NRC and Agreement State Working Group Assessment of Whether to Conduct a Rulemaking to Apply Criminal Penalties to Byproduct Material Facilities for Wrongful Introduction of Weapons and Sabotage

PURPOSE:

This assessment responds to the Commission Staff Requirements Memorandum dated September 22, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML092650473), on SECY-09-0087, "Final Rule Establishing Criminal Penalties for the Unauthorized Introduction of Weapons into Facilities Designated by the Nuclear Regulatory Commission," dated June 12, 2009 (ADAMS Accession No. ML091630303). The purpose of the assessment is to determine whether facilities possessing byproduct material, such as hospitals and academic facilities, should be included as facilities criminal subject to sanctions under Sections 229 and 236 of the Atomic Energy Act of 1954 as amended (AEA).

SUMMARY:

In response to Commission direction, the staff established a working group consisting of representatives from the Office of Nuclear Security and Incident Response, the Office of Federal and State Materials and Environmental Management Programs, and the Organization of Agreement States (OAS) to obtain additional input and assess whether to conduct a rulemaking to develop regulations implementing the criminal penalty provisions of Section 229 of the AEA, or Section 236, or both. A 90-day comment period and Webinar were offered with limited results. All four commenters opposed conducting further rulemaking under the authority of Section 229 to implement criminal penalties for the wrongful introduction of weapons or explosives. Only one commenter supported rulemaking with respect to Section 236 of the AEA to implement criminal penalties for sabotage. In evaluating all comments, the working group assessed that further rulemaking to impose Federal criminal penalties under Section 229 on individuals who, without authorization, introduce weapons or explosives into byproduct material facilities is not warranted, as described below. The working group also found that a rulemaking to add certain radioactive material or other property within the scope of the criminal penalties in Section 236 is not warranted at this time.

BACKGROUND:

Section 654, "Unauthorized Introduction of Dangerous Weapons," of the Energy Policy Act of 2005 (EPAct) (119 Stat. 812), amended AEA Section 229, "Trespass on Commission Installations" (42 U.S.C. 2278a), to broaden the list of facilities covered by Section 229. Section 229 of the AEA provides Federal criminal sanctions for the wrongful introduction of weapons or explosives into specified classes of facilities, installations, or real property under the jurisdiction, administration, in the custody of, or subject to the licensing authority or certification of the Commission. Section 229 of the AEA now authorizes the U.S. Nuclear Regulatory Commission (NRC) to issue regulations relating to the following:

> …the entry upon or carrying, transporting, or otherwise introducing or causing to be introduced any dangerous weapon, explosive, or other dangerous instrument or material likely to produce substantial injury or damage to persons or property, into or upon any facility, installation, or real property subject to the jurisdiction, administration, in the custody of the Commission, or subject to the licensing

authority of the Commission or certification by the Commission under this Act or any other Act.

Section 236 of the AEA makes it a Federal crime to knowingly destroy or cause physical damage, or to attempt or to conspire to commit such acts, to any of the following: (1) production facilities or utilization facilities licensed under the AEA; (2) nuclear waste treatment, storage, or disposal facilities licensed under the AEA; (3) nuclear fuel (destined) for such utilization facilities or spent nuclear fuel (SNF) from such utilization facilities; (4) uranium enrichment, uranium conversion, or nuclear fuel fabrication facilities licensed or certified by the NRC; (5) production, utilization, waste storage, waste treatment, waste disposal, uranium enrichment, uranium conversion, or nuclear fuel fabrication facilities subject to licensing or certification under the AEA during the construction of the facility, if the destruction or damage caused or attempted to be caused could adversely affect public health and safety during the operation of the facility; or (6) primary facilities or backup facilities from which a radiological emergency preparedness alert and warning system is activated.

Section 655 of the EPAct, "Sabotage of Nuclear Facilities, Fuel, or Designated Material" (119 Stat. 594), amended Section 236, "Sabotage of Nuclear Facilities or Fuel" (42 U.S.C. 2284), of the AEA to broaden the list of facilities that are covered by Section 236. Section 655 of the EPAct added a provision in Section 236a authorizing the NRC to identify certain radioactive material or other property for inclusion within the scope of the criminal penalties in Section 236, if the Commission determines by rulemaking or order that such material or other property is of significance to public health and safety or the common defense and security.

On September 3, 2008, the NRC published a proposed rule in the *Federal Register* (73 FR 51378) containing draft regulations implementing the NRC's authority to impose Federal criminal penalties on individuals who, without authorization, introduce weapons or explosives into specified classes of facilities and installations subject to the regulatory authority of the NRC. In addition to the proposed regulations, the notice identified several specific issues on which the NRC sought comments. These issues included whether the rule's scope should be extended beyond the facilities listed in the proposed rule to cover hospitals and other classes of facilities licensed to possess nationally tracked sources that are included in the NRC's National Source Tracking System (i.e., licensees possessing certain quantities of radioactive material).

The NRC received 17 comments on the proposed rule. Some commenters addressed the issue of whether a final rule should cover additional facilities. Some of these comments favored extending coverage to hospitals and other facilities possessing nuclear or radioactive material. The reasons given included: (1) anyone who introduces a dangerous weapon, explosive, or other dangerous material into such a facility most likely intends to do harm; (2) anyone bringing such an item into a hospital or other facility that "stores nuclear or radioactive material" should expect to be penalized for doing so; (3) warning signs will ensure that the rule is not violated by accident, although anyone who intends to cause harm in a covered facility would likely not be deterred by the rule anyway; and (4) those seeking to access nuclear or radioactive materials in such facilities for illicit purposes would likely be able to locate those materials even if no warning signs are posted pursuant to this rule.

A major medical institution commented on the proposed rule and recommended against extending the sign-posting requirement to medical facilities. This commenter reasoned as follows: (1) warning signs would attract attention to the location of radioactive material sources covered by the NRC's National Source Tracking System, thereby potentially rendering them

less secure, given that many licensees currently try to avoid drawing attention to the locations of such materials; (2) the strong language in the posting could be frightening to patients in hospitals, who may already be in a vulnerable state because of their medical situations; and (3) persons with unescorted access to facility areas of concern can simply be trained both to understand the rule themselves and to warn persons they escort about the rule's existence.

This commenter also noted that if the NRC expands the National Source Tracking System in the future to include Category 3 and one-tenth of Category 3 byproduct material sources,[1] then a corresponding expansion of byproduct material sources under Title 10 of the *Code of Federal Regulations* (10 CFR) 73.75, "Posting," would encompass many additional hospitals and other facilities.

The final rule amended 10 CFR Part 73, "Physical Protection of Plants and Materials," to authorize the imposition of Federal criminal penalties, set forth in Section 229 of the AEA, on those who, without authorization, introduce weapons or explosives into specified classes of facilities and installations. Specifically, 10 CFR 73.81, "Criminal Penalties," was amended, and 10 CFR 73.75 was added only for the facilities or installations subject to Sections 236a.(1) or 236a.(4) and some of the facilities listed in Section 236a.(2) of the AEA. However, the Commission, in SRM SECY-09-0087, directed the staff to "conduct an assessment to determine whether including any such facilities is warranted considering existing Federal, State, and local laws regarding the introduction of firearms and other weapons into these types of facilities, as well as other relevant facility specific considerations." The Commission further directed the following: "The staff should engage with appropriate stakeholders, including the Organization of Agreement States. If the staff concludes, based on its assessment, that additional rulemaking is warranted, it should submit a rulemaking plan for the Commission's approval explaining the need for the rule and describing the views of stakeholders."

The staff sought additional input from the public, licensees, certificate holders, Agreement States, non-Agreement States, and other stakeholders on whether to conduct a rulemaking to develop regulations implementing the criminal penalty provisions of Section 229 or Section 236, or both, of the AEA regarding unauthorized introduction of weapons or explosives into specified classes of facilities regulated by the NRC and Agreement States and the sabotage or attempted sabotage of specified classes of radioactive materials and other property, respectively. A *Federal Register* notice published on July 22, 2011 (76 FR 43937) provided a 90-day comment period for the issues. A Webinar was scheduled in September 2011, to engage stakeholders on the issues but was canceled because of lack of interest. A representative of the OAS was part of the working group conducting the Webinar and preparing this assessment.

The NRC received four comment letters: one from the OAS, two from Agreement States, and one from an individual. Another Agreement State staff member contacted the NRC staff for clarification and provided personal opinions in a phone message, but indicated that the Agreement State would not be submitting written comments. The letters from OAS and the Agreement States opposed taking further rulemaking action. The individual commenter opposed further rulemaking with respect to Section 229 of the AEA, but indicated that if rulemaking was necessary, it should be accomplished under the NRC's common defense and security authority. The commenter supported conducting a rulemaking with respect to Section 236 of the AEA and stated that the rulemaking should be accomplished under the NRC's common defense and security authority.

[1] Category 3 equals one-tenth of the Category 2 values listed in 10 CFR Part 73, Appendix I, "Category 1 and 2 Radioactive Materials."

DISCUSSION:

Criminal Penalties for Wrongful Introduction of Weapons or Explosives

The criminal penalties that can be imposed for a violation of Section 229 of the AEA range from no jail time and a $1,000 fine to 1 year of imprisonment and a $5,000 fine, depending on the circumstances of the offense. In contrast, the criminal penalties that can be imposed for violation of Section 236 range from 20 years of imprisonment and a $10,000 fine to any term of imprisonment up to life imprisonment, depending on the circumstances of the offense.

SECY-09-0087 states the following:

> The provisions of AEA Sections 229 and 236, and the regulations implementing them, will not, by themselves, increase the physical security of regulated facilities. Rather, these provisions and their implementing regulations will only enable Federal criminal prosecutions, which serve as a deterrent mechanism for malevolent individuals who are considering the prohibited actions. Because such individuals are also considered willing to commit suicide to complete their attacks, the staff views the potential for subsequent criminal prosecution of captured adversaries as providing only a minimal increase in overall security. …it is particularly important that imposition of criminal penalties in any subsequent rulemaking be accomplished with due regard for the impacts upon Agreement States and the special concerns related to entities, such as hospitals, whose missions involve much more than just nuclear-related activities.

The additional comments from OAS and the Agreement States generally agree that a rulemaking to implement these criminal penalties would not enhance the security measures already established by orders and the pending 10 CFR Part 37, "Physical Protection of Byproduct Material," nor would it likely further deter malevolent activities. These commenters also note that individual States and Federal agencies have in place robust penalty systems to bring to bear on individuals performing malevolent activities, and that in a possible terrorist event, there are probably stronger, more effective Federal criminal penalties than those provided by these sections of the AEA.

As discussed in SECY-09-0087, policy and implementation issues could be involved in requiring the provisions of Section 229 at such public facilities. One commenter agreed with the previous comments from the Mayo Clinic, which opposed any requirement that notices be posted at hospitals. The commenter thought that the warning signs would be an unnecessary burden to the regulatory community without any obvious benefits. One comment identified in the October 14, 2009, *Federal Register* notice for the final rule, "Criminal Penalties; Unauthorized Introduction of Weapons" (74 FR 197) indicated that, "warning signs will help ensure that the law against wrongful introduction of weapons or explosives into such facilities is not violated by accident, anyone who intends to cause harm … would likely not be deterred by the rule …" The posting of signs provide advance warning and thus facilitate the avoidance of protected areas by people carrying weapons. Also, warning signs serve as a reminder to law-abiding citizens of the criminal prohibitions and they are an aid in avoiding inadvertent introduction of prohibited items. Anyone who is determined to cause harm will do whatever is necessary to accomplish the mission, and therefore, would likely not be deterred by the additional penalties prescribed in Section 229. Licensees would incur the costs of procuring, installing, and maintaining warning signs without commensurate benefit to radioactive material safety and security.

Because both the NRC and Agreement States regulate byproduct material under Section 274 of the AEA, regulatory and process issues could arise in a rulemaking to add byproduct material licensees to the classes of facilities covered under Section 229 of the AEA. The NRC's current regulations, specified in 10 CFR 73.75(a), require licensees to post warning signs on the exterior of their protected area or the exterior of buildings located outside a protected area that contains certain radioactive material. Were the NRC to establish regulations implementing Section 229 for byproduct materials under its authority to protect the public health and safety, the required action for compatibility by Agreement States would involve establishing requirements only for applicable Agreement State licensees to post warning signs. Agreement States would also perform inspections verifying that affected licensees, under their jurisdiction, had installed the warning signs at their facilities. This approach would impose a burden on Agreement States for rulemaking and oversight of the posting requirement and would provide no apparent benefit to the Agreement States for the enabling of Federal criminal prosecutions for such crimes.

Alternatively, because the issue at hand is Federal prosecution of certain criminal acts, it may be more appropriate to establish regulations implementing Section 229 for byproduct materials under the NRC's common defense and security authority. In this case, the entire burden for rulemaking and inspecting to verify the posting of warning signs at facilities licensed by both the NRC and Agreement States (potentially, about 360 NRC licensees and about 1,200 additional Agreement State licensees in the National Source Tracking System) would fall on the NRC. The added requirement would provide no increase in safety and security of radioactive material. This alternate approach also raises concerns expressed by the OAS about perceptions of duplicative licensing and inspection practices imposed on Agreement State licensees.

Section 229 of the AEA gives the NRC discretion in determining the facilities and installations to which these Federal criminal penalties would apply. In the proposed rule, the NRC sought public comments on whether it should include hospitals and other classes of facilities licensed to possess radioactive materials that are in the National Source Tracking System. SECY-09-0087 proposed using a limit of 10 times the Category 1 threshold from Appendix I to 10 CFR Part 73 for byproduct materials. Subsequently, the Interagency Radiation Source Protection and Security Task Force[2] assessed the quantities of radioactive material sufficient to create a significant radiological dispersal device (RDD) and a significant radiation exposure device (RED), with consideration of social, economic, and psychological consequences. These risk-significant radioactive materials are the same as specified in the 2004 International Atomic Energy Agency (IAEA) Code of Conduct on the Safety and Security of Radioactive Sources[3] and as listed in Appendix I to 10 CFR Part 73. Only one commenter addressed the issue of the additional types of radioactive material and the thresholds that should be considered under Section 229 of the AEA. The commenter agreed that Appendix I to 10 CFR Part 73 was the appropriate list. However, he recommended that the Category 1 threshold limits for byproduct radioactive materials should be used if byproduct materials are included. Regardless, the commenter believed that byproduct material facilities such as hospitals, academic facilities, and other types of facilities (that would be covered by a further NRC rulemaking) do not pose a significant enough security risk to warrant the cost of rulemaking, either by the NRC or by Agreement States.

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[2] The assessment is described in "The 2010 Radiation Source Protection and Security Task Force Report," dated August 11, 2010 (http://www.nrc.gov/security/byproduct/2010-task-force-report.pdf, ADAMS Accession No. ML102230141).

[3] http://www.iaea.org/newscenter/features/researchreactors/conduct.html/adams.html

In summary, implementing the provisions of Section 229 of the AEA would only enable additional Federal criminal prosecutions and would not, by itself, increase the physical security of byproduct material. The Federal criminal penalties and the provisions of Section 229 do not serve as a significant additional deterrent mechanism for individuals who are considering the prohibited actions. States and Federal agencies already have a variety of penalties to use in prosecuting individuals for potential malevolent activities. For possible terrorist events, there are probably stronger, more effective Federal criminal penalties than those provided by Section 229 of the AEA. For individuals who are willing to commit suicide to complete their attacks, the penalties and the subsequent criminal prosecution of captured adversaries will not provide significant additional deterrence; thus, these criminal penalties would produce only a minimal decrease in the potential for a malevolent event. The burden on the NRC and the Agreement States for rulemaking and oversight to implement the provisions of Section 229, as well as the cost to licensees, without commensurate benefit to radioactive material safety and security, outweighs the minimal potential decrease in risk for malevolent use of these materials that may be foreseen. Therefore, further rulemaking to impose Federal criminal penalties in Section 229 on individuals who, without authorization, introduce weapons or explosives into byproduct material facilities is not warranted.

Criminal Penalties for Sabotage

The criminal penalties that can be imposed for a violation of Section 236 are a fine of not more than $10,000 or imprisonment for not more than 20 years, or both, and if death results to any person, imprisonment shall be for any term of years or for life, depending on the circumstances of the offense.

In assessing whether further rulemaking is warranted, the NRC staff considered the following additional types of radioactive material and other property:

- materials in Appendix I to 10 CFR Part 73
- production reactor spent nuclear fuel (SNF) and naval reactor SNF
- source material in the physical form of uranium hexafluoride (UF_6)
- uranium enrichment technology classified as Confidential—Restricted Data or Secret—Restricted Data

In the 2008 proposed rule, the NRC sought public comments on whether it should include hospitals and other classes of facilities licensed to possess radioactive materials that are in the National Source Tracking System (Category 2 threshold). Then, in SECY-09-0087, the NRC proposed a limit of 10 times the Category 1 threshold from Appendix I to 10 CFR Part 73 for byproduct materials as an initial “conceptual thinking” for a follow-on rulemaking. Only one of the four commenters supports the NRC’s conduct of a rulemaking with respect to Section 236 of the AEA. This one commenter recommends using Appendix I to 10 CFR Part 73 as the list of radionuclides if byproduct materials are included, but recommended using the Category 1 threshold.

To be considered as significant to public health and safety or to the common defense and security under Section 236a.(7) of the AEA, the radioactive materials selected should be based on “The 2010 Radiation Source Protection and Security Task Force Report.” The interagency task force assessed the quantities of radioactive material sufficient to create a significant RDD and a significant RED, with consideration of social, economic, and psychological consequences.

These risk-significant radioactive materials are the same as specified in the 2004 IAEA Code of Conduct on the Safety and Security of Radioactive Sources and as listed in Appendix I to 10 CFR Part 73. However, for sabotage of radioactive materials to be considered significant to public health and safety or the common defense and security, the consequences of sabotage scenarios need to be consistent with those of a significant RDD. A determination of the list of radionuclides and quantities to use in a subsequent rulemaking needs to be coordinated with NRC activities to implement Recommendation 2[4] of the Radiation Source Protection and Security Task Force and to align NRC activities with the U.S. Government programs for homeland protection and security. These activities include revising the security assessment decision making framework methodology[5] to consider contamination and/or resultant economic consequences. This activity has not been scheduled.

Production reactor SNF and naval reactor SNF also present the potential for significant health hazards and should be considered under the authority of Section 236. While production facilities are included in 10 CFR 73.75 under the authority of Section 229, and included in Sections 236a.(1) of the AEA. Only SNF from a utilization facility is captured in Section 236a.(3). The primary benefit for including these SNFs as radioactive material under the authority of Section 236a.(7) is to fill a gap and provide Federal criminal sanctions for destroying or causing damage to the material during transport to or from NRC-licensed facilities. The one commenter who supports rulemaking under Section 236 agrees that "these waste materials should be include[d] in a rulemaking to provide the necessary tools to support U.S. Department of Justice (DOJ) prosecutions of malevolent acts against geologic repositories, their supporting facilities, and the transportation of these materials to the repository." Since these SNFs could be transported with SNF from utilization facilities to or from an NRC-licensed facility, the same Federal criminal sanctions for malevolent acts are appropriate and warranted. However, because of the uncertainties in the national strategy for disposing of SNF, there is no compelling need at this time for a rulemaking for these materials.

Source material (either unenriched or depleted uranium) in the physical form of UF_6 presents the potential for significant health hazards and could be considered under the authority of Section 236 of the AEA. While uranium enrichment, uranium conversion, or nuclear fuel fabrication facilities is included in 10 CFR 73.75 under the authority of Section 229 and included in Section 236a.(3), Federal criminal penalties for sabotage of UF_6 in transit are not covered. The one commenter supporting rulemaking also agreed that including source material, as well as special nuclear material (SNM), in this chemical form is appropriate because the principal risk from malevolent acts against these materials is chemical, not radiological. Including UF_6 as radioactive material under the authority of Section 236a.(7) would provide the Federal criminal sanctions for malevolent acts during transport. However, the sabotage of solid UF_6 in transit would be expected to have significantly lower consequences than the sabotage of the hot liquid UF_6 available for release at a uranium enrichment or uranium conversion facility, which could cause consequences significant to public health and safety. The basis for concluding that sabotage of UF_6 could cause consequences that are signficant to public health and safety will

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4 The task force recommendations appear in SECY-11-0169, "U.S. Nuclear Regulatory Commission Implementation Plan for the Radiation Source Protection and Security Task Force Report" (ADAMS Accession No. ML113070551).

5 Attachment 2, "Framework Methodology" (ADAMS Accession No. ML043200720) to SECY-04-0222, "Decision-Making Framework for Materials and Research and Test Reactor Vulnerability Assessments," dated November 24, 2004 (ADAMS Accession No. ML043080333), provides details on the security assessment decisionmaking framework methodology.

need to be consistent with the outcomes of the option selected for regulating chemical security at NRC-licensed facilities.[6]

In the *Federal Register* notice seeking comments, the NRC asked whether classified enrichment technology components should be included as other property. In general, classified materials, apart from SNM, are of significance to the common defense and security. Uranium enrichment facilities are included in 10 CFR 73.75 under the authority of Section 229 of the AEA and included in Section 236a.(3) of the AEA. Including classified uranium enrichment technologies as property under the authority of Section 236a.(7) would provide the Federal criminal sanctions for malevolent acts during transport. The one commenter who supports rulemaking agrees that a rulemaking should include classified enrichment technology components because they are very sensitive from a nuclear proliferation standpoint. However, destroying or causing physical damage to classified enrichment technology components in transit does not have consequences that would be significant to public health and safety, nor would damage caused in transit be considered as significant to the common defense and security as sabotage of components in use at an enrichment facility. Rather, the design of the classified enrichment technology components is very sensitive from a nuclear proliferation standpoint, and it is the compromise of that information (not damage to the equipment) that is of significance to the common defense and security. Therefore, including classified enrichment technology components as other property under the authority of Section 236a.(7) may not be appropriate.

As mentioned previously in similar arguments, the provisions of Section 236 of the AEA would only enable additional Federal criminal prosecutions and would not, by itself, increase the physical security of byproduct material, SNF, or UF_6. The Federal criminal penalties and the provisions of Section 236 would not serve as a significant additional deterrent for individuals who are considering the prohibited actions. States and Federal agencies already have a variety of penalties for use in prosecuting individuals for potential malevolent activities. For possible terrorist events, there are probably other state and Federal criminal penalties that are as strong and effective as those provided by Section 236 of the AEA. For individuals willing to commit suicide to complete their attacks, these penalties and the subsequent criminal prosecution of captured adversaries will not likely be a significant deterrent.

The NRC has not previously chosen to issue regulations to implement the authority of Section 236 of the AEA. Instead, the NRC has viewed the language of this statute as plain enough to enable the DOJ to initiate prosecutions for criminal acts, as DOJ deems appropriate. A rulemaking would allow the NRC to identify certain radioactive material or other property for inclusion within the scope of Section 236a.(7) if the Commission determines that such material or other property is significant to the public health and safety or the common defense and security. The NRC could conduct a rulemaking to implement the provisions of Section 236 using a "common defense and security" basis without the need for the Agreement States to have compatible program elements. A rulemaking to add these additional types of radioactive material and other property would pose no burden on licensees. The only burden would be on the NRC to commit resources for rulemaking. The one commenter supporting rulemaking noted that "since this rulemaking facilitates the DOJ prosecution of Federal criminal acts, common defense and security authority is the only appropriate basis for such a rulemaking." The burden to the NRC for rulemaking must be weighed against the likely outcome—no appreciable increase in safety or security.

[6] SECY-11-0108, "Regulation of Chemical Security," dated August 5, 2011 (ADAMS Accession No. ML111460426), discusses this issue.

While it may be practical to include certain radioactive material or other property within the scope of the criminal penalties in Section 236 of the AEA to provide additional tools for DOJ in combating terrorism, a rulemaking is premature. The NRC is considering several proposals for the list and quantities of byproduct material. The basis for determining which byproduct materials and quantities are of significance to the public health and safety or the common defense and security must be consistent with the outcome of yet to be scheduled activities to implement 2010 Recommendation 2 of the Radiation Source Protection and Security Task Force. The basis for determining whether to include UF_6 will need to follow the approach to be implemented for the regulation of chemical security at NRC-licensed facilities. Because of the limited prospects for transporting SNF to a repository in the near term, there is no compelling need at this time for a rulemaking that includes production reactor SNF and naval reactor SNF. Therefore, a rulemaking to add certain radioactive material or other property within the scope of the criminal penalties in Section 236 is not warranted at this time.