities that possess Category I quantities of SNM and enrichment facilities, thereby further risk-informing NRC's MC&A regulations.
- A DPA will consider the interactions and relationships between a facility's MC&A and physical protection programs.
- By including a DPA and related requirements in the regulations, affected licensees would develop a more risk-informed, performance-based safeguards program that considers a wider range of malevolent activities that might involve facility insiders.

Option 3 Disadvantages

- Additional staff resources would be required to develop the MC&A-related rulemaking and to develop a new guidance document.
- A new burden would be imposed upon some licensees to conduct a DPA and address any identified vulnerability.
- Staff resources would be required to review the DPA and any resulting changes to licensee safeguards plans.
- None of the other identified improvements to the regulations would be addressed.

Option 4 – Rulemaking Limited To Revising And Consolidating Current MC&A Regulations In Part 74.

Under this option, MC&A requirements for SNM would be consolidated in Part 74. This would result in the relocation of the NMMSS-related reporting requirements for ISFSIs that are currently located in Part 72. Similar requirements already exist in Subpart B of Part 74. Conforming changes to Parts 72 and 74 would be made to reflect the relocation. This relocation would complete an effort to consolidate MC&A requirements that began in the 1980s. There are NMMSS reporting requirements that are located in Part 40 that apply to source material. These requirements would not be moved as they are not applicable for SNM. There are also NMMSS reporting requirements in Part 150 that apply to Agreement State licensees. These requirements would not be relocated to Part 74.

Under this option, Part 74 would be revised to make it clear what requirements apply to different types of facilities. Although the Subpart B general provisions apply to almost all facilities that are authorized to possess and use SNM, some licensees and NRC staff have expressed confusion as to what requirements apply to a particular facility. The staff plans to revise Part 74 so that it is clear what provisions apply to various types of facilities.

In addition, the general provisions do not currently contain performance objectives for the MC&A program. The staff plans to include general performance objectives that would apply to nearly all licensees. Examples of possible performance objectives are the need to confirm the presence of SNM and to resolve indications of missing material. The staff is also considering the addition of some basic system capabilities such as an item control program. These new performance objectives and system capabilities would apply to nearly all licensees that are authorized to possess and use SNM.

Some exemptions in the current regulations would be deleted or modified. A couple of examples include the exemption for sealed sources and exemptions in the item control program. Part 74 would be revised to include definitions for some new terms and to clarify the definitions of some terms. Terms such as item, material balance area, receipt, reconciliation, and waste are some of the terms that would be added or clarified.

Part 74 would also be revised to add requirements related to the “two-person” rule and strengthen requirements related to tamper-indicating device programs. Other miscellaneous changes would also be made to Part 74 requirements for Categories I, II, and III facilities.

Because it is hard to follow and understand some of the requirements, plain language revisions would also be made to Subparts C, D, and E.

Part 74 would not be revised to reflect new technologies such as reprocessing or the Global Energy Partnership. The revised regulations may be applicable, at least in part, to those potential future facilities.

Under this option, the staff would need to revise existing guidance to reflect new and revised requirements. The staff would need to revise the following guidance documents:

- NUREG-1280, Rev. 1, “Standard Format and Content Acceptance Criteria for the Material Control and Accounting (MC&A) Reform Amendment,”
- NUREG-1065, Rev. 2, “Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Facilities,”
- NUREG/CR-5734, "Recommendations to the NRC on Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Enrichment Facilities," and
- NUREG/BR-0096, “Instructions and Guidance for Completing Physical Inventory Summary Reports.”

In addition, the staff would need to develop a new guidance document for Category II facilities because there is no current document. Total staff expenditure for the guidance documents is estimated to be 0.3 FTE and $200,000 in contract costs.

Under this option, some licensees would need to revise their MC&A program. For those licensees that fall under the Subpart B general requirements, only minor effort would be expended to address the new performance objective. Licensees with Category I, II, or III facilities would need to revise the MC&A program to address new requirements, including new performance objectives. It is anticipated that the cost would be on the order of $150,000 - $250,000.

Option 4 Advantages

- Applicability of MC&A requirements for certain facilities would be clarified.
- MC&A requirements would be revised for plain language and be easier to understand.
- Existing guidance documents would be updated to provide for new technological developments and take into account “lessons learned.”
- Performance objectives would be developed for the majority of facilities.

Option 4 Disadvantages

- Additional staff resources would be required to develop the MC&A-related rulemaking and to revise and develop associated guidance documents.
- New burdens would be imposed upon licensees to revise MC&A programs to reflect the new and revised requirements.
- None of the other identified improvements to the regulations would be addressed.
- Staff resources would be required to review changes to licensee safeguards plans resulting from the MC&A changes.

Option 5 – Revise Guidance Documents But No Rulemaking.

Under Option 5, the existing guidance documents would be revised to provide clarity as to what requirements apply to various facilities. The guidance should be revised to reflect new technologies in MC&A. There have been some significant advances in MC&A-related technologies and other modernizing methods and equipment (e.g., radio frequency identification, sensors, and measurement and monitoring systems) developed over the past 20 years. These improvements in technology should provide ample room for more cost-effective systems capabilities and added flexibility for meeting general performance objectives. NRC guidance should be made far less prescriptive in providing the systems capabilities necessary for meeting the performance objectives. The staff would make other miscellaneous changes to address various issues that have arisen over time that have not warranted a revision to the regulations.

Under this option, the staff would revise existing guidance. The staff would need to revise the following guidance documents:

- NUREG-1280, Rev. 1, “Standard Format and Content Acceptance Criteria for the Material Control and Accounting (MC&A) Reform Amendment,”
- NUREG-1065, Rev. 2, “Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Facilities,”
- NUREG/CR-5734, "Recommendations to the NRC on Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Enrichment Facilities," and
- NUREG/BR-0096, “Instructions and Guidance for Completing Physical Inventory Summary Reports.”

In addition, the staff would need to develop a new guidance document for Category II facilities because there is no current document. Total staff expenditure for the guidance documents is estimated to be 0.3 FTE and $100,000 in contract costs.

No burdens would be imposed on licensees. However, some licensees might decide to take advantage of the new technologies discussed in the guidance and revise their program accordingly.

Option 5 Advantages

- No new burdens would be imposed upon licensees.
- No staff resources would be expended on the rulemaking.
- The revised guidance would clarify what requirements apply to various facilities.
- The revised guidance would reflect new technologies and lessons learned.

Option 5 Disadvantages

- The MC&A regulations would not be updated to reflect the need for DPA or to reflect material attractiveness based on chemical and physical forms of SNM.

- NRC would not directly address the OIG recommendation to document the risk-informed basis of NRC's MC&A regulations, thereby requiring staff to find another venue for documenting the risk-informed nature of the regulations.
- Revised guidance may not be able to completely reflect new technologies.

Option 6 – Maintain The Status Quo – No Action.

One alternative to amending the regulations is to take no action. Under this option, MC&A requirements would remain unchanged, no guidance documents would be revised, and no new guidance documents would be developed.

Option 6 Advantages

- No new burdens would be imposed upon licensees.
- No staff resources would be expended on the rulemaking and associated guidance documents.

Option 6 Disadvantages

- The MC&A regulations would not be updated to reflect the need for DPA or to reflect material attractiveness based on chemical and physical forms of SNM.
- NRC would not directly address the OIG recommendation to document the risk-informed basis of NRC's MC&A regulations, thereby requiring staff to find another venue for documenting the risk-informed nature of the regulations.
- The MC&A regulations would not be clarified as to what requirements apply to which facilities.
- Existing guidance documents would not be updated to provide for new technological developments and take into account lessons learned.

RECOMMENDED APPROACH

The staff recommends that the Commission approve implementing Option 1. The proposed rule implementing this option would further risk-inform Part 74 and better ensure that SNM and other materials are protected from unauthorized diversion or theft. By taking into account the proposed DOE material categorization table, NRC's Part 74 regulations would provide enhanced protection for materials which could be used to fabricate INDs. Requiring a DPA for certain facilities would reflect the synergy between those facilities' physical protection and MC&A programs. Further, by revising and consolidating NRC's MC&A requirements in one place, NRC will streamline its regulations so they are consistent throughout 10 CFR and are easier to understand.

BACKFIT CONSIDERATIONS

If the Commission approves adding the new table to 10 CFR Part 74, the backfit rules (set forth in 10 CFR §§ 50.109, 70.76, 72.62, and 76.76) would be applicable. Similarly, if the Commission approves the proposed DPA requirement, the §§ 70.76 and 76.76 backfit rules would be applicable.

However, the staff's view is that adding the new table and the DPA are actions that would fall within the exception set forth in the backfit rule, so that a backfit analysis would not be required as part of the recommended rulemaking. Given the current threat environment, the staff's view is that adding the new table and the DPA as requirements are: (1) necessary to ensure that the affected facilities continue to provide adequate protection to the health and safety of the public; and (2) in accord with the common defense and security. If the Commission agrees and makes such a finding (see, e.g., 10 CFR 70.76(a)(4)(iii)), a backfit analysis would not be required. Absent such a finding, the staff would need to prepare a backfit analysis in preparing a proposed rule that includes adding the new table and the DPA as requirements. The backfit analysis and any exemptions that might apply would be documented in the regulatory analysis.

OGC ANALYSIS

The Office of the General Counsel (OGC) has reviewed this rulemaking plan. In addition to the backfit issues discussed above, going forward with this proposed MC&A rulemaking will require preparation of an environmental assessment. OGC's view is that there are no categorical exclusions in § 51.22(c) that would apply to this rulemaking.

The determination of whether the proposed rule would be a "major rule" under the Congressional Review Act will be made during the development of the Regulatory Analysis – another required step if this MC&A rulemaking moves forward. If this rule is later found not to be a major rule, then the mandated 60-day period prior to effectiveness of major rules will not be applicable.

OGC has concluded that there are no known bases for legal objection to the contemplated MC&A rulemaking.

PAPERWORK REDUCTION ACT

The Office of Information Services (OIS) has reviewed the rulemaking plan for information technology and information management implications and concurs in it. However, the plan suggests changes in information collection requirements that require review by OIS to determine the level of review by the Office of Management and Budget (OMB) before the proposed rule is forwarded to the Office of the Federal Register for publication. OIS will support the development of the Paperwork Reduction Act Statement in the Statements of Consideration and the Office of Management and Budget (OMB) clearance package. The OMB clearance package will be forwarded to OMB before the proposed rule is forwarded to the Office of the Federal Register for publication.

REGULATORY ANALYSIS

The staff will prepare a regulatory analysis to support the proposed rule. The regulatory analysis will include a discussion of any backfit considerations. Because this rulemaking improves the security and safeguards associated with the use and possession of special nuclear material, staff believes that the costs to conduct and implement any of the rulemakings are justified. Some preliminary cost information is provided in the discussion of the options.

AGREEMENT STATE IMPLEMENTATION ISSUES

NRC staff has analyzed the proposed changes in accordance with the procedures established within Part III of the Handbook to Management Directive 5.9, "Categorization Process for NRC Program Elements." Staff has determined that the proposed rule would likely be classified as Compatibility Category "NRC." The NRC program elements in this category are those that relate directly to areas of regulation reserved to NRC by the Atomic Energy Act, as implemented in the provisions of Title 10 of the *Code of Federal Regulations*. Normally, there would be no interactions with the Agreement States for items classified as "NRC." In this case Agreement State licensees would be impacted by the changes related to americium and neptunium being treated as SNM, therefore, the proposed rule would be provided to the Agreement States for early input. The rulemaking plan was not provided to the Agreement States for comment due to the timing and uncertainty in the scope of the changes related to americium and neptunium and whether the Agreement States would be impacted.

SUPPORTING DOCUMENTS

For any of the four rulemaking options, the staff would develop an environmental assessment and regulatory analysis to support the rulemaking. An OMB supporting statement on any new or revised information collection would also be prepared. In addition the staff would develop the various guidance documents that are identified under each option.

RESOURCES

Costs to conduct the rulemaking and develop guidance documents are summarized in the table below. The full-time equivalents (FTEs) reflect staff effort and the dollar values reflect contractor costs. No resources would be necessary to implement the no action option.

Option	Rulemaking		Guidance		Total	
	FTE	CS&T $	FTE	CS&T $	FTE	CS&T $
Option 1 – Create a new NRC SNM categorization table, add a DPA requirement, and revise and consolidate current MC&A requirements in Part 74						
FSME	1.6	$75,000		$0	1.6	$75,000
NMSS	1.0	$0	1.1	$640,000	2.1	$640,000
Other	0.6	$0	0.1	$0	0.7	$0
Total:	3.2	$75,000	1.2	$640,000	4.4	$715,000
Option 2 – Rulemaking limited to adding a new NRC SNM categorization table						
FSME	1.0	$0		$0	1.0	$0
NMSS	0.8	$0	0.6	$320,000	1.4	$320,000
Other	0.3	$0	0.1	$0	0.4	$0
Total:	2.1	$0	0.7	$320,000	2.8	$320,000
Option 3 - Rulemaking limited to adding a DPA requirement						
FSME	0.5	$0		$0	0.5	$0
NMSS	0.5	$0	0.3	$213,000	0.8	$213,000
Other	0.2	$0	0.1	$0	0.3	$0

Option	Rulemaking		Guidance		Total	
	FTE	CS&T $	FTE	CS&T $	FTE	CS&T $
Total:	1.2	$0	0.4	$213,000	1.6	$213,000
Option 4 – Rulemaking limited to revising and consolidating current MC&A regulations in Part 74						
FSME	1.1	$0		$0	1.1	$0
NMSS	0.8	$0	0.2	$200,000	1.0	$200,000
Other	0.5	$0	0.1	$0	0.6	$0
Total:	2.4	$0	0.3	$200,000	2.7	$200,000
Option 5 – Revise guidance documents but no rulemaking						
FSME	0.0	$0	0.0	$0	0.0	$0
NMSS	0.0	$0	0.2	$100,000	0.2	$100,000
Other	0.0	$0	0.1	$0	0.1	
Total:	0.0	$0	0.3	$100,000	0.3	$100,000

In addition to the resources listed above, resources for conducting license reviews of the revised plans would also be necessary. It is estimated that 0.15 FTE per plan under Option 1, 0.1 FTE per plan under Option 2, 0.05 FTE per plan under Option 3, and 0.1 FTE per plan under Option 4.

Under options 1 and 2, resources for conducting reviews and inspections of the MC&A programs for neptunium and americium would be necessary. The staff does not have an estimate at this time. Until a threshold value is established, the staff does not know how many licensees would be affected.

In addition to the resources above, options 1 and 2 would require the NMMSS contract to be revised. The scope would need to be expanded to address the reporting of neptunium and americium and some reprogramming of the software would be necessary. The staff does not currently have an estimate for the increased NMMSS contract costs as it will depend in part on the number of additional licensees reporting to NMMSS.

The staff would hold at least one workshop/public meeting on the guidance documents under each of the four rulemaking options and the guidance development option. The costs for the workshop are included in the cost for the guidance development.

WORKING GROUP

A working group would be used for the development of any MC&A rule. The membership and concurring official would include the following:

Lead Office Staff and Staff from Supporting Offices		Concurring Official
Task Leader, FSME	M. Horn	C. Miller
Technical Lead, NMSS	T. Pham	M. Weber
Technical support, NMSS	M. Kelly	M. Weber
ADM Representative	C. Bladey	M. Lesar
OGC Representative	J. Hull	B. Jones
NSIR Representative	C. Collins	R. Zimmerman

Lead Office Staff and Staff from Supporting Offices		Concurring Official
NRR Representative	D. Hughes	J. Dyer
OIP Representative	B. Smith	M. Doane
OE Representative	R. Barnes	C. Carpenter
OIS Representative	A. Tse	M. Janney

STEERING COMMITTEE

Several aspects of this rule are complex and represent new policy that may impact several offices. In order to assure alignment across the impacted offices, the staff has determined that a steering committee will be used for this rulemaking. The membership has not been finalized but will likely include the following:

D. Rathbun, FSME/DILR
B. Jones, OGC
M. Lesar, ADM
P. Holahan, NSIR
M. Case, NRR
S. Moore, OIP
R. Pierson, NMSS

PUBLIC PARTICIPATION

The staff plans to hold at least one workshop/public meeting on the guidance documents. The meeting would be held during the public comment period.

Staff will develop a plain language fact sheet along with frequently asked questions for inclusion on the NRC website and dissemination at the stakeholder workshop.

COMMISSION ISSUANCE

The proposed and final rules under options 1, 2 and 3 would be approved by the Commission since they contain substantive changes to MC&A regulations that require Commission approval. The proposed and final rules under option 4 could be approved by the EDO.

SCHEDULE

Proposed rule to the EDO	18 months after approval of the rulemaking plan
Draft guidance documents to be issued	At beginning of public comment period
OMB clearance package submitted	No later than the date the proposed rule is forwarded to the Office of the Federal Register for publication
Comment period	90 days
Public workshop/public meeting on guidance	During public comment period on rule
Final rule to EDO	12 months after end of public comment period
Issue final guidance documents	Before effective date of final rule

A longer than normal time for development of the proposed rule is being suggested due to the number of guidance documents that need to be either revised or created. The guidance documents should be made available for public comment during the public comment period on the proposed rule. The staff is also suggesting a longer comment period on the proposed rule. This is due to the complexity and number of changes and to allow for a public workshop on the guidance documents during the comment period.