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U.S. DEPARTMENT OF ENERGY'S (DOE) COMMENTS ON THE U.S. NUCLEAR REGULATORY COMMISSION'S (NRC) PROPOSED RULE FOR GEOLOGIC REPOSITORY OPERATIONS AREA SECURITY AND MATERIAL CONTROL AND ACCOUNTING (MC&A) REQUIREMENTS (72 FR 72522), DATED DECEMBER 20, 2007, RIN 3150-AI06

In response to the NRC request for comments on the proposed rule for geologic repository operations area (GROA) security and MC&A requirements (72 FR 72522) and the extension of the comment response period to May 5, 2008 (73 FR 10187), the DOE Office of Civilian Radioactive Waste Management (OCRWM) is providing the enclosed comments. NRC extended the comment response period for the proposed rule to May 5, 2008 (73 FR 10187). The proposed rule would establish GROA-specific general performance objectives, protective strategies, and corresponding system capabilities for the GROA physical security and MC&A programs. DOE is currently preparing to submit a license application (LA) to the NRC, by June 30, 2008, describing the types and quantities of spent nuclear fuel (SNF) and high-level waste (HLW) to be received and disposed of at the GROA.

In its license application (LA) DOE will not be requesting a license for possession of strategic quantities of special nuclear material (SNM) in a form other than as irradiated reactor fuel or within a vitrified HLW form. The GROA activities and waste forms in the LA will present safeguards and security risks similar to those of an independent spent fuel storage installation (ISFSI). DOE suggests that the NRC delay this proposed rule until the LA is submitted and the NRC has had an opportunity to review the relevant information.

DOE agrees that NRC should utilize a graded approach to the proposed GROA security and MC&A requirements. However, the DOE believes the graded approach described in the proposed rule should be revised to clearly distinguish between protective strategies, MC&A performance measures, and corresponding system capabilities for SNF/HLW (current DOE proposed operations).

Template = SECY-067

SECY-02

Given the potential impacts of the proposed security and MC&A requirements on the design and operation of the GROA, the following paragraphs summarize DOE's comments on the proposed rule. Specific comments and recommendations for changes pertaining to individual sections are provided in Enclosure 1.
DOE's major comments are as follows:

1. **The security and MC&A requirements provided in 10 CFR § 73.51 and 10 CFR Part 72, respectively, as applied to ISFSIs, plus the Additional Compensatory Measures imposed by NRC Order post-September 11, 2001, should be adequate to protect the common defense and security, and the public health and safety within the GROA.**

DOE agrees with the NRC that the security and MC&A requirements for a GROA in 10 CFR § 73.51 and 10 CFR Part 72, respectively, plus the Additional Compensatory Measures (ACMs) applied to ISFSIs, should be adequate to protect the common defense and security and the public health and safety for the GROA. DOE believes that the baseline requirements for security and MC&A for a GROA should begin with those for an ISFSI, as planned facilities and operations of the GROA are more akin to those of an ISFSI than to a commercial nuclear power plant or a Category I fuel cycle facility.

In Section I ("Background") of the proposed rule it is noted that the initial NRC position was that existing security and MC&A requirements for ISFSIs and the GROA should be the same because both are vulnerable to the same kinds of potential threats that are characteristic of the storage of SNF and, as such, the level of protection was deemed sufficient to protect against acts that might be inimical to the common defense and security. DOE believes that the rationale for this initial NRC position is correct for the current GROA design and operations. DOE does not agree that the currently anticipated GROA poses different risks from an ISFSI and that the current security and MC&A requirements for a GROA in 10 CFR § 73.51 are not adequate to protect the common defense and security or the public health and safety. Accordingly DOE does not believe there is any need for a new rulemaking at this time. If the regulations for ISFI's are revised it may be appropriate to consider similar changes to the regulations for the GROA.

The security related risks associated with the GROA activities are generally commensurate with those for an ISFSI, licensed per 10 CFR Part 72, or an ISFSI under a General License to 10 CFR Part 50 licensees. The GROA is similar to dry storage ISFSIs licensed by NRC to the extent that it will have commercial SNF above ground in vertical casks and horizontal modules on aging pads awaiting emplacement. The GROA is superior to current ISFSI installations to the extent that it will have SNF/HLW in waste disposal packages emplaced in subsurface drifts hundreds of feet below ground, which

offers more security protection than today's dry cask storage. In regard to spent fuel pool use, the GROA will handle commercial SNF in a spent fuel pool similar to the G.E. Morris ISFSI (Docket No. 72-1), which the NRC has reviewed and issued a post September 11 era license renewal. DOE believes that the security-related risks associated with the GROA are commensurate with those for an ISFSI. Therefore these risks should be regulated similarly to those for an ISFSI as provided in 10 CFR § 73.51 and 10 CFR Part 72, respectively.

The security and MC&A requirements for ISFSI licensees were augmented post-September 11, by NRC Orders containing ACMs. As stated in the proposed rule, "These security orders specifically required certain licensees to: (1) increase patrols; (2) augment the security force capabilities and security posts; (3) add and modify existing physical security barriers; (4) move vehicle check points to a greater standoff distance; (5) enhance coordination with local law enforcement agency (LLEA) and military authorities; (6) augment their security and emergency response training, equipment, and communications; and (7) strengthen off-site access controls, including additional background and screening checks of employees." The baseline requirements, plus these ACMs, effectively provide assurance that safeguards and security at the ISFSIs and other licensees are adequate to protect the common defense and security and the public health and safety in the post-September 11 environment. Because the GROA is similar to the ISFSIs, protection levels for the GROA should be consistent with ACMs currently applied to ISFSIs.

2. Security measures for the GROA should be consistent with existing NRC regulations concerning SNF/HLW, and reflect the lower level of attractiveness and risks of strategic SNM contained in a waste form where the strategic SNM is not readily separable from other radioactive material.

The proposed application of additional performance measures for the GROA under Section 73.53, Section 73.56a, Section 73.57, Appendix B (Section 7) and Appendix C should apply a graded approach to the GROA consistent with the application of security for other licensees that possess irradiated reactor fuel under 10 CFR §§ 73.50, 73.51, 73.60 and 73.67. In addition, the proposed rule should be modified so that it does not rely solely on the quantity of contained plutonium or enriched uranium for determining the appropriate protection levels. Rather, the rule should clearly and appropriately take into account the nuclear material waste form as currently provided in 10 CFR Part 73.6.

3. MC&A performance measures in the GROA should be consistent with the item control and accounting requirements for ISFSIs.

The proposed rule requires a comprehensive measurement program intended to substantiate plutonium and uranium values. Implementation of measurements required by the proposed 10 CFR § 74.73 for the GROA activities and waste forms would impose an unnecessary burden. These proposed measurements would result in minimal benefit to protection of public health and safety and is not balanced with costs to DOE sites and

NRC licensees that will ship SNF/HLW to the GROA. Development of a nondestructive assay (NDA) measurement program for use on canistered SNF/HLW items to confirm the quantitative element and isotope values of the item would require the development of new technology beyond the current state of the art. Measurement equipment and weighing devices that could quantify the contents of canisters containing radioactive material have yet to be developed and demonstrated in an operational environment on a large scale.

The impact of the proposed rule would be far reaching and would impose extensive measurement programs on all shipments of SNF/HLW to the Yucca Mountain GROA if MC&A measurements of any kind, including those related to anomaly resolution, were to be required. DOE requests that proposed Section 74.73 be revised so that DOE may use accepted industry standards (e.g., draft ANSI N15.8 processes and procedures) in the resolution of anomalies or off-normal circumstances from receipt to emplacement. This would be similar to what is currently used at item control and accounting facilities, such as commercial nuclear power plants and ISFSIs. Consistent with a graded approach, any new proposed performance measures beyond those required for an ISFSI should apply only to formula quantities of strategic SNM in a waste form other than as irradiated reactor fuel and HLW (protection level I of the proposed rule).

4. Access authorization and access controls for the GROA should be consistent with the level of protection currently required for facilities storing SNF or HLW.

The proposed 10 CFR § 73.56a, "Personnel access authorization requirements for a geologic repository operations area," sets forth significant new personnel security requirements for a GROA. The proposed rule establishes a formal personnel security access authorization program, for GROA personnel without clearances, similar to that used for power reactors or facilities that handle strategic SNM in a form other than irradiated reactor fuel and HLW. This proposed program includes several provisions such as psychological assessments and behavioral observations, that are normally only required at facilities that use or possess Category I strategic SNM. The risks and potential consequences of sabotage at the GROA are not comparable to those at a power reactor,

nor are the risks of diversion at the GROA commensurate with those at a Category I fuel fabrication facility handling un-irradiated strategic SNM. DOE believes the proposed §73.57 requirements for criminal history checks of individuals granted unescorted access

to the protected area of a geologic repository operations area, combined with the implementation of Homeland Security Presidential Directive-12, Personal Identity Verification, should be deemed adequate for unescorted access to SNF/HLW in the GROA.

5. The 400-meter boundary for determining the appropriate protection level is inconsistent with the intent of the risk informed repository design required by 10 CFR Part 63.

Proposed 10 CFR § 73.53(c)(3) would require the GROA design to protect against a radiological sabotage threat event that could expose "any individual" located at the controlled area boundary, or 400 meters, whichever is less, from the source of the radioactive material release to a total effective dose equivalent (TEDE) based on proposed rule protection levels II and III. Pursuant to the requirements of 10 CFR Part 63, DOE will identify the owner controlled boundary as the extent of the site of which the nearest boundary from the surface GROA is approximately 11 kilometers. Using the 400-meter limit, rather than the owner-controlled site boundary, would effectively require DOE to forfeit all the advantages of the large buffer zone afforded by the remote location of the planned repository on a federal reservation.

Given the significance of these comments and the number of the changes that would be required to address them, DOE requests that the NRC issue a revised proposed rule for public comment prior to final promulgation by the NRC. In addition, DOE believes that many of its concerns could be addressed if the scope of the rulemaking were limited to SNF and vitrified HLW since these are the only waste forms that will be covered in the LA for Yucca Mountain. Any other waste forms will necessarily be the subject of a license amendment and should be addressed by rulemaking if necessary at that time. Furthermore, DOE also requests that all "Guidance Documents" prepared in support of this proposed rule be made available for public comment.

Chief, Rulemaking, Directives, and
Editing Branch

There are no new regulatory commitments in this letter or its enclosure. Please contact Linda Desell at (202) 586-1462 or e-mail Linda.Desell@rw.doe.gov for any additional information required.

Jeffrey R. Williams

for William J. Boyle, Director
Regulatory Authority Office

RAO:LJD-0780
Enclosure:
U.S. Department of Energy's (DOE) Comments on U.S. Nuclear Regulatory Commission's (NRC) Proposed Rule for Security Requirements and MC&A Requirements for a Geologic Repository Operations Area (GROA).

Enclosure 1

Department of Energy's Comments on Nuclear Regulatory Commission's (NRC's) Proposed Rule for Security Requirements and Material Control and Accounting (MC&A) Requirements for a Geologic Repository Operations Area

Federal Register, Vol. 72, No. 244, 12/20/07, Proposed Rules, 10 CFR Parts 60, 63, 73, and 74

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1	I. Background	72523	Potential surface operations at a GROA have become more complex over the years. For example, the DOE has indicated that it now plans to include bare SNF handling operations within a spent fuel pool to transfer SNF from a non-TAD (transfer, aging, disposal) canister to a TAD canister ...	DOE plans to submit its license application (LA) to the NRC detailing the planned operation of the facility in June 2008. The proposed operation will be based primarily on the use of transportation, aging, and disposal (TAD) canisters. This operational concept is simpler than the dry fuel handling concept that had been previously discussed with the NRC. Since it is anticipated that this rule will not be finalized prior to DOE submission of its LA, it is recommended that the Background section be revised to clarify the proposed operations as documented in DOE's forthcoming LA.	Revise the Background section to address DOE's proposed operations based upon the LA, after it has been tendered.
2	I. Background	72523	Because both the threat environment and the plans for surface operations at the GROA have changed, the NRC now believes that a separate regulatory approach for protecting and safeguarding a GROA is necessary. The DOE has not set forth a final concept of operations for the GROA.	This section of the rulemaking discussion states that GROA rulemaking is predicated on a new threat. The threat environment and risks associated with the GROA activities are generally commensurate with those for an independent spent fuel storage installation (ISFSI), licensed per 10 CFR Part 72, or an ISFSI under a General License to 10 CFR Part 50 licensees. Hence, the regulatory approach presently applied to ISFSIs should be adequate for the GROA. The GROA is similar to an ISFSI licensed by NRC to the extent that it will have commercial SNF above ground in vertical casks and	The rulemaking should be informed by DOE's forthcoming LA. This will permit the NRC the opportunity to gain a better understanding of the GROA design and concepts, waste forms and associated risks, and safeguards and security program requirements.

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				horizontal modules on aging pads awaiting emplacement. The GROA will handle commercial SNF in a spent fuel pool similar to the General Electric (G. E.) Morris ISFSI. In addition, it will have SNF/HLW in waste disposal packages emplaced in subsurface drifts hundreds of feet below ground. All nuclear material at the GROA will be SNF and HLW. Details of DOE's proposed operations, including the types and quantities of wastes to be received, will be discussed in DOE's forthcoming LA.	
3	I. Background	72523	Therefore, it is not clear what types of facilities will be part of the surface operations or what type of handling of the HLW within the surface facilities may occur.	The DOE has made recent presentations of the conceptual design and operations of the GROA that will be proposed in the upcoming LA. DOE recommends that the rule be deferred until until NRC receives the LA and has had an opportunity to review the relevant information.	The rulemaking should be delayed to afford NRC the opportunity to gain a better understanding of the issues based on the information in the LA and to better tailor the requirements in a revised proposed rule.
4	I. Background	72523	Disposal of such non-HLW could require new legislation or a determination by the NRC that these wastes require permanent isolation. The NRC is not making such a determination in this rulemaking. However, the security and MC&A requirements being proposed for the GROA take account of the possibility that the geologic repository might be used for the disposal of radioactive materials which are not SNF or HLW.	Although the FEIS analyzes the impacts of disposal of radioactive materials other than SNF and HLW , the LA will cover only disposal of SNFand vitrified HLW. Accordingly the scope of the proposed rule should be limited to SNF and vitrified HLW.	The rulemaking should be limited to SNF and vitrified HLW since DOE will not be requesting possession of strategic quantities of SNM in a form other than SNF or vitrified HLW
5	I. Background	72523	Specifically, the security requirements for power reactors are being used as the starting point for the security	The security and MC&A requirements provided in 10 CFR 73.51 and 10 CFR 72, respectively, as applied to ISFSIs,	DOE does not believe that it is appropriate to use security and MC&A requirements for commercial nuclear

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			requirements for this proposed rule.	plus the Additional Compensatory Measures imposed by NRC Order Post-September 11, 2001, should be adequate to protect the common defense and security, and the public health and safety within the GROA. DOE's position is that, for the current GROA design and operations, the existing security and MC&A requirements for ISFSIs and the GROA are the same because both are vulnerable to the same kinds of potential threats that are characteristic of the storage of SNF; and that level of protection was deemed sufficient to protect against acts that might be inimical to the common defense and security. The risks associated with the GROA activities are generally commensurate with those for an ISFSI, licensed per 10 CFR Part 72, or an ISFSI under a General License to 10 CFR Part 50 licensees. The GROA is similar to an ISFSI to the extent that it may have commercial SNF above ground in vertical casks and horizontal modules on aging pads awaiting emplacement. The GROA will handle commercial SNF in a spent fuel pool similar to the G. E. Morris ISFSI. In addition, it will have SNF/HLW in waste disposal packages emplaced in subsurface drifts hundreds of feet below ground.	power plants and Category I fuel cycle facilities as a baseline for the development of requirements for the GROA, but rather the baseline requirements should begin with those for an ISFSI per 10 CFR 73.51 and 10 CFR Part 72.
6	II. Discussion, Section C	72524	The current security and MC&A requirements for a GROA are not adequate to protect the common	It is the DOE position that the risks associated with the GROA activities are generally commensurate with those for	Delete statement: "The current security and MC&A requirements for a GROA are not adequate to protect the common

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			defense and security or the public health and safety.	an ISFSI. The security and MC&A requirements for a GROA in 10 CFR 73.51 and 10 CFR Part 72, respectively, plus the Additional Compensatory Measures (ACMs) applied to ISFSIs, should also be adequate to protect the common defense and security, and the public health and safety.	defense and security or the public health and safety."
7.	II. Discussion J	72525	In addition, diversion path analysis methods have been extensively applied by the International Atomic Energy Agency (IAEA) for designing and implementing its safeguards strategy under the Treaty on the Non-Proliferation of Nuclear Weapons. Regarding the generic safeguarding of geologic repositories, the IAEA has published a comprehensive multi-volume document...which identifies and analyzes, in considerable detail, resulting diversion paths for a hypothetical facility.	The IAEA document, "Safeguards for Disposal of Spent Fuel in Geologic Repositories" (STR-312) assumes State-sponsored diversion. The NRC's analysis does not assume the DOE or any other US Government agency would be a party to diversion. Therefore, it is not appropriate to apply this diversion path analysis methodology to the GROA.	Delete the reference to the IAEA documents and analyses.
8	II. Discussion K	72525	What Additional Requirements Would Be Imposed if the DOE Possesses Formula Quantities of Strategic SNM That Is in a Form Other Than as Irradiated Nuclear Reactor Fuel?	DOE does not anticipate handling materials in forms other than irradiated Nuclear Reactor Fuel and HLW. DOE's forthcoming LA will detail the types of waste forms to be received.	Delete discussion and requirements for Formula Quantities of Strategic SNM that is in a form other than as Irradiated Nuclear Reactor Fuel; or clearly exempt current GROA requirements as applied to SNF/HLW within the framework of the proposed graded approach.
9	II. Discussion N	72526	Do we need a specific physical protection protocol for a GROA or should we apply the existing DBT and increased controls as appropriate?	There is no need for a GROA specific physical protection protocol or design basis threat (DBT). The risks associated with GROA activities are generally commensurate	State that the security protocol for a GROA should be commensurate with that of an ISFSI.

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				with those of an ISFSI, licensed per 10 CFR Part 72, or an ISFSI under a General License to 10 CFR Part 50 licensees. Part 72 licensees include both dry storage facilities and spent fuel pools, both of which will be featured in DOE's repository design.	
10	II. Discussion O	72526	These physical security requirements would be based on five proposed protection levels.	DOE agrees that NRC should use a graded approach in the final rule. However, the graded approach described in the proposed rule should be revised to clearly distinguish between protective strategies, performance measures, and corresponding system capabilities for: SNF/HLW (and current DOE proposed operations); strategic SNM in a form other than as irradiated reactor fuel and HLW waste; and future waste forms and operations. The proposed application of additional performance measures for the GROA under Section 73.53, Section 73.56a, Section 73.57, Appendix B (Section 7), and Appendix C should also use a graded approach. In addition, the proposed rule relies solely on the attractiveness of the material, considering only quantity of contained plutonium or enriched uranium for determining the appropriate protection levels (PLs), without providing exceptions based on the nuclear material waste form as currently provided in 10 CFR 73.6. In addition, DOE disagrees with the proposed rule's sole reliance on the	The proposed rule's graded protection levels (PLs) for the GROA should be consistent with that used for other licensees that possess irradiated reactor fuel, e.g., under 10 CFR Parts 73.50, 73.51, 73.60 and 73.67. A graded approach should also be applied to MC&A performance measures, and corresponding system capabilities.

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				quantity of contained plutonium or enriched uranium when determining the attractiveness of the material and, accordingly, in determining the appropriate PLs. The NRC should not abandon 10 CFR 73.6's exceptions based on the nuclear material waste form.	
11	II. Discussion, Section O	72526	The highest protection level would be for waste containing strategic SNM with the protection system designed to protect the material against the design basis threat for both theft or diversion and radiological sabotage.	Irradiated SNF and HLW are exempt from certain requirements (10 CFR Part 26, and Sections 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.70, and 73.42 per 10 CFR 73.6(b)). With the exemption applied consistently, SNF and HLW at the GROA would not be considered an attractive theft or diversion target. PLs applied to SNF/HLW within the framework of the proposed graded approach would place the GROA at PL-IV for theft or diversion.	PLs for the GROA should be commensurate with existing NRC regulations concerning SNF/HLW and reflect the lower level of attractiveness and risks of strategic SNM that exists in a form (such as vitrified HLW) that is not readily separable from other radioactive material and is highly radioactive.
12	III. Discussion of Proposed Amendments to Section 73.56a	72530	The proposed requirements are nearly identical to those proposed for power reactors (71 FR 62664; October 26, 2006).	The risks associated with the GROA activities are commensurate with those of an ISFSI, licensed per 10 CFR Part 72, or an ISFSI under a General License to 10 CFR Part 50 licensees.	Revise first sentence to read: "This section would be added to address the requirements for the personnel access authorization program for nuclear material in a form other than irradiated reactor fuel or HLW within the GROA."
13	III. Discussion of Proposed Amendments to Section 74.73	72532	Paragraph (i) would require the DOE to perform a facility-wide physical inventory of all possessed SNM to close material balances at intervals not to exceed 12 calendar months.	The physical inventory should be limited to the GROA surface facilities. Physical inventory of emplaced waste packages is neither practical nor consistent with as low as reasonably achievable (ALARA) expectations due to the high radiation fields in the drifts. The contents of a drift with a physical barrier, locked, and tamper-sealed will provide containment, access control and	The rule should state that a physical inventory of the surface waste, plus a book inventory of the emplaced waste, is sufficient to satisfy the annual physical inventory requirements. Alternatively, each drift containing emplaced waste should be considered an item for purposes of the annual inventory.

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				assurance of inventory consistency and continuity of knowledge. Further, the certainty that emplaced waste packages are secure is reinforced by the requirement that numerous site personnel would be needed to move an unauthorized waste package.	
14	AMENDMENTS: PART 63, Section 63.24(d). Also, applies to PART 73, Section 73.53(b), and PART 74, Section 74.71(c)	72534 72535 72561	DOE shall supplement its application no later than 180 days after the NRC issues a construction authorization for the GROA with the submittal of the following plans: (1) Physical Security Plan; (2) Training and Qualification Plan; (3) Safeguards Contingency Plan; and (4) Material Control and Accounting Plan.	Final plans should be submitted to NRC for approval no later than 180 days prior to LR&P.	Amend the statement to read: "DOE shall supplement its application no later than 180 days prior to LR&P with the submittal of the following final plans:"
15	AMENDMENTS: PART 73, Section 73.2 Definitions	72534	*"Target set for a geologic repository operations area* means the combination of equipment or operator actions which, if all are prevented from performing their intended safety function or prevented from being accomplished, would likely result in significant operational disruption or radiological contamination barring extraordinary action by site operators. For a geological repository operations area (GROA), a target set means quantities and form of high-level radioactive waste and other radioactive material and the protective and mitigative measures to protect against potential large scale releases of fission products from malevolent actions."	The definition of target set includes two definitions that are dissimilar, and includes language that is not consistent with terms used elsewhere in the proposed rule.	Clarify the terms and explain relationship to the safeguards and security performance objectives in Section 73.53(c).

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16	AMENDMENTS: PART 73, Section 73.53(c)(1) and 73.53(c)(2)	72535	Performance Objectives—(1) General. DOE shall establish, implement, and maintain an onsite physical protection program and security organization which will have as its objective to provide high assurance that activities involving radioactive waste are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety. (2) Radioactive waste containing strategic special nuclear material. For formula quantities of strategic special nuclear material, DOE shall establish and maintain, or make arrangements for, a physical protection system designed to detect, assess, intercept, challenge, delay, and neutralize security-related events specified for theft or diversion of strategic special nuclear material and radiological sabotage as stated in § 73.1(a).	a) It appears that the language requires the on-site protective force (ProForce) at the GROA to "neutralize" the adversary force in an NRC DBT, as defined in 10 CFR 73.1(a). Requiring the GROA ProForce alone to "neutralize" such an adversary would be an additional burden beyond what is now required for a Category I strategic special nuclear material (SSNM) licensee. Moreover, the proposed rule requires DOE to plan for a coordinated response with both on-site and off-site resources. Appendix C, Section III, paragraph (j) requires DOE to implement an Integrated Response Plan that must "identify, describe, and coordinate actions to be taken by DOE personnel and off-site agencies during a contingency event or other emergency situation." This requirement is to ensure that assistance will be provided to the site in a security event while on-site protective force officers contain the situation until support forces arrive. It is also intended that the *combined* on- and off-site response forces have the capability to "neutralize" an adversary force. b) The final rule should clarify that, consistent with Section 73.55(b)(2) of NRC's proposed rule for reactor security, "neutralize" would mean "to place the threat in a condition from which the threat no longer has the potential to, or capability of, doing harm to the protected item." (See 10/26/06 *Federal Register Notice*, p. 62686.) c) Clarify statement applicability so that it is clear that it applies only to formula	Revise Section 73.53(c)(2) and (c)(3)(ii) as follows: a) Substitute the words "challenge, delay and neutralize" with: "challenge, delay, and, with the assistance of any needed off-site response forces, neutralize ...." b) Define "neutralize" as "to place the threat in a condition from which the threat no longer has the potential to, or capability of, doing harm to the protected item." c) Revise to read: "For formula quantities of strategic SNM that is in a form other fuel than irradiated nuclear reactor fuel or HLW, DOE shall establish and maintain, or make arrangements for, a physical protection system designed to detect, assess, intercept, challenge, delay, and neutralize security-related events specified for theft or diversion of strategic special nuclear material and radiological sabotage as stated in § 73.1(a)."

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				quantities of strategic SNM that is in a form other than as SNFor vitrified HLW.. Otherwise, similar requirements applicable to an ISFSI are appropriate.	
17	AMENDMENTS: PART 73, Section 73.53(c)(3)(i)	72535	For radioactive material that could result in a significant radiological sabotage event releasing radioactive materials in sufficient quantity such that any individual located at the controlled area boundary, or 400 meters (1300 ft.), whichever is less, could receive a total effective dose equivalent equal to or greater than 0.25 Sv (25 rem), DOE shall establish and maintain, or make arrangements for, a physical protection system designed to detect, assess, intercept, challenge, delay and neutralize security-related event specified for radiological sabotage as stated in § 73.1(a)(1).	The security-related events specified for radiological sabotage are PL-II in the graded approach. Pursuant to the requirements of 10 CFR Part 63, DOE will identify the owner-controlled boundary as the extent of the site of which the nearest boundary from the surface GROA is approximately 11 kilometers. Using the 400-meter limit rather than the owner-controlled area site boundary is not consistent with a risk-informed, performance-based approach and would effectively require DOE to forfeit all the advantages of large buffer zones afforded by the remote location of the planned repository on an already well-protected federal reservation.	Delete reference to a 400-meter limit. Security-related events should apply to any individual located at the owner-controlled area boundary.
18	AMENDMENTS: PART 73, Section 73.53(c)(3)(ii)	72535	For radioactive material that could result in a moderate radiological sabotage event releasing radioactive materials in sufficient quantity such that any individual located at the controlled area boundary, or 400 meters (1300 ft),whichever is less, could receive a total effective dose equivalent equal to or greater than 0.05 Sv (5 rem) but less than 0.25 Sv (25 rem), DOE shall establish and maintain, or make arrangements for, a physical protection system designed to detect, assess, intercept, challenge, delay and neutralize, impede, or mitigate security-related events specified for radiological sabotage.	The security-related events specified for radiological sabotage are PL-III in the graded approach. Pursuant to the requirements of 10 CFR Part 63, DOE will identify the owner-controlled boundary as the extent of the site of which the nearest boundary from the surface GROA is approximately 11 kilometers (km). Using the 400-meter limit, rather than the owner-controlled area site boundary, would effectively require DOE to forfeit all the advantages of large buffer zones afforded by the remote location of the planned repository on an already well-protected federal reservation.	Delete reference to a 400-meter limit. Security-related events would apply to any individual located at the owner-controlled area boundary.

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19	AMENDMENTS: PART 73, Section 73.53(d)(3)	72536	Establish, maintain, and follow an access authorization program for protected and vital areas that meets the requirements of § 73.56a and § 73.57;	DOE believes that the scope of the proposed access authorization is overly broad for a facility such as the GROA. This proposed program includes elements such as psychological assessments and behavioral observations that are normally only required at facilities that use or possess Category I strategic SNM. The risks and potential consequences of sabotage at the GROA are not comparable to those at a power reactor, nor are the risks of diversion at the GROA commensurate with those at a Category I fuel fabrication facility handling unirradiated strategic SNM. From the standpoint of a graded approach, the access program should be limited to the proposed Section 73.57 requirements for criminal history checks of individuals granted unescorted access to the protected area of a GROA,. combined with the implementation of HSPD-12, Personal Identity Verification, should be deemed adequate for unescorted access to SNF/HLW.	Access authorization should apply a graded approach. Proposed Section 73.57 requirements, combined with implementation of Homeland Security Presidential Directive – 12 (HSPD-12), should be deemed adequate for unescorted access to SNF/HLW.
20	AMENDMENTS: PART 73, Section 73.53(i)(5)(iv)	72538	Vehicles transporting hazardous materials inside the protected area must be escorted by an armed member of the security organization.	Introduces a new requirement for escorting "hazardous materials." DOE should be permitted to use a risk-informed, performance-based approach for escorting "hazardous materials."	Revise to read: "DOE shall develop and document in written procedures the process used to identify hazardous materials in quantities of concern that would require an escort by an armed member of the Security organization during transportation inside the protected area."
21	AMENDMENTS: PART 73, Section 73.53(v)	72544	*Additional requirements for Strategic Special Nuclear Material.* In addition to any other requirements of this section, for formula quantities of strategic special nuclear material, DOE shall establish and maintain, or arrange for physical protection systems,	This section should be consistent with Section 74.73(j), which states in part that if DOE receives formula quantities of SNM, "that are in a form other than as irradiated reactor fuel or high level radioactive waste," such strategic SNM shall be controlled and accounted for in a	Delete Section 73.53(v), since all nuclear wastes at the GROA will be SNF or vitrified HLW.

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			subsystems, components, and procedures that provide the following additional performance capabilities for fixed site protection unless otherwise authorized by the Commission:	manner that meets the program measures identified in that section.	
22	AMENDMENTS: PART 73, Section 73.53(v)(2)(i)	72544	In addition to the requirements in paragraph (g)(6) of this section, access to vital equipment, related to strategic special nuclear material, requires passage through at least three physical barriers.	DOE recommends that this proposed section be deleted, since all nuclear material at the GROA will be SNF or vitrified HLW.	Delete Section 73.53(v)(i), since all nuclear waste at the GROA will be SNF or vitrified HLW.
23	AMENDMENTS: PART 73, Section 73.53(v)(4)(i)	72544	All vehicles, materials, and packages, including trash, wastes, tools, and equipment exiting from a material access area, must be searched for concealed strategic special nuclear material by a team of at least two individuals who are not authorized access to that material access area.	The requirement is derived from Category I fuel cycle facilities and is not consistent with those for operations at the GROA or an ISFSI. The requirement is unduly restrictive for the relative low attractiveness of the SNF/HLW and is not consistent with a risk-informed, performance-based licensing approach. DOE believes that such a requirement may be appropriate in the event DOE receives formula quantities of SNM "that are in a form other than as irradiated reactor fuel or high level radioactive waste," although as noted, this is not anticipated.	Delete Section 73.53(v)(4)(i) since all nuclear waste at the GROA will be SNF or vitrified HLW.
24	AMENDMENTS: PART 73, Section 73.53(v)(4)(ii)	72544	Each individual exiting a material access area shall undergo at least two (2) separate searches for concealed strategic special nuclear material. For individuals exiting an area that contains only alloyed or encapsulated strategic special nuclear material, the second search may be conducted in a random manner.	The requirement is derived from Category I fuel cycle facilities and is not consistent with those for operations at the GROA or an ISFSI. DOE believes that the proposed requirement is unduly restrictive for the relative low attractiveness of the SNF/HLW and is not consistent with a risk-informed, performance-based licensing approach. DOE believes such a	Delete Section 73.53(v)(4)(ii), since all nuclear waste at the GROA will be SNF or vitrified HLW.

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				requirement may be appropriate in the event that DOE receives formula quantities of SNM "that are in a form other than as irradiated reactor fuel or high-level radioactive waste," although as noted, this is not anticipated.	
25	AMENDMENTS: PART 73, Section 73.53(v)(4)(iii)	72544	Before exiting from a material access area, containers of contaminated wastes must be drum scanned and tamper sealed by at least two (2) individuals, working and recording their findings as a team, who do not have access to material processing and storage areas.	The requirement is derived from Category I fuel cycle facilities and does not appear to be consistent with those for operations at the GROA. The requirement is unduly restrictive for the relative low attractiveness of the SNF/HLW and is not consistent with a risk-informed, performance-based licensing approach. It is applicable only if DOE receives formula quantities of SNM "that are in a form other than as irradiated reactor fuel or high-level radioactive waste".	Delete Section 73.53(v)(4)(iii), since all nuclear waste at the GROA will be SNF or vitrified HLW.
26	AMENDMENTS: PART 73, Section 73.53(v)(6)(ii)	72545	Each Tactical Response Team member shall be armed with a 9mm semiautomatic pistol. All but one member of the Tactical Response Team shall be additionally armed with a covered weapon as described in Section VII of Appendix B of this part.	DOE believes that this level of detail is not necessary and is not consistent with a risk-informed, performance-based licensing approach. Weapon requirements should be determined by a site-specific risk assessment.	Remove Section 73.53(v)(6)(ii) , since all nuclear waste at the GROA will be SNF or vitrified HLW.
27	AMENDMENTS: PART 73, Section 73.56a	72545	Personnel access authorization requirements for a geologic repository operations area. (a) *Applicability.* (1) DOE, as a licensee under part 60 or part 63 of this chapter, shall satisfy the requirements of this section upon receipt of Commission authorization to receive and possess source, special nuclear, or byproduct material at the geologic repository operations area. DOE shall submit the access authorization program for	The proposed program includes elements such as psychological assessments and behavioral observations that are normally only required for unescorted access at power reactors or facilities that use or possess Category I strategic SNM. The risks and potential consequences of sabotage at the GROA are not comparable with those at such facilities. For that reason, and because the proposed requirements are not consistent with a risk-informed,	Include language allowing DOE within the framework of the proposed graded approach to use already established and NRC accepted personnel access authorization management systems for its access authorization management activities for SNF and vitrified HLW.

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			review and approval.	performance-based licensing approach, the GROA should be subject to the same standards for access authorization as imposed at ISFSIs not co-located with a power reactor. DOE proposes that already established personnel access authorization systems used by the commercial nuclear industry be accessible to DOE for purposes of granting, maintaining or denying access to personnel. A system such as the one maintained by NEI (Personnel Access Data System "PADS") should be allowed.	
28	AMENDMENTS: PART 73, Section 73.71a(a)	72552	DOE, as a licensee subject to the provisions of § 73.53, shall notify the NRC Operations Center as soon as possible but not later than 15 minutes after discovery of an imminent or actual safeguards threat against the facility and other safeguards events described in paragraph V of Appendix G to this part.	Section 73.71a(a) would require DOE to notify the NRC Operations Center "as soon as possible, but not later than 15 minutes, after discovery of an imminent or actual safeguards threat against the facility, and other safeguards events described in paragraph V of Appendix G to this part." [Note: paragraph V of Appendix G requires 15-minute notification for "(a) The initiation of a security response consistent with DOE's physical security plan, safeguards Contingency Plan, or defensive strategy based on an actual or imminent threat." There is currently no comparable notification requirement for other licensees under existing 10 CFR 73.71 rules, which set a one-hour limit for notification of most events.	Change "15 minutes" to "one hour".
29	Appendix B Section VII.C.2.b.	72554	...individuals assigned duties and responsibilities to implement the Safeguards Contingency Plan shall complete a minimum of 40 hours of on-the-job training to demonstrate their ability to effectively apply the	The specification of 40 hours of training is too prescriptive for a regulation and should be addressed elsewhere (i.e., in implementing procedures).	Replace the requirement for 40 hours of training with: "...individuals assigned duties and responsibilities to implement the Safeguards Contingency Plan shall demonstrate their abilities to effectively perform assigned duties and

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			knowledge, skills, and abilities required to effectively perform assigned duties and responsibilities in accordance with the approved security plans, DOE protective strategy, and implementing procedures.		responsibilities…" Delete "complete a minimum of 40 hours of on-the-job training to demonstrate their ability to effectively apply the knowledge, skills, and abilities required."
30	Appendix B Section VII E.1.f	72555	Armed members of the security organization shall participate in weapons range activities on a nominal 4-month periodicity. Performance may be conducted up to 5 weeks before to 5 weeks after the scheduled date. The next scheduled date must be 4 months from the originally scheduled date.	Applicable DOE regulations, cited in the proposed rule (10 CFR Part 1047, which by reference incorporates 10 CFR Part 1046), specify 6-month intervals for weapons training.	Delete requirement as unnecessary, or change 4 months to 6 months.
31	Appendix C Section III.(g)(4)	72557	Re 'primary security functions'. The DOE description must begin with physical protection measures implemented in the outermost facility perimeter and must move inward through those measures implemented to protect vital and target set equipment.	This proposed requirement is in the Contingency Plan section and does not have comparable language in 10 CFR 73.53. It also applies the term 'target set', which requires further clarification as noted in comment no. 15. DOE believes that these types of requirements should be consistent with 10 CFR 73.53 after completion of a risk-informed, performance-based analysis, not via the Contingency Plan.	Delete this section.
32	Appendix C Section III.(i)(2)(iv)	72558	The protective strategy must:…(iv) provide bullet resisting protected positions with appropriate fields of fire;	This is a new requirement. The Contingency Plan may be required to describe such protected positions, but the need to provide them derives from 10 CFR 73.53, after completion of a risk-informed, performance-based analysis, not via the Contingency Plan.	Delete item, or require that bullet resisting protected positions be described.
33	Appendix C Section III.(j)(2)(ii)	72558	Re 'integrated response plan': …(ii) include specific procedures, guidance, and strategies to restore the facility using existing or readily available resources (equipment and personnel) that can be effectively implemented under the circumstances associated with loss of large areas of the facility	Specific procedures and guidance should be developed by the staff implementing the Integrated Response Plan. Providing this information concurrent with submission of the Contingency Plan (i.e., within 6 months after CA) is premature.	Revise to read: "…Identify specific procedures <u>to be developed no later than 6 months prior to receipt of LR&P,</u> along with guidance, and strategies…"

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			due to explosions or fires.	Due to unforeseen circumstances that could potentially impact the amount of time between CA and LR&P, DOE suggests that the final plans should be submitted to NRC for approval no later than 6 months prior to LR&P.	
34	Appendix C Section III.(j)(2)(v)	72558	Re 'integrated response plan': ...(v) include specific procedures, guidance, and strategies describing cyber incident response and recovery.	Specific procedures and guidance should be developed by the staff implementing the Integrated Response Plan. Providing this information concurrent with submission of the Contingency Plan (i.e., within 6 months after CA) is premature. The final plans should be submitted to NRC for approval no later than 6 months prior to LR&P.	Revise to read: "Identify specific procedures <u>to be developed no later than 6 months prior to receipt of LR&P</u>, along with guidance, and strategies..."
35	AMENDMENTS: PART 74, Section 74.73(g)	72561	*Quality assurance capabilities.* DOE shall establish, document, implement, and maintain a program to reasonably assure the validity of assigned SNM quantities, including a measurement system and a measurement control program that: ... (2)(iv) Using, as needed, weighing and/ or nondestructive assay measurements for verifying SNM content in the resolution of anomalies or other off normal circumstances from receipt to emplacement.	Implementation of measurements required by the proposed 10 CFR 74.73, for the current GROA activities and waste forms, would impose an undue and unnecessary burden on the Yucca Mountain GROA, DOE operators, and NRC licensees with SNF/HLW to be disposed of at the GROA, while providing little additional protection to the public. The GROA should be subject to the same standards as generally accepted industry practice for ISFSIs. The Yucca Mountain GROA is proposed to be an item control and accounting facility—similar to commercial nuclear power plants and ISFSI licensees. Development of a nondestructive assay (NDA) measurement program for use on canistered SNF/HLW items to determine the quantitative element and isotope values of the item would require the development of new technology beyond the current state of the art. Measurement equipment and weighing	Revise opening sentence of Section 74.73(g) to end with the words, "at assigned SNM quantities," and delete the words, "including a measurement system and measurement control program." Revise to state: "DOE may use accepted industry standards in the resolution of anomalies or off-normal circumstances from receipt to emplacement."

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				devices that could quantify the contents of canisters containing radioactive material have yet to be developed and demonstrated in an operational environment on a large scale. The impact of the proposed rule would be far reaching and would impose more extensive measurement programs on all shippers of SNF/HLW to the Yucca Mountain GROA if measurements of any kind, including those related to anomaly resolution, were to be required. Section 74.73 should be revised, such that for the current planned Yucca Mountain GROA activities and waste forms, DOE may use accepted industry standards (e.g., draft ANSI N15.8 processes and procedures) in the resolution of anomalies or off-normal circumstances from receipt to emplacement—similar to what is currently used at other item control and accounting facilities, such as commercial nuclear power plants and ISFSIs. In addition, consistent with a graded approach, any proposed performance measures beyond those required for an ISFSI should specifically apply only to formula quantities of strategic SNM in a form other than irradiated reactor fuel and HLW (PL-I of the proposed rule). The GROA should be subject to the same standards as generally accepted industry practice for ISFSIs.	