

June 7, 2005

MEMORANDUM TO: Chairman Diaz
Commissioner McGaffigan
Commissioner Merrifield
Commissioner Jaczko
Commissioner Lyons

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

SUBJECT: PROTECTIVE MEASURES AND IMPLEMENTING GUIDANCE FOR
GROUPS 1 THROUGH 4 MATERIALS LICENSEES

This paper responds to Staff Requirements Memoranda (SRMs). This paper also identifies issues related to the release of security information previously withheld by the Commission. In response to the SRMs, the NRC staff and Materials Security Working Group (MSWG) members met with stakeholders regarding the proposed PMs. The MSWG reviewed and considered Groups 1 through 4 stakeholder comments and have appropriately revised the PMs and Implementing Guidance. The draft final Groups 1 through 4 PMs and implementing Order package is attached for Commission review (Attachment 1). Unless the Commission directs the staff to pursue the proposed alternative approach presented by the staff on April 19, 2005, and

CONTACT: Richard H. Turtill, NSIR/DNS
(301) 415-5563

in COMSECY-05-0015, "Initiatives for Increasing Agreement State Participation in the Control of Sources," staff intends to issue Groups 1 through 4 PMs and implementing Orders to licensees. Group 1 PMs and implementing Orders would be issued to licensees who possess self-shielded irradiators (including blood irradiators), panoramic and underwater irradiators with less than 10,000 Curies, teletherapy devices, gamma knife devices, and high and medium dose rate afterloaders; Group 2 PMs and implementing Orders would be issued to licensees who possess radiography cameras and well logging devices; Group 3 PMs and implementing Orders would be issued to broad scope users and master materials licensees; and Group 4 PMs and implementing Orders would be issued to calibration facilities, waste brokers, remote service licensees and general service licensees.

Following transmittal of draft PM implementing Order packages to Groups 1 through 4 licensees for comment beginning in November 2004 and ending in February 2005, the NRC received over 300 stakeholder comments on the PMs, the PM Implementing Guidance, the Order, and the accompanying Regulatory Issue Summary (RIS). Many comments were from attendees of NRC-sponsored workshops held in early 2005, at the NRC headquarters in Rockville, MD, NRC's Region III office in Lisle, IL, NRC's Region IV office in Arlington, TX, Children's Hospital in Boston, MA, and at the Edward R. Roybal Auditorium in Oakland, CA.

Stakeholder comments, with staff responses, are used to provide additional clarification in the form of Questions and Answers, and are appended to the Implementing Guidance.

In its efforts to develop PMs for Groups 1 through 4 in parallel, staff identified many similarities in the enhanced security requirements among all groups. An example is the inclusion of a physical barrier requirement developed only for mobile devices in Group 1 which staff later determined to be applicable to Groups 2 through 4 licensees for portable devices as well. Thus, the process for developing PMs for one group was informed by PM development for other groups. The result has been a consolidation of Groups 1 through 4 PMs around a basic framework of: controlling access to radioactive material (RAM) quantities of concern and devices containing RAM (PM 1); monitoring, detecting, assessing, and responding to possible theft or sabotage of RAM (PM 2); initiating new protocols for RAM in transit (PM 3); enhancing controls on portable and mobile devices containing RAM (PM 4); and records maintenance requirements (PM 5). Stakeholder comments that resulted in a change to a PM in one group were found by staff to be applicable to the same PM in other groups. Based on the similarity of the PMs for Groups 1 through 4, staff intends to issue Orders for Groups 1 through 4, in accordance with previously submitted schedules, upon Commission approval of the attached PM Order implementation package.

The comments did not result in significant changes to the PMs and affiliated documents. Stakeholder input did, however, result in staff making four minor changes, and one substantive change, in the wording of the PMs. The four minor changes include: (1) a new, introductory paragraph to the PMs intended to clarify their purpose; (2) the addition in PM 1 of "devices containing radioactive material quantities of concern," in addition to radioactive material quantities of concern itself, as the focal point of the PMs; (3) the inclusion in PM 1.b. of "non-licensee personnel, such as physicians, physicists, house-keeping personnel, and security personnel under contract," as candidates for trustworthiness and reliability determinations by licensees, based on their need for access to devices containing radioactive material quantities

of concern to perform their duties; and (4) the addition in PM 3 of "domestic highway and rail," to better describe the type of shipment addressed by this PM and to be consistent with the similar Manufacturing and Distribution (M&D) Additional Security Measures (ASMs).

The substantive change involved PM 5. In the SRM, the Commission directed that PM 5 require licensees to maintain all records required by the Order for the life of the facility (a change from the M&D ASMs) and requested staff obtain information on the potential impact of this requirement. Stakeholders commented that records retained beyond an employee's termination serve no useful purpose, and that the facility lifetime data retention requirement simply adds to the burden of human resource records management without commensurate value. Others indicated that this requirement reflects a significantly longer retention period than records maintenance request for other personnel records. At many facilities, human resource departments do not keep personnel records beyond three years following employee termination. Similarly, Part 30 and Part 40 licensees are required to maintain records on receipt of byproduct and source material, "as long as the material is possessed and for three years following transfer or disposal..." Part 70 licensees need only retain a copy of the plan for the physical protection of special nuclear material as a record for the period during which the licensee possesses a formula quantity of special nuclear material and each change to the plan for three years from the effective date of the change. Consistent with these observations, staff has revised PM 5 to be more in line with current human resource department practices and consistent with other materials licensing requirements in the following manner: "The licensee shall retain documentation required by these protective measures for three years after they are no longer effective." PM 5 then identifies particular types of documentation records, and the time horizon beyond which licensees may choose to no longer maintain such documents, as a result of such records losing their usefulness or becoming obsolete.

Concerning Group 5 licensees (Radioisotope Thermoelectric Generators [RTGs]), staff has re-considered the need for issuing Orders to this group. Group 5 includes only four licensees at this time, including two Master Materials licensees (U.S. Navy and U.S. Air Force) and two private sector licensees. The staff is currently re-analyzing the need for this Order in light of the fact that the U.S. Navy and U.S. Air Force likely have security-related requirements in place governing RAM that are equal to, or more stringent than, the proposed Group 5 PMs. In addition, the staff noted that one private sector licensee was previously issued the M&D Order and provides the necessary security enhancements which would be required of Group 5 licensees and the other private sector licensee dispositioned its RAM source of concern in May 2005. Staff is actively pursuing open issues related to Group 5 PM Order issuance, and will communicate its conclusions to the Commission in July 2005.

In SRMs the Commission directed the staff to propose a method to protect the site-specific plans generated by licensees' implementation of the Order, from disclosure. As discussed in Attachment 2, the MSWG recommends that the Order imposing the PMs for Groups 1 through 4 contain language requiring licensees to protect information generated in response to the Order, but not at the SGI-M level. This would allow licensees to protect such information without the telecommunications and mailing restrictions required of SGI-M protocols, thus easing the important pre- and post-implementation communications between licensees and regulators that will be necessary to ensure effective implementation. These information-protection requirements would be issued under the Commission's general ordering authority, and their

violation would subject licensees to traditional enforcement mechanisms. More details regarding this discussion are provided in Attachment 2.

Staff also recommends that the PMs, the associated Guidance, and the Homeland Security Advisory System (HSAS) action table be released without restriction. This represents a significant policy issue warranting Commission review. The currently proposed PMs provide risk-informed, performance-based requirements rather than prescriptive security measures. As a result, and as previously discussed in "Information Security for Protective Measures for Group 1 Materials Licensees" (ML041960558), the PMs (individually and in the aggregate) impose requirements and the associated Guidance provide guidelines, that are generic, and would provide some helpful information but would not substantially aid an adversary in planning an attack. Sharing of such information with the public-at-large through unrestricted release of the PMs, the Implementing Guidance, and the HSAS action table, will also provide potential deterrent value, and will improve public confidence in the security of these radioactive sources. Such an approach would be consistent with the release to the general public of the Department of Health and Human Services' security requirements (similar to those being considered by the NRC) governing possession, use, and transfer of Select Agents and Toxins, as published in the Code of Federal Regulations at 42 Part 73.11. This approach is also consistent with the Information Security Task Force recommendations (SECY-05-0091, "Task Force Report on Public Disclosure of Security-Related Information," [ML051400108]) that are under Commission review. The Order in Attachment 1 has been drafted accordingly.

Regarding future inspection activities for this Order, currently nine Agreement States are conducting inspections through Section 274i Agreements. Due primarily to resource limitations and process concerns, many States have thus far declined to participate. As a result, from 60% to 70% of the required inspection efforts may need to be undertaken by NRC inspectors, while only some 20% of Group 1 through 5 licensees are, in fact, NRC licensees. Thus, a significant burden on the NRC inspection resources, particularly in Regions I and IV, is anticipated. The NRC fiscal year 2007 budget has been designed to support these inspections.

To effectively address this burden and distribute resource needs, the staff plans to prioritize these inspections through use of a "smart audit questionnaire" which would be distributed with the Orders. Based on licensee responses to the questionnaire, current source data reported to the interim database by licensees, and risk informed metrics developed by the NRC in concert with other federal and state organizations, staff would develop a priority listing for inspections. Because of the resources needed, staff plans a three-year window for completing the initial security inspections of Group 1 through 4 licensees. After all initial security inspections are complete, the reinspection schedule for Panoramic Irradiator, M&D, and Groups 1 through 5

licensees, would be re-evaluated. The NRC staff will revisit the issue of inspection frequency at these facilities, based on both safety and security risks, in the future.

The MSWG considered security effectiveness, the potential burden on licensees, and potential costs required of licensees to comply with the PMs, and chose countermeasures that are effective but not cost prohibitive or overly burdensome. For example, in many cases, the objectives of the PMs can be met through procedural changes to existing security programs and through the use of detection, alarm, and communications technologies that are widely available to the commercial market at relatively low cost. Some stakeholders agreed that the actions required of the PMs are necessary and, in some instances, are currently being implemented at their facilities. Other stakeholders expressed concern that costs associated with Order implementation would be overly burdensome. Costs to implement the PMs may range from several hundred dollars to several tens of thousands of dollars depending upon the size of the licensee, the extent of its current security operations, and the number and physical distribution of a licensee's sources affected by the Order.

staff has aligned the Table 1: Radionuclides of Concern (Table 1) values in this paper to those in the IAEA's "Code of Conduct on the Safety and Security of Radioactive Sources." This is also consistent with the values communicated in the final rule to 10 CFR Part 110 on the export/import of radioactive material quantities of concern. Radionuclides and the quantities of concern used to identify the population of licensees in each group to receive security measures, were based upon the focus on Category 1 and 2 RAM quantities in the IAEA Code of Conduct, and efforts to achieve alignment with the IAEA Code of Conduct.

On March 22 and April 12, 2005, NSIR staff met with the New York (NY) City Police Department (NYPD) Deputy Commissioner for Counter Terrorism, Assistant Commissioner for Counter Intelligence, NY City Office of Emergency Management, NY State Office of Homeland Security, the Department of Homeland Security, and Radiological Program Directors from the NY Department of Health, NY State Department of Labor, and NY State Department of Health, to discuss security of radioactive material sources in the NY City (NYC) area. The NRC provided an overview of its activities with respect to the enhanced security of radioactive materials and copies of the draft PMs and PM Implementing Guidance for NYPD review and comment. Staff has since contacted the NYPD for comments and has thus far received none. Upon receiving NYPD comments, staff will forward them to the Commission.

The Communications Plan for this Order is provided as Attachment 3.

The Federal Register Notice for this Order is provided as Attachment 4.

The MSWG developed these PMs and Guidance in consultation with the Materials Security Steering Committee (MSSC). The MSSC provided comments in April and May 2005 which have been incorporated, and endorses this package for Commission consideration.

Staff plans to issue the Groups 1 through 4 PMs and implementing Orders, and release as non-sensitive information the PMs, the Implementing Guidance, and the HSAS action table.

SECY, please track.

Attachments: As stated

cc w/atts: SECY
OCA
OGC
OPA
CFO

EA-05-090
Holders of Material Licenses Authorized
to Possess Radioactive Material Quantities of Concern
as listed in Attachment A to Enclosure 1

SUBJECT: ISSUANCE OF ORDER FOR ENHANCED SECURITY MEASURES FOR
CERTAIN RADIOACTIVE MATERIALS LICENSEES

The U.S. Nuclear Regulatory Commission (NRC or Commission) is issuing the enclosed Order (Enclosure 1, with attachments) that requires compliance with the specified enhanced protective measures (PM) with respect to the possession of radioactive materials quantities of concern. This Order applies to all Addressees listed in Attachment A to the enclosed Order. Attachment B to this Order contains the PMs. Attachment B, Table 1, identifies radioactive material quantities of concern. Attachment C to the Order contains handling and protection requirements for the protection of sensitive unclassified information for security plans and other sensitive information generated in response to the PMs. This Order requires licensees to control information they generate in response to the PMs as it would its own confidential commercial or financial information, and only reveal it to those persons who need the information for conducting official business. This information should, as a minimum, be stored in a space or building that is protected by electronic access controls, security guards, or alternatively, in a locking cabinet or other equivalent storage container.

The Commission recognizes that you have voluntarily and responsibly implemented additional security measures following the events of September 11, 2001. However, as a result of its consideration of current safeguards and license requirements, as well as a review of information provided by the intelligence community, the Commission has concluded that these additional protective measures should be embodied in an Order. The Order sets forth requirements for which you must comply. The enclosed Order is effective immediately. These requirements will remain in effect until the Commission determines otherwise.

This Order does not obviate the need for licensees to continue to meet and maintain the effectiveness of existing security measures taken in response to the events of September 11, 2001.

The enclosed Order calls for responses and actions within specified time frames. All recipients are required to respond, in writing to the NRC, within twenty five (25) days of this Order. A licensee may determine that the Orders are not applicable to their operations and notify the NRC accordingly. However, before taking possession of Table 1 quantities of concern, Licensees shall complete implementation of the requirements in the Order on the first day that radionuclides of concern at or above threshold limits identified in Table 1, are possessed.

The NRC is also issuing Regulatory Issue Summary (RIS) 2002-12X (Enclosure 2 with attachments) to all specific NRC licensees who are authorized to possess radioactive materials in these quantities. Attachment B to the RIS, "Threat Conditions and Specific Actions for Consideration of Licensees That Possess Certain Radioactive Material Quantities of Concern," is provided as guidance and suggests actions for licensees in response to NRC Levels which reflect national color-coded threat conditions defined by Presidential Directive. Actions as listed in Attachment B, Enclosure 2, are not required by Order and do not supersede the PMs identified in Attachment B, Enclosure 1. Implementation of the PMs is required by Order and implementation of handling and protection requirements of physical protection information generated in response to the PMs is required by Order. Also enclosed is a copy of PM Guidance and Questions and Answers resulting from closed meetings held with, and correspondence received from, stakeholders, and Guidance for the handling of sensitive unclassified information that includes your physical protection information generated in response to the PMs (Enclosure 3).

Please contact the following members of the NRC staff, Gary Purdy, (301) 415-7897, gwp1@nrc.gov or Frederick Sturz, (301) 415-6678, fcs@nrc.gov, to facilitate resolution of any issues or questions related to compliance with the requirements in the enclosed Order. The enclosed Order has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Jack R. Strosnider, Director
Office of Nuclear Material Safety
and Safeguards

Enclosures: As stated

UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
LICENSEES AUTHORIZED TO)
POSSESS RADIOACTIVE MATERIAL)
QUANTITIES OF CONCERN)

EA 05-090

**ORDER IMPOSING PROTECTIVE MEASURES
(EFFECTIVE IMMEDIATELY)**

I

The Licensees identified in Attachment A¹ to this Order hold licenses issued in accordance with the Atomic Energy Act of 1954 by the U.S. Nuclear Regulatory Commission (NRC or Commission) or an Agreement State authorizing them to possess certain quantities of radioactive material of concern. Commission regulations at 10 CFR § 20.1801 or equivalent Agreement State regulations require Licensees to secure, from unauthorized removal or access, licensed materials that are stored in controlled or unrestricted areas. Commission regulations at

¹ Attachment A contains sensitive information and will not be released to the public.

Enclosure 1

10 CFR § 20.1802 or equivalent Agreement States regulations require Licensees to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage.

II

On September 11, 2001, terrorists simultaneously attacked targets in New York, N.Y., and Washington, D.C., utilizing large commercial aircraft as weapons. In response to the attacks and intelligence information subsequently obtained, the Commission issued a number of Safeguards and Threat Advisories to its Licensees in order to strengthen Licensees' capabilities and readiness to respond to a potential attack on a nuclear facility. The Commission has also communicated with other Federal, State and local government agencies and industry representatives to discuss and evaluate the current threat environment in order to assess the adequacy of security measures at licensed facilities. In addition, the Commission has been conducting a review of its safeguards and security programs and requirements.

As a result of its consideration of current safeguards and license requirements, as well as a review of information provided by the intelligence community, the Commission has determined that certain protective measures are required to be implemented by Licensees as prudent measures to address the current threat environment. Therefore, the Commission is imposing the requirements set forth in Attachment B on radioactive materials licensees who possess, or have near term plans to possess, radioactive material quantities of concern. These requirements, which supplement existing regulatory requirements, will provide the Commission

with reasonable assurance that the public health and safety and common defense and security continue to be adequately protected in the current threat environment. These requirements will remain in effect until the Commission determines otherwise.

The Commission recognizes that Licensees may have already initiated many measures set forth in Attachment B to this Order in response to previously issued advisories or on their own. It is also recognized that some measures may not be possible or necessary at some sites, or may need to be tailored to accommodate the Licensees' specific circumstances to achieve the intended objectives and avoid any unforeseen effect on the safe use and storage of the sealed sources.

Although the additional security measures implemented by the Licensees in response to the Safeguards and Threat Advisories have been adequate to provide reasonable assurance of adequate protection of public health and safety, the Commission concludes that the security measures must be embodied in an Order consistent with the established regulatory framework.

This Order requires both Nuclear Regulatory Commission (NRC) and Agreement State licensees to control information that, if released, could reasonably be expected to be useful to potential adversaries in planning an attack and adversely impact the common defense and security of the United States. Licensees must ensure proper handling and protection of their physical protection information related to the security of radioactive materials associated with this Order to avoid unauthorized disclosure in accordance with requirements set forth in Attachment C to this Order. The Commission hereby provides notice that it intends to treat

unauthorized disclosure of the licensee's physical protection information as a breach of adequate protection of the public health and safety and the common defense and security of the United States. Whoever willfully violates, attempts to violate, or conspires to violate any provision of an Order issued under Section 161b is subject to punishment including a fine or imprisonment.

To provide assurance that the Licensees are implementing prudent measures to achieve a consistent level of protection to address the current threat environment, and consistent with the International Atomic Energy Agency (IAEA) Code of Conduct on the Safety and Security of Radioactive Sources (Code of Conduct) concerning Category 1 and 2 sources, all Licensees who hold licenses issued by the U.S. Nuclear Regulatory Commission or an Agreement State authorizing possession of radioactive material quantities of concern, listed for IAEA Category 2 and as listed in Table 1, "Radionuclides of Concern," (Attachment B, Table 1), shall implement the requirements identified in Attachment B to this Order. In addition, pursuant to 10 CFR § 2.202, I find that in light of the common defense and security matters identified above, which warrant the issuance of this Order, the public health, safety and interest require that this Order be effective immediately.

III

Accordingly, pursuant to Sections 81, 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR § 2.202, 10 CFR Part 30, and 10 CFR Part 32, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT ALL

LICENSEES IDENTIFIED IN ATTACHMENT A TO THIS ORDER SHALL COMPLY WITH THE REQUIREMENTS OF THIS ORDER AS FOLLOWS:

- A. 1. The Licensee shall, notwithstanding the provisions of any Commission or Agreement State regulation or license to the contrary, comply with the requirements described in Attachment B to this Order. The Licensee shall immediately start implementation of the requirements in Attachment B to the Order and shall complete implementation by December xx, 2005, or the first day that radionuclides of concern at or above threshold limits, identified in Table 1, are possessed, which ever is later.
2. The Licensee shall, notwithstanding the provisions of any Commission or Agreement State regulation or license to the contrary, comply with the information protection requirements described in Attachment C to this Order.
- B. 1. The Licensee shall, within **twenty five (25) days** of the date of this Order, notify the Commission, (1) if it is unable to comply with any of the requirements described in Attachment B, (2) if compliance with any of the requirements is unnecessary in its specific circumstances, or (3) if implementation of any of the requirements would cause the Licensee to be in violation of the provisions of any Commission or Agreement State regulation or its license. The notification shall provide the Licensee's justification for seeking relief from or variation of any specific requirement.
2. If the Licensee considers that implementation of any of the requirements described in

Attachment B to this Order would adversely impact safe operation of the facility, the Licensee must notify the Commission, in writing, within **twenty five (25) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has an adverse safety impact, and either a proposal for achieving the same objectives specified in the Attachment B requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, the Licensee must supplement its response to Condition B.1 of this Order to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.

- C. 1. The Licensee shall, **within twenty five (25) days** of the date of this Order, submit to the Commission a schedule for completion of each requirement described in Attachment B.
- 2. The Licensee shall report to the Commission when they have achieved full compliance with the requirements described in Attachment B.
- D. Notwithstanding any provisions of the Commission's or an Agreement State's regulations to the contrary, all measures implemented or actions taken in response to this Order shall be maintained until the Commission determines otherwise.

Licensee responses to Conditions B.1, B.2, C.1, and C.2 above shall be submitted to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. In addition, Licensee's responses shall be marked as

"Withhold From Public disclosure Under 10 CFR 2.390."

The Director, Office of Nuclear Material Safety and Safeguards, may, in writing, relax or rescind any of the above conditions upon demonstration by the Licensee of good cause.

IV.

In accordance with 10 CFR § 2.202, the Licensee must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, within **twenty five (25) days** of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order. Unless the answer consents to this Order, the answer shall, in writing and under oath or affirmation, specifically set forth the matters of fact and law on which the Licensee or other person adversely affected relies and the reasons as to why the Order should not have been issued. Any answer or request for a hearing shall be submitted to the Secretary, Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, ATTN: Rulemakings and Adjudications Staff, Washington, DC 20555. Copies also shall be sent to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, to the Assistant General Counsel for Materials Litigation and Enforcement at the same address, and to the Licensee if the answer or hearing request is

by a person other than the Licensee. Because of possible disruptions in delivery of mail to United States Government offices, it is requested that answers and requests for hearing be transmitted to the Secretary of the Commission either by means of facsimile transmission to 301-415-1101 or by e-mail to hearingdocket@nrc.gov and also to the Office of the General Counsel either by means of facsimile transmission to 301-415-3725 or by e-mail to OGCMailCenter@nrc.gov. If a person other than the Licensee requests a hearing, that person shall set forth with particularity the manner in which his interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR § 2.714(d).

If a hearing is requested by the Licensee or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained.

Pursuant to 10 CFR § 2.202(c)(2)(i), the Licensee may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section III above shall be final **twenty five (25) days** from the date of this Order without further order or proceedings. If an extension of

time for requesting a hearing has been approved, the provisions specified in Section III shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

Dated this day of June 2005

FOR THE NUCLEAR REGULATORY COMMISSION

Jack R. Strosnider, Jr., Director
Office of Nuclear Material Safety
and Safeguards

Attachments:

- A. Service List of Licensees (Not for Public Disclosure)
- B. Protective Measures for Licensees That Possess Sources Containing Radioactive Material Quantities of Concern, including Table 1: Radionuclides of Concern
- C. Handling and Protection of Physical Protection Information Related to the Security of Radioactive Material Quantities of Concern

PROTECTIVE MEASURES FOR LICENSEES THAT POSSESS SOURCES CONTAINING RADIOACTIVE MATERIAL QUANTITIES OF CONCERN

The purpose of the Protective Measures (PMs) is to enhance existing security and control of radioactive material in quantities greater than or equal to values described in Table 1, to reduce the risk of malevolent use of radioactive materials, through access controls to aid prevention, and prompt detection, assessment, and response to mitigate potentially high consequences that would be detrimental to public health and safety and the common defense and security. These PMs are established to delineate licensee responsibility as a result of its consideration of current safeguards and license requirements, as well as a review of information provided by the intelligence community. The following protective measures apply to licensees which, at any given time, possess radioactive sources greater than or equal to the quantities of concern of radioactive material defined in Table 1.

1. Control access at all times to radioactive material quantities of concern and devices containing such radioactive material (devices), and limit access to such radioactive material and devices to only approved individuals who require access to perform their duties.
 - a. The licensee shall allow only trustworthy and reliable individuals, approved in writing by the licensee, to have unescorted access to radioactive material quantities of concern and devices. The licensee shall approve for unescorted access only those individuals with job duties that require access to such radioactive material and devices. Personnel who require access to such radioactive material and devices to perform a job duty, but who are not approved by the licensee for unescorted access, must be escorted by an approved individual.
 - b. For individuals employed by the licensee for three years or less, and for non-licensee personnel, such as physicians, physicists, house-keeping personnel, and security personnel under contract, trustworthiness and reliability shall be determined, at a minimum, by verifying employment history, education, and personal references. The licensee shall also, to the extent possible, obtain independent information to corroborate that provided by the employee (i.e., seeking references not supplied by the individual). For individuals employed by the licensee for longer than three years, trustworthiness and reliability shall be determined, at a minimum, by a review of the employees' employment history with the licensee.

- c. Service providers shall be escorted unless determined to be trustworthy and reliable by an NRC-required background investigation as an employee of a manufacturing or distribution (M&D) licensee. Written verification attesting to or certifying the person's trustworthiness and reliability shall be obtained from the manufacturing/distribution licensee providing the service.
 - d. The licensee shall document the basis for concluding that there is reasonable assurance an individual granted unescorted access is trustworthy and reliable, and does not constitute an unreasonable risk for malevolent use of radioactive material quantities of concern. The licensee shall maintain a list of persons approved for access to such radioactive material and devices by the licensee.
2. Each licensee shall have a documented program to monitor and immediately detect, assess, and respond to unauthorized access to radioactive material quantities of concern and devices. Enhanced monitoring shall be provided during periods of source delivery or shipment, where the delivery or shipment exceeds 100 times the Table 1 values.
 - a. The licensee shall respond immediately to any actual or attempted theft, sabotage, or diversion of such radioactive material or of the devices. The response shall include requesting assistance from Local Law Enforcement Agency (LLEA).
 - b. The licensee shall have a pre-arranged plan with LLEA for assistance in response to an actual or attempted theft, sabotage, or diversion of such radioactive material or of the devices which is consistent in scope and timing with realistic potential vulnerability of the sources containing such radioactive material. The pre-arranged plan shall be updated when changes to the facility design or operation affect the potential vulnerability of the sources. Pre-arranged LLEA coordination is not required for temporary job sites.
 - c. The licensee shall have a dependable means to transmit information between, and among, the various components used to detect and identify an unauthorized intrusion, to inform the assessor, and to summon the appropriate responder.
 - d. After initiating appropriate response to any actual or attempted theft, sabotage, or diversion of radioactive material or of the devices, the licensee shall, as promptly as possible, notify the NRC Operations Center at (301) 816-5100 and, for Agreement State licensees, the appropriate Agreement State regulatory agency.
 - e. The licensee shall maintain documentation describing each instance of unauthorized access and any necessary corrective actions to prevent future instances of unauthorized access.

3. a. For domestic highway and rail shipments of licensed radioactive material by a carrier other than the licensee, for quantities that equal or exceed those in Table 1 but are less than 100 times Table 1 quantities, per consignment, the licensee shall:

1. Use carriers which:
 - A. Use package tracking systems,
 - B. Implement methods to assure trustworthiness and reliability of drivers,
 - C. Maintain constant control and/or surveillance during transit, and
 - D. Have the capability for immediate communication to summon appropriate response or assistance.

The licensee shall verify and document that the carrier employs the measures listed above.

2. Contact the recipient to coordinate the expected arrival time of the shipment;
3. Confirm receipt of the shipment; and
4. Initiate an investigation to determine the location of the licensed material if the shipment does not arrive on or about the expected arrival time. When, through the course of the investigation, it is determined the shipment has become lost, stolen, or missing, the licensee shall immediately notify the NRC Operations Center at (301) 816-5100 and its Agreement State regulatory agency, as appropriate. If after 24 hours of investigating, the location of the material still cannot be determined, the radioactive material is deemed missing and the licensee shall immediately notify the NRC Operations Center and its Agreement State regulatory agency, as appropriate.

- b. For domestic highway and rail shipments, prior to shipping licensed radioactive material that exceeds 100 times the quantities in Table 1 per consignment, the licensee shall:

1. Notify the NRC¹, in writing, at least 90 days prior to the anticipated date of shipment. The NRC will issue the Order to implement the Additional Security Measures (ASMs) for the transportation of Radioactive Material Quantities of Concern (RAM QC). The licensee shall not ship this material until the ASMs for the transportation of RAM QC are implemented or notified otherwise, in writing, by NRC.
2. Once the licensee has implemented the ASMs for the transportation of RAM QC, the notification requirements of PM 3.b.1 shall not apply to future shipments of licensed radioactive material that exceed 100 times the Table 1 quantities. The licensee shall implement the ASMs for the transportation of RAM QC.
- c. If a licensee employs a M&D licensee to take possession of the licensed radioactive material and ship it under its M&D license, the requirements of PM 3.a. and 3.b above shall not apply.
- d. If the licensee is to receive radioactive material greater than or equal to the Table 1 quantities, per consignment, the licensee shall coordinate with the originating licensee to:
 1. Establish an expected time of delivery; and
 2. Confirm receipt of transferred radioactive material. If the material is not received at the expected time of delivery, notify the originating licensee and assist in any investigation.
4. For licensees which possess mobile or portable devices containing radioactive material in quantities greater than or equal to Table 1 values, licensees shall:
 - a. For portable devices, have two independent physical controls that form tangible barriers to secure the material from unauthorized removal when the device is not under direct control and constant surveillance by the licensee.
 - b. For mobile devices:
 1. that are only moved outside of the facility (e.g., on a trailer), have two independent physical controls that form tangible barriers to secure the material from unauthorized removal when the device is not under direct control and constant surveillance by the licensee.

¹Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555

2. that are only moved inside a facility, have a physical control that forms a tangible barrier to secure the material from unauthorized movement or removal when the device is not under direct control and constant surveillance by the licensee.
 - c. For devices in or on a vehicle or trailer, licensees shall also utilize a method to disable the vehicle or trailer when not under direct control and constant surveillance by the licensee.
5. The licensee shall retain documentation required by these protective measures for three years after they are no longer effective:
 - a. The licensee shall retain documentation regarding the trustworthiness and reliability of individual employees for three years after the individual's employment ends.
 - b. Each time the licensee revises the list of approved persons required by PM 1.d., or the documented security program required by PM 2, the licensee shall retain the previous documentation for three years after the revision.
 - c. The licensee shall retain documentation on each radioactive material carrier for three years after the licensee discontinues use of that particular carrier.
 - d. The licensee shall retain documentation on shipment coordination, notifications, and investigations for three years after the shipment or investigation is completed.
 - e. After the license is terminated or amended to reduce possession limits below the quantities of concern, the licensee shall retain all documentation required by the PMs for three years.

Table 1: Radionuclides of Concern

Radionuclide	Quantity of Concern ¹ (TBq)	Quantity of Concern ² (Ci)
Am-241	0.6	16
Am-241/Be	0.6	16
Cf-252	0.2	5.4
Cm-244	0.5	14
Co-60	0.3	8.1
Cs-137	1	27
Gd-153	10	270
Ir-192	0.8	22
Pm-147	400	11,000
Pu-238	0.6	16
Pu-239/Be	0.6	16
Se-75	2	54
Sr-90 (Y-90)	10	270
Tm-170	200	5,400
Yb-169	3	81
Combinations of radioactive materials listed above ³	See Footnote Below ⁴	

¹ The aggregate activity of multiple, collocated sources of the same radionuclide should be included when the total activity exceeds the quantity of concern.

² The primary values used for compliance with this Order are TBq. The curie (Ci) values are rounded to one significant figure for informational purposes only.

³ Radioactive materials are to be considered aggregated or collocated if breaching a common physical security barrier (e.g., a locked door at the entrance to a storage room) would allow access to the radioactive material or devices containing the radioactive material.

⁴ If several radionuclides are aggregated, the sum of the ratios of the activity of each source, i of radionuclide, n , $A_{(i,n)}$, to the quantity of concern for radionuclide n , $Q_{(n)}$, listed for that radionuclide exceeds one. $[(\text{aggregated source activity for radionuclide A}) \div (\text{quantity of concern for radionuclide A})] + [(\text{aggregated source activity for radionuclide B}) \div (\text{quantity of concern for radionuclide B})] + \text{etc.} \geq 1$

Use the following method to determine which sources of radioactive material that require protective measures (PMs):

- C Include any single source larger than the quantity of concern in Table 1
- C Include multiple co-located sources of the same radionuclide when the combined quantity exceeds the quantity of concern
- C For combinations of radionuclides, include multiple co-located sources of different radionuclides when the aggregate quantities satisfy the following unity rule: $[(\text{amount of radionuclide A}) \div (\text{quantity of concern of radionuclide A})] + [(\text{amount of radionuclide B}) \div (\text{quantity of concern of radionuclide B})] + \text{etc.....} \geq 1$

Guidance for Aggregation of Sources

NRC supports the use of the IAEA's source categorization methodology as defined in TECDOC-1344, "Categorization of Radioactive Sources," (July 2003) (see http://www-pub.iaea.org/MTCD/publications/PDF/te_1344_web.pdf) and as endorsed by the agency's Code of Conduct for the Safety and Security of Radioactive Sources, January 2004 (see <http://www-pub.iaea.org/MTCD/publications/PDF/Code-2004.pdf>). The Code defines a three-tiered source categorization scheme. Category 1 corresponds to the largest source strength (greater than 100 times the quantity of concern values listed in Table 1.) and Category 3, the smallest (equal or exceeding one-tenth the quantity of concern values listed in Table 1.). PMs apply to sources that are greater than the quantity of concern values listed in Table 1, plus aggregations of smaller sources that add up to greater than the quantities in Table 1. Aggregation only applies to sources that are co-located.

Licensees who possess sources in total quantities that exceed the Table 1 quantities are required to implement PMs. Where there are many small (less than the quantity of concern values) co-located sources whose total aggregate activity exceeds the Table 1 values, licensees are to implement PMs.

Some source handling or storage activities may cover several buildings, or several locations within specific buildings. The question then becomes: When are sources considered co-located for purposes of aggregation? For purposes of the PMs, sources are considered co-located if breaching a single security barrier (e.g., a locked door at the entrance to a storage room) would allow access to the sources. Sources behind an outer barrier should be aggregated separately from those behind an inner barrier (e.g., a locked source safe inside the locked storage room). However, if both barriers are simultaneously open, then all sources within these two barriers are considered to be co-located. This logic should be continued for other barriers within or behind the inner barrier.

The following example illustrates the point: A lockable room has sources stored in it. Inside the lockable room, there are two shielded safes with additional sources in them. Inventories are as follows:

The room has the following sources outside the safes: Cf-252, 0.12 Tbq (0.3 Ci); Po-210, 0.36 TBq (10 Ci), and Pu-238, 0.3 Tbq (8 Ci). Application of the unity rule yields: $(0.012 \div 0.2) + (0.36 \div 0.6) + (0.3 \div 0.6) = 0.06 + 0.6 + 0.5 = 1.2$. Therefore, the sources would require PMs. If the sources are distributed and shipped individually, PMs would not apply because they do not exceed the quantities in Table 1.

Shielded safe #1 has a 1.9 Tbq (51 Ci) Cs-137 source and a 0.75 Tbq (20 Ci) Ra-226 source. In this case, both sources would require PMs, because they exceed the quantities in Table 1. The Ra-226 source, although not licensed by NRC, was co-located with an NRC licensed source and therefore would need to be similarly protected.

Shielded safe #2 has two Po-210 sources, each having an activity of 0.2 Tbq (5 Ci). In this case, neither source would require PMs. (total activity = 0.4 Tbq (10 Ci). They do not exceed the threshold quantity 0.6 Tbq (20 Ci).

Because certain barriers may cease to exist during source handling operations (e.g., a storage location may be unlocked during periods of active source usage), licensees should, to the extent practicable, consider two modes of source usage — “operations” (active source usage) and “shutdown” (source storage mode). Whichever mode results in the greatest inventory (considering barrier status) would require PMs for each location.

Handling and Protection of Physical Protection Information Related to the Security of Radioactive Material Quantities of Concern

Licenses shall protect its physical protection information from unauthorized disclosure and control access to its physical protection information to those persons who have established the need to know the information, and are considered to be trustworthy and reliable. The sensitive physical protection information to be protected includes: information describing specific measures generated by the licensee in response to the protective measures including licensee's security plans and procedures for the physical protection of the radioactive material covered under this Order. Such information is referred to as "physical protection information." A need to know means a determination, by a person having responsibility for protecting the licensee's physical protection information, that a proposed recipient's access to the licensee's physical protection information is necessary in the performance of official, contractual, or licensee duties of employment.

Licenses shall develop, maintain and implement policies and procedures for controlling access to, and proper handling and protection against unauthorized disclosure of, its physical protection information for radioactive material covered by this Order. The licensee's policies and procedures necessary to ensure compliance must address, at a minimum, the following: (1) the general performance requirement that each person who produces, receives, or acquires the licensee's physical protection information shall ensure that the licensee's physical protection information is protected against unauthorized disclosure; (2) the protection of physical protection information about radioactive material use, storage, and transit; (3) correspondence containing the licensee's physical protection information; (4) access to the licensee's physical protection information; (5) preparation, marking, reproduction and destruction of documents containing physical protection information; (6) external transmission of documents containing physical protection information; (7) use of automatic data processing systems containing physical protection information; and (8) removal from the licensee's physical protection information category.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
WASHINGTON, D.C. 20555-0001

[Month DD, 200Y]

**NRC REGULATORY ISSUE SUMMARY 2005-xx
LICENSEES POSSESSING CERTAIN RADIOACTIVE MATERIAL QUANTITIES OF
CONCERN
NRC THREAT ADVISORY AND PROTECTIVE MEASURES SYSTEM (U)**

ADDRESSEES

All licensees authorized to possess certain radioactive material quantities of concern.

INTENT

The U.S. Nuclear Regulatory Commission (NRC or Commission) is issuing this regulatory issue summary (RIS) to inform addressees of changes to the descriptions of the various threat advisory conditions and provide guidance that addressees may use in preplanning graded protective measures to respond to changes in the threat environment. It is noted that a RIS is generally used to communicate with the nuclear industry on a variety of matters for which no response or action is required. This RIS communicates actions the NRC considers appropriate at each threat level. In the interest of expediency, the Commission has determined that issuance of this RIS is the most efficient mechanism to align the Department of Homeland Security, NRC, and licensee expectations with respect to licensees' response to threat advisories.

BACKGROUND

The Department of Homeland Security (DHS) has developed a Homeland Security Advisory System (HSAS) to provide a comprehensive and effective system to disseminate information regarding the risk of terrorist attacks to Federal, State, and local authorities and the public. The HSAS implements Homeland Security Presidential Directive 3, March 11, 2002, as amended by Homeland Security Presidential Directive 5, February 28, 2003 (Attachment A). This new system includes five color-coded threat conditions with a description of corresponding actions at each level. These conditions are:

- | | |
|-------------------------------|--------------------------------------|
| ● Green (Low Condition) | Low risk of terrorist attack |
| ● Blue (Guarded Condition) | General risk of terrorist attack |
| ● Yellow (Elevated Condition) | Significant risk of terrorist attack |
| ● Orange (High Condition) | High risk of terrorist attack |
| ● Red (Severe Condition) | Severe risk of terrorist attack |

DISCUSSION

The HSAS provides a consistent national framework for allowing government officials and citizens to communicate the nature and degree of terrorist threats. The advisory system characterizes appropriate levels of vigilance, preparedness, and readiness for each threat condition and describes associated actions that should be taken to counter and respond to terrorist activities.

In declaring threat conditions, the Secretary of Homeland Security in consultation with the Attorney General, members of the Homeland Security Council, and any other appropriate federal agency heads, will consider, but not be limited to, the following factors:

- To what degree is the threat information credible?
- To what degree is the threat information corroborated?
- To what degree is the threat specific and/or imminent?
- How grave are the potential consequences of the threat?
- To what degree is the target vulnerable to the threat?

HSAS advisories regarding threat conditions may be declared for the entire nation or for a specific geographical area, or functional or industrial sector, and will be sent to local, State, and Federal government agencies as appropriate. In general, the threat conditions escalate as the likelihood or imminence of an attack increases.

Although the threat condition will be determined by the Secretary of Homeland Security, the NRC has the obligation under Presidential Homeland Security Directive 3 to establish the appropriate protective measures for facilities under its regulatory authority. In addition, the NRC has the obligation to respond to risks, threats, incidents, and events at NRC-regulated facilities, or involving NRC-regulated materials, including radioactive material possessed by organizations licensed by Agreement States when necessary to promote the common defense and security.

Upon a declaration of an HSAS threat condition, the NRC will promptly notify affected NRC and Agreement State licensees and the affected Agreement States of the threat condition and of the appropriate protective measures. In addition, the NRC may find it appropriate to notify affected licensees to establish certain protective measures in the absence of an HSAS declaration. The NRC could take such a step, for example, to respond to an emergency or a site-specific situation.

The NRC is issuing this RIS to announce its threat advisory and protective measures system to implement the HSAS for licensees that possess certain radioactive material quantities of concern. The NRC will relay information relating to the threat conditions using the color-coded system defined by the HSAS. The NRC has also defined protective measures in five levels, which generally correlate with the five color-coded conditions of the HSAS (Attachment B). Protective measures at each level build upon the actions defined in the lower levels. For example, measures at level III will include those measures taken at levels I and II.

- The level I (Low) protective measures, which generally correspond to the green threat condition, are considered to be the routine level of operation and are satisfied by licensees maintaining the security programs required by the regulations, individual licenses, and Orders. Measures to enhance security need to be available so that they can be readied or implemented in higher threat conditions when called upon.
- The level II (Guarded) protective measures, which generally correspond to the blue threat condition, warrant more action by the licensees, but will generally not involve significant action beyond the routine level of operation. These actions would typically relate to readiness, e.g., notifying personnel to standby, or bringing in additional security officers to prepare for an enhanced response. Actions taken at level II will include those taken at level I.
- The level III (Elevated) protective measures, which generally correspond to the yellow threat condition, warrant enhanced security measures and additional resources, perhaps on a sustained basis, but would be based on hardware and personnel already at the licensee's disposal. (Note: When the HSAS was first announced on March 12, 2002, DHS also announced that the country was then considered to be in a Yellow threat condition.) Actions taken at level III will include those taken at levels I and II.
- The level IV (High) protective measures, which generally correspond to the orange threat condition, assume that the licensee's security organization is at its highest sustainable level and that the licensee will request augmentation by local and State, and possibly Federal, resources to provide additional defensive capabilities to the extent such resources can be made available. (Note: NRC advisories will provide additional specific information to the licensee(s) as information about the threat develops. Any additional licensee actions will be based upon threat specific information). Actions taken at level IV will include those taken at levels I, II, and III.

- The level V (Severe) protective measures, which generally correspond to the red threat condition, assume that the licensee will request augmentation by Federal resources beyond State and local resources to provide additional defensive capabilities to the extent such resources can be made available to enhance the security of the facility. NRC will facilitate implementation of this added Federal presence. (Note: It is expected that this condition will be limited to one or a very small number of licensees for a limited period of time. Any additional specific actions will be based on an ongoing assessment of the threat by the NRC and other Federal agencies.) Actions taken at level V will include those taken at levels I, II, III, and IV.

When a change in threat condition affects NRC and Agreement States' licensees, the NRC will issue a threat advisory notifying its licensees and Agreement States of the change. The NRC will refer licensees to the recommended protective measures outlined in the table attached to this RIS. Regardless of the current threat condition, licensees are required to comply with existing regulations, licenses, and Orders. The table provides a clear description of the basic actions appropriate to achieve the desired level of protection. The NRC may tailor the protective measures to be implemented based on the nature of the threat, including specific instructions regarding protection against a specific mode of attack.

In some cases, the circumstances of a particular threat may warrant that additional security measures be implemented beyond those provided in the attached table. For example, such additional measures may be necessary depending upon the type of licensee affected, the security risks associated with various licensed activities, the specific vulnerabilities at a given site, the suspected mode of attack, and the likelihood and nature of the threat. Although most terrorist attacks occur without specific warning, whenever possible, the NRC will provide information about the nature and projected time frame of the threat.

The protective measures in the attached table are assigned to particular threat levels, reflecting the seriousness of the threat and the need for timely action to address the threat. Therefore, prompt implementation of the measures is essential if the steps are to be effective in protecting the facility.

The Commission may need to direct additional measures to deal with a fast-moving situation in the transition period before a formal declaration of a threat escalation. HSPD-3 states that agency heads "retain the authority to respond, as necessary, to risks, threats, incidents, or events at facilities within the specific jurisdiction of their department or agency." In these cases, the NRC threat advisory will include additional specific guidance beyond what is generically prescribed in the tables for a particular threat level.

NRC will update the table enclosed with this RIS (Attachment B) as necessary to reflect changes in protective measures for various threat levels and to reflect results from its ongoing comprehensive review of security matters. In addition, this RIS will be reviewed at least once a year and revised as necessary consistent with requirements to report changes to the Department of Homeland Security by August 1 of each year. Licensees seeking to provide input to the RIS and possible revisions should forward comments to the contacts listed below.

FEDERAL REGISTER NOTIFICATION

A notice of opportunity for public comment was not published in the *Federal Register* because this RIS is informational. The Commission also plans to issue additional Regulatory Issue Summaries in this series to cover additional classes of licensees, or NRC-licensed activities, as NRC's review progresses. Any specific comments should be forwarded to the contacts listed below.

PAPERWORK REDUCTION ACT STATEMENT

This RIS does not request any information collection; therefore, this RIS is not subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, et seq.)

If you have any questions about this matter, please telephone or e-mail the technical contacts listed below.

Charles L. Miller, Director
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Materials Safety
and Safeguards

Contact: Richard H. Turtill, NSIR/DNS
301-415-5563, rht@nrc.gov

Charles Cox, NMSS/IMNS
301-415-6755, cxc5@nrc.gov

Andrew Mauer, STP
301-415-3962, anm@nrc.gov

Attachments: (A) HSPD-3, Homeland Security Advisory System, as amended by HSPD-5
(B) Threat Conditions and Specific Actions for Consideration of Licensees That Possess Certain Radioactive Material Quantities of Concern.

Homeland Security Presidential Directive-3, as amended by Homeland Security Presidential Directive-5

Purpose

The Nation requires a Homeland Security Advisory System to provide a comprehensive and effective means to disseminate information regarding the risk of terrorist acts to Federal, State, and local authorities and to the American people. Such a system would provide warnings in the form of a set of graduated "Threat Conditions" that would increase as the risk of the threat increases. At each Threat Condition, Federal departments and agencies would implement a corresponding set of "Protective Measures" to further reduce vulnerability or increase response capability during a period of heightened alert.

This system is intended to create a common vocabulary, context, and structure for an ongoing national discussion about the nature of the threats that confront the homeland and the appropriate measures that should be taken in response. It seeks to inform and facilitate decisions appropriate to different levels of government and to private citizens at home and at work.

Homeland Security Advisory System

The Homeland Security Advisory System shall be binding on the executive branch and suggested, although voluntary, to other levels of government and the private sector. There are five Threat Conditions, each identified by a description and corresponding color. From lowest to highest, the levels and colors are:

Low = Green;
Guarded = Blue;
Elevated = Yellow;
High = Orange;
Severe = Red.

The higher the Threat Condition, the greater the risk of a terrorist attack. Risk includes both the probability of an attack occurring and its potential gravity. Threat Conditions shall be assigned by the Secretary of Homeland Security in consultation with the Assistant to the President for Homeland Security. Except in exigent circumstances, the Secretary of Homeland Security shall seek the views of the Attorney General, and any other federal agency heads the Secretary deems appropriate, including other members of the Homeland Security Council, on the Threat Condition to be assigned. Threat Conditions may be assigned for the entire Nation, or they may be set for a particular geographic area or industrial sector. Assigned Threat Conditions shall be reviewed at regular intervals to determine whether adjustments are warranted.

For facilities, personnel, and operations inside the territorial United States, all Federal departments, agencies, and offices other than military facilities shall conform their existing threat advisory systems to this system and henceforth administer their systems consistent with the determination of the Secretary of Homeland Security with regard to the Threat Condition in effect.

The assignment of a Threat Condition shall prompt the implementation of an appropriate set of Protective Measures. Protective Measures are the specific steps an organization shall take to reduce its vulnerability or increase its ability to respond during a period of heightened alert. The authority to craft and implement Protective Measures rests with the Federal departments and agencies. It is recognized that departments and agencies may have several preplanned sets of responses to a particular Threat Condition to facilitate a rapid, appropriate, and tailored response. Department and agency heads are responsible for developing their own Protective Measures and other antiterrorism or self-protection and continuity plans, and resourcing, rehearsing, documenting, and maintaining these plans. Likewise, they retain the authority to respond, as necessary, to risks, threats, incidents, or events at facilities within the specific jurisdiction of their department or agency, and, as authorized by law, to direct agencies and industries to implement their own Protective Measures. They shall continue to be responsible for taking all appropriate proactive steps to reduce the vulnerability of their personnel and facilities to terrorist attack. Federal department and agency heads shall submit an annual written report to the President, through the Assistant to the President for Homeland Security, describing the steps they have taken to develop and implement appropriate Protective Measures for each Threat Condition. Governors, mayors, and the leaders of other organizations are encouraged to conduct a similar review of their organizations' Protective Measures.

At the request of the Secretary of Homeland Security, the Department of Justice shall permit and facilitate the use of delivery systems administered or managed by the Department of Justice for the purposes of delivering threat information pursuant to the Homeland Security Advisory System.

The decision whether to publicly announce Threat Conditions shall be made on a case-by-case basis by the Secretary of Homeland Security in consultation with the Assistant to the President for Homeland Security. Every effort shall be made to share as much information regarding the threat as possible, consistent with the safety of the Nation. The Secretary of Homeland Security shall ensure, consistent with the safety of the Nation, that State and local government officials and law enforcement authorities are provided the most relevant and timely information. The Secretary of Homeland Security shall be responsible for identifying any other information developed in the threat assessment process that would be useful to State and local officials and others and conveying it to them as permitted consistent with the constraints of classification. The Secretary of Homeland Security shall establish a process and a system for conveying relevant information to Federal, State, and local government officials, law enforcement authorities, and the private sector expeditiously.

The Director of Central Intelligence, Secretary of Homeland Security and the Attorney General shall ensure that a continuous and timely flow of integrated threat assessments and reports is provided to the President, the Vice President, Assistant to the President and Chief of Staff, the Assistant to the President for Homeland Security, and the Assistant to the President for National Security Affairs. Whenever possible and practicable, these integrated threat assessments and reports shall be reviewed and commented upon by the wider interagency community.

A decision on which Threat Condition to assign shall integrate a variety of considerations. This integration will rely on qualitative assessment, not quantitative calculation. Higher Threat Conditions indicate greater risk of a terrorist act, with risk including both probability and gravity. Despite best efforts, there can be no guarantee that, at any given Threat Condition, a terrorist attack will not occur. An initial and important factor is the quality of the threat information itself. The evaluation of this threat information shall include, but not be limited to, the following factors:

To what degree is the threat information credible?

To what degree is the threat information corroborated?

To what degree is the threat specific and/or imminent?

How grave are the potential consequences of the threat?

Threat Conditions and Associated Protective Measures

The world has changed since September 11, 2001. We remain a Nation at risk to terrorist attacks and will remain at risk for the foreseeable future. At all Threat Conditions, we must remain vigilant, prepared, and ready to deter terrorist attacks. The following Threat Conditions each represent an increasing risk of terrorist attacks. Beneath each Threat Condition are some suggested Protective Measures, recognizing that the heads of Federal departments and agencies are responsible for developing and implementing appropriate agency-specific Protective Measures:

Low Condition (Green). This condition is declared when there is a low risk of terrorist attacks. Federal departments and agencies should consider the following general measures in addition to the agency-specific Protective Measures they develop and implement:

Refining and exercising as appropriate preplanned Protective Measures;

Ensuring personnel receive proper training on the Homeland Security Advisory System and specific preplanned department or agency Protective Measures; and

Institutionalizing a process to assure that all facilities and regulated sectors are regularly assessed for vulnerabilities to terrorist attacks, and all reasonable measures are taken to mitigate these vulnerabilities.

Guarded Condition (Blue). This condition is declared when there is a general risk of terrorist attacks. In addition to the Protective Measures taken in the previous Threat Condition, Federal departments and agencies should consider the following general measures in addition to the agency-specific Protective Measures that they will develop and implement:

- Checking communications with designated emergency response or command locations;
- Reviewing and updating emergency response procedures; and
- Providing the public with any information that would strengthen its ability to act appropriately.

Elevated Condition (Yellow). An Elevated Condition is declared when there is a significant risk of terrorist attacks. In addition to the Protective Measures taken in the previous Threat Conditions, Federal departments and agencies should consider the following general measures in addition to the Protective Measures that they will develop and implement:

- Increasing surveillance of critical locations;
- Coordinating emergency plans as appropriate with nearby jurisdictions;
- Assessing whether the precise characteristics of the threat require the further refinement of preplanned Protective Measures; and
- Implementing, as appropriate, contingency and emergency response plans.

High Condition (Orange). A High Condition is declared when there is a high risk of terrorist attacks. In addition to the Protective Measures taken in the previous Threat Conditions, Federal departments and agencies should consider the following general measures in addition to the agency-specific Protective Measures that they will develop and implement:

- Coordinating necessary security efforts with Federal, State, and local law enforcement agencies or any National Guard or other appropriate armed forces organizations;
- Taking additional precautions at public events and possibly considering alternative venues or even cancellation;
- Preparing to execute contingency procedures, such as moving to an alternate site or dispersing their workforce; and
- Restricting threatened facility access to essential personnel only.

Severe Condition (Red). A Severe Condition reflects a severe risk of terrorist attacks. Under most circumstances, the Protective Measures for a Severe Condition are not intended to be sustained for substantial periods of time. In addition to the Protective Measures in the previous

Threat Conditions, Federal departments and agencies also should consider the following general measures in addition to the agency-specific Protective Measures that they will develop and implement:

Increasing or redirecting personnel to address critical emergency needs;

Assigning emergency response personnel and pre-positioning and mobilizing specially trained teams or resources;

Monitoring, redirecting, or constraining transportation systems; and

Closing public and government facilities.

IMPLEMENTING GUIDANCE FOR LICENSEES THAT POSSESS RADIOACTIVE MATERIAL QUANTITIES OF CONCERN

Access Control (PM 1)

The objective is to limit “access” to radioactive material quantities of concern and devices containing radioactive material quantities of concern (devices) so that the risk of theft, sabotage, or malevolent use is minimized. Access means that an individual could exercise some physical control over the material or device. These access control requirements supplement existing regulations that address security and control of radioactive material by further limiting unescorted access to only those individuals approved by the licensee.

If access to radioactive material quantities of concern or the device is required by an individual who has not been approved for unescorted access, the non-approved individual must be escorted by an approved individual. Escorting means maintaining line of sight with the escorted individual. Licensees should also establish a means by which individuals approved for unescorted access can be visually distinguished from those requiring escort. For example, those approved for unescorted access to radioactive material quantities of concern or the device could wear specially colored badges or other identifying articles. This may assist facility personnel in early detection of unauthorized access to radioactive material quantities of concern or the device.

Control of access to radioactive material quantities of concern and the device can be achieved by the following examples:

- Limiting distribution of keys, keycards, or combinations to doors and gates to approved individuals;
- Remote activation of locked doors and gates using remote surveillance;
- Using a card reader and electronic locking devices at control points; and
- Constant surveillance by a person approved for unescorted access.

The requirements of this PM also apply at temporary job sites. Additionally, when transporting radioactive material quantities of concern, including the device, to and from a temporary jobsite,

access control shall be maintained when the transport vehicle is stopped at a hotel, restaurant, gas station, or other location.

Detection and Assessment (PM 2)

As required by PM 2, the licensee shall have a documented program to immediately detect unauthorized access to material when it occurs, assess whether the unauthorized access was an actual or attempted theft, and if so, initiate appropriate response. The objective is to reduce the risk that the material will be stolen and used for malevolent purposes, and improve the opportunity for recovery if stolen.

In order to facilitate the immediate detection, assessment and response, the radioactive material quantities of concern and devices containing such material shall be monitored to detect unauthorized access. Monitoring may be accomplished by a variety of means, including:

- a monitored intrusion alarm (an intrusion detection system with the capability to detect unauthorized access and that is linked to an on-site or off-site central monitoring facility);
- electronic devices for intrusion detection (alarms that will alert nearby facility personnel);
- or
- visual monitoring (video surveillance cameras, and/or visual inspection by trained personnel).

Systems used to control access to high radiation areas as required by 10 CFR Part 20, or equivalent Agreement State Regulations, or other detection and access control systems used for radiation protection may be used or modified, provided the modifications do not compromise the original safety purpose. Documentation should describe how these systems provide the required intrusion detection.

As required by PM 2, the licensee is responsible for enhanced monitoring during source delivery and shipment when the delivery or shipment exceeds 100 times the Table 1 values. Some examples of enhanced monitoring are providing additional personnel to monitor the radioactive material or increasing video surveillance of the radioactive material. When a service provider takes temporary possession of a source at a licensed facility, during these activities, the licensee, not the service provider, is responsible for the enhanced monitoring as well as the other security protective measures.

As required by PM 2, the licensee shall establish a program for assessing and responding to unauthorized access so that prompt mitigating measures can begin. Assessment can be by either automated devices or trained personnel who can initiate the appropriate response. Licensees should consider the possibility of simultaneous alarms at multiple locations. The program's documentation shall describe the processes as to how the licensee would assess and respond to unauthorized access.

The requirements of this PM also apply at temporary job sites. Additionally, when transporting radioactive material quantities of concern to and from a temporary jobsite, detection and assessment capability shall be maintained when the transport vehicle is stopped at a hotel, restaurant, gas station, or other location.

As required by PM 2.a. and PM 2.d., in the event of any actual or attempted theft, sabotage, or diversion of radioactive material quantities of concern or the device, the licensee shall notify the local law enforcement agency (LLEA) immediately, followed soon thereafter by a call to the NRC Operations Center at (301) 816-5100. For an Agreement State licensee, the appropriate State regulatory agency shall also be notified. Telephone calls to notify the NRC or State regulatory agencies should be as prompt as possible, but not at the expense of causing delay or interfering with LLEA response to the event.

As required by PM 2.b., licensees shall have a prearranged plan with the LLEA that will respond to an actual or attempted theft of radioactive material quantities of concern or the device. One of the purposes of establishing liaison with the LLEA is to provide them with an understanding of the potential consequences associated with theft or sabotage of the radioactive material of concern so that the LLEA can appropriately determine the priority of its response. Licensees should inform the LLEA of the quantities of radioactive material that may be involved and the potential hazards associated with loss of control of the material. The licensee should also provide any facility information important to preplanning for an event response, establish licensee points of contact for recovery plans and radiation protection education, and work with the LLEA to develop a plan for a timely response. Licensees should determine, with the LLEA, the preferred method for contacting them to assure a timely response. The plan shall be consistent in scope and timing with realistic potential vulnerability of sources containing radioactive material quantities of concern (i.e., greater quantities require a faster response time and larger response force). The pre-arranged plan shall be updated when changes to the facility design or operation affect the potential vulnerability of the sources.

A pre-arranged plan with the LLEA is not required at temporary job sites. However, licensees must still meet the requirements of PM 2.a. by immediately requesting assistance from the appropriate LLEA with jurisdiction for the area, of any actual or attempted theft, sabotage, or diversion of radioactive material quantities of concern or the device. When making a notification to the LLEA at a temporary job site, provide the LLEA with the quantities of radioactive material involved and the potential hazards associated with loss of control of the material.

As required by PM 2.c., it is necessary that the licensee have a dependable means to transmit information to the various components involved in the detection and assessment of an intrusion, including with the appropriate responder. Land line phones, auto dialers, cellular phones, pagers, radios, and other similar modes of communication may be used to fulfill this requirement. Using a radio or cellular phone as a backup to land line phones should be considered. When more than one person is used for detection and assessment, a means of communicating among the various monitoring personnel shall be provided.

Licensees shall establish written procedures for responding to events ranging from an inadvertent unauthorized access that would not require an LLEA response, to a malevolent intrusion that would require intervention by LLEA. These procedures should include provisions

for immediate response, after-hours notification, handling of each type of emergency, events at temporary job sites, and the appropriate roles of the licensee's staff. The licensee staff should have a clear understanding of their responsibilities and limitations in an emergency, along with step-by-step instructions and clear guidelines for whom to contact. Note, that when developing enhanced security measures, the licensee should not compromise facility operational safety, occupational safety, fire safety, and emergency planning at the facility. Implementation of enhanced security measures should complement, not detract from, safety.

Licensees should amend their training program for employees to include the licensee's procedures for implementing these protective measures. Training should address the access control system employed and notification procedures in the event of an unauthorized access and potential malevolent activities. It should also include the process for reporting any suspicious activities to management.

Coordination of Radioactive Material Shipments (PM 3)

The objective of PM 3 is to ensure timely detection of any diversion of shipments containing radioactive material quantities of concern so that the licensee can initiate an appropriate investigation and response.

When shipping quantities of radioactive material greater than Table 1 values, per consignment, by a carrier other than by the licensee, the licensee shall seek reasonable assurance the carrier meets each of the requirements of PM 3.a. If the carrier has a security plan that the U.S. Department of Transportation requires for shipments of highway route quantities of radioactive material, the licensee shall verify and document that the carrier's security plan meets each of the requirements of PM 3.a, or obtain written confirmation that the carrier will implement these provisions.

As required by PM 3.b., licensees shall notify the NRC, in writing, 90 days before the anticipated date of shipment of radioactive material that exceeds 100 times the Table 1 quantities, per consignment. The NRC has Additional Security Measures (ASM) for transportation of Radioactive Material in Quantities of Concern (RAM QC) which the Commission has determined are Safeguards Information - Modified Handling (SGI-M). SGI-M must be protected from unauthorized disclosure and no person may have access to SGI-M unless the person has an established need to know for the information. SGI-M related to the transportation of RAM QC must be protected in accordance with the Commission's November 5, 2004, order imposing SGI-M handling requirements on such information. That order can be found in the Federal Register at 69 Fed. Reg. 65,470 (November 12, 2004). Because this group of licensees is not expected to be regularly shipping RAM QC, the NRC does not intend to release this SGI-M to licensees unless there is a demonstrated need to know. When a licensee notifies the NRC that it intends to ship such material, the NRC would then issue an

additional Order for the transportation ASMs. Unless notified otherwise, in writing, by the NRC, licensees shall not ship the material before implementing the RAM QC transportation ASMs.

Once the licensee has implemented the additional protective measures, the licensee shall be exempt from the notification requirements of PM 3.b. for future shipments of radioactive material above Table 1 quantities, per consignment. However, the licensee is not exempt from other transportation reporting requirements. The licensee shall implement the additional PMs for all future shipments of radioactive material above Table 1 quantities, per consignment.

If a manufacturer and distributor (M&D) licensee takes possession of the radioactive material at the shippers facility and ships the radioactive material under its M&D license, or implements the Transportation RAM QC ASMs for the shipping licensee, the licensee subject to this PM shall be exempt from the requirements in PM 3.a. and 3.b.

When the licensee transports licensed radioactive material quantities of concern (e.g., to and from a temporary job site), the requirements of PM 1 and PM 2 shall be met.

Physical Barriers (PM 4)

Due to ease of movement, mobile and portable devices are particularly vulnerable to attempted theft or diversion; it may be possible for a mobile device to be removed before the licensee has an opportunity to respond to an intrusion. The objective of PM 4, therefore, is to delay an adversary long enough to provide additional time for the licensee and the LLEA to respond. PM 4 requires licensees to have two independent physical controls that form tangible barriers to prevent unauthorized removal of mobile devices that are intended to be moved outside the facility (e.g., that are on trailers) and portable devices containing radioactive material quantities of concern that are not in use.

Examples of two independent physical controls at a licensed facility are:

- storage inside a locked storage shed within a secured outdoor area, such as a fenced parking area with a locked gate; or
- storage in a room with a locked door within a secured building for which access is controlled by lock and key or by a security guard; or
- storage inside a locked, non-portable cabinet inside a room with a locked door if the building is not secured.

Examples of two independent physical controls when securing the radioactive material quantities of concern in or on a transportation vehicle are:

- stored in a box physically attached to a vehicle, and the box is secured with two independent locks; two separate chains or steel cables that are locked and

attached independently to the vehicle in such a manner that the box cannot be opened without the removal of the chains or cables; or

- stored in a box in a locked trunk, camper shell, van, or other similar enclosure and is physically secured to the vehicle by a locked chain or steel cable in such a manner that one would not be able to open the box and remove the portable or mobile device without removal of the chain or cable.

Examples of two independent physical controls when at a temporary jobsite or at locations other than a licensed facility or licensee's vehicle, are:

- stored inside a locked building, in a locked non-portable structure (e.g., construction trailer, sea container, etc.), or in a locked garage, and is physically secured by a locked chain or steel cable to a non-portable structure in such a manner that an individual would not be able to remove the device without removing the chain or cable. A source must be inside a locked, non-portable cabinet or locked box that is secured to a non-portable structure.
- stored in a locked garage, and is within a locked vehicle or is physically secured by a locked chain or steel cable to the vehicle in such a manner that an individual would not be able to remove the device without removing the chain or cable.

As required by PM 4.c., for devices in or on a vehicle or trailer, licensees shall also utilize a method to disable the vehicle or trailer when not under direct control and constant surveillance by the licensee. Examples of acceptable methods include: trailer hitch locks, wheel locks ("boots"), or methods to disable the vehicle's engine.

For mobile devices that are used inside a facility, additional delay may be accomplished by a variety of physical controls, including:

- speed bumps on floor too large for device to traverse ;
- elevated doorway thresholds;
- protective storage enclosures;
- channels in floor large enough to catch the device wheels;
- wheel locks (made of hardened material) that require key or special tool to release; or
- a hardened chain and lock that cannot be easily cut.

The additional physical controls required by PM 4 should not compromise safety. If improperly implemented, some of the suggested items may compromise occupational safety.

Definitions

Access Control - A means to allow only those individuals approved by the licensee, unescorted access to radioactive material.

Assessment - Licensee's capability to ascertain cause of alarm condition.

Approved Individual - Those individuals who the licensee has determined are trustworthy and reliable based on an appropriate verification.

Consignment - A package or group of packages of radioactive material that a licensee offers for transport in the same shipment.

Delay - To impede or hinder the progress of an intruder.

Dependable means to Transmit Information - Intrusion detection system and components which are used to detect, inform assessor(s), and summon responder(s), such that the system and components have continuous communication capability, even in the event of the loss of primary power or the loss of primary communication means.

Detect - To discover all unauthorized access to the radioactive material quantities of concern or device.

Radioactive material quantities of concern - Licensed radioactive material that individually or in aggregation is greater than the quantities in Table 1. The unity rule is used to determine if the activity of aggregated sources of different radionuclides is greater than the Table 1 quantities (see discussion following Table 1).

Immediately detect, assess, and respond - Detect, assess, and respond without delay.

LLEA - Any local law enforcement agency at the State level and below to include local jurisdictions.

Mobile device - A device containing licensed radioactive material that is mounted on a permanent base with wheels and/or casters for moving while completely assembled. Portable equipment means a device containing licensed radioactive material that is designed to be hand-carried, and stationary equipment means a device containing licensed radioactive material which is installed in a fixed location.

Monitor - Capability to observe and detect unauthorized access.

Plan with LLEA - A plan which is consistent in scope and timing with realistic potential vulnerability such that the LLEA acknowledges they can provide a timely response to thwart malevolent actions.

Reliable and Trustworthy - An individual who is considered consistently dependable in judgement, character, performance, or result, and does not constitute an unreasonable risk to

the common defense and security.

Timely Response - Arrival of LLEA or armed responder to thwart unauthorized access and malevolent actions associated with radioactive material quantities of concern or device.

DRAFT

Questions and Answers Regarding Protective Measures (PM) and PM Order Implementation for Licensees That Possess Radioactive Material Quantities of Concern

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I. Response to the Protective Measure Order and Implementation

- 1. Information on how I would be required to respond to this notice when I receive it does not appear to be included with the implementing guidance. Will my response include sensitive information?**

Information on how to respond to the Order instructing implementation of the preventive measures is contained in the Order itself. The NRC Orders are generic and not considered sensitive information. Examples of previous Orders can be found by searching ADAMS or NRC's website. Responses to the Order or to the PMs that reflect licensee physical protection information will be considered sensitive information and shared only with those having a "need-to-know." Such information should be marked appropriately with **"Withhold From Public Disclosure Under 10 CFR 2.390."**

- 2. Is there a process for requesting an exemption from the Order or from specific PMs?**

There is a process by which a licensee may request relief from the Order, including specific PMs, or request an extension for implementing the PMs. The process is communicated in the language of the Order that requires implementation of the PMs.

- 3. In responding to the Order are licensees responsible to send in their program to the NRC for approval? Could inspectors then use that approval to see if a licensee in compliance?**

No, all programs will be reviewed through inspection. The Order requires licensees to affirm compliance with the PMs and provide their anticipated implementation schedule. Inspectors will review the program during the inspection.

- 4. Can the response period and implementation period be extended, or timed to accommodate our fiscal year or the challenges of transferring or disposing of sources that are no longer in use?**

The 25-day response period is adequate for communicating to the NRC the licensee's ability to be in compliance with the Order. The licensee will have 180 days from issuance of the Order to implement the PMs. The NRC will consider extending the implementation date if the licensee can show good cause. Extension of time frames will be considered on a case-by-case basis. Requests for extension should be made in the initial 25-day response to the Orders. Such a request should be accompanied with a time line that sets forth a proposed schedule for implementation. Individual licensees have different fiscal years, therefore it would be impractical to issue Orders to be timed to coincide with each licensee's fiscal year.

- 5. There are many challenges of transferring or disposing of some sources that are no longer in use, but which would trigger the implementation of the Order. How can I quickly find a place that will take my unwanted sources?**

The NRC does not intend to develop a new source recycling program. However, licensees or industry groups may wish to develop a system for returning and recycling larger radioactive sealed sources.

If a licensee concludes that a source is no longer wanted or needed, two programs currently exist that may be able to assist you. The Conference of Radiation Control Program Directors (CRCPD) National Orphan Radioactive Material Disposition Program provides information to assist States and the NRC in the disposition of sources (such as providing a list of waste brokers and individuals who want sources). The mission of the Department of Energy's (DOE) Offsite Source Recovery Project (OSRP) is to recover and store excess and unwanted radioactive sealed sources if they are not suitable for disposal in existing radioactive waste sites. For additional information, the link to the OSRP website is: <http://www.doeal.gov/osrp/>. The link to the CRCPD website is: <http://www.crcpd.org/orphans.asp>. The link to a CRCPD document describing their program is: http://www.crcpd.org/SpecialServices&Projects/Orphan_Rad_Mat_Pgm/Announcement.pdf

6. The lack of a security culture at academic and research institutions (e.g., the common sharing of keys and access cards) may make enforcement of PMs a difficult task.

The NRC staff agrees that institution-wide changes may be necessary in response to these PMs. Licensees will have a period of 180 days after the issuance of the Orders to implement the PMs. The licensees can use the 180 days to address any issues at the university/hospital research and educational institutions.

7. Is there flexibility built into the Order implementation process?

Yes. The PMs are purposely not prescriptive in order to allow licensees to tailor programs to their specific facility and operations. The NRC recognizes that various approaches are available to licensees to meet the objectives of the PMs, and that there exists no one solution to any security challenge facing licensees. The guidance provides examples of how the PMs may be met. Licensees do not have to implement any of the examples in the guidance, but those examples describe acceptable approaches to implementation.

8. Do the PMs replace current security measures, or are they meant to enhance measures already in place?

The PMs are an enhancement to current security requirements, and are not intended to displace current security initiatives being undertaken by licensees. The intent is for licensees to evaluate their current security programs, and enhance them as necessary to meet the PMs.

9. Will the NRC be providing possible solutions or recommending possible vendors to assist in the implementation of the PMs?

The implementation guidance describes acceptable approaches for complying with the PMs. Due to the high variation in licensee facilities and operations, the NRC cannot provide specific solutions. Furthermore, as a government regulatory agency, the NRC cannot provide recommendations on specific commercial vendors. The guidance provides a general discussion of potential approaches to achieving compliance with the PMs.

10. Does the PM Implementing Guidance require training, who should be trained and can training already provided for radiation protection purposes suffice?

To assure full compliance and implement the PMs, it would be appropriate to train trustworthy and reliable staff, on a “need-to-know” basis, in accordance with the *Implementing Guidance for Protective Measures for Materials Licensees*. Training on the security measures is different from training for radiation protection purposes, and employees may require additional training. As noted in the *Implementing Guidance*, “Assessment can be by either automated devices or trained personnel who can initiate the appropriate response... The licensee staff should have a clear understanding of their responsibilities and limitations in an emergency, along with step-by-step instructions and clear guidelines for whom to contact... Licensees should amend their training program for employees to include the licensee’s procedures for implementing these PMs. Training should address the access control system employed and notification procedures in the event of an unauthorized access and potential malevolent activities. It should also include the process for reporting any suspicious activities to management.”

11. Who should we contact to handle issues that arise regarding the Order, the PMs, or related issues?

There is NRC contact information provided in the letter transmitting the Order.

12. Will the Order require implementing the PMs based just on possession limits or actual physical possession of material over the threshold values?

The Orders will require implementing PMs based on actually possessing materials that meet the threshold values identified in the Order. Possession of quantities just below the threshold will not require implementing the PMs.

13. Will having two or more sources located in the same area such that the two or more sources, when added together, meet or exceed the threshold quantities require implementing the PMs?

If there is no additional security barrier between the sources or devices such that someone only has to break into that area to get access to the sources or devices, then the licensee would have to implement the PMs, if the sources individually or collectively are greater than or equal to the quantities listed in the Table 1. With only one common barrier, the sources or devices would be considered collocated. An example would be a High Dose Afterloader with a back up source. Stored in the same security area would make them collocated. Storing the back up source in the same area in a locked device that could not be removed, such as a safe, or in a separate locked room could be considered additional barriers such that the sources do not require the PMs. Questions do arise such as if you open the safe, are they collocated or if you are doing a source change out and for a short period of time have two or more sources meeting the threshold, do you have to implement the PMs for that time period. The Order provides an opportunity for licensees to request exceptions to or variations of some or all of the PMs. The staff will consider such requests if adequate justification or a proposal for achieving the same objectives as the PM, is provided by the licensee.

14. Has the NRC considered that the PMs as stated in the draft measures letter dated November 22, 2004, could interfere with patient care?

The PMs, themselves, are not intended to interfere with patient care and are not prescriptive. It is the licensee's responsibility to look at the intent of the PMs and determine the best course of action that will provide the added security while minimizing any impact on work flow and family members' ability to provide comfort to the patient and not interfere with patient care.

15. Will Sealed Source and Device (SS&D) Registrations be made available by the NRC for use in developing a thorough security plan?

The NRC has removed public access to the SS&D registry. You may contact your manufacturer and/or distributor of the source or device or your regulatory agency for information needed for regulatory compliance.

16. Can licensees perform their own vulnerability assessment and change the time requirement for detection and response listed in the Order?

Yes, although the Order does not specify time periods. Assessments have been performed by experts at a national laboratory. It is imperative that licensees quickly detect, assess and respond as stated in the Order. Notification has to be made as soon as possible. If for some reason a licensee can not comply with the requirements of the Order, the licensee should inform the NRC and request relief from that part of the Order.

17. Should day-to-day operational security activities be documented, such as the coming and going of individuals requiring line-of-sight escort?

The requirement in the PMs is to have a documented program to monitor and immediately detect, assess, and respond to unauthorized access to radioactive material in quantities greater than or equal to Table 1 values. How to document a licensee's "security" activities will be left up to each licensee and will be verified during an inspection. Having escorted individuals sign-in and out is an effective way to maintain a record of individuals having access to the material.

18. Can economic reasons be used as a means for being relieved from some of the security requirements?

Requests for exception, relief from, or variation of any specific requirement will be handled on a case-by-case basis. Licensees need to request exceptions or relief in their response to the Order. All requests for relief must include the licensee's justification and any proposal for achieving the same objectives in lieu of those required by the Order.

19. Will the Implementation Guidance carry the same regulatory force as the PMs themselves?

No. Guidance provides amplifying information and examples of how the PMs may be met, but does not impose requirements. Licensees do not have to implement any of the examples in the guidance, but those examples describe acceptable approaches to implementation.

II. Protective Measures (PMs)

A. PM 1: Controlling Access

1. Trustworthiness and Reliability for Unescorted Access Authorization

20. Are these trustworthiness and reliability requirements equivalent to those used in nuclear power plants?

No. Nuclear power plants use other more stringent requirements to determine an employees trustworthiness and reliability (See 10 CFR §73.56 and §73.57). The NRC has taken a risk-informed approach for different types of licensees for trustworthy and reliability determinations for access controls.

21. Please provide further clarification regarding the trustworthy and reliability PM, including suggested procedures for trustworthy and reliability determinations.

As per PM 1, to authorize unescorted access to an employee, the licensee must perform, as a minimum, verification of employment history, verification of education, and verification of personal reference checks. In addition, to the extent possible, the licensee must also obtain independent information to corroborate that provided by the employee. It is the licensee's responsibility to make a trustworthiness and reliability determination of an employee, contractor, or other individual who would be granted unescorted access to the device containing radioactive material, and it is expected that licensees will use their best efforts to obtain the information required to conduct a background check to determine individuals' trustworthiness and reliability. The sole exception is the trustworthy and reliability determination made of service providers, for which the determination may be made only by the service provider's employer (M&D licensee). The determination of trustworthiness and reliability may rely on the same or similar information evaluated by human resource personnel in their findings of employability by employers. Information previously obtained during the hiring process may be used to support the determination, without having to re-verify that information. Licensees have the option to make a trustworthiness and reliability determination for those individuals that they deem necessary to have unescorted access, but also have the option to escort and not make the trustworthiness and reliability determination. However, if such a corroborative check becomes impossible, but the licensee concludes the individual should still be authorized for unescorted access based on other background check information, then the licensee should be prepared to provide a supporting explanation, in writing, of their efforts to obtain the necessary information.

22. Is the NRC going to provide guidance on what determines trustworthiness and reliability?

No, however, PM1(b) provides the minimum basis upon which a determination may be made. Alternative sources may be used depending on the information available to the licensee. It is the licensee's responsibility to make a trustworthiness and reliability determination for an employee granted unescorted access. This is a licensee's business decision as to what criteria it uses for the bases of the trustworthiness and reliability determination.

The trustworthy and reliability determination is designed to identify past actions to help verify one's character and reputation which provide reasonable assurance of an individual's future reliability.

The following are some indicators that licensees may want to consider for what may be a trustworthiness and reliability concern:

1. Impaired performance attributable to psychological or other disorders.
2. Conduct that warrants referral for criminal investigation or results in arrest or conviction.
3. Indication of deceitful or delinquent behavior.
4. Attempted or threatened destruction of property or life.
5. Suicidal tendencies or attempted suicide.
6. Illegal drug use or the abuse of legal drugs.
7. Alcohol abuse disorders
8. Recurring financial irresponsibility.
9. Irresponsibility performing assigned duties.
10. Inability to deal with stress, or having the appearance of being under unusual stress.
11. Failure to comply with work directives.
12. Hostility or aggression toward fellow workers or authority.
13. Uncontrolled anger, violation of safety or security procedures, or repeated absenteeism.
14. Significant behavioral changes, moodiness or depression.

These indicators are not meant to be all inclusive or intended to be disqualifying factors. Licensees can also consider extenuating or mitigating factors in their determinations.

23. Why is a trustworthiness and reliability determination necessary?

A trustworthiness and reliability determination provides the licensee reasonable assurance that the individual allowed unescorted access will not use the material for malevolent purposes. The determination provides a basis upon which access cards and other such security access devices could be issued. This requirement goes beyond access control for radiation protection purposes, and further limits access to those individuals who have a legitimate need to access the material or device.

24. Can the trustworthiness and reliability requirements be avoided if there are alternative physical controls or alternative administrative controls and training?

No. All PMs were designed to provide a defense in depth strategy for the protection of radioactive material in quantities greater than or equal to Table 1 values. No single PM can provide the same level of protection as all PMs, in total. Therefore, each of the PMs will require implementation. The NRC staff also acknowledges that no security plan or component can provide foolproof assurance that a security breach will not occur.

25. How does a background check assure trustworthiness and reliability?

It is recognized that a background check cannot provide total assurance that a person granted access will not use the material for malevolent purposes; however, it does provide reasonable assurance that the individual is who they purport to be, and to determine if the individual's

character, reputation, and behavior is not adverse to safe operation and does not constitute an unreasonable risk to commit or aid theft and radiological sabotage.

26. How does the NRC perform trustworthiness and reliability evaluations of licensees?

The NRC does not perform trustworthiness and reliability reviews for individuals. Currently, the NRC's process relies on the demonstrated performance of licensees to safely handle radioactive materials. Such performance is observed through the NRC and Agreement State inspection processes. It is the licensee's responsibility to determine the trustworthiness and reliability of its employees to have unescorted access to the radioactive material or device containing radioactive material.

27. What is sufficient to determine trustworthiness and reliability, and who is responsible for making the determination?

The PM provides three elements (educational, employment, and personal history) needed to complete a minimal trustworthiness and reliability review; however, it may be necessary to develop additional information beyond that required in the PM to provide reasonable assurance that an individual granted unescorted access to the material will not use it for malevolent purposes. There is flexibility in how to structure the process.

The ultimate responsibility for making a trustworthiness and reliability determination resides with the licensee; however, the review can be delegated to Human Resources, or other appropriate departments depending upon your organization. Information previously obtained during the hiring process may be used to support the determination, without having to re-verify that information. Licensees have the option to make a trustworthiness and reliability determination for those individuals that they deem necessary to have unescorted access, but also have the option to escort and not make the trustworthiness and reliability determination.

28. How should the trustworthy and reliable determination process for my employees be documented?

The process must be documented and must include the basis used to develop the determination for each individual (including the criteria and supporting documentation), the individual's name, and should include the date of the determination, and the name and signature of the person responsible for making the determination.

29. Does the denial of unescorted access have to be documented?

No.

30. Does the denial of unescorted access create legal liability for the licensee?

The NRC acknowledges that employer liability potentially exists through the process for determining trustworthiness and reliability, just as employer liability potentially exists throughout the hiring process. A finding that results in denying someone employment may be actionable on the part of the employee/employee candidate, and this is no different.

31. How can we address the unique challenges related to establishing trustworthiness and reliability for foreign nationals (anyone who is not a U.S. citizen)?

The NRC staff agrees that determining the trustworthiness and reliability of foreign nationals, including students, poses special challenges. An evaluation of academic and other references (i.e. transcripts, college applications, financial aid applications, etc.), can form the basis for a trustworthiness and reliability determination. A visa does not, in and of itself, provide an adequate basis for determining that the individual is trustworthy and reliable.

Background checks are required to verify and develop information that supports the basis for the trustworthiness and reliability determination. Licensees must obtain independent corroborating information to the extent possible. The PMs incorporate the phrase “to the extent possible” as opposed to “to the extent practical” to communicate the expectation that licensees will use their best efforts to obtain the information required. However, if obtaining such corroborative information becomes impossible, but the licensee concludes the individual should still be authorized for unescorted access based on other background check information, then the licensee should be prepared to provide a supporting explanation, in writing, of their efforts to obtain the necessary information.

32. Why did the NRC choose three years?

The NRC chose three years based on information provided by law enforcement communities, which is not inconsistent with background investigations required for other security clearances. The 3-year employment limit is used to differentiate between a background check that develops information on the individual’s character, reputation and behavior (if employed by the licensee for 3 years or less) and a background check that relies mostly on the employer’s observations regarding the employee (if employed by the licensee for greater than 3 years).

The NRC staff believes that a three year time period is a reasonable amount of time in which to observe an employee’s actions and to establish the trustworthiness and reliability of the employee. The review and investigation for trustworthiness and reliability of an employee or candidate for employment is envisioned as a one-time event on the part of the licensee, unless other information learned following the determination could prove to influence the outcome of the initial determination.

33. How far back in time must a licensee look into a potential employee’s historical information to make the trustworthy and reliability determination?

Licensees should look into a potential employee’s history as far back, to the extent possible, as is necessary to satisfy themselves that sufficient information is available to meet its own criteria for the trustworthiness and reliability determination.

34. Do you have grandfather provisions for those who are long-term employees regarding trustworthiness and reliability?

All employees granted unescorted access must have a determination of trustworthiness and reliability. The level of investigation needed to develop supporting information in determining

the trustworthiness and reliability of employees who have been employed for over 3 years is not the same as that required for new or recently hired individuals.

35. Are you defining three years of employment as “uninterrupted” service, or can there be breaks in service as long as he’s worked for you for 3 total years?

Three years of service can be concurrent or cumulative as long as the person’s work history justifies a trustworthy and reliable determination.

36. Why isn’t a criminal background check required?

Licensees in some jurisdictions may not have authority to perform criminal background checks, and therefore, this was not added to the PMs. Licensees are encouraged to implement additional measures, which could include criminal background checks to their trustworthy and reliability determination process, consistent with applicable laws.

37. Can one institution’s determination of trustworthiness and reliability for an individual suffice for another institution’s assertion that trustworthiness and reliability is met, and can such information be shared among institutions?

Each institution (i.e., licensee) is ultimately responsible for determining the trustworthiness and reliability of anyone they are granting unescorted access to radioactive material in quantities greater than or equal to Table 1 values or devices containing such material through the background check requirement in the PM. Licensees would need to establish their criteria on which they will base their trustworthiness and reliability determination and obtain the necessary information which substantiates their criteria. Information gathered from other sources, including information obtained for a finding of trustworthiness and reliability by another institution may be one element of the basis for making a new determination at the new institution. Your human resource and legal personnel can determine if such information may be shared among institutions. If security programs exist for other activities at a licensee’s site that accomplish the same objectives as the PMs, licensees do not have to create a separate security program for their radioactive material. Licensees will need to document how specific elements of existing security programs or plans are used to implement each PM.

38. Our industry is subject to 3 different Federal background check programs: Bureau of Alcohol, Tobacco, Firearms, and Explosives, The Department of Transportation (DOT) and the NRC. All 3 have different requirements. This is very cumbersome, confusing and costly.

The process used and the information previously obtained through another background check or the hiring process may be used to support a trustworthy and reliable finding without having to re-verify the information. However, the individual responsible for the background checks must document the basis for concluding that individuals are trustworthy and reliable. The documentation may reference pre-existing records. If security programs exist for other activities at a licensee’s site that accomplish the same objectives as the PMs, licensees do not have to create a separate security program for their radioactive material. Licensees will need to document how specific elements of existing security programs or plans are used to implement each PM.

- 39. Can other individuals (e.g., contract physicians, physicists, laboratory staff, house-keeping, security staff, or other staff not actually using the device or material) be authorized unescorted access to a device or radioactive material in quantities greater than or equal to Table 1 values?**

Yes. Other personnel (both licensee and non-licensee) that have job duties that require access to the room where the device is used or stored may have unescorted access to the material or device if the licensee has determined they are trustworthy and reliable and there is a need for them to have access to the material or device. The requirements restricting unescorted access are for vendors and service providers who are installing, repairing, modifying, or removing the source containing radioactive material quantities of concern from a device.

- 40. If a licensee has determined someone to be trustworthy and reliable, and they later betray that determination by actually taking the material for malevolent use, what actions are expected of the licensee? What liability does the licensee assume because of their background check?**

The licensee is required to provide reasonable assurance that persons granted access are trustworthy and reliable, and if the licensee fails to provide that assurance, the licensee would be in violation of the Order, and enforcement action will be considered. Providing assurance means that the licensee has taken reasonable efforts as required by the PM to ascertain trustworthiness and reliability and documented those actions.

Once an incident occurs, the licensee is expected to implement the other elements of their documented security program required by the Security Order, and pursuant to the regulations and license conditions.

- 41. Could security risk assessments described in title 42 CFR 73.8 assist in achieving certain trustworthy and reliability goals? Note that current impediments to information sharing (Department of Labor restrictions) among institutions could restrict the transmittal of important information.**

The "Security Risk Assessment" under title 42 CFR 73.8 could potentially serve as an element of the basis for a determination that an individual is trustworthy and reliable. Concerns that other institutions cannot share "Denial of Access" information are duly noted. The NRC is not pursuing action at this time with regard to this potential impediment to information sharing among institutions. Each institution (i.e., licensee) granting unescorted access to radioactive material in quantities greater than or equal to Table 1 values or devices containing such material is responsible for making its own determination that an individual is trustworthy and reliable, through the background check requirement in the PM.

- 42. Can emergency first responders, such as police and fire department personnel be deemed trustworthy and reliable for the purposes of the PMs, without a background check?**

Officials of the NRC, state radiation-protection agencies, and local law enforcement authorities are deemed trustworthy and reliable for purposes of this requirement. In the event of an

emergency, such as a fire or explosion, firefighters may be granted unescorted access for the purposes of controlling the emergency situation.

43. Can the Human Resources department be designated to perform the background checks and be the repository for trustworthy and reliability determination records? If we have a process in place can we continue to use that process? Does the Radiation Safety Officer (RSO) have to be involved?

The review and/or record storage can be delegated to a licensee's Human Resources or any other appropriate department depending on its organization. Additionally, the process used and the information previously obtained through the hiring process or another background check process, may be used to support a trustworthy and reliable finding without having to re-verify the information. However, the individual responsible for the trustworthy and reliability determinations must document the basis for concluding that individuals are trustworthy and reliable. The documentation may reference pre-existing records. If security programs exist for other activities at a licensee's site, that accomplish the same objectives as the PMs, licensees do not have to create a separate security program for their radioactive material. Licensees will need to document how specific elements of existing security programs or plans are used to implement each PM. The RSO does not have to be involved just as long as the objectives of the PMs are met. However, because safety and security go hand-in-hand, the RSO is likely to be integrally involved in any decisions and implementation.

44. How do you handle non-disclosure of personal information other than to simply tell someone calling about employment history they worked for you from one date to another?

Verification of employment history can be one measure by which you determine a person's trustworthiness and reliability.

45. Are you attempting to determine if employees are telling the truth? If someone has a drug and alcohol problem, does that make them unreliable?

The process has been developed to provide a way for licensees to have reasonable assurance of a person's true identity and that the individual's character or reputation is established to be trustworthy and reliable. Being untruthful and abuse of alcohol are indicators that may be used to deny a person's trustworthiness or reliability, but are not necessarily determinative.

46. How are we going to handle totally new hires that you put through school? How will you get all the background checks before you put him to work? Are managers subject to the same background checks?

Background checks on new hires without an employment history will require a review of their education and personal references. The background investigation for a determination of trustworthiness and reliability needs to be done before granting unescorted access to the radioactive material quantities of concern or devices containing the radioactive material, otherwise the individual may be escorted. Everyone is required to have a trustworthiness and reliability determination before being given unescorted access to radioactive material quantities of concern or to devices that contain such material. The level of investigation of the

background check to develop information supporting the determination criteria is different for those employed more than three years.

47. How does the inspector judge if a licensee's program for trustworthiness and reliability checks is adequate?

When it is completed, Licensees will be provided informational copies of the Temporary Instruction for inspection which gives guidance to inspectors. Generally, inspectors will verify that licensees have preformed the trustworthiness and reliability determinations for those individuals granted unescorted access. This would include looking for documentation of the criteria used for those determinations and documentation of the information gathered, in the background investigation (e.g., records of phone conversations) to support that an individual meets the licensee's the criteria. Inspectors would generally not second guess a licensee's determination if the licensee has information to support its decision. A Security Findings Review Panel has been instituted to handle any arising issues and to help standardize requirements.

2. Trustworthiness and Reliability of Service Providers

48. Why isn't the NRC issuing Orders to all irradiator repair/service providers to have a trustworthiness and reliability determination of their service personnel ?

At this time, the NRC is issuing Orders to licensees that possess their own radioactive material in quantities greater than or equal to Table 1 values and not to those that only take temporary possession of their customer's sources for radiation protection purposes while performing repairs or service. The PMs issued to service providers are PMs designed to enhance security for the service providers own sources, and not for their customers' sources at the customers' facilities. The one exception is where the service provider is also a Manufacturer and Distributor (M&D) Licensee and is implementing the M&D Additional Security Measure Order of January 12, 2004. In this case, the M&D can provide certification to their customers that an individual M&D employee is trustworthy and reliable based on that Order, without its customer licensee having to go through its own process to make the trustworthy and reliable determination for unescorted access.

49. Can properly qualified service providers be considered trustworthy and reliable and granted unescorted access to the radioactive material or devices containing the radioactive material.

Yes, provided licensees meets the requirements of PM1. Certain Manufacturing and Distribution (M&D) Licensees implementing the NRC's January 12, 2004, Additional Security Measures (ASMs) Order, have requirements that exceed PM 1. Therefore, individuals from these M&D licensees, who are providing service at a customer's facility, need not go through the customer's process for determining trustworthiness and reliability for granting unescorted access. Rather, because the M&D licensee may already have made its own determination of trustworthiness and reliability, under the January 12, 2004, Order, for its service personnel, the M&D licensee can provide its customers with certification of an individual's trustworthiness and reliability for being granted unescorted access.

- 50. During a source disconnect, would trustworthiness and reliability requirements apply to the individual coming in to provide source retrieval services? What about an individual who works for another company that provides source retrieval services and they have performed trustworthiness and reliability background checks, are those checks are adequate for my company?**

Yes, to both questions. Individuals without a trustworthiness and reliability determination would need to be escorted during source retrieval operations. Manufacturing and Distribution (M&D) Licensees implementing the January 12, 2004, the NRC Order can provide verification of their employees trustworthiness and reliability to its customers. Some type of written communication is required from the M&D, which includes the employee's name that will be providing the service, and a statement to the effect that the employee has been determined to be trustworthy and reliable in accordance with the NRC Security Orders for M&Ds.

- 51. What type of written verification attesting to or certifying a service provider employee's trustworthiness and reliability is required from a Manufacturing and Distribution (M&D) Licensee providing the service?**

Some type of written communication is required from the M&D, which includes the employee's name that will be providing the service, and a statement to the effect that the employee has been determined to be trustworthy and reliable in accordance with the NRC Security Orders for M&Ds.

- 52. Before a Manufacturing and Distribution (M&D) Licensee comes to a customer's facility to provide service, will the NRC provide assurance that the M&D licensee is complying with the M&D security Order of January 12, 2004?**

The M&D licensees issued and implementing the January 12, 2004, Order have notified the NRC that they are in compliance with the Order. The NRC, as part of its regulatory program will inspect these licensees to verify compliance.

- 53. Why do the Manufacturing and Distribution (M&D) Licensee have a more stringent standard for determining trustworthiness and reliability than these Protective Measures (PMs)?**

M&Ds need trustworthiness and reliability requirements that are more stringent than required by these PMs. These requirements have been designated as Safeguards Information and will not be distributed to other licensees. M&D service providers have knowledge, tools, and access to devices that contain sources containing radioactive material quantities of concern.

- 54. Can vendors and service providers not associated with a Manufacturing and Distribution (M&D) License be provided unescorted access to radioactive material in quantities greater than or equal to Table 1 values at a customer facility?**

No. At this time, only vendors and service providers associated with a M&D license implementing the NRC Security Order of January 12, 2004, can make a trustworthiness and reliability determination for individuals that provide service at their customer's facilities. All other vendors and service providers must be escorted by a person, from the customer's facility, who

is authorized to have unescorted access to the radioactive material or device containing radioactive material. There is need for more stringent trustworthiness and reliability requirements for M&Ds relative to other licensees, based on the fact that the M&Ds are intimately more familiar with the devices containing radioactive material quantities of concern than other licensees. Vendors and service providers not associated with a M&D may also have intimate knowledge of these devices. However, they do not have possession limits that warrant the issuance of Security Orders that are comparable to those issued to the M&Ds.

55. Is the NRC considering developing an alternate pathway for vendors and service providers not associated with a Manufacturing and Distribution (M&D) Licensee to have unescorted access to radioactive material in quantities greater than or equal to Table 1 values at their customer facilities?

Not at this time.

3. Controlling Access

56. Can the NRC provide examples of how to best achieve the level of unescorted access and detection given budget constraints versus risk?

Each licensee needs to develop a security plan that identifies the areas where radioactive material in quantities greater than or equal to Table 1 values are located, who has access to these areas, and how to best achieve compliance with the PMs. The way to achieve compliance will vary for each facility. This is a business decision that the licensee needs to make.

57. Can we assume that patients can be granted unescorted access during patient treatments?

Patients who are being treated with devices containing radioactive material of concern, are usually escorted, monitored, or frequently observed by an approved individual. Access by patients who are receiving treatment with such devices should be restricted during treatment, and the licensee shall comply with the Security Order. Patients should not be able to access areas where radioactive material quantities of concern is stored without being escorted or confronted by approved personnel.

58. Can the escorted access requirement be waived for hospitals because of the cost, and safety concerns involved in accompanying patients at all times? Exceptions are needed for emergency situations.

Licensee must comply with the Security Order and control access of patients who are receiving treatment with devices containing radioactive material in quantities greater than or equal to Table 1 values. Escorting individuals who have not been deemed trustworthy and reliable is required, and patients being treated are usually escorted, monitored, or frequently observed by an approved individual. Licensees have the ability to identify those areas/rooms where radioactive material quantities of concern are located and may use a variety of methods to limit access, escort and monitor patients. Licensees need to determine which methods would be the most reasonable and practical for there situation. While safety and security are complimentary,

security should not interfere with safety. Licensees can determine their own best practices or procedures in anticipated emergency situations.

59. Does “access control” (PM 1) require that locks for different rooms be re-keyed to different keys/combinations?

No. PM 1 requires that only approved individuals have unescorted access to radioactive material in quantities greater than or equal to Table 1 values. It is up to the licensee to determine how access will be controlled at their facility. If you are using a key based system for access to radioactive material quantities of concern, the keys should only be distributed to personnel who have a need-to-know and have been granted unescorted access. Compliance with this PM can only be determined during the inspection process.

60. Self contained irradiators have shown themselves to be very safe for day to day use without operators having access to the radioactive material. Controlling access to the radioactive material is generally much easier than controlling access to the irradiator. Are the PMs expected to address access to the radioactive material or to the irradiator?

In order to address potential malevolent intent, the PMs were drafted to control access both to the radioactive material and to the irradiator. When used properly with no malicious intent, the devices are inherently safe.

61. Can the requirements in PM 1 (for controlling access) be eliminated because it seems to be overly burdensome? The radioactive source cannot be easily accessed for the some types of devices (e.g. blood irradiators, panoramic irradiators with less than 10,000 curies, teletherapy devices, gamma knife devices, and afterloader units). Only specifically trained individuals utilizing specialized equipment could exercise sufficient physical control over these sources to present a risk of theft, sabotage, or malevolent use. What is the likelihood that a Co-60 source could be removed from its housing?

The NRC has engaged the expertise of national laboratories who have shown that these devices may be vulnerable under certain scenarios. It is for this reason that the Commission has determined that certain enhanced security measures are necessary in the current threat environment.

62. Does unescorted access only apply to the storage area?

No. It applies to all areas where there is radioactive material of concern or devices containing the radioactive material.

63. Do the individuals on an oil rig who actually manipulate the tools, but are not employed by us, have to be approved individuals under the PM?

No, as long as there is an approved individual on the rig escorting these individuals.

64. What should we do if one of our trucks (working under the Order) breaks down and must be towed to a shop for repairs and we are not allowed into the repair shop bay?

You must still meet the requirements of the Order. Your authorized user could lock the truck, remain at the shop and keep visual contact with the truck in order to control and maintain constant surveillance of licensed material (as already required by the regulations) to ensure that the sources/tools are not removed. Alternatively, you could remove the device from the truck and keep it in your possession until you can have the sources returned to your facility or the original truck is repaired.

65. Why are the access control measures required when most the PM duplicates regulation, license condition, guidance, or the licensee's own safety procedures addressed for health and safety.

Current regulatory requirements for security and access controls focus on safety to assure appropriate control of the radioactive material and proper use of devices containing the radioactive material to meet the standards for protection against radiation. They were not developed for protecting against determined adversaries intent on malevolent use of radioactive materials. The purpose of the PMs is to enhance existing security requirements to reduce the risk of malevolent use. The NRC considers safety and security to go hand-in-hand and that existing licensees' radiation safety procedures and current business practices can be readily adapted to meet the access control PM.

B. PM 2: Monitoring, Detecting, Assessing, and Responding

1. Local Law Enforcement Agency (LLEA) Coordination

66. Could radiation detection meters, connected to a silent alarm, be used to alert local law enforcement of an attempted theft of radioactive material?

Yes, radiation meters could be a means to detect theft of radioactive material depending on the configuration of shielding surrounding the radioactive source. However, PMs were designed to provide a defense in depth strategy for the protection of radioactive material in quantities greater than or equal to Table 1 values and the NRC expects licensees to consider all possible scenarios when developing and implementing a security plan.

67. What if the LLEA declines to participate in the plan to respond to incidents due to lack of staffing, resources, etc?

Lack of cooperation by an LLEA, if it occurs, will be handled on a case-by-case basis.

68. Is the licensee required to keep the LLEA responders trained in radiation protection?

In order to assure that the LLEA can appropriately determine the priority of its response they need to have an understanding of the potential consequences associated with theft or sabotage

of the radioactive material of concern. For the LLEA to know how best to respond, they need to know something about the potential hazards, and would therefore need to have some radiation protection education. The training of your LLEA is suggested in guidance, but not required by the PMs. The amount and frequency of radiation protection training needed is a matter to be coordinated between the licensee and the LLEA.

69. Can you clarify what you mean by assistance from LLEA? For example, is a single officer with radio backup sufficient or is an entire SWAT Team necessary?

The LLEA will respond as appropriate to the event based on their understanding of the situation and potential consequences. As indicated in the PMs Implementing Guidance, one of the purposes of establishing liaison with the LLEA is to provide them with an understanding of the potential consequences associated with theft or sabotage of the radioactive material of concern so that they can appropriately determine the priority of its response. The LLEA response is needed for offsite coordination to mitigate potential consequences of malevolent use of radioactive material.

70. Does the required pre-arranged plan with the LLEA, (2.b. of enclosure 1) require something beyond what is currently required of licensees?

The PMs are an enhancement to current security requirements, and do not relieve current security measures being undertaken by licensees, including LLEA coordination. Depending on each licensee's existing security measures, the PMs may or may not require additional action.

71. What information must be reported to what organization (NRC, Agreement State, LLEA), and under what circumstances?

In response to the Order, you will be communicating with the NRC and coordinating with the LLEA. Reports shall be made in accordance with PMs 2 and 3. This does not preclude you from making other reports as required by State or local law. Information regarding the PMs can be given to the Agreement State Radiation Control Program Director, or his or her designee, and the LLEA, without violation of the Orders.

72. Does the NRC intend to require the responder to have firearms, or will non-lethal weapons suffice? As an example, some security staff do not carry firearms and a LLEA response might not meet the timeliness requirement.

The requirement for an armed response is not to prevent unauthorized access, but to respond to and disrupt an actual or attempted theft, sabotage or diversion of radioactive material. Adversaries could be well armed individuals. A private security force does not substitute for a LLEA. The LLEA will respond as appropriate to the event.

73. Can an on-site proprietary professional security force with trained and armed officers be considered as the LLEA?

An on-site armed force can serve as the initial licensee response. However, arrangements with off-site LLEA shall still be established, and the off-site LLEA shall be notified immediately of

incidents, in case additional assistance is needed, and so that the LLEA can assess the potential for off-site impacts and the need to notify other agencies.

74. With respect to dealing with the LLEA, is it the licensee's responsibility to make arrangements with agencies beyond the local level?

It is the licensee's responsibility to make arrangements with the LLEA that has responsibility for response to security events. When coordinating with LLEA, licensees should use this opportunity to also coordinate with the local Fire department.

75. What coordination is required with the LLEA for work on temporary job sites?

The NRC expects that licensees would coordinate with their established LLEA point of contact, who may be in the best position to communicate with another LLEA. Alternatively, licensees may call 911.

76. Is there some method in place whereby the LLEA may become informed about radioactive materials and our possession of such materials/devices?

The level of knowledge, experience and interest of LLEA will be varied. The Federal government through the Department of Homeland Security (DHS) is actively working with LLEA to improve their awareness and response across a wide field of threats by providing information, training, and funds. In your coordination efforts with the LLEA, information you provide will add to, and help reinforce, your LLEA's knowledge regarding radioactive materials, their use, and potential risk associated with its malevolent use.

77. For a licensee who sets up a program with their LLEA, how do you handle informing LLEA when you cross county or state lines when going to a temporary job site?

PM2.b only requires coordination with the LLEA for a pre-arranged plan to respond to an incident at the licensee's facility. Coordination with the LLEA in when crossing county or state lines of jurisdiction is not required. However, for PM 2.a, licensees need to know how to, and must request assistance from, the LLEA at temporary job sites. Licensees could coordinate with their established LLEA point of contact, who may be in the best position to communicate with another LLEA or to advise licensees on best practices. Alternatively, licensees may call 911.

78. Should notification to the LLEA be made by a radiographer at a temporary job site if a device is stolen from the temporary job site?

Yes. Licensees need to know how to request assistance from the LLEA at temporary job sites. Procedures following a theft at a temporary job site should be documented in your response plan.

79. When contacting the LLEA, is it necessary to contact the Hazardous Materials division? Would it be appropriate to give LLEA a diagram of my facility?

Each LLEA will assign the appropriate person or section to work with you. Depending on the size of your facility and the location of the at-risk material providing a facility plan to LLEA may be appropriate. The purpose of coordinating with the LLEA is to provide them with the information they feel is necessary to do their job in responding to actual or attempted theft, sabotage, or diversion of radioactive material quantities of concern from your facility.

80. Since facilities are also broken in to in order to obtain equipment other than radioactive materials, do licensees need to notify the LLEA and the NRC Operations Center every time there is a break in?

PM2.a requires that the licensee's response to any actual or attempted theft, sabotage, or diversion of radioactive material quantities of concern or of the devices shall include requesting assistance from the LLEA. PM 2.d requires licensees to notify the NRC after initiating appropriate response to any actual or attempted theft, sabotage, or diversion of the radioactive material. So, the licensee's decision whether to call the police and the NRC depends on what area the licensee determines needs to be controlled for access to the radioactive material and its assessment of the unauthorized access. A licensee's assessment and response to an intrusion alarm in the business office section of its facility could be entirely different to its assessment and response to an intrusion alarm in the radioactive materials storage area.

81. Can local law enforcement agencies (LLEAs) have access to the Protective Measures (PMs) and Licensee's physical protection information? What are the LLEAs responsibilities for protecting this sensitive information?

LLEAs can have access to the PMs and licensee's physical protection information if the licensee determines that they have a need for the information to conduct official business. State, local, or other law enforcement authorities are members of occupational groups deemed to be trustworthy and reliable by virtue of their employment status and are used to handling law enforcement sensitive information.

2. PM 2, Questions Specific to Portable and Mobile Devices

82. Does this mean all trucks will need an alarm system?

If the truck is left unattended with sources that meet the Order's criteria, licensees must have a way to monitor and immediately detect, assess, and respond to actual or attempted theft, sabotage, or diversion of the radioactive material or of the devices.

83. How do you handle a situation where you leave a camera at another licensee's or customers facility, one who provides security for their site (i.e. federal facility) who is responsible for security? What about a client such as a refinery where you leave a camera on site, who provides security there and how do we assess if theirs is good enough?

Licensees who possess the radioactive material are responsible for the security of their own material and need to meet the PM requirements whether at their own or a customer's facility. If a licensee chooses to store devices at its customers' facilities, they may consider their customer's security physical protection program for meeting the intent of one or more of the

PMs. There must be a clear understanding of the roles and responsibilities of the licensee and its customer, and what features of the customer's security program are to be relied on to meet the PMs. Licensees should assess the customer's security features being relied upon against its own security program for implementing these PMs.

Particular attention should be given to PM 1 and limiting unescorted access to as few as possible of the customer's personnel and whether the customer has a process for determining trustworthy and reliable individuals. The requirements for PM 2, to monitor and immediately detect, assess, and respond to any actual or attempted theft, sabotage, or diversion of radioactive material quantities of concern or of the devices, will also need to be satisfied. Clear roles, responsibilities and methods need to be defined for communicating with the licensee, assessing the incident, and summoning the appropriate responder including requesting assistance from the LLEA.

84. Can you put an intrusion alarm system on a radiography truck? What about field stations; who must meet the requirements for security and immediate detection?

Yes, an intrusion alarm system can be put on a radiography truck or any vehicle. The Licensee and their authorized user has to meet the requirements of the PMs at field stations and at all off-site locations.

85. What about the cost for alarming all radiography trucks, temporary storage sites, remote locations, etc? Aren't these costs now prohibitive for licensees? Don't you think that you may damage the radiography industry by thrusting excessive, and potentially costly security requirements upon them?

The NRC did consider costs and identified performance-based PMs that are effective but not cost prohibitive or overly burdensome. The NRC considers that licensees are already implementing much of these PMs for radiation protection purposes and that existing practices and procedures can be easily adapted for preventing and mitigating malevolent uses. The performance-based approach gives licensees flexibility to develop effective security programs tailored to the unique features of each licensee's facility and operations that can meet the intent of the PMs.

3. Miscellaneous

86. Many of the devices are located in facilities that are staffed 24/7. Would PMs be required for such situations?

As discussed in the workshops, the licensee would still be required to implement the PMs but, the 24/7 staffing may be able to be taken credit for in meeting some of the PM requirements. Having staff that can challenge anyone clearly not having any business near the device while at the same time being able to call for assistance should be considered as part of the licensee response.

87. What about a medical facility using personnel for monitoring where people are moving about constantly and may not be watching the security zone. How is the security zone maintained?

The licensee can use any number of methods. However, the method must meet the time requirement identified in the Order. The PM requires that the licensee respond immediately to any actual, or attempted theft, sabotage, or diversion of radioactive material quantities of concern. An intrusion detection system linked to a monitoring facility is one method of achieving compliance. However, the use of trained personnel can also be implemented. The adequacy of a licensee's method to comply with PMs can only be determined during an on-site inspection. No one method of access control and monitoring may be right for all licensees.

88. Would implementation of an area monitor connected to a silent alarm, key-card access to the area, and a video monitoring system be effective in meeting the PMs?

The adequacy of a licensee's method to comply with PMs can only be determined during an on-site inspection. The PMs were created in a manner which will allow licensees flexibility in choosing methods which work best when applied to their specific circumstances. It is not only important to choose the appropriate method of monitoring, detecting, and assessing but to assure that there is a dependable means in place to transmit information between and among the various components used to detect and identify an unauthorized intrusion, to inform the assessor, and to summon the appropriate responder.

89. Does a licensee have to use an intrusion detection system linked to an on-site or off-site monitoring facility?

No. The licensee can use any number of methods. However, the method must meet the time requirement identified in the Order. The PM requires that the licensee respond immediately to any actual, or attempted theft, sabotage, or diversion of radioactive material. An intrusion detection system linked to a monitoring facility is one method of achieving compliance. However, the use of trained personnel can also be implemented. The adequacy of a licensee's method to comply with PMs can only be determined during an on-site inspection.

90. Can PM 4 (physical barriers) be used to control access and prevent an unescorted individual from entering the room where the radioactive source is located?

PM 4 is not primarily intended to provide access control but it can. PM 4 provides additional delay in removing a portable or mobile device from the facility. For portable and mobile devices, delay barriers are required in addition to the access controls required by PM 1. Without additional delay barriers, a portable or mobile device could be removed from a facility before the licensee has the ability to assess and respond to unauthorized access.

91. Can a less rigorous monitoring system be put in place during the routine workday when trustworthy and reliable staff must secure the area and are not present for direct surveillance?

Effective detection and monitoring can be accomplished in many different ways and tailored to facility operations. Detection and monitoring requirements can be met through use of personnel, electronic devices, or visual monitoring. Personnel would have to be determined to be trustworthy and reliable, have a need to know, be trained in the security procedures, have reliable communications, and be capable of meeting the immediate detection requirements.

Electronic devices must be capable of alerting nearby trained facility personnel. Visual monitoring must be capable of also alerting trained personnel.

92. Do licensees have to visually distinguish (e.g., badges) all individuals who have not been granted unescorted access?

No, this is not a requirement. Colored badges may be appropriate for a larger organization, while visual recognition may be appropriate in a smaller one. Using magnetic keys in place of some form of visually distinguishing individuals would not be acceptable in terms of meeting the intent of the PM implementing guidance. Magnetic keys control access, but do not identify individuals.

93. How can licensees prevent those individuals who have criminal intentions from gaining access to the radioactive material or device?

The PMs are not intended to stop determined adversaries, intent on malevolent actions, from gaining access to the radioactive material. Rather, the PMs provide reasonable assurance that (1) individuals having unescorted access to the radioactive material are trustworthy and reliable and (2) licensees have a reliable means to rapidly identify events of potential malevolent nature and can have prompt police response to mitigate high consequences.

94. How can a single individual, such as a medical technologist assigned to be an escort, be capable of preventing an incident or even raising an alarm in the event that the unapproved individual is armed and intent upon malevolent use of radioactive material in quantities greater than or equal to Table 1 values.

There may be no prevention for a well-thought out plan of attack. The PMs were established to delineate licensee responsibility in response to the current threat environment. The PMs provide requirements to control access, monitor, detect, assess, and respond. Each licensee may determine which methods will work the best for their specific facility.

95. How do you protect against an insider threat?

The PMs require that access to radioactive material in quantities greater than or equal to Table 1 values be limited to only approved individuals. A licensee may grant unescorted access to an individual, but may limit or restrict certain information concerning such things as security system codes and other items regarding the security plan. Access to vital information should be limited. This may not prevent a determined insider. However, there should be an increased awareness among licensee staff to report anything unusual or unexpected.

96. Should the radiation safety office/officer be involved in what is specifically a security issue?

Although they may not be the experts in security issues, the radiation safety office/radiation safety officer should be involved from the stand point that they can provide valuable insight regarding the radioactive material involved and potential safety significance. The radiation

safety office/radiation safety officer can provide coordination to ensure that all PMs are being implemented, and can provide communication when necessary.

97. What is an escort's responsibility and should an escort perform body searches?

There are no specific requirements other than maintaining line of sight contact and any assigned responsibilities under PM 2. These procedures should be tailored to each facility's operations. The overall goal is to control access to radioactive material in quantities greater than or equal to Table 1 values and limit access to only approved individuals who require access to perform their duties. Individuals who have not been approved must be escorted.

98. Shouldn't device features be considered or given credit for providing some access control?

The Orders were written with full awareness of the features of the device, as well as the quantities of licensed material contained in the device. The PMs were designed to provide a defense in depth strategy for the protection of radioactive material in quantities greater than or equal to Table 1 values. No single PM can provide the same level of protection as the combination of all the PMs. Therefore, each of the PMs will have to be implemented.

99. Do well-logging sources or radiography sources get stolen as frequently as gauges?

Information in the Nuclear Materials Event Database indicate that radiography sources are not stolen as often as portable gauges.

100. Would the use of a security guard to periodically check areas to ensure they are secure meet the requirement of "immediate detection?" Why would a 15 minute response not be adequate for response to an alarm? Is there any other way to monitor than to have an alarm system?

While trained individuals can be used to monitor, and immediately detect, assess, and respond as required by the PMs, periodic checks and/or a 15 minute response time by individuals would not meet the immediate detection requirement. The PMs were created in a manner which will allow licensees flexibility in choosing methods which work best when applied to their specific circumstances. It is not only important to choose the appropriate method of monitoring, detection, and assessment, but to assure that there is a dependable means in place to transmit information between and among the various components used to detect and identify an unauthorized intrusion, to inform the assessor, and to summon the appropriate responder. Trained individuals can be used to fulfill the requirements of the PMs, but licensee implementation must consider the need for implementation that meets PM requirements 24 hours per day, 7 days per week.

101. Couldn't an intruder monitor cell phone communications, etc., in a licensee's communication plan for monitoring?

Yes. They could also monitor police radios. A dependable means to transmit information about an unauthorized intrusion does not need to be a secure means of communication (i.e., encryption is not required). This is why backup communications (i.e., land line, auto dialers, cellular phones, pagers, and radios) are required.

102. When someone reports a source lost or missing, what is the response of the NRC?

Once an incident occurs, the licensee is expected to implement the appropriate elements of their required security plan, pursuant to the Security Order. The NRC monitors the situation to assure that appropriate actions are being taken to locate the missing source. As required by the National Response Plan, the NRC notifies other Agencies and coordinates Federal resources if needed. In addition, the licensee is responsible for notifying the NRC pursuant to 10 CFR 20.2201.

103. What is meant by assessment by automated devices?

Depending on the security system, layout of security areas, and sensors, automated devices or systems may be programmed to automatically summon LLEA assistance, in response to an intrusion alarm, without having a licensee think through what the alarm may mean and deciding whether to call the police. The assessment has been done in advance by the licensee with a preset security system response to alarms from one or more detectors.

C. PM 3: Transportation Requirement

104. Does PM 3.a.1 apply to all modes of transportation?

PM 3.a.1 applies to domestic highway and rail shipments of radioactive materials of concern. Security during marine and air transport is covered by the U.S. Coast Guard Maritime Transportation security regulations and the U.S. Transportation Security Administration security regulations, respectively. The PM has been revised accordingly.

105. How can the rules be fairly applied concerning transport, when a common carrier can transport without an alarm for immediate detection, versus when a licensee carries a source and has to have an alarm, etc., to meet PMs 1 & 2?

As required by PM 3.a, a common carrier must use a package tracking system, assure trustworthiness and reliability of their drivers, maintain constant control and/or surveillance and have the ability to immediately summon a response. An alarm system is only one way to maintain constant control and provide an immediate response.

106. The requirements of PMs 3.a and 3.b for use of common carriers appear to be less stringent than PMs 1 and 2. Can licensees, who transport their own radioactive materials opt to implement PMs 3.a and 3.b instead of PMs 1 and 2 for transportation.

No. Many licensees use their vehicles differently than common carriers and any differences in the PMs account for this while achieving the same objectives. While both the NRC and the

DOT have regulatory authority for radioactive materials, DOT [now also the DHS, Transportation Security Administration(TSA)], has traditionally regulated the common carriers of radioactive material. DOT regulations require certain carriers to have security plans, but do not specify all the particular attributes of PM 3 for the security plan. The intent of PM 3 is for licensees to use those carriers that have security plans, required by DOT regulations, that have the particular attributes which achieve the same objectives as PMs 1 and 2. Because not all carriers may be required at this time to have security plans, PM 3 allows flexibility for licensees to choose any carrier that can meet the requirements of the PM. The NRC, DHS, TSA and DOT are working towards having seamless security of radioactive material in quantities greater than or equal Table 1 values across the different regulatory jurisdictions, and which is consistent with the International Atomic Energy Agency Code of Conduct on the Safety and Security of Radioactive Sources.

107. Do shippers who hire Class A, etc., drivers have a trustworthiness and reliability program in place?

When licensees are “shippers” of radioactive material they must implement the requirements of the NRC’s regulations and security Orders. Common carriers employed by “shippers” to transport hazardous materials must follow applicable DOT, TSA, and DHS regulations. The security threat assessment required for a commercial drivers' license with a hazardous materials endorsement, needed by common carriers, would satisfy the PM to assure the trustworthiness and reliability of drivers.

108. Who will provide carrier information to licensees? Who is responsible?

Licensees are responsible for obtaining documentation from a carrier certifying that it can meet and will implement the requirements of PM 3.a.

109. What do you do about carriers who subcontract work to other carriers who go to locations that the original carrier does not travel to?

Licensees are responsible for obtaining documentation from a carrier certifying that it can meet and will implement the requirements of PM 3.a., including work subcontracted to other carriers.

110. What if during the first 180 days you are unable to get information meeting the Order from the carrier, what do you do?

If a licensee is unable to work with a carrier to implement the requirements of PM 3.a for its shipment or is unable to find another carrier in time, then the licensee will need to notify the NRC and seek relief from the specific requirement. The request shall provide the licensee’s justification for seeking relief from or variation of any specific requirement, a proposal for achieving the same objective, or a schedule for achieving compliance. Documentation from a carrier need not be obtained within the 180 implementation period, but would be needed by the time the shipment is made.

111. Licensees should not be responsible for the internal security program of private carriers. How do I verify and document that a carrier employs the appropriate security measures?

Licensees do not have to inspect carriers' security programs to verify the security measures. Licensees need only obtain documentation from the carrier that attests to the fact that its security plan meets the requirements of the applicable PM 3.a and contains a commitment that those requirements will be applied to the licensee's shipment.

112. What do we do if our contract carriers do not meet the criteria in the Order?

You would not be able to use them to transport sources under the Order. By working with the industry and the carriers, the NRC expects "qualified" carriers to indicate that they meet the criteria of the Order.

113. Will the NRC develop an accreditation process or provide an "approved" list of those carriers that meet the requirements of PM 3.a?

The NRC does not intend to establish such a program nor can it recommend companies to perform services. However, licensees and industry groups may develop a system for identifying and certifying carriers that meet the requirements of the PMs and then share that certifying documentation with group members or customers.

114. Why isn't the DOT inspecting the carriers security plans instead of having licensees having to assure that carrier's security plans meet the requirements of 49 CFR 172 Subpart I?

The DOT does verify through inspection that carriers have security plans in accordance with 49 CFR 172 Subpart I. However, the security plan requirement may not apply to all carriers. Furthermore the attributes specified in PM 3.a are not all specifically identified in DOT's regulations and therefore, may not be included in all carriers' security plans. The PM allows licensees the flexibility of approving the use of carriers that may not be required to have a DOT security plan, but can apply the attributes specified in the PM for a licensee's shipment.

115. Which licensee is responsible for investigating and reporting the loss of radioactive material in transit, the shipping licensee or the receiving licensee?

As required by PM 3.a, the shipping licensee that is transferring and arranging the shipment of radioactive material to another licensee is responsible for initiating an investigation with the carrier if the radioactive material does not arrive by the pre-arranged expected time of delivery. If the carrier can not locate the shipment and ascertain that it still has control over the radioactive material within the prescribed period, then the shipping licensee must report the missing shipment of radioactive material. As required by PM 3.d, the licensee receiving radioactive material needs to coordinate with the supplier to know when to expect the delivery to assure security when it arrives. Although the shipping licensee is responsible for seeing that the radioactive material gets to its destination in a timely fashion, the receiving licensee must coordinate with the shipping licensee to have an understanding of what notifications, if any, the shipping licensee needs. The NRC expects a clear understanding between the shipping and receiving licensees to assure the successful and timely transfer of radioactive material.

- 116. For PM 3.b, why can't the NRC issue Orders now to cover the shipment of radioactive materials greater than 100 times the quantities in Table 1, instead of waiting until 90 days before a shipment to notify the NRC? Alternatively, why can't the NRC require licensees to identify whether they are likely to meet that threshold in their response to the proposed Order.**

The NRC has a separate Order for additional security measures for the transportation of Radioactive Material Quantities of Concern (RAM QC). The ASMs are Safeguards Information - Modified Handling (SGI-M) and have limited distribution to those licensees that are likely to ship radioactive material in quantities greater than 100 times the quantities in Table 1 (i.e., licensees that have a need to know). Although this group of licensees may possess RAM QC quantities, stakeholder feedback at the workshops indicated that they are more likely to be the recipients of these quantities of material rather than shippers. Stakeholders also indicated that M&D licensees who will be implementing the RAM QC Order are more than likely the ones that will be making the return shipment of this material for their customers. Therefore, the RAM QC ASM Order will only be provided to those licensees in this group who have a demonstrated need to know based on the 90-day advanced notification of a need to ship such quantities.

- 117. For PM 3.b, which licensee is responsible for notifying the NRC 90 days prior to shipment radioactive material greater than 100 times the quantities in Table 1, the shipping licensee or the receiving licensee?**

The shipping licensee that is transferring and arranging the shipment of radioactive material to another licensee (receiving licensee) is responsible for notifying the NRC 90 days before an expected shipment, unless the licensee is already implementing the ASM Order for the RAM QC. The RAM QC ASM Order implementation date is expected later this year.

- 118. Is PM 3 applicable when I transfer a source or device to a different building?**

Whenever radioactive material in quantities greater than or equal to Table 1 values is being transferred, the shipment must comply with applicable NRC Security Order requirements. If the transfer is accomplished within the licensee's controlled area, the movement of the radioactive material is not exempt from the PMs. PM 3 applies if the licensed radioactive material is being transferred from one licensee to another and the shipment is made by a common carrier by road or rail. A new building or an interim location must also have the security required by the PMs.

- 119. We have a great deal of trouble tracking our sources when they are "clearing Customs." We have been unable to get information regarding any type of tracking system that U.S. Customs may be using. Will the NRC provide us with assistance in dealing with US Customs with regard to tracking our sources once they are in the domain of Customs?**

The PMs are not intended to require tracking of sources through Customs. PM 3 only requires the use of carriers that implement a package tracking system. Licensees may consider the sources to be secure while going through the Customs process. The NRC, in developing a National Source Tracking System, interacts with the DHS, Customs and Border Protection and will pass on this concern.

- 120. Are source manufacturers, including radiography source manufacturers, responsible for, and must they comply with, the Order when shipping sources to licensees like me?**

Yes. When M&D Licensees are shippers of radioactive material they must implement the requirements of the NRC's Order for ASMs dated January 12, 2004.

- 121. Are notifications of shipments not received when expected treated as Sensitive Unclassified Information that is NOT publicly disclosed? If a licensee calls the NRC Operations center, will that not be entered as an Event Notice and be made public?**

The NRC is considering whether to make this type of information publicly available.

- 122. Do you need package design changes to approved DOT transport containers so that you can secure them to a truck, given that at present you can not modify these containers if you want to be in compliance with DOT requirements?**

Yes modifications to a DOT or NRC transportation package design need to be approved by the competent authority. Security and safety should complement each other. Security should not interfere with safety.

D. PM 4: Physical Barriers for Portable and Mobile Devices

- 123. If sources are stored in one room, does that mean aggregate quantities?**

Footnote 3 to Table 1 provides that radioactive materials are to be considered aggregated or collocated if breaching a common physical security barrier (e.g., a locked door at the entrance to a storage room) would allow access to the radioactive material or devices containing the radioactive material.

- 124. Can 1/8 inch wire cables be used to secure a radiography camera instead of chains? Is the lock then more of a vulnerability than the cable?**

A heavy-duty twisted steel wire cable may be used to secure portable and mobile devices. Ideally the wire should be such that it can only be removed with a heavy duty cable cutter (e.g., thickness greater than a No. 10 wire - 1/8 inch or 2 mm). Any system is only as effective as its weakest component therefore other components of the securing mechanism need to have similar strength such that it would require a heavy duty bolt cutter for removal (Typically, Tensile Force: 2,000 lbf and Shackle cutting force test: 4,000 lbf). Regulatory Guide 5.12 "General Use of Locks in the Protection and Control of Facilities and Special Nuclear Materials" may provide some useful information. Other references include: NUREG/CR-5929, Locking Systems for Physical Protection and Control; NUREG-0274, part 5, Catalog of Physical Protection Equipment, book 2, Volume III, Entry Control Components; Army Regulation 190-11, Physical Security of Arms, Ammunition and Explosives; and Department of Energy (DOE) M 5632.1C-1, Manual for Protection and Control of Safeguards and Security Interests.

125. If you lock a radiographic camera in a trailer at a job site, and the source is locked in side the trailer, how do you secure the trailer?

How a trailer could be immobilized or secured to add a delay factor would depend on the size of the trailer and its location. This may be accomplished by a variety of physical controls including: protective storage enclosures, trailer hitch locks, wheel locks, hardened chain and lock, removing the wheels, or deflating the tires.

E. PM 5: Documentation and Document Retention

126. When a device/source is removed from a license (or when a licensee falls below greater-than Table 1 quantities) may the licensee destroy or transfer to the NRC the security documentation required by PM 5?

There is no requirement to maintain documentation when the quantity of radioactive material falls below the Table 1 threshold criteria. At that time, all security documentation should be appropriately destroyed. No transfer of documentation to the NRC is necessary.

127. If records retention are for a lifetime, why can't they be three years to be in line with other NRC requirements?

PM 5 has been revised to read: The licensee shall retain documentation required by these PMs for three years after they are no longer effective.

128. Can the records be kept in Human Resources or do they have to be kept in Radiation Safety?

The review and/or record storage can be delegated to Human Resources or any other appropriate department depending on your organization. Additionally, the process used and the information previously obtained through the hiring process or another background check process may be used to support a trustworthy and reliable finding without having to re-verify the information. However, the individual responsible for the background checks must document the basis for concluding that individuals are trustworthy and reliable. The documentation may reference pre-existing records.

III. Regulatory Issue Summary

129. Are licensees required to follow the Regulatory Issue Summary (RIS) for the color-coded Homeland Security Advisory System (HSAS) table that accompanies the Order and PMs?

The Regulatory Issue Summary (RIS) is provided for guidance. Licensees will have to use their own judgment regarding implementing the RIS table, as it applies to their facility. The RIS provides guidance to licensees and encourages them to consider upgrading security in response to changes in the threat level established by the HSAS. Although the RIS does not contain binding legal requirements, it does communicate the NRC's expectation that licensees respond appropriately to changes in the threat environment.

130. Why not require the highest level of security measures in the Regulatory Issue Summary at all times?

Under most conditions the suggested actions at the highest level are not intended to be sustained for substantial periods of time. Implementing the measures at the highest level would be too restrictive and cost-prohibitive for normal business operations. The licensee may consider implementing enhanced actions at their discretion prior to any increase in the threat level.

131. Some of the terms in the Regulatory Issue Summary are unfamiliar, or not well defined (e.g., “exercise” and “refresh”); how are those terms defined?

“Exercise” means to rehearse, practice or test. “Refresh” means to review, re-evaluate, or re-do, as necessary.

132. The reference to background investigations in the Regulatory Issue Summary (RIS) table seems to conflict with the background check required in the PMs.

PM 1 delineates the need to determine trustworthiness and reliability through background check requirements for employees. For people who have been employed at one location for more than three years, their employment history is reviewed. This does not conflict with the broad guidance in the RIS table.

133. Should the words “refusing or limiting” be substituted for “granting,” on page 6, attachment 2 of enclosure 3, IV-8 (Homeland Security Advisory System (HSAS) Table)?

This change has been incorporated in the Homeland Security Advisory System (HSAS) table.

134. How will threat information be disseminated to licensees?

In the event of a specific, credible threat against a particular facility, licensees will be given the detailed information necessary to ensure adequate preparedness and response.

IV. Inspections: Inspection Process and Agreement State Involvement

A. Inspection Process and Agreement State Involvement

135. How will the NRC ensure consistency in the inspection process?

The NRC and Agreement State inspectors are aware of the intent of the PMs and are receiving training to ascertain whether licensees meet the security objectives of the PMs. The inspections are guided by inspection procedures. There is also a Security Findings Review Panel, which will review inspection findings to ensure consistency in the inspection and enforcement processes.

136. Will the inspection criteria and other guidance be available to the licensees?

Yes. Licensees will be provided informational copies of the Temporary Instruction (TI) for inspection when it is complete. TIs provide inspection guidance to NRC and Agreement State inspectors.

137. Are inspections announced?

The Initial Security Inspections conducted under these Orders will be announced.

138. Are civilian contractors going to perform inspections?

At this time, there are no plans to contract out inspections.

139. Can the security inspections be performed at the same time as routine inspections?

Yes, initial security inspections may be done when inspectors are onsite for a safety inspection. However security inspections will not be postponed or delayed to coincide with a safety inspection.

140. Does early compliance subject you to an early inspection? And if inspected before the 180 days is up, are you subject to penalties if found to be in noncompliance or do you have the full 180 days to fix the problems?

No to both questions. Security Inspections will not begin until after the 180-day implementation period. Early compliance is an advantage to licensees allowing them to self-evaluate their new procedures prior to inspection.

141. Is there more inspector training coming? Can licensees attend the inspector training or will NRC provide some other type of equivalent training?

NRC will provide training for both NRC and Agreement State inspectors. The training course is designed for inspectors. Licensees will be provided with a copy of the Temporary Instruction.

B. Agreement State Inspections

142. Agreement states are different, in that one has different “added” requirements in their respective states. Are the inspections going to be different as in the differences between states or will they be uniform?

The NRC is implementing measures to facilitate uniform inspection and enforcement for all licensees. NRC and State Inspectors will receive the same training. Inspectors are required to follow a Temporary Instruction developed by the NRC for inspecting the requirements of the Order. Inspection report records will be coordinated with the NRC Regional Offices and have management oversight through the Security Findings Review Panel at the NRC Headquarters

in which State inspectors will also participate. This process was developed to promote consistency of the inspections, findings and enforcement.

143. Is the enforcement process any different from what we are used to under the Agreement State?

The NRC enforcement policy is available for your review on the NRC public website at www.nrc.gov/what-we-do/regulatory/enforcement. A Security Findings Review Panel (SFRP) has been instituted at NRC Headquarters to ensure consistency in the inspection and enforcement processes.

144. Can an Agreement State who has signed a Section 274i Agreement with the NRC cross state lines and inspect in another state?

NRC intends to have Agreement State inspectors perform the security inspections, under the 274i Agreements, for the licensees in their state. One situation that may arise would be if a State inspector needed to inspect records of its licensee that were kept at a corporate office located in another state. In the case where a corporate office maintained records for licenses in several states, NRC would try to coordinate a consolidated inspection.

145. Does the Agreement State do the inspection and keep the report?

Agreement States that enter into Section 274i Agreements, conduct the inspection for and on behalf of the NRC. Following the inspection, the Agreement State will provide the inspection report directly to the NRC Regional Office having oversight of the State performing the inspection.

146. Are there going to be inspection fees for security inspections?

Licensees will not be charged a fee for the initial inspection for compliance with the Order to implement PMs.

147. Are states going to be involved in the Security Findings Review Panel (SFRP) process?

Yes. The Agreement States have been involved in the SFRP process, and will continue to be involved.

V. Information Security

148. Will we be handling Safeguards Information?

No, the reference to "Safeguards Information" in the Regulatory Issue Summary (RIS) will be amended.

- 149. Does the Commission understand that making certain documents Safeguards (SGI) or Safeguard Information - Modified Handling (SGI-M) would cause difficulties for the well-logging industry, particularly at remote temporary job sites.**

Yes, the Commission and the NRC staff took this into consideration when they designed the PMs. Security Orders and PMs for licensees in Groups 1 - 4 are not SGI or SGI-M. Information security measures are to be taken by the licensee for all information generated by the licensee in response to the PMs including licensee's security plans and procedures for the physical protection of the radioactive material covered under this Order. Such handling procedures are similar to measures used in managing company proprietary, confidential commercial, or financial information, personal identification information, and individual financial information. Additional guidance to licensees for the handling and protection of sensitive information has been provided.

- 150. How does a licensee determine what material is Safeguards Information (SGI) or Safeguard Information - Modified Handling (SGI-M)? Overall, the Security Classification system seems burdensome.**

There are no SGI or SGI-M documents associated with this Order. Information generated by licensees in response to this Order will not be considered SGI or SGI-M.

- 151. Are we going to be required to provide workers with copies of sensitive information such as that contained in security procedures, etc? Do Licensees have to provide employees with copies of the Orders?**

In accordance with the Order sensitive physical protection information is only provided to employees who have a "need-to-know" such information to perform their duties and who are considered trustworthy and reliable. Copies of the Order will be publically available, and can be provided to employees.

- 152. Do the restrictions on disclosure apply to DHS, Federal Bureau of Investigation (FBI), Central Intelligence Agency (CIA), etc.? Can we share PMs and associated information with other entities such as a LLEA and feel safe that it's protected?**

The PMs will be made available to the public-at-large. Licensees will need to share some security information with some of these agencies and LLEA as part of the coordination required for your response plan. As government employees and law enforcement officers, they have been determined to be "trustworthy and reliable." The licensee will need to determine if they have an official need to know.

- 153. Will the Order and/or it's recipients be made public?**

A generic Order will be made publicly available, however, the attached list of licensees receiving the Order and PMs is sensitive unclassified material and will not be disclosed to the public. As sensitive unclassified material, the information is withheld from public release.

- 154. Can we share PMs with governmental agencies who inspect us and with**

contractors who will support us in security efforts?

Yes. The PMs will be made publicly available and may be shared with these entities.

155. Will the NRC provide guidance for licensees on how to share Order information to their clients, carriers and others?

Yes. Guidance is provided to licensees for the handling of sensitive unclassified information that pertains to your security plans and procedures. Sharing sensitive information with clients, carriers and others is on a need to know basis. The information needs to be protected the same way a licensee protects its own security, confidential commercial, or financial information and revealed only to those persons who must have the information to conduct business.

156. What potential liability lies with the licensee in regard to safeguarding this information? Are there significant costs involved?

The licensee's physical protection information does not need to be treated as safeguards information, but it is sensitive physical protection information that needs to be protected. Violation of information protection requirements would subject licensees to traditional enforcement action, which could include civil and/or criminal penalties. Costs involved in protecting this information are expected to be minimal in that protecting the material when not in use requires it be kept in a secured cabinet or desk.

157. Will Agreement State radiation control programs have to change their procedures regarding information collection and document availability for Part 35 and other licensees of concern to ensure this information is not made readily available to interested parties without a need-to-know?

Agreement States generally have processes and procedures for withholding sensitive information from the public. The NRC is working with the Agreement States to ensure that all sensitive information relating to materials licensees (including licensees' information about the physical protection of radioactive materials) be withheld from public disclosure.

158. The preface to the NRC transmission of draft documents which contains the text: "The U.S. Nuclear Regulatory Commission (NRC) considers that any information that could be useful, or could reasonably be expected to be useful, to a terrorist in a potential attack should be withheld from public disclosure" is overly broad. Can you be more specific?

The intent and objectives of the PMs are to enhance existing security requirements to reduce the risk for the malevolent use of radioactive material in quantities greater than or equal to Table 1 values. Reducing the access to and release of sensitive information supports this goal by adding an additional level of protection. The NRC determined that a "defense in depth" strategy providing multiple layers of security is the best approach to protecting radioactive material quantities of concern.

159. All of the regulatory agencies should reach consensus on what information

should be protected, reduce the number of classifications, and develop a single set of document security protection standards.

The NRC has worked collaboratively with other federal agencies on security management and information protection issues. While consensus has been reached on many issues, consensus on security protection standards for unclassified sensitive information has not been reached. The NRC expects that licensees follow the recommended procedures for protecting material as described in 10 CFR 2.390 and licensees must follow the requirement in the Order to develop, maintain, and implement policies and procedures for the proper handling and protection of its physical protection information related to the security of radioactive materials to avoid unauthorized disclosure.

160. If security requirements move to rulemaking and are published, how will you control sensitive information?

The NRC anticipates that rulemaking will provide the performance based security requirements and not include information that must not be publicly available. Specific licensee's measures for the physical protection of radioactive material will be protected information. (e.g., see 10 CFR Part 73 as an example). The issue of using the security requirements during rulemaking and the relationship to controlling sensitive information is still being reviewed.

VI. Definitions

161. What is meant by "access" and "physical control"?

A person has access and physical control when they are able to touch the radioactive material in quantities greater than or equal to Table 1 values or any device which contains such material. The licensee is expected to maintain control of such radioactive material at all times by appropriate means that fit their operations. This includes utilizing escorts for those individuals who may be in the area but do not have a need to use the radioactive material or the devices it is contained in.

162. What is meant by "immediately"?

Immediately means to initiate response without delay. It is recognized that time may be required to make an assessment of the scope of the problem and to respond to the unauthorized access to radioactive material quantities of concern.

163. What is meant by "sabotage" of radioactive material in quantities greater than or equal to Table 1 values?

The NRC is highly concerned with those activities that could lead to any malevolent use of radioactive material, including sabotage, which would include manipulation or rigging of the device or of the radioactive material quantities of concern, in place, with the intended outcome of causing harm. Accordingly, the PMs have been designed to mitigate both the potential for theft and the intentional misuse of radioactive material, resulting in detrimental consequences to public health and safety and the common defense and security.

164. What is meant by “constant surveillance” and how must it be maintained?

A licensee can achieve constant surveillance by continuously monitoring the radioactive material quantities of concern or the device it is housed in. This can be carried out through the use of personnel and/or mechanical means. Physical detection and monitoring requirements can be met through the use of personnel who have been approved for unescorted access. Personnel would have to be trained in the security procedures, have reliable communications, and meet the immediate detection requirements.

165. Combining the definitions of mobile equipment, portable equipment and stationary equipment makes no sense and is confusing. In addition the word device may have a different meaning to the NRC than it does to the licensees. For example, does a lead “pig” or a transport container fall into the category of a device?

PM 4 has been revised to make a clearer distinction between the requirements for portable and mobile devices.

“Device” can have different meanings to the various types of licensees that possess sources containing radioactive material quantities of concern. In the context of the PMs it is used in a generic sense to mean an approved device to safely contain radioactivity under the conditions of their possession and use. Devices may include but are not limited to the following examples: Self-shielded irradiators, blood irradiators, remote afterloaders, teletherapy units, gamma stereotactic radiosurgery units, radiography cameras, source changers, well logging equipment, radioisotope thermoelectric generators, gauges or controllers, storage containers, and lead “pigs” or transportation packages.

166. If a piece of equipment can be hand-carried by two or three individuals is it considered a portable device?

Definitions from the American National Standard for Gamma Radiography - Specifications for Design and Testing Apparatus, ANSI N43.9-1991, provides some guidance:

- Portable:** “A portable ... device, designed to be carried by one person alone. The mass of a ... device should not exceed 35 kg (77 lb).”
- Mobile:** “A mobile, but not portable, ...device, designed to be moved easily by a suitable means provided for the purpose.”

In general, however, to address PM 4, the licensee shall utilize two independent physical controls forming tangible barriers to limit ease of theft by an adversary or adversaries, of a device containing radioactive material quantities of concern and considered removable.

VII. General

A. Service Providers and Manufacturers and Distributors (M&Ds)

167. Should the NRC focus its security efforts on vendors who supply and replace sources?

The NRC has focused on these groups, the Manufacturing and Distribution (M&D) Licensees, as they have already been issued Orders which focus on a higher level of security than the PMs for Groups 1-4.

168. It is our opinion that engineering controls are much more reliable than trying to predict an individual's current or future "trustworthiness or reliability." Should the Order result in maximizing licensee reliance on engineering controls?

The Order provides a defense in depth strategy. The Order does not prohibit the use of engineering controls to meet the intent of some of the PMs. However, the degree to which engineering controls are implemented is a licensee's business decision. Note: if licensees consider instituting engineering controls, those controls should not modify the actual device as described in the sealed source/device registration sheet.

169. Should the NRC require manufacturing and distribution licensees to make design changes that make the radioactive sources less accessible or retrofit an anti-theft device or engineering controls into each device to prevent quick removal?

No, not at this time. The PMs require the licensee to limit access to radioactive material quantities of concern. It is up to the licensee to determine how to make this limitation; either by way of engineering controls around the source itself or by limiting access to the area/room where the radioactive material is stored/used. However, an approach to make design changes to devices in lieu of PMs would require licensees to either purchase new equipment or retrofit existing devices. Engineering controls such as an anti-theft device are options for the M&Ds of such devices to consider, but the NRC has not mandated this requirement. The NRC's Office of Nuclear Regulatory Research is pursuing design enhancements to make sources less dispersible.

170. Please provide information gathered during security assessments so that M&Ds can make necessary modifications. Some devices require the removal of a significant amount of shielding/housing in order to gain access to the radioactive material. Does this type of configuration constitute a source containing radioactive material quantities of concern?

The specific results of security/vulnerability studies are not being released. However, those studies indicate that these device source combinations may be vulnerable under certain scenarios. The PMs provide the additional security deemed necessary. A number of factors were considered when creating the PMs including the International Atomic Energy Agency's Code of Conduct which specifically lists the activity and isotopes which constitute a source containing radioactive material quantities of concern.

171. There are differences in the requirements for the determination of trustworthiness and reliability in the Manufacturing and Distribution Order and the draft Order

PMs for other licensed users. Is there or will there be a move towards standardization in the requirements?

The NRC has taken a risk informed approach in determining appropriate PMs for the various types of licensees.

172. Should the NRC have the three radiography source suppliers develop trustworthiness and reliability information on delivery personnel and provide it to the licensees?

The Manufacturing and Distribution (M&D) Licensees are implementing the NRC's Order for ASMs dated January 12, 2004. This Order has a trustworthiness and reliability component. If a Licensee wants to grant unescorted access to M&D licensee's delivery or service personnel, then documentation may be requested from the M&D licensee attesting the trustworthiness and reliability of an individual has been determined in accordance with the January 12, 2004, M&D Order.

B. Medical Facilities

173. How will the thresholds identified in the quantities of concern affect High Dose Afterloaders (HDR), especially mobile units?

Most single HDRs do not exceed the thresholds and therefore PMs are not required if the devices are not collocated. However, for source change outs or in other cases where there are two or more collocated sources the PMs need to be implemented.

174. Many of the devices such as a gamma knife or blood irradiator are inherently hard to steal because the sources are hard to get at and the devices are very heavy. Why do we have to consider additional PMs for these devices?

Studies by national laboratories indicate that the sources in those devices are vulnerable under certain scenarios. As such, the PMs developed were determined to be reasonable and provide the additional security deemed necessary.

C. Agreement State Licensee Concerns

175. Are the Agreement States allowed to impose stricter requirements?

No. This Order is issued under the Commission's authority to promote the common defense and security. This authority was not relinquished to Agreement States under agreements made pursuant to the Atomic Energy Act, section 274b or 274i. The NRC and Agreement States worked cooperatively in developing these PMs. The Organization of Agreement States and the Conference of Radiation Control Program Directors, Inc. were represented on the Materials Security Working Group and Steering Committee.

176. How does the NRC know that all the licensees are being captured when gaining information from the States? What about new licenses issued?

The NRC is continuing to work with the Agreement States to ensure that each licensee to which these or other PMs apply, receive the appropriate set of PMs and other applicable information. If States or other licensees are aware of licensees that should receive an Order, but haven't, they should contact their Agreement State licensing contact or the NRC's Office of Nuclear Material Safety and Safeguards.

177. Will a licensee who only holds a State license only correspond with the State or will they correspond with the NRC also?

Licensees' responses go directly to the NRC as specified in the Order. The NRC is coordinating with the Agreement States to assure they are kept informed about their licensees' responses to the Orders. Agreement States that have signed a 274i Agreement will correspond directly with licensees regarding inspections.

178. Is there any chance that the NRC will take back the Agreements from the Agreement States because of all the security measures being implemented? Is this the first step towards everyone having an NRC license?

No, the NRC is not considering "taking back" Agreements as a result of recent security Order implementation.

D. Miscellaneous

179. How is the NRC ensuring that the appropriate licensees receive the PMs?

The NRC is continuing to work to ensure that each licensee to which these or other PMs apply, receive the appropriate set of PMs, and other applicable information. If States or other licensees are aware of licensees that should receive an Order but have not, they should contact their Agreement State representatives or the NRC's Office of Nuclear Material Safety and Safeguards.

180. If one licensee who owns material and transfers it to another licensed individual, with the intent that the original transferor gets it back, is the transferee responsible for security while they have it in their possession?

Yes. NRC or Agreement State licensees must provide security for licensed radioactive material they possess under their license (see 10 CFR §20.1801 and §20.1802) whether or not they own the radioactive material (e.g., many licensee possess Department of Energy owned material).

181. Who is responsible for security if an "off-site" licensee brings its own radioactive materials to use at another licensee's facility?

With respect to radioactive material in quantities greater than or equal to Table 1 values brought to a licensee's facility by an "off-site licensee," the responsibility for security will depend on the purpose and status of the material being brought on-site. If the material, such as a radiography source, is brought onsite by another licensee for the purpose of that off-site licensee performing its licensed functions (in this example, industrial radiography) at a

"temporary job-site," the security of the material is the responsibility of the off-site licensee. If the material is being brought on-site for the purpose of being transferred to the licensee, then the responsibility for security belongs to the transferee (i.e., the licensee), upon delivery of the material.

182. On remote sites, sources stored in lead "pigs" are typically left unattended for periods of time. Will this practice still be acceptable under the Order?

No. Under current regulations this practice is not acceptable. The regulations, 10 CFR §20.1801 Security of stored material, requires: "The licensee shall secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas," and § 20.1802 Control of material not in storage requires: "The licensee shall control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage."

183. Is there any possibility that NRC is going to modify 10 CFR Part 34 to require two qualified individuals to transport radiography cameras?

At this time the NRC does not have any plans for such a proposed rulemaking.

184. At what point does a service provider, who takes temporary possession of radioactive material for service or installing it into a device, transfer responsibility for security of the radioactive material back to the facility licensee?

Licensees under Orders to implement the PMs are responsible for security at its facility whether or not a service provider takes temporary possession while working with the licensee's radioactive material. A service provider, when taking temporary possession of its customer's radioactive material, takes responsibility for implementing radiation safety requirements while working with the customer's radioactive material or device containing the radioactive material. A service provider, when in temporary possession of radioactive material for radiation safety purposes, is not responsible for implementing the security requirements of the Order related to its customer's radioactive material.

185. Can the NRC security information be communicated to a single, centralized location for licensees that conduct business in multiple states?

If requested in writing, the NRC can communicate security-related information to a single, appropriately identified, licensee-designated contact.

186. How does the NRC determine to whom the Order and related materials are sent for, at a licensed facility?

The NRC sends the information to the licensee's designated "contact person" (as provided in the licensee's application). The licensee has a responsibility, based on a "need-to-know," to make a determination as to which individuals in their organization should be provided copies of the Orders.

187. Can the Orders be sent via overnight delivery, with conspicuous markings to

indicate their importance and the requirement for a response?

The Orders will be sent via overnight delivery; however, the NRC will not include conspicuous markings regarding licensee response requirements. During the last few years, the NRC has received responses to Orders and other regulatory actions, and to date, has not observed difficulties by its licensees in responding to these special transmittals.

188. Can the NRC time the delivery of the Orders so they do not arrive during major professional meetings?

The NRC will consider the timing of its Order issuance in light of special events, such as national holidays and major professional meetings, affecting the regulated community.

189. Is the DHS aware of the NRC activities concerning radioactive materials?

The NRC maintains an ongoing relationship with several governmental agencies (e.g., DOT, Department of Defense, DHS, Department of Energy) to ensure coordination and consistency in overlapping areas of responsibility and enforcement.

190. Has the NRC coordinated with other federal agencies to promote consistency of security measures?

Yes. The NRC is working collaboratively on security issues, including enhancement to nuclear materials security, in efforts to assure security measures are effective and reasonably consistent with other State and Federal agency actions. The NRC continues to work with the U.S. DHS and other Federal agencies to integrate Federal Response Plans into a unified National Response Plan and National Incident Management System, and to refine the National Preparedness Policy.

In addition, the NRC has ongoing discussions with Federal agencies, including U.S. DOT and DHS, in developing an integrated federal approach for radioactive materials security measures. The NRC is also working in conjunction with the State Department and the international communities to harmonize all regulations associated with the security of radioactive material.

191. What is the overall intent and objective of the PMs?

The intent and objective of the PMs is to enhance existing security requirements to reduce the risk of malevolent use of radioactive material quantities of concern. The PMs cannot prevent 100% of all attempts at theft, sabotage or diversion; however, in total, the PMs provide multiple layers of security, or a "defense in depth," that are designed to provide enhanced security of radioactive material and mitigate potential consequences.

192. Is the NRC more concerned with theft or sabotage-in-place of radioactive material quantities of concern?

The NRC is concerned with those activities that could lead to any malevolent use of radioactive material. Accordingly, the PMs have been primarily designed to mitigate against theft, but also provide appropriate protection against sabotage-in-place of radioactive material, resulting in detrimental consequences to public health and safety and the common defense and security.

193. What is the basis for the Table 1 quantities of concern identified in the PMs?

The NRC adopted the International Atomic Energy Agency (IAEA) Code of Conduct Category 2 threshold quantities as the basis for the PMs to allow consistency between domestic and international efforts for security of radioactive materials that are deemed to be attractive targets for malevolent use. The IAEA process uses the international units of Terabequerels (TBq) and as such, the NRC is using the TBq values as the regulatory standard. The NRC decision to adopt these quantities was supported by earlier NRC and DOE analyses.

194. The expression of Curie (Ci) values to one significant digit might be considered insufficiently precise. Also, the regulated community, that still works largely in Ci units, might not readily identify the distinction in Footnote 2 to Table 1, that "TBq values are the regulatory standard and Curie values are rounded to one significant figure and are provided for informational purposes only." Can Table 1 be revised to provide Ci values to two or more significant figures so that it would not be so easily misinterpreted, misapplied, or the cause of potential violations?

Curie values are provided by NRC for informational purposes only, since the values have been rounded after conversion. Any conversion to the curie must still meet the TBq limit. From a scientific perspective, the radionuclide thresholds in the International Atomic Energy Agency (IAEA) Code of Conduct are quoted to one significant figure in recognition of the limitations on the accuracy of the modeling. However, Table 1 has been revised to provide curie values with two significant figures, for licensee's convenience and to facilitate consistency in the enforcement area and in other aspects of NRC's regulatory program.

195. The Table 1 Quantity of Concern for Am-241 and Am-241:Be is 0.6 TBq (20 Ci). That is a problem for the oil and gas industry. In addition, there seems to be a discrepancy between Table 1 and page 15 of the Code of Conduct which lists well logging as a category 3 source/activity. Is there any way that the threshold for Am-241 and Am-241:Be can be raised? Or can alternative criteria for meeting the security goal be determined for remote temporary job sites (i.e., offshore rigs, and the north slope).

There is no discrepancy between Table 1: Radionuclides of Concern and page 15 of the International Atomic Energy Agency (IAEA) Code of Conduct. Although the Code of Conduct describes Category 3 sources as "typically used in practices such as.... well logging," IAEA TECDOC-1344, "Categorization of Radioactive Sources," which was the basis for the Code of Conduct, lists Am-241 well logging sources as having a range of activity from 0.019 TBq (Category 4) to 0.85 TBq (Category 2). The IAEA Category 2 threshold quantity for Am-241 is 0.6 Tq (16 Ci). The IAEA threshold quantities for Category 2 sources are the bases for Table 1 radionuclides and values. The U.S. Government is committed to implementing the IAEA Code of Conduct. Any changes in the threshold quantities will have to be accomplished through the IAEA process. The NRC will consider suggestions from industry on alternative methods for achieving the objectives of the PMs.

196. Did the NRC consider the potential financial impact of the PMs?

The cost of implementing PMs was considered by the NRC during the PM drafting process. The NRC considered security effectiveness, the potential burden on licensees, and costs

required of licensees to comply with the PMs. The PMs allow for substantial flexibility in meeting the objectives so that licensees can tailor measures to their own specific programs and operations. With appropriate enhancements, existing security, safety, and business practices can adequately address the requirements of the PMs. Also, the security requirements that form the bases for the PMs are very similar to other agency's security requirements (e.g., select

agent, hazardous material, or explosive material security requirements), which many licensees are already implementing.

197. Is the NRC considering financial aid or is there funding available to assist in the implementation of the PMs? Will the licensees be compensated in any way? Perhaps forgoing fees for a year?

The NRC can not compensate licensees or forgo fees to alleviate potential costs. However, there will be no fees for the initial compliance inspections related to the Order. There are no specific funds or financial resources available, at this time, to defray the costs to licensees for enhancing security of these radioactive materials. This is considered a new cost for doing business that many other industries with hazardous materials are facing. The objectives of the PMs can be met through procedural changes to existing safety and security programs and through the use of detection, alarm, and communications technologies that are widely available on the commercial market.

198. Were the PMs derived from a vulnerability or design basis threat analysis?

There is no design basis threat analysis. However security/vulnerability assessments were used to inform the selection of the PMs. The NRC is concerned with those activities that could lead to any malevolent use of radioactive material. Accordingly, the PMs have been designed to mitigate both the potential for theft and sabotage-in-place of radioactive material as well as potential detrimental consequences to public health and safety and the common defense and security.

199. What steps is the Commission taking to educate the public, in terms of its response to an event?

The NRC is working with DHS and other government and private organizations to assist in educating the public in this regard. DHS has programs to assist in training for first responders.

200. One commenter recommended that the NRC develop more prescriptive security measures, such as requirements for a written security program and performance of facility specific risk assessments.

The PMs are purposely not prescriptive in order to allow licensees to tailor programs to their specific facility and operations. The NRC recognizes that various approaches are available to licensees to meet the objectives of the PMs, and that there exists no one solution to any security challenge facing licensees.

201. Some licensees would only possess quantities that meet or exceed the thresholds for very short periods such as during source change outs. Will these licensees be required to implement the PMs?

Licensees that possess quantities that meet or exceed the thresholds will have to implement the PMs for those periods they possess those quantities. However, the Orders will provide an opportunity for licensees to request exceptions to some or all of the PMs and the staff will consider those requests. If adequate justification is provided by the licensee, exceptions may be granted.

202. Should “high-risk radioactive material” be replaced with “quantities of concern of radioactive material”?

The term “high-risk radioactive material” will no longer be used throughout the PMs, Implementing Guidance, and Order. The term “high-risk” used to define the subset of radioactive material covered by the Order and PMs is deleted. It is not used internationally or found in the International Atomic Energy Agency (IAEA) Code of Conduct or its Guidance, which refer to sources “...that may pose a significant risk to individual, society and the environment, if handled improperly.” The Order defines this subset of material as that listed in Table 1.

203. Does the database include all old radiography cameras (and sources) prior to 1996 when new cameras were required to be purchased by licensees? (i.e. cobalt-60 cameras)

The interim database contains information about sources containing radioactive material that exceed the quantities listed in Table 1, Radionuclides of Concern. The database does not contain information about devices or old cameras.

204. Why is NRC regulating Ra-226 listed in Table 1?

Ra-226 was originally included in Table 1 for informational purposes and for consistency with the IAEA Code of Conduct. Table 1 has since been changed to align with NRC’s authority. The Atomic Energy Act of 1954, as amended, does not authorize NRC to regulate naturally occurring radioactive material like Ra-226.

205. If a terrorist does blow up a source, how does the licensee know how large an area to evacuate? Has the NRC or one of the National Laboratories taken sources and tested them to see what level of explosives it would take to disperse the radioactive material?

National Laboratories have done explosives tests to better determine the dispersibility and consequences of various radioactive sources of concern for use in a Radiological Dispersal Device (RDD). The extent of local contamination would depend on a number of factors, including the size of the explosive, the amount and type of radioactive material used, the means of dispersal, and weather conditions. Those closest to the RDD would be the most likely to sustain injuries due to the explosion. As radioactive material spreads, it becomes less concentrated and less harmful. Prompt detection of the type of radioactive material used will greatly assist local authorities in advising the community on protective actions, such as sheltering in place, or quickly leaving the immediate area. While the explosive blast will be immediately obvious the initial evacuation would be based on the size of the explosion. The presence of radiation will not be known until trained first responders with specialized equipment

are on the scene and can determine the radiation dose rates for recommended protective actions based on the environmental Protection Agency's Protective Action Guidelines. Licensee's can best advise the LLEA on safe distances for radiation protection if a source is used as an exposure device.

206. Was any media invited to attend or allowed to attend any of the NRC meetings on Preventive Measures?

No. Attendance at all the NRC Stakeholder meetings to discuss PMs was by invitation and confirmed reservation only.

207. If a facility has multiple sources that when added together would exceed the quantity of concern, but they are spread out over a large facility (i.e., cesium flow meters on process piping), would they still be covered under the aggregate activity even though they are not collocated?

Footnote 3 on Table 1 indicates: "Radioactive materials are to be considered aggregated or collocated if breaching a common physical security barrier (e.g., a locked door at the entrance to a storage room) would allow access to the radioactive material or devices containing the radioactive material." There is a process by which a licensee may request relief from the Order if compliance with any of the requirements is unnecessary in specific circumstances. The process is communicated in the language of the Order.

208. Could certain licensees be categorically excluded from the Order or exempted from some PMs based on inherently low specific activity?

NRC agrees that low specific activity radioactive material inventories pose a lower security risk. Orders are being issued to certain types of licensee's based on their authorized possession limits. NRC did not establish specific activity thresholds to be categorically excluded. Rather, implementation of the PMs is based on possession of quantities of radioactive material that are greater than or equal to Table 1. There is a process by which a licensee may request relief from the Order if compliance with any of the requirements is unnecessary in specific circumstances. The process is communicated in the language of the Order.

209. Are the PMs proportional to the uses of the radioactive materials and do they allow licensees to take into account the circumstances, location and security measures that may already be in place for other things?

Yes, the NRC has developed various Compensatory Measures, ASMs and PMs that are commensurate to the current threat conditions and potential consequences of malevolent acts. NRC recognizes that various approaches are available to licensees to meet the objectives of the PMs, and that there exists no one solution to any security challenge facing licensees. If security programs exist for other activities at a licensee's site, that accomplish the same objectives as the PMs, licensees do not have to create a separate security program for their radioactive material.

GUIDANCE TO LICENSEES FOR THE HANDLING AND PROTECTION OF SENSITIVE UNCLASSIFIED INFORMATION AND OFFICIAL USE ONLY INFORMATION, INCLUDING PHYSICAL PROTECTION INFORMATION

The U. S. Nuclear Regulatory Commission (NRC) considers that any information that could be useful, or could reasonably be expected to be useful, to a terrorist in a potential attack should be withheld from public disclosure.

NRC has determined that the security plans and other sensitive information generated in response to the Protective Measures (PMs) and associated guidance affiliated with the security Order to licensees authorized to possess certain quantities of radioactive material of concern, are sensitive information, and are to be protected from unauthorized disclosure.

Each licensee must protect this information from unauthorized disclosure. Additional information and guidance on how to protect this information are provided below. Similarly, a licensee has a vested interest in protecting its own security, confidential commercial, or financial information and would only reveal it to those persons who the licensee has determined needs the information to conduct business. The NRC expects this guidance to be compatible with licensees' information protection strategies.

PROTECTING LICENSEE'S PHYSICAL PROTECTION INFORMATION AND OTHER SENSITIVE UNCLASSIFIED INFORMATION

ACCESS: Dissemination of sensitive unclassified and physical-protection information by licensees must be limited to individuals that have a "need-to-know" a licensee's security information to perform their job duties, and are determined trustworthy and reliable using criteria consistent with those requirements in PM 1. Access by licensee employees, agents or contractors must include both an appropriate need-to-know as determined by the licensee, as well as an appropriate determination concerning the trustworthiness and reliability of individuals having access to the information. Employees of an organization affiliated with the licensee's company, e.g., a parent company, may be considered as employees of the licensee for access purposes. Licensee's should assure that individuals not authorized to receive such information do not overhear conversations relating to the substantive portions of the sensitive information.

Occupational Groups Considered to be Trustworthy and Reliable

Dissemination of licensee's physical protection information is limited to individuals who have an established need-to-know and who are trustworthy and reliable. Other than those individuals authorized by the licensee, members of certain occupational groups may be deemed trustworthy and reliable by virtue of their employment status. These occupational groups are:

1. An employee, agent, or contractor of the Commission, or the United States Government;
2. A member of a duly authorized committee of the Congress;
3. The Governor of a State or his designated representative;
4. A representative of the International Atomic Energy Agency (IAEA) engaged in activities associated with the U.S./IAEA Safeguards Agreement who has been certified by the NRC;
5. A member of a state or local law enforcement authority that is responsible for responding to requests for assistance during security emergencies; or

6. A person to whom disclosure is ordered pursuant to Section 2.744(e) of Part 2 of Part 10 of the Code of Federal Regulations.
7. State Radiation Control Program Directors (and State Homeland Security Directors) or their designees.

In a generic sense, the individuals described above in (2) through (7) are considered to be trustworthy and reliable by virtue of their employment status. For non-governmental individuals in group (1) above, a determination should be made that an appropriate non-disclosure agreement exists. Discretion must be exercised in granting access to these individuals. If there is any indication that the recipient would be unwilling or unable to provide proper protection for the licensee's physical protection information they should not be authorized to receive it.

WHEN SENSITIVE UNCLASSIFIED INFORMATION IS MARKED: A U.S. Government Agency marks a document as OFFICIAL USE ONLY (OUO) when it is essential to ensure proper handling and to ensure that all persons having access to the record are aware that the document is not to be publicly released and only distributed to those who have a "need-to-know" to conduct official business. When NRC provides sensitive unclassified information to licensees or other non-government persons with a need-to-know, it would be marked as **"Withhold from Public Disclosure in Accordance with 10 CFR 2.390."**

MARKINGS: OUO documents are marked, by the Government Agency, at the top and bottom of the page on the face of each document containing the sensitive information for "Official Use Only" when the marking is required to ensure proper handling. Similarly, sensitive unclassified information sent to licensees would be marked **"Withhold from Public Disclosure in Accordance with 10 CFR 2.390."** Information generated by the licensee in response to the Order, Protective Measures, and associated guidance that is sent to the NRC also needs to be marked, **"Withhold from Public Disclosure in Accordance with 10 CFR 2.390."** Other licensee generated plans for the physical protection of the radioactive material covered under the Orders should be marked in such a manner to assure easy identification and to ensure proper handling.

FILES OR FOLDERS: The front and back of folders containing sensitive information should be marked for easy identification and to ensure proper handling.

TRANSMITTAL DOCUMENTS: Documents that do not in themselves contain sensitive unclassified information but are used to transmit one or more documents containing this information are marked to indicate the fact that sensitive unclassified information is contained in the documents transmitted. The markings, **"Withhold from Public Disclosure in Accordance with 10 CFR 2.390,"** or other appropriate markings indicating the category of information, should be placed at the top and bottom of only the first page of the transmitted document. In addition, the following marking should be placed at the side or bottom on the first page of the

transmittal document: "Document transmitted herewith contains sensitive unclassified information. When separated from enclosures, this document is decontrolled."

COVER SHEETS: The use of Cover Sheets is a good practice for sensitive information to facilitate identification or protection of the information so that it cannot be surreptitiously or inadvertently read by individuals without the need-to-know.

REPRODUCTION: A good practice is to minimize the number of copies of documents containing, or said to contain, sensitive unclassified information to meet operational requirements without permission of the originator or responsible office. Care must be taken to prevent unauthorized access during reproduction and in the disposition of documents containing sensitive unclassified information.

PREPARATION FOR TRANSMISSION: Documents containing sensitive unclassified information should be addressed to an individual authorized access to that information. Material used for packing should be opaque and of such strength and durability as to provide secure protection for the document in transit, prevent items from breaking out of the container, and facilitate the detection of any tampering with the container.

TRANSMISSION: Documents containing sensitive unclassified information should be transmitted, using a single opaque (sealed) envelope, by one of the following methods:

1. Messenger, contractor authorized messenger or courier,
2. U.S. Postal Service First Class Mail,
3. Registered Mail, Express Mail or Certified Mail, if tracking and delivery verification are desired, or
4. Interoffice mail or pouch mail.

If hand carrying, the document should be in the couriers possession at all times. At no time may the document be left unattended or unsecured while in transit.

RECEIPTS: Notifications for receipt of transmitted sensitive information documents are not required. A receipt may be utilized if the sender wishes to ensure the delivery of the document(s).

TELECOMMUNICATIONS: Utmost discretion must be used in the transmission of any sensitive unclassified information by electrical means. U.S. or other paper mail transmission channels are preferred. When transmitting information via internet, licensees should consider encrypting sensitive unclassified information, such as physical protection information relating to your site. Licensees may use standard encryption, password, or other such features offered with computer software and with computer operating systems.

AUTOMATIC DATA PROCESSING: Sensitive unclassified information may be processed or produced on an Automated Information System (AIS) provided that the system is authorized for the generation of the sensitive information and the user is appropriately briefed on the proper security procedures while using the computer system. Individuals should protect the information during use by maintaining control and by ensuring only individuals with the appropriate "need-to-know" have access to the information.

STORAGE: If a facility has an electronic access control system in place or contract guards on duty, no additional storage requirements are necessary for licensees' sensitive security information related to physical protection information. If these security measures are not available, additional protection (locked cabinet, desk, office, etc.) is required due to the sensitivity of the information requiring protection. Information stored in non-removable electronic form should be password protected. Access to the keys, combinations, passwords or other means used to secure the information needs to be limited to those persons authorized.

DESTRUCTION: Recipients of sensitive unclassified information documents are responsible for destroying these documents when they are no longer required. Records of destruction are not required. Documents containing sensitive unclassified information need to be destroyed by a method that will prevent reconstruction of the information. Documents may be destroyed by tearing them into small pieces or by burning, pulping, pulverizing, shredding, or chemical decomposition. (Note: sensitive unclassified information should not be sent to recycling without being destroyed first)

REMOVAL OF INFORMATION FROM THE SENSITIVE UNCLASSIFIED CATEGORY: Periodic review of documents containing sensitive unclassified information to determine whether these documents should remain in this category is not required. This review is necessary only when specific circumstances require such action.

CORRESPONDENCE TO NRC RELATED TO SECURITY ORDERS

Correspondence to or from the NRC related to these enhanced security physical protection measures, not otherwise designated as Safeguards Information, will not be publicly disclosed by the NRC except as required by law.

In order to assure there is no unauthorized release of licensee-generated sensitive unclassified physical protection information related to, or in response to, the security PMs, Implementing Guidance, Regulatory Issue Summary (RIS) Threat Conditions Table, or to any other document provided to the licensee, licensees' correspondence needs to be marked at the top of the first page of the document and the top of each page containing any information that may be considered sensitive information as follows:

"Withhold From Public Disclosure Under 10 CFR 2.390"

PROTECTION OF LICENSEE-GENERATED INFORMATION IN RESPONSE TO GROUPS 1 THROUGH 4 PROTECTIVE MEASURES

The Materials Security Working Group (MSWG) re-examined the issue of appropriate security requirements for information generated by licensees in response to the Protective Measures (PMs) for Groups 1 through 4. After further consideration, the MSWG continues to recommend that the PMs for Groups 1 through 4 and their associated guidance *not* be designated Safeguards Information (SGI) or Safeguards Information - Modified Handling (SGI-M). As discussed in detail in "Information Security for Protective Measures for Group 1 Materials Licensees," (Attachment 4 to COMSECY-04-0045 [ML041970651]), the MSWG believes the disadvantages of designating the PMs, their associated guidance, and the licensee-generated response to the PMs for Groups 1 through 4 SGI or SGI-M substantially outweigh the advantages associated with such a designation.

To achieve effective implementation of the Groups 1 through 4 PMs, the MSWG expects the NRC, states, and local law enforcement agencies will have to communicate closely with a very large number of licensees answering questions and cooperating to develop security plans to meet the objectives of the PMs. Information-protection requirements should not be so stringent that they cause administrative burdens that would unduly restrict these important communications or otherwise interfere with effective implementation. Effective implementation of the PMs, not any information-protection requirement, will provide actual security for the radioactive material.

In the interest of information protection the MSWG recommends licensees be required to restrict dissemination of their security plans to avoid disclosing essential security features to potential adversaries. To accomplish information protection, the MSWG recommends that the Order imposing the PMs for Groups 1 through 4 contain language requiring licensees to protect information generated in response to the order, but not at the SGI or SGI-M level. Rather, licensees would be required to protect information at a slightly lower level, thus easing the important pre- and post-implementation communications between licensees and regulators that will be necessary to ensure the goal of effective PM implementation. This relaxed approach will ease the communications necessary to ensure effective implementation, avoid undue administrative burdens that could delay implementation, and provide a level of protection over security-related information commensurate with the risk posed by disclosure of that information.

These information-protection requirements would be issued under the Commission's general licensing authority, as opposed to its specific SGI authority. Violation of these information-

protection requirements would subject licensees to traditional enforcement mechanisms. The order language below sets forth the MSWG's proposed information-protection approach, and is followed by a discussion of its legal basis.

Proposed Order

The Order to licensees in Groups 1 through 4 to protect information generated in response to the PMs and their associated guidance should contain introductory information regarding the purpose and intent of the Order, the authority for issuing the Order, and the penalties for violation of the Order. It should then include, at a minimum, the following requirement, or something substantially similar:

The licensee shall protect security information generated in response to the PMs as follows:

1. The licensee shall limit access to the information to those persons who have a need to know the information to perform their job functions, and those persons who have been determined to be trustworthy and reliable by the licensee pursuant to the PMs. Officials of the NRC, state radiation protection agencies, and local law enforcement agencies are deemed trustworthy and reliable for purposes of this requirement.
2. The licensee shall protect the information from unauthorized access by taking measures to ensure that persons not authorized access to the information cannot view, overhear, retrieve, or otherwise access the information.
3. When not in use, the licensee shall protect the information described above from unauthorized access by securing the information in a locked drawer or cabinet, or if the information is stored on non-removable electronic media such as a computer hard drive, local area network (LAN) or shared drive, by password protecting the information.
4. The licensee shall limit access to the keys, combinations, and passwords used to secure the information described above to those persons authorized to access the information.

This differs from the SGI and SGI-M approaches by eliminating some of the restrictions on communication between licensees, regulators, and local law enforcement agencies. Under a SGI or SGI-M information-protection scheme, communication of detailed security information would be possible only over secure telecommunications lines, or by mail or courier service in specially-marked and wrapped packages. By contrast, under the scheme described above, licensees could ask questions and correspond with the NRC, states, and local law enforcement agencies without special telecommunications security or packaging. Again, the MSWG believes this relaxed approach will ease the communications necessary to ensure effective implementation, avoid undue administrative burdens that could delay implementation, and provide a level of protection over security-related information commensurate with the risk posed by disclosure of that

information.

Legal Authority

Under the Atomic Energy Act (AEA), section 161b, the Commission has broad authority to establish by rule, regulation or order, such standards and instructions to govern the possession and use of special nuclear material, source material, and byproduct material as the Commission may deem necessary or desirable to promote the common defense and security. This authority was not relinquished to Agreement States under agreements made pursuant to the AEA, section 274b or 274i; thus the Commission may issue orders to both Nuclear Regulatory Commission (NRC) and Agreement State licensees respecting the control of information that, if released, may adversely impact the common defense and security of the United States.

Nothing in the AEA constrains the Commission to use its AEA section 147 authority, which governs protection of SGI, to protect other sensitive unclassified information. The Commission can and does rely on its general licensing authority to protect information not rising to the level of SGI in certain contexts. For example, 10 C.F.R. § 73.56(f) requires licensees to protect personal information collected on employees subject to access authorization programs, but does not designate that information SGI.

Violation of the information-protection requirements of 10 C.F.R. § 73.56(f) would subject a licensee to traditional enforcement action. Similarly, licensees in Groups 1 through 4 who violate the information-protection requirements proposed above would be subject to traditional enforcement. Enforcement mechanisms include civil monetary penalties under AEA section 234, and possibly criminal penalties under AEA section 223 for willful violations.

UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
LICENSEES AUTHORIZED TO)
POSSESS RADIOACTIVE MATERIAL)
QUANTITIES OF CONCERN)

EA 05-090

ORDER IMPOSING PROTECTIVE MEASURES
(EFFECTIVE IMMEDIATELY)

I

The Licensees identified in Attachment A¹ to this Order hold licenses issued in accordance with the Atomic Energy Act of 1954 by the U.S. Nuclear Regulatory Commission (NRC or Commission) or an Agreement State authorizing them to possess certain quantities of radioactive material of concern. Commission regulations at 10 CFR § 20.1801 or equivalent Agreement State regulations require Licensees to secure, from unauthorized removal or access,

¹ Attachment A contains sensitive information and will not be released to the public.

licensed materials that are stored in controlled or unrestricted areas. Commission regulations at 10 CFR § 20.1802 or equivalent Agreement States regulations require Licensees to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage.

II

On September 11, 2001, terrorists simultaneously attacked targets in New York, N.Y., and Washington, D.C., utilizing large commercial aircraft as weapons. In response to the attacks and intelligence information subsequently obtained, the Commission issued a number of Safeguards and Threat Advisories to its Licensees in order to strengthen Licensees' capabilities and readiness to respond to a potential attack on a nuclear facility. The Commission has also communicated with other Federal, State and local government agencies and industry representatives to discuss and evaluate the current threat environment in order to assess the adequacy of security measures at licensed facilities. In addition, the Commission has been conducting a review of its safeguards and security programs and requirements.

As a result of its consideration of current safeguards and license requirements, as well as a review of information provided by the intelligence community, the Commission has determined that certain protective measures are required to be implemented by Licensees as prudent measures to address the current threat environment. Therefore, the Commission is imposing the requirements set forth in Attachment B on radioactive materials licensees who possess, or have near term plans to possess, radioactive material quantities of concern. These requirements, which supplement existing regulatory requirements, will provide the Commission with reasonable assurance that the public health and safety and common defense and security

continue to be adequately protected in the current threat environment. These requirements will remain in effect until the Commission determines otherwise.

The Commission recognizes that Licensees may have already initiated many measures set forth in Attachment B to this Order in response to previously issued advisories or on their own. It is also recognized that some measures may not be possible or necessary at some sites, or may need to be tailored to accommodate the Licensees' specific circumstances to achieve the intended objectives and avoid any unforeseen effect on the safe use and storage of the sealed sources.

Although the additional security measures implemented by the Licensees in response to the Safeguards and Threat Advisories have been adequate to provide reasonable assurance of adequate protection of public health and safety, the Commission concludes that the security measures must be embodied in an Order consistent with the established regulatory framework.

This Order requires both Nuclear Regulatory Commission (NRC) and Agreement State licensees to control information that, if released, could reasonably be expected to be useful to potential adversaries in planning an attack and adversely impact the common defense and security of the United States. Licensees must ensure proper handling and protection of their physical protection information related to the security of radioactive materials associated with this Order to avoid unauthorized disclosure in accordance with requirements set forth in Attachment C to this Order. The Commission hereby provides notice that it intends to treat unauthorized disclosure of the licensee's physical protection information as a breach of adequate protection of the public health and safety and the common defense and security of the United States. Whoever willfully violates, attempts to violate, or conspires to violate any provision of an Order issued under Section 161b is subject to punishment including a fine or

imprisonment.

To provide assurance that the Licensees are implementing prudent measures to achieve a consistent level of protection to address the current threat environment, and consistent with the International Atomic Energy Agency (IAEA) Code of Conduct on the Safety and Security of Radioactive Sources (Code of Conduct) concerning Category 1 and 2 sources, all Licensees who hold licenses issued by the U.S. Nuclear Regulatory Commission or an Agreement State authorizing possession of radioactive material quantities of concern, listed for IAEA Category 2 and as listed in Table 1, "Radionuclides of Concern," (Attachment B, Table 1), shall implement the requirements identified in Attachment B to this Order. In addition, pursuant to 10 CFR § 2.202, I find that in light of the common defense and security matters identified above, which warrant the issuance of this Order, the public health, safety and interest require that this Order be effective immediately.

III

Accordingly, pursuant to Sections 81, 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR § 2.202, 10 CFR Part 30, and 10 CFR Part 32, IT IS HEREBY ORDERED, **EFFECTIVE IMMEDIATELY**, THAT ALL LICENSEES IDENTIFIED IN ATTACHMENT A TO THIS ORDER SHALL COMPLY WITH THE REQUIREMENTS OF THIS ORDER AS FOLLOWS:

- A. 1. The Licensee shall, notwithstanding the provisions of any Commission or Agreement State regulation or license to the contrary, comply with the requirements described in Attachment B to this Order. The Licensee shall immediately start implementation of the requirements in Attachment B to the Order and shall complete implementation by December xx, 2005, or the first day that radionuclides of concern at or above threshold

limits, identified in Table 1, are possessed, whichever is later.

2. The Licensee shall, notwithstanding the provisions of any Commission or Agreement State regulation or license to the contrary, comply with the information protection requirements described in Attachment C to this Order.
- B. 1. The Licensee shall, within **twenty five (25) days** of the date of this Order, notify the Commission, (1) if it is unable to comply with any of the requirements described in Attachment B, (2) if compliance with any of the requirements is unnecessary in its specific circumstances, or (3) if implementation of any of the requirements would cause the Licensee to be in violation of the provisions of any Commission or Agreement State regulation or its license. The notification shall provide the Licensee's justification for seeking relief from or variation of any specific requirement.
2. If the Licensee considers that implementation of any of the requirements described in Attachment B to this Order would adversely impact safe operation of the facility, the Licensee must notify the Commission, in writing, within **twenty five (25) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has an adverse safety impact, and either a proposal for achieving the same objectives specified in the Attachment B requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, the Licensee must supplement its response to Condition B.1 of this Order to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.
- C. 1. The Licensee shall, **within twenty five (25) days** of the date of this Order, submit to the

Commission a schedule for completion of each requirement described in Attachment B.

2. The Licensee shall report to the Commission when they have achieved full compliance with the requirements described in Attachment B.

D. Notwithstanding any provisions of the Commission's or an Agreement State's regulations to the contrary, all measures implemented or actions taken in response to this Order shall be maintained until the Commission determines otherwise.

Licensee responses to Conditions B.1, B.2, C.1, and C.2 above shall be submitted to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. In addition, Licensee's responses shall be marked as "Withhold From Public disclosure Under 10 CFR 2.390."

The Director, Office of Nuclear Material Safety and Safeguards, may, in writing, relax or rescind any of the above conditions upon demonstration by the Licensee of good cause.

IV.

In accordance with 10 CFR § 2.202, the Licensee must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, within **twenty five (25) days** of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order. Unless the answer consents to this Order, the answer shall, in writing and under oath or affirmation, specifically set forth the matters of fact and law on which the Licensee or other person adversely affected relies and the reasons as to why the Order should not have been issued. Any answer or request for a hearing shall be submitted to the Secretary, Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, ATTN: Rulemakings and Adjudications Staff, Washington, DC 20555. Copies also shall be sent

to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, to the Assistant General Counsel for Materials Litigation and Enforcement at the same address, and to the Licensee if the answer or hearing request is by a person other than the Licensee. Because of possible disruptions in delivery of mail to United States Government offices, it is requested that answers and requests for hearing be transmitted to the Secretary of the Commission either by means of facsimile transmission to 301-415-1101 or by e-mail to hearingdocket@nrc.gov and also to the Office of the General Counsel either by means of facsimile transmission to 301-415-3725 or by e-mail to OGCMailCenter@nrc.gov. If a person other than the Licensee requests a hearing, that person shall set forth with particularity the manner in which his interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR § 2.714(d).

If a hearing is requested by the Licensee or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained.

Pursuant to 10 CFR § 2.202(c)(2)(i), the Licensee may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section III above shall be final **twenty five (25) days** from the date of this Order without further order or proceedings. If an

extension of time for requesting a hearing has been approved, the provisions specified in Section III shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

Dated this day of June 2005

FOR THE NUCLEAR REGULATORY COMMISSION

Jack R. Strosnider, Jr., Director
Office of Nuclear Material Safety
and Safeguards

Attachments: A. Service List of Licensees (Not for Public Disclosure)
B. Protective Measures for Licensees That Possess Sources Containing Radioactive Material Quantities of Concern, including Table 1: Radionuclides of Concern
C. Proper Handling and Protection of Physical Protection Information Related to the Security of Radioactive Material Quantities of Concern

PROTECTIVE MEASURES FOR LICENSEES THAT POSSESS SOURCES CONTAINING RADIOACTIVE MATERIAL QUANTITIES OF CONCERN

The purpose of the Protective Measures (PMs) is to enhance existing security and control of radioactive material in quantities greater than or equal to values described in Table 1, to reduce the risk of malevolent use of radioactive materials, through access controls to aid prevention, and prompt detection, assessment, and response to mitigate potentially high consequences that would be detrimental to public health and safety and the common defense and security. These PMs are established to delineate licensee responsibility in response to the current threat environment. The following protective measures apply to licensees which, at any given time, possess radioactive sources greater than or equal to the quantities of concern of radioactive material defined in Table 1.

1. Control access at all times to radioactive material quantities of concern and devices containing such radioactive material (devices), and limit access to such radioactive material and devices to only approved individuals who require access to perform their duties.
 - a. The licensee shall allow only trustworthy and reliable individuals, approved in writing by the licensee, to have unescorted access to radioactive material quantities of concern and devices. The licensee shall approve for unescorted access only those individuals with job duties that require access to such radioactive material and devices. Personnel who require access to such radioactive material and devices to perform a job duty, but who are not approved

by the licensee for unescorted access, must be escorted by an approved individual.

- b. For individuals employed by the licensee for three years or less, and for non-licensee personnel, such as physicians, physicists, house-keeping personnel, and security personnel under contract, trustworthiness and reliability shall be determined, at a minimum, by verifying employment history, education, and personal references. The licensee shall also, to the extent possible, obtain independent information to corroborate that provided by the employee (i.e., seeking references not supplied by the individual). For individuals employed by the licensee for longer than three years, trustworthiness and reliability shall be determined, at a minimum, by a review of the employees' employment history with the licensee.
- c. Service providers shall be escorted unless determined to be trustworthy and reliable by an NRC-required background investigation as an employee of a manufacturing or distribution (M&D) licensee. Written verification attesting to or certifying the person's trustworthiness and reliability shall be obtained from the manufacturing/distribution licensee providing the service.
- d. The licensee shall document the basis for concluding that there is reasonable assurance an individual granted unescorted access is trustworthy and reliable, and does not constitute an unreasonable risk for malevolent use of radioactive material quantities of concern. The licensee shall maintain a list of persons approved for access to such radioactive material and devices by the licensee.

2. Each licensee shall have a documented program to monitor and immediately detect, assess, and respond to unauthorized access to radioactive material quantities of concern and devices. Enhanced monitoring shall be provided during periods of source delivery or shipment, where the delivery or shipment exceeds 100 times the Table 1 values.
 - a. The licensee shall respond immediately to any actual or attempted theft, sabotage, or diversion of such radioactive material or of the devices. The response shall include requesting assistance from Local Law Enforcement Agency (LLEA).
 - b. The licensee shall have a pre-arranged plan with LLEA for assistance in response to an actual or attempted theft, sabotage, or diversion of such radioactive material or of the devices which is consistent in scope and timing with realistic potential vulnerability of the sources containing such radioactive material. The pre-arranged plan shall be updated when changes to the facility design or operation affect the potential vulnerability of the sources. Pre-arranged LLEA coordination is not required for temporary job sites.
 - c. The licensee shall have a dependable means to transmit information between, and among, the various components used to detect and identify an unauthorized intrusion, to inform the assessor, and to summon the appropriate responder.
 - d. After initiating appropriate response to any actual or attempted theft, sabotage, or diversion of radioactive material or of the devices, the licensee shall, as promptly as possible, notify the NRC Operations Center at (301) 816-5100 and,

for Agreement State licensees, the appropriate Agreement State regulatory agency.

- e. The licensee shall maintain documentation describing each instance of unauthorized access and any necessary corrective actions to prevent future instances of unauthorized access.
3. a. For domestic highway and rail shipments of licensed radioactive material by a carrier other than the licensee, for quantities that equal or exceed those in Table 1 but are less than 100 times Table 1 quantities, per consignment, the licensee shall:
- 1. Use carriers which:
 - A. Use package tracking systems,
 - B. Implement methods to assure trustworthiness and reliability of drivers,
 - C. Maintain constant control and/or surveillance during transit, and
 - D. Have the capability for immediate communication to summon appropriate response or assistance.

The licensee shall verify and document that the carrier employs the measures listed above.

- 2. Contact the recipient to coordinate the expected arrival time of the shipment;
- 3. Confirm receipt of the shipment; and
- 4. Initiate an investigation to determine the location of the licensed material if the shipment does not arrive on or about the expected arrival time.

When, through the course of the investigation, it is determined the shipment has become lost, stolen, or missing, the licensee shall immediately notify the NRC Operations Center at (301) 816-5100 and its Agreement State regulatory agency, as appropriate. If after 24 hours of investigating, the location of the material still cannot be determined, the radioactive material is deemed missing and the licensee shall immediately notify the NRC Operations Center and its Agreement State regulatory agency, as appropriate.

- b. For domestic highway and rail shipments, prior to shipping licensed radioactive material that exceeds 100 times the quantities in Table 1 per consignment, the licensee shall:
1. Notify the NRC², in writing, at least 90 days prior to the anticipated date of shipment. The NRC will issue the Order to implement the Additional Security Measures (ASMs) for the transportation of Radioactive Material Quantities of Concern (RAM QC). The licensee shall not ship this material until the ASMs for the transportation of RAM QC are implemented or notified otherwise, in writing, by NRC.
 2. Once the licensee has implemented the ASMs for the transportation of RAM QC, the notification requirements of PM 3.b.1 shall not apply to future shipments of licensed radioactive material that exceed 100 times

²Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555

the Table 1 quantities. The licensee shall implement the ASMs for the transportation of RAM QC.

- c. If a licensee employs a M&D licensee to take possession of the licensed radioactive material and ship it under its M&D license, the requirements of PM 3.a. and 3.b above shall not apply.

If the licensee is to receive radioactive material greater than or equal to the Table 1 quantities, per consignment, the licensee shall coordinate with the originating licensee to:

1. Establish an expected time of delivery; and
 2. Confirm receipt of transferred radioactive material. If the material is not received at the expected time of delivery, notify the originating licensee and assist in any investigation.
4. For licensees which possess mobile or portable devices containing radioactive material in quantities greater than or equal to Table 1 values, licensees shall:
- a. For portable devices, have two independent physical controls that form tangible barriers to secure the material from unauthorized removal when the device is not under direct control and constant surveillance by the licensee.
 - b. For mobile devices:
 1. that are only moved outside of the facility (e.g., on a trailer), have two independent physical controls that form tangible barriers to secure the material from unauthorized removal when the device is not under direct control and constant surveillance by the licensee.

2. that are only moved inside a facility, have a physical control that forms a tangible barrier to secure the material from unauthorized movement or removal when the device is not under direct control and constant surveillance by the licensee.
 - c. For devices in or on a vehicle or trailer, licensees shall also utilize a method to disable the vehicle or trailer when not under direct control and constant surveillance by the licensee.
5. The licensee shall retain documentation required by these protective measures for three years after they are no longer effective:
 - a. The licensee shall retain documentation regarding the trustworthiness and reliability of individual employees for three years after the individual's employment ends.
 - b. Each time the licensee revises the list of approved persons required by PM 1.d., or the documented security program required by PM 2, the licensee shall retain the previous documentation for three years after the revision.
 - c. The licensee shall retain documentation on each radioactive material carrier for three years after the licensee discontinues use of that particular carrier.
 - d. The licensee shall retain documentation on shipment coordination, notifications, and investigations for three years after the shipment or investigation is completed.
 - e. After the license is terminated or amended to reduce possession limits below the quantities of concern, the licensee shall retain all documentation required by the PMs for three years.

Table 1: Radionuclides of Concern

Radionuclide	Quantity of Concern ¹ (TBq)	Quantity of Concern ² (Ci)
Am-241	0.6	16
Am-241/Be	0.6	16
Cf-252	0.2	5.4
Cm-244	0.5	14
Co-60	0.3	8.1
Cs-137	1	27
Gd-153	10	270
Ir-192	0.8	22
Pm-147	400	11,000
Pu-238	0.6	16
Pu-239/Be	0.6	16
Se-75	2	54
Sr-90 (Y-90)	10	270
Tm-170	200	5,400
Yb-169	3	81
Combinations of radioactive materials listed above ³	See Footnote Below ⁴	

Use the following method to determine which sources of radioactive material that require protective measures (PMs):

-
- Include any single source larger than the quantity of concern in Table 1

¹ The aggregate activity of multiple, collocated sources of the same radionuclide should be included when the total activity exceeds the quantity of concern.

² The primary values used for compliance with this Order are TBq. The curie (Ci) values are rounded to one significant figure for informational purposes only.

³ Radioactive materials are to be considered aggregated or collocated if breaching a common physical security barrier (e.g., a locked door at the entrance to a storage room) would allow access to the radioactive material or devices containing the radioactive material.

⁴ If several radionuclides are aggregated, the sum of the ratios of the activity of each source, i of radionuclide, n , $A_{(i,n)}$, to the quantity of concern for radionuclide n , $Q_{(n)}$, listed for that radionuclide exceeds one. [(aggregated source activity for radionuclide A) ÷ (quantity of concern for radionuclide A)] + [(aggregated source activity for radionuclide B) ÷ (quantity of concern for radionuclide B)] + etc..... ≥ 1

- Include multiple co-located sources of the same radionuclide when the combined quantity exceeds the quantity of concern
- For combinations of radionuclides, include multiple co-located sources of different radionuclides when the aggregate quantities satisfy the following unity rule: [(amount of radionuclide A) ÷ (quantity of concern of radionuclide A)] + [(amount of radionuclide B) ÷ (quantity of concern of radionuclide B)] + etc..... ≥ 1

Guidance for Aggregation of Sources

NRC supports the use of the IAEA's source categorization methodology as defined in TECDOC-1344, "Categorization of Radioactive Sources," (July 2003) (see http://www-pub.iaea.org/MTCD/publications/PDF/te_1344_web.pdf) and as endorsed by the agency's Code of Conduct for the Safety and Security of Radioactive Sources, January 2004 (see <http://www-pub.iaea.org/MTCD/publications/PDF/Code-2004.pdf>). The Code defines a three-tiered source categorization scheme. Category 1 corresponds to the largest source strength (greater than 100 times the quantity of concern values listed in Table 1.) and Category 3, the smallest (equal or exceeding one-tenth the quantity of concern values listed in Table 1.). PMs apply to sources that are greater than the quantity of concern values listed in Table 1, plus aggregations of smaller sources that add up to greater than the quantities in Table 1. Aggregation only applies to sources that are co-located.

Licensees who possess sources in total quantities that exceed the Table 1 quantities are required to implement PMs. Where there are many small (less than the quantity of concern values) co-located sources whose total aggregate activity exceeds the Table 1 values, licensees are to implement PMs.

Some source handling or storage activities may cover several buildings, or several locations within specific buildings. The question then becomes: When are sources considered co-located for purposes of aggregation? For purposes of the PMs, sources are considered co-located if breaching a single security barrier (e.g., a locked door at the entrance to a storage room) would allow access to the sources. Sources behind an outer barrier should be aggregated separately

from those behind an inner barrier (e.g., a locked source safe inside the locked storage room). However, if both barriers are simultaneously open, then all sources within these two barriers are considered to be co-located. This logic should be continued for other barriers within or behind the inner barrier.

The following example illustrates the point: A lockable room has sources stored in it. Inside the lockable room, there are two shielded safes with additional sources in them. Inventories are as follows:

The room has the following sources outside the safes: Cf-252, 0.12 Tbq (0.3 Ci); Po-210, 0.36 TBq (10 Ci), and Pu-238, 0.3 Tbq (8 Ci). Application of the unity rule yields: $(0.012 \div 0.2) + (0.36 \div 0.6) + (0.3 \div 0.6) = 0.06 + 0.6 + 0.5 = 1.2$. Therefore, the sources would require PMs. If the sources are distributed and shipped individually, PMs would not apply because they do not exceed the quantities in Table 1.

Shielded safe #1 has a 1.9 Tbq (51 Ci) Cs-137 source and a 0.75 Tbq (20 Ci) Ra-226 source. In this case, both sources would require PMs, because they exceed the quantities in Table 1. The Ra-226 source, although not licensed by NRC, was co-located with an NRC licensed source and therefore would need to be similarly protected.

Shielded safe #2 has two Po-210 sources, each having an activity of 0.2 Tbq (5 Ci). In this case, neither source would require PMs. (total activity = 0.4 Tbq (10 Ci). They do not exceed the threshold quantity 0.6 Tbq (20 Ci).

Because certain barriers may cease to exist during source handling operations (e.g., a storage location may be unlocked during periods of active source usage), licensees should, to the extent practicable, consider two modes of source usage — “operations” (active source usage) and “shutdown” (source storage mode). Whichever mode results in the greatest inventory (considering barrier status) would require PMs for each location.

Handling and Protection of Physical Protection Information Related to the Security of Radioactive Material Quantities of Concern

Licenses shall protect its physical protection information from unauthorized disclosure and control access to its physical protection information to those persons who have established the need to know the information, and are considered to be trustworthy and reliable. The sensitive physical protection information to be protected includes: all information generated by the licensee in response to the protective measures including licensee's security plans and procedures for the physical protection of the radioactive material covered under this Order. A need to know means a determination, by a person having responsibility for protecting the licensee's physical protection Information, that a proposed recipient's access to the licensee's physical protection information is necessary in the performance of official, contractual, or licensee duties of employment.

Licenses shall develop, maintain and implement policies and procedures for controlling access to, and proper handling and protection against unauthorized disclosure of, its physical protection information for radioactive material covered by this Order. The licensee's policies and procedures necessary to ensure compliance must address, at a minimum, the following: (1) the general performance requirement that each person who produces, receives, or acquires the licensee's physical protection Information shall ensure that the licensee's physical protection information is protected against unauthorized disclosure; (2) the protection of information about the physical protection of radioactive material in use, in storage, and while in transit; (3) correspondence containing the licensee's physical protection information; (4) access to the licensee's physical protection information; (5) preparation, marking, reproduction and

destruction of documents; (6) external transmission of documents; (7) use of automatic data processing systems; and (8) removal from the licensee's physical protection Information category.