



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

January 23, 1978

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MEMORANDUM FOR: L.J. Evans, Jr., Chief
Requirements Analysis Branch, NMSS

FROM: M.A. Guhin, Assistant Director
Export/Import and International
Safeguards, IP

SUBJECT: RESPONSE LEAD INPUT TO ISSUES ON UPGRADE
RULE PUBLIC COMMENT

This memorandum provides some general and specific comments in response to your memorandum of December 20 on the above subject.

Responsibility for Import Shipments (General and Comment page 9)

As noted in our informal comments prior to publication of the proposed rule some time ago, IP fully agrees that import shipments should be adequately protected but, on policy grounds, does not believe that the way to accomplish this is by stipulating protection requirements in NRC regulations for material which is outside US jurisdiction and under the jurisdiction of another country. We seriously question the proposed rule in this regard in view of the considerations outlined below.

At the outset, it should be stressed that there are ways, other than that in the proposed regulations, to ensure that import shipments are adequately protected and which do not raise the problems associated with extending jurisdiction to material not under US jurisdiction.

We could, for example, make physical security requirements on transport for imports to the US a subject of agreements or arrangements, bilateral or multilateral, with those countries shipping formula quantities to the US. This course would have the benefit of being consistent with the international standards set forth in INFCIRC/225. Moreover, since such arrangements need not be a comprehensive agreement covering all countries, they may not involve any extensive negotiations.

In the meantime, it may be useful to expand the DOE/NRC physical security reviews to consider other countries' physical security measures for protecting international shipments. Finally, if a proposed import does not meet what NRC considers necessary in this regard, we could (as is accomplished in the export area) work through the Department of State to secure the other country's agreement on certain measures.

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While the courses recommended above appear unobjectionable, the course contained in the proposed regulations raises distinct problems. First, exporter responsibility for the protection of material until it enters the jurisdiction of a receiving country is a generally established principle among supplier States and in international-accepted standards. We would note, in particular, that INFCIRC/225 clearly places such responsibility on the exporting country as follows:

With respect to the maintenance of communication regarding the continuing integrity of the shipment and with respect to the responsibility for carrying out physical protection measures and the recovery actions in the event that a shipment becomes lost, the agreement between the States should provide that this responsibility will rest with the shipping State up to the frontier and will then be transferred to the receiving State. (Section 6.2.11.2. See also Section 6.2.11.1 under "Advance Agreement on Responsibilities for International Shipments")

In addition, the Supplier Guidelines reinforce this principle, at least implicitly, and stipulate that international transport should be under prior agreement specifying time, place, and procedures for transferring transport responsibility.

Second, in light of the above, and in commenting on the proposed rule, foreign governments have seriously questioned that portion which would attempt to extend US regulatory jurisdiction over material outside US jurisdiction.

Third, although the draft physical security convention now under consideration would involve an obligation "not to import or export or permit the import or export of nuclear material unless such material will at all times during international transfer be subject to the precautions described in (the convention)," there are other ways to ensure that shipments are adequately protected (as noted above).

Fourth, in imports, the NRC is licensing a domestic applicant whose responsibility normally begins when the material enters US jurisdiction. This fact reinforces our view that the proper channel for ensuring adequate protection on imports is not the import licensee but rather cooperative arrangements with other countries.

Finally, it should be noted that there are really very few instances of importing formula quantities of SNM to the US. (This would appear to reinforce the thought that arrangements with other countries need not involve extensive or comprehensive agreements.)

In view of the above considerations, we seriously question both the necessity and desirability of NRC regulations stipulating protection requirements for imports while the material is beyond US jurisdiction. If a cost-benefit analysis (discussed below) indicates that the threat to an aircraft once

it enters US airspace, or to a ship once it enters US waters, were sufficient to require armed guards, then one might consider a formulation which would clearly place responsibility only within our jurisdiction (for example, such a reformulation could stipulate that an import licensee shall provide for such protection once the shipment enters US waters or airspace). However, this latter arrangement would place a substantial burden on the import licensee which we believe could be better accomplished through government-to-government arrangements as noted at the outset.

Consequently, we believe that the comment on page 9 should be revised to stress NRC support for agreements in the import area and our intention to work with other countries and the Executive Branch to ensure that imports are adequately protected. It should also be clear that the revision suggested with respect to imports does not diminish our export responsibility, which is and should remain clearly stated, to provide the protection we deem necessary until responsibility is transferred at the port of entry in the receiving country.

Armed Guards for Export Shipments

The proposed upgrade would include specific measures for protecting international shipments which are not currently incorporated in the draft physical security convention or, for that matter, in any internationally-agreed standards. If we are to establish a requirement for armed guards on international export shipments and, from there, work with other countries toward acceptance of this level of protection by similar or other measures, we believe that an objective cost-benefit analysis, taking into account all pertinent factors, would be in order. We are not aware, to date, of such an analysis.

In addition, if we are to establish such a requirement for US export shipments, I would call your attention to several foreign comments and those of the Department of State regarding the need for special arrangements and flexibility in this regard. In several pertinent cases, it appears clear that the armed guards would not be able to carry (much less use) their arms outside of the aircraft, particularly at a scheduled stop where the receiving country was assuming responsibility to provide protection. This factor would, we assume, also be included in a cost-benefit analysis.

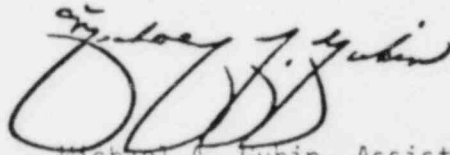
Case-By-Case Review of Export Transport Plans

Section 73.26(b)(4), as drafted, appears to call for case-by-case review of export and import shipping arrangements. As discussed with your office on several occasions, we recognize that special circumstances in unique cases may require special review. This review may be accomplished in the export licensing process.

However, since we are dealing with the domestic and international portion of the shipments only, we see no reason for mandatory case-by-case advance approval of export and import shipping arrangements, especially when such approval is not required for other domestic shipments. We believe licensees should be permitted to submit for NRC approval a safeguards transportation protection plan covering all their shipments within US jurisdiction including shipments associated with an export or import shipment. This is especially appropriate with respect to export licensees since there are only a limited number of licensees involved who have extensive experience in arranging and routinizing export shipments.

Distinguishing Export and Import

By defining the reach of the regulations with respect to export (to the first port of entry) and imports (as recommended previously) at the outset of the regulations, it appears that the rule can easily be revised to have it apply to all shipments within US jurisdiction without separate provisions for import and export as such throughout the regulations. Marv Peterson of my staff will be glad to pursue this revision further with you.



Michael A. Guhin, Assistant Director
Export/Import and International
Safeguards
Office of International Programs

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Date: Dec 15, 1977

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PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Erickson	<p>2.0 Discussion of Comments Received on Upgrade Rule: Major Generic Issues</p> <p>2.1 <u>Threat Issue</u></p> <p>2.1.1 Threat level and specificity issue.</p> <p>2.1.1.1 The threat should be quantified. The present threat leaves open an avenue of uncertainty and upward-spiraling requirements (i.e., ratcheting).</p> <p>Response Considerations:</p> <p>RGP - Insofar as #'s in definition of threat, we believe these should not be specified for a number of reasons: 1) these imply that if attackers exceed number postulated, they will win. In fact there is a graceful degradation of protection as numbers of adversary's increase; 2) such information would be of substantial assistance to the adversary; 3) numbers might mislead adversary to believe it can win where it cannot.</p> <p>RAB - 1) Classified Joint Task Force Report should be given to licensees; 2) numbers of adversary is only one of their capabilities; 3) use Commission response of 1/21/77 to NRCD petition.</p> <p>TAB - Insofar as numbers in definition of threat, we believe these should not be specified for a number of reasons:</p>	<p>I-4 (NRDC) I-11, I-12, I-19, III-2, I-97 Babcock & Wilcox I-16 L.D. DeNike I-75, I-20 Westinghouse Electric I-73 L. D. DeNike</p> <p style="text-align: right;">I 40</p>

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Erickson	<p>2.0 Discussion of Comments Received on Upgrade Rule: Major Generic Issues</p> <p>2.1 <u>Threat Issue</u></p> <p>2.1.1 Threat level and specificity issue.</p> <p>2.1.1.2 The threat's capabilities seem inconsistent and incomplete.</p> <p>Response Considerations:</p> <p>T&E - The purpose of the general performance subsection (§73.20) is to define the general character of the domestic safeguards challenge underlying NRC's requirements for physical protection of nuclear plants and materials. It is not intended to be independent or exhaustive or to be a statement of current perceived threat to the licensed nuclear industry.</p> <p>PGP - Some modifications seem in order.</p> <p>TAB - SAI "Small Group Encounter Experience" study may provide some insight to set guidelines on potential adversary characteristics. The SECOM-II test plan includes consideration of adversary capabilities. The level is undetermined as yet.</p> <p>RAB - Licensee will be given classified version of the NRC/ERDA Joint Task Force Report (this will give more specifics on capabilities of threat and suggests some means of protection). In addition, we need to discuss all of the threat characteristics which may impact on SG requirements and why we did or did not include them in the Upgrade Rule. The Contingency Planning Branch study on the threat, in response to Mattson Task Force recommendations may be of use in doing this.</p>	<p>I-9, I-71 General Electric San Jose</p> <p>II-15 De Mike</p>

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	<p>2.0 Discussion of Comments Received on Upgrade Rule: Major Generic Issues</p> <p>2.1 <u>Threat Issue</u></p> <p>2.1.2 Lack of Evidence Issue.</p> <p>2.1.2.1 Postulated threat contained in the section is not supported by evidence. The available information illustrates that present threat levels are incorrect. (Too high, or too low.)</p> <p>Response Considerations:</p> <p>RGP - No basis for allegation that assumed threats are unrealistic.</p> <p>T&E - The Commission also intends to provide licensees classified national security information related to the protection of their facilities, including any relevant threat information which it may obtain and has proposed rules under which licensees can obtain and handle such information (43 FR _____).</p> <p>RAB - 1. Joint Task Force Report. 2. LLL Study</p> <p>TAB - The "Security Force Collusion" study, presently underway, will go far in determining the threat as a function of the numbers of personnel involved and their positions. However, there is a point beyond which nothing can be done to prevent the act of theft, diversion, or sabotage. Bounds need to be set for the level of collusion against which protection must be provided by the licensee.</p>	<p>I-2 I-69 I-22 General Atomic I-18 Babcock & Wilcox No number: see memo GE-Portland</p>

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<p>ELD/Fonner</p>	<p>2.0 Discussion of Comments Received on Upgrade Rule: Major Generic Issues</p> <p>2.2 <u>Conflict with Federal, State, Local Laws Issue</u></p> <p>2.2.1 Deadly Force Issue</p> <p>The use of deadly force by requiring a private guard to <u>interpose</u> himself in such a position to <u>have</u> to use deadly force appears illegal and such illegality may be proven in court. Few modern business firms believe their property is worth human life. In some states a person under threat to his life is obligated to retreat, if at all possible, without increasing the risk of harm to himself. The present requirement for fixed site and transportation guards require him to operate to the contrary.</p> <p>Response Considerations:</p> <p>TAB - Agree.</p> <p>RGP - I agree we should commit (if ELD agrees) to requesting Congress to amend the Atomic Energy Act to designate SSNM as material which may be protected with deadly force, if necessary, to assure it is not stolen. Severe penalties should be specified for attempts or successful thefts of SSNM.</p> <p>RAB - The CPB is preparing a Commission paper responding to a Commission request of 11/17/77. The Upgrade Rule will be more consistent with whatever decisions are forthcoming as a result of that staff action.</p> <p>ELD - The Commission has carefully considered the use of deadly force in the overall system of protection of formula quantities of strategic special nuclear material. A preliminary observation is that armed private industrial guards are, in fact, common place. They are found in airports, banks, with armored trucks</p>	<p>I-8 III-103 Westinghouse II-63</p>

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	<p>Response Considerations (Continued):</p> <p>transporting currency, in the employ of railroads, and frequently in large shopping centers. Thus, the requirement for armed guards to protect SSNM is not a new departure from an accepted industrial practice.</p> <p>In Section 73.46(h)(4) the Commission has codified certain basic rules on how armed guards are to function. The rule as stated in 73.46(h) is not new, it merely repeats verbatim presently effective 10 CFR 73.50(g)(2) and the Statement of Considerations accompanying that rule should be consulted (see FR).</p> <p>In view, however, of the comments received on the upgrade rule, some considerations may be repeated and restated for clarification. First, an authorized guard, as a person fulfilling a legally recognized role in protecting property, is under no duty to retreat from a threat to his life in the performance of his job. In many states there is simply no duty to retreat, (e.g., see <u>People v. Estrada</u>, 213 P. 67 (Calif. 1923)) <u>Perez v. State</u> 300 P 428 (Okla. 1931). In other states a person need not retreat in his place of business, (e.g., <u>State v. Feltovic</u>, 110 Conn. 303, 147 A. 801 (1929)). It is also accepted common law that a person lawfully arresting need not retreat in face of resistance (see e.g., <u>Purdon's Pennsylvania Statutes, Annotated</u>, Section 18-505(b)(2)(ii)(B)). A guard's job certainly includes the investigation of intrusions or unauthorized entry to protected areas. If circumstances warrant the guard may arrest for an offense committed in his presence (such offenses may range from trespass under local law to a felony under federal law, an attempt to steal or divert special nuclear material; see Section 222 of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2272).</p> <p>Another aspect of the response requirement also requires clarification. The requirement as now written, adopted verbatim from 10 CFR 73.50(g)(3), places a duty on licensees to instruct their guards that they may use force as necessary to counter force directed at them, including the use of deadly force when the guard believes it reasonably necessary in self-defense or defense of others. Note that the requirement is to instruct guards to prevent or impede attempts at theft, not</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
	<p>Response Considerations (Continued):</p> <p>to require guards to use force without discretion. The licensee is also to tell his guards that they may use force, but only the amount of force commensurate with force directed at him - the guard. Thus, if an intruder uses no force, the guard is not called upon to use force. Deadly force is referred to only in the context of self-defense and defense of others. It is expected, as a minimum, that the employer of armed guards will allow a guard to use his weapons when the guard has a reasonable belief it is necessary to prevent death or grievous bodily injury. Indeed, it is seen as essential for the protection of the guard to allow him to use his weapons under such circumstances, in view of the requirement that he investigate intrusions or unauthorized entries, and try to forestall theft, diversion, or sabotage.</p> <p>It is important also to point out that the decision to use force, including deadly force, is made by the guard, not by his supervisor or his employer. In a civil context, the justification for the use of force must rest upon the reasonable belief of the person using it. The allowance of the use of deadly force in self-defense or defense of others, i.e., when there is a reasonable belief it is necessary to prevent death or grievous bodily injury, is clearly within the mainstream of American law.</p> <p>Licensees who believe any part of the guard response rule to be demonstrably illegal under the law of their respective jurisdiction may always request an exemption. However, guard response is viewed as an important element of the physical protection system and any relaxation of the rule in this regard would require a commensurate strengthening of other system components.</p>	

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<p>ELD/Fonner</p>	<p>2.0 Discussion of Comments Received on Upgrade Rule: Major Generic Issues</p> <p>2.2 <u>Conflict with Federal, State, Local Laws Issue</u></p> <p>2.2.2 Operations and Equipment Issues</p> <p>Disparate gun laws in various states have the effect of restricting arms possessed by private and federal transportation escorts. DOE, however, seems to have resolved the weapons problem to its satisfaction without the necessity for legislation.</p> <p>Response Considerations:</p> <p>RGP - I don't believe we can override other agency laws if there are legal conflicts.</p> <p>ELD - It is true that both Federal and State law have limiting effects on the possession and use of firearms by private guards. In the main, these laws make "machine guns" unavailable (a "machine gun" is any weapon that fires more than one bullet with a single function of the trigger), precluding the use of automatic weapons by private persons.</p> <p>Department of Energy couriers and guards (formerly AEC or ERDA couriers and guards) are authorized by Federal law to carry firearms (Section 161k. of the Atomic Energy Act of 1954, as amended). They may also have automatic weapons (42 U.S.C. 925(a)(1)). DOE may also extend this authority to employees of its contractors engaged in the protection of property owned by the United States and located at facilities owned by or contracted to the United States (within the context of activities authorized by the Atomic Energy Act).</p>	<p>I-96 Babcock & Wilcox III-35 Exxon See Letter: Allied General American Nuclear Society</p>

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Response Lead	Comment Issues and Response Considerations	Reference
	<p>Response Considerations (Continued):</p> <p>The staff of the NRC, however, believes that the increment in fire power added by automatic weapons would not be sufficiently significant in the overall physical protection system to warrant the use of such weapons by private guards. Aimed controlled fire may indeed be more effective.</p> <p>It is the belief of NRC that adequate flexibility in armament, with respect to State and Federal laws, already exists and that no further legislation is necessary at this time absent a conclusive showing that automatic weapons are essential in the total physical protection system. Other weapons precluded are "short barreled" rifles and shotguns and "destructive devices" as defined in the Gun Control Act of 1968 (18 U.S.C. §§921-928).</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
SD/Jones	<p>2.0 Discussion of Comments Received on Upgrade Rule: Major Generic Issues</p> <p>2.3 <u>Use of Federal Funds or Forces Issue</u></p> <p>2.3.1 Due to the substantial increase in the requirements, including the potential adversary, and the various legal constraints and conflicts, the NRC should reevaluate the necessity for using a Federal Guard Force. Traditionally the suppression of crime has been a government responsibility.</p> <p>Response Considerations:</p> <p>RGP - We don't have such Federal forces available.</p> <p>RAB - This will also be covered in response to the Commission request of <u>(date)</u> asking for a staff position on the need to introduce legislation to authorize guards to use deadly force. These two issues are closely related and a discussion on one will impact the other.</p> <p>PSL - The licensee has a responsibility to protect his SSNM against theft and his facility against sabotage until LLEA can be summoned. This responsibility, which includes the use of force if necessary, goes along with the licensee.</p> <p>However, the wording in 73.45(h)(3) will be changed to read "ability of the total onsite response force to engage and <u>contain</u> the adversary force until LLEA arrive."</p>	<p>III-99, Nuclear Fuel Services III-100 American Nuclear Society General Atomics' III-98 Westinghouse I-8 I-20 Westinghouse</p>

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SG/Licensing McCorkle	<p>2.0 Discussion of Comments Received on Upgrade Rule: Major Generic Issues</p> <p>2.4 <u>Federal Transport of Formula Quantities of SSNM Issues</u></p> <p>In light of the fact that DOE presently handles all but a few shipments of SSNM, has the only communications capability in operation that meets the requirements, has apparently resolved the weapons problem for transportation, have more levity in the use of deadly force than private guards, have proper access to more advanced weapons, are better able to make arrangements with LEA's, and, lastly, already have sophisticated equipment and highly trained guards doing this same task, it would seem more sensible that they (DOE) are in a better position to meet the upgrade requirements.</p> <p>Response Considerations:</p> <p>RGP - NRC plans to conduct tests using ERDA Secom Communications System. ERDA has told us they are prohibited from using government vehicles to carry privately owned material, think we should specify protection we believe is needed. If private carriers cannot meet them, then favorable consideration must be given to ERDA haulage.</p> <p>NRC is presently considering Staff paper from Standards in concurrence chain regarding the subject of licensing carriers,</p> <p>Maybe, but we should spell out requirement for communications and allow use of any system which qualifies. Mr. Burnett is an expert in the communications area and should be able to clarify.</p> <p>TAB - This (licensing carriers) is under NRC evaluation by Raymond Ramirez (SD)</p>	<p>II-7, II-8 Edlow International II-26, II-60 General Electric II-9, II-62 Transnuclear</p>

*No Approval
Should respond*

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Response Lead	Comment Issues and Response Considerations	Reference
IP/Guhin	2.0 Discussion of Comments Received on Upgrade Rule: Major Generic Issues	
	<p data-bbox="466 435 1119 470">2.5 <u>International Transportation Issues</u></p> <p data-bbox="548 499 1749 730">2.5.1 The requirements relating to international shipments should be handled as part of an overall multinational agreement concerning safeguards vice NRC regulations. Such agreements should be discussed and perhaps developed as part of the discussions relating to the international convention on transportation safeguards which is striving to develop safeguard requirement consistency.</p> <p data-bbox="384 765 776 800">Response Considerations:</p> <p data-bbox="384 829 1650 921">RAB - A determination should be made whether to include the international provisions in the Upgrade Rule or whether they should be the subject of future rulemaking.</p> <p data-bbox="384 956 1734 1315">Multinational agreement concerning the protection of international shipments is an aim which the NRC supports. However until such agreement is reached, the NRC has little choice but to continue its present policy of assuring the protection of import and export shipments through requirements imposed upon U.S. licensees. The import and export licensing process involves not only the licensee and NRC, but also the Executive Branch and various foreign nations and foreign agencies. For each shipment, details of protection are considered during the licensing process, including the details of how the protection requirements will be carried out. Matters which involve the cooperation of foreign nations are carefully worked out in advance so as to assure that the requirements ultimately imposed upon a U.S. licensee can credibly be carried out by him.</p> <p data-bbox="384 1350 1712 1407">RGP - Compare rule with new international physical security convention. Make sure no conflicting provisions.</p>	<p data-bbox="1793 505 2037 852">II-4 Exxon II-5 ERDA II-6 Sea-Land II-70 Transnuclear II-83 <i>Transnuclear</i></p>

*Disagreement
on the amount
of guards
for short
flight*

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Response Lead	Comment Issues and Response Considerations	Reference
ELD/Fonner	2.0 Discussion of Comments Received on Upgrade Rule: Major Generic Issues	
	2.5 <u>International Transportation Issues</u>	
	<p>2.5.2 The proposed requirements may make it impossible for the licensee to satisfy the regulations without violating foreign law at the point of origin or destination.</p> <p>It is not clear that NRC has the authority to regulate activities outside the U.S., i.e., regulation of non-U.S. flag carriers outside U.S. waters, and any carriers operations in a foreign port.</p> <p>Response Considerations: RAB - A determination should be made whether to include the international provisions in the Upgrade Rule or whether they should be the subject of future rulemaking.</p> <p>TAB - See 2.5.1.</p> <p>RGP - Get ELD and State lawyers to discuss this.</p> <p>ELD - The primary issue is whether NRC can require armed guards to accompany an import shipment from its last foreign terminal, and accompany an export shipment to its first foreign terminal. Under the Atomic Energy Act of 1954, as amended, NRC has responsibility for ensuring the safeguarding of special nuclear material. The geographical coverage of the Act is the United States, all territories and</p>	<p>II-4 Exxon II-5 Sea-Land II-71 General Atomic II-72 DeNike II-80 DeNike</p>

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	<p>Response Considerations (Continued):</p> <p>possessions, the Canal Zone, and Puerto Rico. The acts of importation or exportation commence or end, respectively, within that jurisdiction, and, it goes without saying, physical protection requirements including armed guards may be mandated at those points. In addition, if it is reasonably necessary to protect the material while transiting any part of the United States, appropriate conditions may be placed upon the shipment. In practicality, if this requires armed guards to come aboard the ship or aircraft at a foreign port, or to accompany an export shipment to a foreign port, it is reasonable to require them as a condition of importing or exporting formula quantities.</p> <p>It is possible that the requirement could conflict with some foreign law applicable at the foreign terminal, although no such law has been cited. But why should that conflict imply that a valid United States regulation with the force and effect of law should give way to the foreign law with the result that safeguards are decreased. Let the foreign law give way, if the foreign country wishes the shipment to move. If the foreign country refuses to allow the reasonable measure of physical protection it should be ground for denial of the import or export license. Alternatives have been suggested; for example, mandatory use of American carriers, or of military aircraft (query - does this guarantee adequate protection?), or shipment in small quantities. Each of these alternatives appears less desirable in fact than the use of armed guards in conjunction with commercial transportation.</p>	

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ELD/Fonner	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.1 Generic Response</p> <p>3.1.1 <u>Legal Issues</u></p> <p>3.1.1.1 Laws concerning theft or diversion of SSNM should be tightened in a manner corresponding to upgrading licensee's safeguards.</p> <p>Response Considerations:</p> <p>TAB - Agree</p> <p>RGP - I agree we should commit (if ELD agrees) to requesting Congress to amend the Atomic Energy Act to designate SSNM as material which may be protected with deadly force, if necessary, to assure it is not stolen. Severe penalties should be specified for attempts or successful thefts of SSNM.</p> <p>SD - The penalty is already \$10,000 and 5 years (up to)</p> <p>ELD - The Atomic Energy Act of 1954, as amended, already provides severe penalties for the unauthorized possession, or attempt to gain possession, of SNM. Section 57a. of the Act (42 U.S.C. 2077) makes it unlawful for any person to acquire or possess SNM without a specific or general license issued by NRC. Section 222 (42 U.S.C. 2272) makes it a felony to wilfully violate, attempt to violate, or conspiring to violate Section 57. The penalty may be a fine up to \$10,000, imprisonment for up to 10 years, or both. If the offense is committed with an intent to injure the United States or to secure an advantage to any foreign nation the punishment may be imprisonment for life, or any term of years, or a fine up to \$20,000, or both. These are severe penalties.</p>	I-8 Westinghouse

Special
Comments

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SG/Licensing McCorkle	3.0 Discussion of Comments Received on Upgrade Rule	
	3.2 Supplementary Information Issues	
	3.2.2 Cost Analysis Issues	
	3.2.2.1 Fixed Site Cost Issues	
	3.2.2.1.1 The present cost estimates appear to be nonconservative in two respects. Believe the amounts should be \$3,500,000 to \$4,000,000 initial and 7,000,000 to 10,000,000 annually.	I-29 Westinghouse Elec. I-32 Babcock & Wilcox I-30 General Atomic Co.
	Response Considerations:	
	RGP - Need to get new cost estimates for effective Rule. Consider information supplied by respondents.	
	SD - Information supplied by respondents of little value.	

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SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.2 Supplementary Information Issues</p> <p>3.2.2 Cost Analysis Issues</p> <p>3.2.2.2 Transportation Cost Issues</p> <p>3.2.2.2.1 We feel costs in table 2 are fairly accurate, however, we believe many requirements are not implementable at any cost.</p> <p>Response Considerations:</p> <p>RGF - Need to get new cost estimates for e ive rule. Consider information provided by respondents.</p> <p>SD - No examples given of those not implantable at any cost.</p>	I-31 Transnuclear Inc.

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SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.2 Supplementary Information Issues</p> <p>3.2.2 Cost Analysis Issues</p> <p>3.2.2.2 Transportation Cost Issues</p> <p>3.2.2.2.2 Based upon the relatively few shipments projected over the next ten years, it is apparent that the capital and expense investments to meet the proposed standards would not be warranted.</p> <p>Response Considerations:</p> <p>RGP - See statement on 3.2.2.1.</p>	I-33 Tristate II-7 Edlow

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Response Lead	Comment Issues and Response Considerations	Reference
SD/ Ralph Jones	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.3 Section 73.2: Definition Issue</p> <p>3.3.1 Clarification of present and proposed definitions.</p> <p>3.3.1.1 Radiological Sabotage</p> <p>Response Considerations:</p> <p>RGP - 1) See if ELD can add "enemy of the U.S." clause to meaning without implying security force should not offer protection if an adversary announces he is an enemy of the U.S.</p> <p>2) "Endanger public health" should be quantified, not necessarily with Part 100. Need comments from FC and radiation experts in SD.</p> <p>3) Dose limitations needed for other organs (similar to CFR 100) could be added as supplementary information.</p> <p>SD - Add Part 100 limit > 25 rem at site boundary. "in excess of 25 rem for a total radiation dose to the whole body for an individual exposed to the radioactive release resulting from the act of sabotage."</p>	<p>I-36 L. D. DeNike I-37 I-52 American Nuclear Society</p>

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Response Lead	Comment Issues and Response Considerations	Reference
SD/Ralph Jones	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.3 Section 73.2: Definition Issue</p> <p>3.3.2 Applicability of Terms defined in other rules.</p> <p>3.3.2.1 Appendix B terminology used in rule should be defined in rule as well.</p> <p>Response Considerations:</p> <p>RGP - Definitions in Appendix B should be transferred to 73.2 if possible.</p> <p>SD - Will consider when guard rule is prepared.</p>	I-38 Nuclear Fuel Services III-90 B&W

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SD/ Ralph Jones	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.3 Section 73.2: Definition Issue</p> <p>3.3.2 Applicability of Terms defined in other rules.</p> <p>3.3.2.2 "in-process". Does definition in (70.51(a)(7)) apply in this rule? It should be defined.</p> <p>Response Considerations:</p> <p>PSL - Wording to change as follows:</p> <p>"strategic SNM which is not undergoing processing shall be stored in a vault." * Major change.</p> <p>RGP - "in process" as defined in 70.51 doesn't apply in Part 73.2; new definition should be added.</p> <p>SD - Wording has to be changed. Agree with PSL.</p>	III-43 Babcock & Wilcox

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Response Lead	Comment Issues and Response Considerations	Reference
SD/Jones	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.3 Section 73.2: Definition Issue</p> <p>3.3.3 Additional definitions required</p> <p>3.3.3.1 Deceit should be defined.</p> <p>Response Considerations:</p> <p>RGP - Definition should be added.</p> <p>RAB - <u>Force</u>: describes attempts to gain unauthorized access or introduce unauthorized materials into restricted areas by overt and potentially violent means, with no attempt to conceal either the fact of entry or the fact that the persons or materials are not authorized entry.</p> <p><u>Stealth</u>: describes attempts to gain unauthorized access or introduce unauthorized materials into restricted areas by covert means, by sneaking into the area. Stealth denotes those cases where the very fact of entry is concealed, or an attempt is made to conceal it, rather than cases where an attempt is made to make the person or material appear legitimate and authorized (see deceit).</p> <p><u>Deceit</u>: Describes attempts to gain unauthorized access or introduce unauthorized materials into a restricted area by fabricating stories and/or documents which present the appearance of legitimate authorizations to enter that area at that time. Deceit denotes attempts to make an unauthorized entry (by persons or materials) appear to be authorized. The fact that the entry is unauthorized is concealed, but the fact of entry itself is not concealed (as opposed to stealth, above).</p> <p>SD - Deceit means use of means that attempt to mislead or cause belief in the false such as false identification or access authorization.</p>	I-39 Babcock & Wilcox

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SD/Jones	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.3 Section 73.2: Definition Issue</p> <p>3.3.3 Additional definitions required</p> <p>3.3.3.2 Armed escort should be defined.</p> <p>Response Considerations:</p> <p>RGP - Agree</p> <p>SD - Do not feel this definition is necessary, but not strongly.</p>	I-40 Transnuclear

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Response Lead	Comment Issues and Response Considerations	Reference
SD/Jones	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.3 Section 73.2: Definition Issue</p> <p>3.3.3 Additional definitions required</p> <p>3.3.3.3 Duress Alarm should be defined or explained in a guide or report.</p> <p>Response Considerations:</p> <p>RGP - A definition or a guide should be issued or written to define or clarify.</p> <p>RAB - Will be clarified for applicability by "Design Guidance."</p> <p>SD - Report on "duress alarms" is in preparation. Definition could not be broad enough. In reference to RAB - also need acceptance criteria.</p>	I-41 Babcock & Wilcox

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Response Lead	Comment Issues and Response Considerations	Reference
	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.4 Section 73.6: Material Exemption Issues.</p> <p>3.4.1 Research reactors should be exempted</p> <p>3.4.1.1 General</p> <p>Response Considerations:</p> <p>NRR - The intent of the proposed amendments in 10 CFR Part 73 (42 FR 34310), as stated in the prefatory language and as defined by the general performance requirements in proposed §73.20, is, in part, to assure that formula quantities of strategic special nuclear material (SSNM) are protected with high assurance from theft or from radiological sabotage. A similar rule designed for the protection of less than formula quantities of SSNM and for SNM of lesser enrichment (<20% uranium-235) is currently being developed by the staff at the direction of the Commission.</p> <p>Currently an adequate level of protection against theft and industrial sabotage at research reactors is based on the requirements of §73.40, §§73.50 and 73.60 if applicable, and guidance for the development of security plans that was provided by the staff to all licensees in 1973. As the result of its continuing review of safeguard risks associated with non-power reactors the Commission has concluded that the current level of protection should be upgraded. To maintain consistency with the philosophy and goals of other requirements in Part 73, the level of protection required to prevent theft of SNM will continue to be based on the possession of more or less than a formula quantity of SSNM. Any additional risks associated with sabotage are to be established by analyses of the potential radiological releases.</p>	

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NRR	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.4 Section 73.6: Material Exemption Issues.</p> <p>3.4.1 Research reactors should be exempted</p> <p>3.4.1.2 Proposed regulation in violation of Atomic Energy Act 1954</p> <p>Response Considerations:</p> <p>TAB - LLL Material control System Assessment Procedure will grade material from the point of view of its attractiveness for an adversary.</p> <p>RGP - Not a valid reason to not properly protect. We should not require a higher level of protection for fuel at fabrication plants than at reactors. Not logical to do this.</p> <p>RAB - Rensselaer only facility likely to be affected.</p> <p>SD - Clarify applicability to Research Reactor. Cat. II and III Rule, etc.</p> <p>NRR - As stated in the prefatory language to the Upgrade Rule (42 FR 34311), the proposed amendments would be implemented by a revision to the scope of Part 73 including the removal of §§73.50 and 73.60. Only those licensees of research reactors who possess SSNM in amounts greater than a formula quantity and in a form that does not permit its exemption under §73.6 (i.e., is not self protecting) will be required to comply with the pertinent parts of these new amendments (§§73.20, 73.45, 73.46). At present, no licensee of a TRIGA reactor would be affected, although the possessors of FLIP fuel must maintain their inventories of SSNM below the formula quantity.</p>	<p>I-57 I-59 General Atomic</p> <p>I-63 American Nuclear Society</p>

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Response Lead	Comment Issues and Response Considerations	Reference
	<p>Response Considerations (Continued):</p> <p>Although the possession of SSNM is the principal basis for determining the level of protection required under Part 73, the vulnerability of a research reactor to industrial sabotage is also considered. Consequently, the staff factors into all safeguard and safety reviews the design of the reactor, its power level, and all aspects of the fuel that would relate to the emission of radionuclides as the result of damage to the core.</p> <p>Through its statutory responsibilities, the Commission must provide for the health and safety of the public. In November 1973, the Commission (then the Atomic Energy Commission) explicitly incorporated into its rules a requirement for physical security plans to be submitted as part of an application to construct or a license to operate a nuclear reactor. As the result of its continuing review during the interim period the Commission has made the decision to upgrade the physical protection of all licensed facilities, including the protection of SNM from theft, to what is considered a prudent level under current conditions. In this regard, Part 73.55 was published in February 1977 to provide the necessary level of protection to nuclear power reactors. The proposed Upgrade Rule is intended to provide similar protection to all other licensed facilities, including research reactors. In response to public comments on the proposed rule, the Commission's staff is reviewing its actions to determine if the desired results can be achieved for non-power reactors by a vehicle that would impose less severe requirements on the licensees who now, or in the future, desire to maintain an inventory of SSNM greater than a formula quantity.</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
NRR	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.4 Section 73.6: Material Exemption Issues.</p> <p>3.4.1 Research reactors should be exempted</p> <p>3.4.1.3 Inherent safety of high temperature fuel cladding and high fission product retentivity</p> <p>Response Considerations:</p> <p>TAB - See 3.4.1.1</p> <p>RGP - 1) SSNM can be easily removed from fuel elements. This is a sample chemical operation per Fred Fisher, FC.</p> <p>2) Conduct cost/impact review. May not offer sabotage threat, fuel elements <u>in Reactor core</u> could be adequately protected from theft with a lower level of protection than specified in the upgrade rule.</p> <p>3) Section (d) Requirements not intended to be applicable to power reactors.</p>	<p>I-59 Gen. Atomic I-61 N.B.S. I-62 Westinghouse I-64 Rensselaer Poly Inst. I-84 Portland General Electric</p>

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Response Lead	Comment Issues and Response Considerations	Reference
	<p>NRR - Through the development of the Upgrade Rule the staff intended to provide to all licensees under Parts 50 and 70, other than licensees of nuclear power plants, an upgraded level of protection commensurate with the perceived threat level as had been provided for nuclear power plants through the publication of §73.55 in February, 1977 (42 Fr 10836). The staff recognized that the requirements of proposed §§73.20, 73.45, and 73.46 represented a very significant increase in the level of protection now being provided by licensees of research reactors who possess greater than a formula quantity of SSNM. Also, the proposed rules do not provide means to consider the many unique design and operational characteristics of research reactors and their fuel elements that may reduce the vulnerability of the facility to theft or sabotage. The proposed rules, however, do provide for a level of protection that is considered to be acceptable for the few sites that currently choose to maintain an inventory of SSNM greater than a formula quantity. Most of these licensees also have viable, if not desirable, options for becoming exempt from the Upgrade Rule by reducing their inventory of SSNM.</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
NRR	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.4 Section 73.6: Material Exemption Issues.</p> <p>3.4.1 Research reactors should be exempted</p> <p>3.4.1.4 Present protections sufficient</p>	<p>I-58 Commonwealth Edison I-59 General Atomic I-60 Univ of VA</p>
	<p>Response Considerations;</p> <p>NRR - The purpose of the Upgrade Rule, and any substitutions for the provisions of the proposed amendments, will be to provide protection for a licensee's inventory of SSNM. It is obvious that the safeguard risk attributable to a research reactor varies in proportion to the inventory of non-self protecting SSNM. The Commission welcomes suggestions from licensees for reducing risk of theft by development of safe storage facilities for SSNM on an off-site.</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
NRR	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.4 Section 73.6: Material Exemption Issues.</p> <p>3.4.1 Research reactors should be exempted</p> <p>3.4.1.5 Many research reactors will be forced to close</p> <p>Response Considerations:</p> <p>RGP - See 3.4.1.1 3.4.1.2 Cost Benefit Analysis.</p> <p>The Commission is aware of the value of research reactors and of their role in academic and industrial research and education. Although these reactors have a history of successful, productive, and radiologically safe operation they must be objectively assessed, as potential safeguard risks including that of a source of SSNM for clandestine use and afforded a level of physical protection commensurate with the perceived risk.</p>	<p>I-59 General Atomic</p> <p>I-62 Westinghouse I-63 American Nuclear Society I-64 Rensselaer Poly Institute</p>

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	<p>NRR - The Commission is aware of the cost of implementing the proposed rule as well as the potential impact of not being able to meet the requirements. Consequently, all means are being explored to provide a prudent level of protection within a workable framework of regulations. It is 3.4.1.4 in this atmosphere that the referenced public comments as well as comments provided the staff through other channels are being analyzed. The staff is continuing to evaluate the desirability and feasibility of promulgating regulations to provide protection for the risks specifically posed by non-power reactors. Such a regulation ideally would insure a high level of assurance against theft and sabotage while maintaining sufficient flexibility to consider variable threat levels and mitigating circumstances and conditions. If this route appears to afford a logical and effective method for protecting non-power reactors the staff will recommend a new and separate section of Part 73 be developed, possibly in conjunction with the rule being developed for the protection of less than formula quantities of SNM, as a substitution for all current requirements in Part 73 that pertain to non-power (research) reactors. Until notification is given, through the Federal Register, of any changes in the status of non-power reactors, all licensees should assume that the Upgrade Rule will form the basis for protecting formula quantities of SSNM and be prepared to comply to the extent their site will be affected or to initiate petitions for exemption under the provisions of 10 CFR 73.5.</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Related on Upgrade Rule</p> <p>3.4 Section 73.6: Material Exemption Issues</p> <p>3.4.2 ERDA personnel and vehicles should not be exempted from search</p> <p>3.4.2.1 There appears to be no justification for omitting ERDA vehicles from search requirements.</p> <p>Response Considerations:</p> <p>RGP - We should require positive identification for all ERDA couriers.</p> <p>PSL - Consideration has been given to the possibility that imposters, posing as ERDA (DOE) couriers, might attempt to steal a shipment. Considering normal precautions, such as the use of special credentials, authorization lists and advance notifications, the staff has concluded that overcoming the entire escort force, duplicating the escort credentials and performing the complex operations involved in loading the special transport vehicle and using its communications systems, all without detection would be an incredible event.</p>	III-50 DeNike

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.4 Section 73.6: Material Exemption Issues</p> <p>3.4.2 ERDA personnel and vehicles should not be exempted from search</p> <p>3.4.2.2 If ERDA vehicles are exempted, then why not exempt emergency vehicles and personnel in emergency situations.</p> <p>Response Considerations:</p> <p>PSL - Emergency vehicles are exempted. See 73.46(d)(7)</p> <p>RGP - Agrees that "potential" emergencies should be included.</p>	III-57 Exxon Nuclear

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Erickson	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.5 Section 73.20: General Performance Requirements</p> <p>3.5.1 Specific Threat Issues</p> <p>3.5.1.1 Threat should be attuned to the various physical forms chemical compositions and quantities of the material threatened</p> <p>Response Considerations:</p> <p>T&E - The Commission recognizes that for many types of strategic nuclear materials found within the fuel cycle, significantly more than the "formula quantity" would be required to construct a clandestine fission explosive device without metallurgical or chemical processing.</p> <p>However, considering the disastrous consequences arising from detonation of such a device, NRC policy should give safeguards no credit for the fact that more than a five-kilogram formula quantity of SNM is required to construct a clandestine nuclear explosive device.</p> <p>TAB - LLL Material Control System Assessment Procedure will grade material from the point of view of its attractiveness for an adversary.</p>	<p>i-2 I-53 General Atomic I-62 III-11 Westinghouse Electric</p>

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	<p>Response Considerations: (Cont'd.)</p> <p>RGP - We do not believe allowances should be made for physical or chemical form, when these may be changed relatively easy into bomb useable materials. We do exclude LEU for the reason that it cannot be upgraded w/o elaborate enrichment facilities.</p> <p>Change not needed. Regulations clearly state, we will accept alternative physical protection measures.</p>	

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SG/Erickson	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.5 Section 73.20: General Performance Requirements</p> <p>3.5.1 Specific Threat Issues</p> <p>3.5.1.2 NRC has stated that no clandestine market exists for SSNM</p> <p>Response Considerations:</p> <p>RGP - Staff disagrees with G.A. that theft of SSNM would not be a threat to the public.</p>	I-3 General Atomic

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SG/Erickson	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.5 Section 73.20: General Performance Requirements</p> <p>3.5.1 Specific Threat Issues</p> <p>3.5.1.3 Threat should also be based on the probability of the adversary succeeding in detonation of a nuclear device as well as potential consequences.</p> <p>Response Considerations:</p> <p>RGP - I agree that we should specify what acts are to be protected against. Should at least limit sabotage to acts that would cause offsite personnel to receive doses greater than 25 rems.</p> <p>T&E - The degree of conservatism concerning the relative ease of designing and fabricating a clandestine fission explosive, including the time required, is a matter of some conjecture because of the inherent uncertainties associated with the technical competence of a non-national group. The group would have to include persons capable of searching and understanding the technical literature in several fields and of accomplishing the required technician-type tasks. A great deal</p>	<p>1-7 Nuclear Fuel Services</p>

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	<p>Response Considerations: (Cont'd.)</p> <p>depends on the competence of the group; if that is deficient, not only is the chance of producing a total failure increased, but the chance that a member of the group might suffer serious or fatal injury would be quite real. In addition, the possibility of rapid assembly after material acquisition depends strongly on the technical competence of the group. Again, however, due to the disastrous consequences of the detonation of a clandestine nuclear explosive device, NRC policy should give safeguards no credit for the difficulty or any extended length of time involved in designing and fabricating a clandestine fission explosive.</p> <p>SD - Isn't there an operating assumption on this?</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Erickson	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.5 Section 73.20: General Performance Requirements</p> <p>3.5.3 Section 73.20(a)(2) and (3) Insider Threat Issues</p> <p>3.5.3.1 Credit should be given to the proposed clearance rule (42 FR 14880) in combination with the existing "two-man rule." The probability of a conspiracy by two or more cleared individuals is vanishingly small.</p>	<p>I-3 I-74 I-22 General Atomic I-6 ERDA I-75 Westinghouse Electric I-17 I-76 General Electric San Jose</p>
	<p>Response Considerations:</p> <p>T&E - The Commission agrees with comments concerning the significant added protection against nuclear theft or sabotage by internal conspiracy expected to result from implementation of its proposed clearance program for individuals in the licensed nuclear industry. However, where possible conspirators do not have clearances based upon full-field background investigations, it is particularly important that additional compensating techniques, procedures and technology be employed to thwart possible nuclear theft or sabotage involving internal conspiracy. In any event, clearances should not be deemed adequate insurance against the theft of strategic special nuclear material by any single insider, regardless of position or trust.</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
	<p>Response Considerations: (Cont'd.)</p> <p>RGP - Suggest to Commission to accept clearances or if Commission is not agreeable. Generally agree with comment.</p> <p>TAB - See the GRC CISS final report for an opposing view of <u>clearance effectiveness</u>. The NRC proposal is that clearances should be used as a supplementary, not a substitute, measure. Further, SECY 76-508 also proposes a psychological testing program to supplement background investigation. Such tests are designed to be administered periodically to test emotional stability and are specifically aimed at the insider threat.</p> <p>SD - The reference to SECY 76-508 is incorrect.</p>	

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<p>SG/RA Evans</p> <p>3.4.1</p>	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.6 Section 73.25: Performance Capabilities/Transportation Systems Issues</p> <p>3.6.1 Section 73.25(b)(1): Restrict Access to Transports</p> <p>3.6.1.1 This section requires picture badges for all gas station attendants, tolltakers, truck weigh station personnel and others who require proximity and access to the transport in the "real world."</p> <p>There is no legal means whereby the transport vehicle can be isolated from direct access by the public. Individuals approaching the vehicle may be challenged; however, there is no legal means of preventing them from approaching so long as the vehicle is not in a restricted area and the individual(s) have not disturbed the vehicle or its occupants.</p> <p>Response Considerations:</p> <p>RGP - Modify language and avoid this problem.</p> <p>RAB - The intent of the rule was not to require the facilities enumerated by Transnuclear or to become enmeshed in the legal ramifications outlined by Tristate, but to make a visual assessment at temporary stops to detect someone who is not part of escort force from tampering with the transport. Wording can be modified to portray intent better.</p> <p>SD - Rule can be modified to: "when cargo compartment is open."</p>	<p>II-19 Transnuclear</p> <p>II-20 Tristate</p>

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Response Lead	Comment Issues and Response Considerations	Reference
SG/RA Evans	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.1 General Issues</p> <p>3.7.1.1 In keeping with the NRC stated objective, the requirements in Section 73.26 should be amended to provide clear indication of the performance objectives for the specific standards on escorts, escort vehicles and so forth. They should also be amended to acknowledge that measures comprising a satisfactory transportation safeguards system might vary depending upon the size, weight, and physical characteristics of a shipment.</p> <p>Response Considerations:</p> <p>RGP - Okay</p> <p>RAB - This can be done by a combination of recording the rule and publication of regulatory guides.</p> <p>SD - Will be done in Regulatory Guidance.</p>	II-2 ERDA

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SG/Licensing McCorkle 3.5.2.1	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26 Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.1 Section 73.26(b)(1): Planning and Scheduling Shipments</p> <p>3.7.1.3 It is recommended that choice of routing be allowed enroute-- provided that the options are from a finite known list with code designations for more secure communication and that the escort commander and movement control center give concurrence.</p> <p>Response Considerations:</p> <p>RGP - On balance, I disagree. More important, plan protection along way than the gain from keeping plans secret.</p> <p>TAB - There is a need to allow for detours in any event.</p> <p>SD - Would not be precluded by rule.</p>	II-55 L. D. DeNike

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems Elements, Components, and Procedures Issues</p> <p>3.7.2 Section 73.26(b)(1) Planning and Scheduling Shipments</p> <p>3.7.2.1 No manner of in-depth planning and scheduling can ensure that a shipment will arrive at the final delivery point as originally scheduled.</p>	II-28 General Electric
3.5.2.1	<p>Response Considerations:</p> <p>RGP - Agree</p> <p>PSL - There are no prohibitions in the rules against making changes in routes or schedules after the shipment has begun. The licensee will be required to have contingency plans that address actions to be taken in the event of delays or necessary alteration in the operation as planned.</p> <p>SD - Agree with PSL comment.</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle 3.5.3.1	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26:Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.2 Section 73.26(b)(1):Planning and Scheduling Shipments</p> <p>3.7.2.2 The requirement that shipments be scheduled to avoid regular patterns conflicts with 73.26(g)(1) which requires use of primary highways.</p> <p>Response Considerations:</p> <p>RGP - No conflict. Maybe rules can make clear. Transnuclear is playing games, I believe.</p> <p>PSL - Regular patterns include both <u>time</u> and location. Randomness of either breaks up the pattern, however, variations in both elements provide the best cover.</p> <p>RAB - Agree with PSL statement.</p> <p>TAB - Timing of shipments can be varied so as to be aperiodic and unpublicized.</p> <p>SD - Agree with PSL/RAB.</p>	II-29 Transnuclear II-30 Tristate

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.3 Section 73.26(b)(2): Transportation Security Arrangements</p> <p>3.7.3.1 There is no way that a carrier can make formal arrangements with law enforcement authorities along a route of movement. Anything less...would be of questionable value.</p> <p>We were advised by letter from NRC on December 9, 1976 that it was NRC's intent to make such arrangements with the enroute law enforcement agencies.</p>	<p>II-31 Tristate II-32 II-34 General Electric San Jose</p>
3.5.4.1	<p>Response Considerations:</p> <p>RGP - Maybe revised wording is needed. Delete "formal" or explain it in a way that is capable of being met.</p> <p>PSL - Our intent is to have the NRC participate with the transporter and licensee in making arrangements with law enforcement agencies along the route. There is no requirement for formal arrangements. In addition we believe that all law enforcement agencies along the route should be contacted in order to insure maximum response capability in both size and area covered.</p> <p>RAB - "Formal" arrangements not required by rule.</p> <p>SD - The word "formal" is not in the rule. Awareness program will help licensee. Who will participate with transporter (Ref. PSL comment) I&E or Licensing? How do we provide for this in the Rule?</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
<p>SG/Licensing McCorkle</p> <p>3.5.5.1</p>	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.4 Section 73.26(b)(4): Export/Import Security Arrangement Approvals</p> <p>3.7.4.1 This gives the NRC the power to disapprove security arrangements which have been made in accordance with an approved plan.</p> <p>Response Considerations:</p> <p>RGP - Import and Export shipments only. I tend to agree with comment. If a security plan is acceptable for domestic shipments, it should be acceptable also for moving international shipments to port or airport where it leaves the U.S. Maybe we should say we will only be addressing transport protection before it comes under Part 73 scope and U.S. jurisdiction.</p> <p>PSL - Experience has shown that import/export shipments can be complex operations with unique characteristics.</p> <p>The approved security plan, because of its general nature, is not adequate to allow the NRC to assess the adequacy of protection to be applied to specific shipments. In certain instances it may be necessary to require additional measures to those described in the plan, or to permit alternative measures to be used because of practical considerations.</p> <p>SD - (Ref. PSL comment) Give examples of unique characteristics. Plan review is not adequate if second paragraph is true.</p>	<p>II-36 Transnuclear</p>

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26:Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.4 Section 73.26(b)(4):Export/Import Security Arrangement Approvals</p> <p>3.7.4.2 Section 73.72 requires seven days advance notice of a shipment. Will this same seven days apply to the approval?</p>	II-36 Transnuclear
3.5.5.1	<p>Response Considerations:</p> <p>PSL - The security arrangements must be approved before the seven day notice is given.</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
3.5.5 SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.4 Section 73.26(b)(4): Export/Import Security Arrangement Approvals</p> <p>3.7.4.3 NRC is requiring U.S. approval and licensee verification of the foreign nation's security procedures.</p> <p>Response Considerations:</p> <p>RGP - Not clear that this is so. Transnuclear can do this for incoming shipments on behalf of the U.S.</p>	II-37 Transnuclear

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.5 Section 73.26(c)(3): Safeguards Testing</p> <p>3.7.5.1 Delete references to a "test" of the safeguards system.</p> <p>Any evaluation of commitments by the LLEA should be limited to audits.</p> <p>In view of the extreme touchiness of the physical security measures being imposed by the Commission any "tests" per se, could produce actual casualties which would be totally unwarranted.</p> <p>Response Considerations:</p> <p>RGP - Statement of considerations should explain that testing does not mean actual attack of a facility or transport vehicle.</p> <p>TAB - NMSS has requested RES to provide an interactive game (computerized or boardgame) for licensees to use for self-testing SLL has a board game that appears to be adaptable to this purpose.</p> <p>SD - Agree with RGP.</p>	II-43 Westinghouse Electric

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.6 Section 73.26(c)(6): Escort Armament Issue</p> <p>3.7.6.1 This paragraph appears to require all three types of weapons - handguns, shotguns and semi-automatic rifles.</p> <p>Response Considerations:</p> <p>RGP - Basis for change is questionable.</p> <p>SD - "shall include" Rule says. That does mean all three.</p>	II-49 Transnuclear

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.6 Section 73.26(e)(6): Escort Armament Issue</p> <p>3.7.6.3 The attackers are assumed to possess fully automatic weapons, but the defenders are limited to semi-automatic weapons; For what compelling reasons?</p> <p>Response Considerations:</p> <p>PSL - From the standpoint of escorts under attack, it is difficult to show that automatic weapons and the increased rate of fire necessarily provide the escorts with a measurable advantage that can be relied on.**</p> <p>RGP - Statement of Considerations should explain that for different purposes semi-automatic weapons in most instances are superior to automatic weapons.</p> <p>**In Vietnam, for close range (10-25 meters) ambush situations, so-called fire superiority is not as effective as single, well-aimed shots. Soldiers patrolling in the Mekong Delta trained not to use full automatic mode on the M-16's & M-14's.</p>	II-50 L. D. DeNike

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.7 Section 73.26(g)(3) and (4): Armored Escort Vehicle Issue</p> <p>3.7.7.1 The requirement that escort vehicles be bullet resistant will no doubt make these vehicles heavy enough to require highpowered engines, extra tires, etc. making them conspicuous. Perhaps one of the three vehicles might well go without these, in order to look like ordinary car.</p>	II-56 L. D. DeNike
3.5.7.1	<p>Response Considerations:</p> <p>RGP - good point.</p>	

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.7 Section 73.26(g)(3) and (4): Armored Escort Vehicle Issue</p> <p>3.7.7.2 The materials currently being transported do not warrant the proposed increase in the number of escort vehicles and the proposed requirement for armored escort vehicles.</p> <p>Response Considerations:</p> <p>RGP - Judgment without basis for conclusions.</p> <p>TAB - SLL has been asked to apply their evaluation models to the study of this issue. Initial evaluations should be ready in January 1978.</p>	II-57 Tristate

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Response Lead	Comment Issues and Response Considerations	Reference
<p>SG/Licensing McCorkle</p> <p>3.5.8.1</p>	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.8 Section 73.26(g)(6): Road Response Communication Issue</p> <p>3.7.8.1 Requires the use of a communication system which simply is unavailable to private industry.</p> <p>Response Considerations:</p> <p>RGP - need to discuss with Mr. Burnett. He is an expert in these matters.</p> <p>TAB - Systems meeting these requirements will be tested under NRC/carrier conditions.</p> <p>SD - Ref. Secom II test.</p>	<p>II-59 Edlow Inter- national II-61 Tristate</p>

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Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
<p>SG/Licensing McCorkle</p> <p>3.5.8.1</p>	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.8 Section 73.26(g)(6): Road Response Communication Issue</p> <p>3.7.8.2 No system is available to meet the 30 minute check calls in many areas of the United States.</p> <p>Response Considerations:</p> <p>RGP - See Mr. Burnett.</p> <p>TAB - Not true. However, these systems do not appear to provide the degree of reliability and security that is required.</p> <p>SD - (Ref. TAB) What system will meet it?</p>	<p>II-61 Tristate</p>

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
<p>SG/Licensing McCorkle</p> <p>3.5.9.1</p>	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.9 Section 73.25(h)(2): Aircraft Escort Issue</p> <p>✓ 3.7.9.1 It is not clear that armed escorts will, in fact, be permitted to accompany the shipment.</p> <p>✓ 3.7.9.2 The carrying of guns of the escorts cannot be guaranteed because 14 CFR 121.585 prohibits weapons on board an aircraft unless authorized by the airlines.</p> <p>✓ 3.7.9.3 Each aircraft commander has the power to deny permission for weapons to be carried aboard the aircraft regardless of prior approvals.</p> <p>✓ 3.7.9.4 One air carrier has advised that they will not permit armed escorts on board.</p> <p>3.7.9.5 Most type A/C can only accommodate 5 persons (3 crew + 2 others) FAA inspector can "bump" guard. (14 CFR 121.548, 14CFR 121.581)</p> <p>Response Considerations:</p> <p>RGP - Need to check out.</p> <p>TAB - The necessary arrangements should be made.</p> <p>SD - The question of whether three escorts could be accommodated on cargo aircraft was discussed with representatives of four airlines and the FAA.</p>	<p>II-66 Edlow International</p> <p>II-65 Transnuclear</p>

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Response Lead	Comment Issues and Response Considerations	Reference
All 1	<p>All indicated that three escorts could be accommodated on their 707 type or class aircraft although some said that it maybe cramped. The comment does not reflect the total picture as it exists because although there are five seats up from in the cockpit, three more seats are, or could be made, available in the cargo compartment. Under these circumstances there would not be any conflict in case a forth crew member or an FAA inspector was on-board.</p> <p>The arrangements for allowance of armed escorts should be made in advance and permission would most probably be granted according to four airlines. While the aircraft commander can refuse to let the escorts carry their weapons on their person while on board, the arrangements made prior to the shipments could ascertain whether this might arise.</p>	

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.9 Section 73.25(h)(2): Aircraft Escort Issue</p> <p>3.7.9.6 NRC and Department of State would have to make advance arrangements with the foreign authorities before any licensee authorizes the carriage of weapons aboard international flights.</p>	II-70 Transnuclear
3.5.9.1	<p>Response Considerations:</p> <p>TAB - This point needs resolution.</p> <p>RGP - We need to reestablish need for weapons. Prepare arguments pro and con.</p> <p>SD - (Ref. RGP) Who should prepare arguments?</p>	

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.7 Section 73.26: Transportation Physical Protection Systems, Subsystems, Elements, Components, and Procedures Issues</p> <p>3.7.10 Section 73.26(g)(5): Escort Weapons Surrender Issue</p> <p>3.7.10.1 It is undesirable that the escorts surrender their weapons to local authorities. If foreign governments refuse permission to retain arms, we should not be shipping SNM to or through their territory.</p> <p>Response Considerations:</p> <p>RGP - I disagree. - Protection in foreign country's responsibility of nation in which SNM is located. U.S. guards need not accompany.</p>	II-72 L. D. DeNike

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
	3.0 Discussion of Comments Received on Upgrade Rule	
SG/RA	3.9 Section 73.45: Performance Capabilities/Fixed Site Physical Protection Systems Issue	
SG/Evans	<p>3.9.1 Vagueness and Openendedness of Performance Capabilities</p> <p>3.9.1.1 The performance capabilities represent a minimum set of criteria leaving open what else might be required.</p> <p>Response Considerations:</p> <p>RGP - 1) "but not necessarily limited to" or like wording should be eliminated. If "extra" is to be done it should be stated.</p> <p>2) Basic problem is with broad performance requirements. This is the concern of Chairman Hendrie.</p> <p>3) We need to delete such wording that permits unlimited ratcheting.</p> <p>RAB - Design Guidance to licensee (criteria agreed upon by Licensing, and I&E)</p> <p>TAB - Agree's with RGP</p>	<p>I-14 Babcock & Wilcox I-15 Exxon Nuclear III-5 General Atomic</p>

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/RA	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.9 Section 73.45: Performance Capabilities/Fixed Site Physical Protection Systems Issue</p> <p>3.9.2 Performance Requirements should be no further qualified. Further qualification and/or explanation of the performance capabilities should be made in order to fit the Licensee's legal and predictable capabilities.</p> <p>3.9.2.1 Sections 73.45(b)(1)(i), (e)(1)(i), and (f)(1)(i) should be qualified:</p> <p>...delay...penetrations...<u>to a degree</u>... There is no absolute assurance of prevention.</p> <p>Response Considerations:</p> <p>RGP - significance of proposed new words is not apparent, prevention is a desirable design objective.</p> <p>RAB - agree something is needed.</p> <p>SD - We are talking about a capability and even though not an absolute, it must be there.</p>	<p>III-9 Babcock & Wilcox III-13 III-10 Westinghouse Electric</p>

PHYSICAL PROTECTION UPGRADE RULE
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Response Lead	Comment Issues and Response Considerations	Reference
SG/RA Evans	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.9 Section 73.45: Performance Capabilities/Fixed Site Physical Protection Systems</p> <p>3.9.2 Performance Requirements should be further qualified. Further qualification and/or explanation of the performance capabilities should be made in order to fit the Licensee's legal and predictable capabilities.</p> <p>3.9.2.2 Section 73.45(b)(1)(i), (ii), (e)(1)(i), (ii), (e)(2)(iii) should be changed to read:</p> <p style="padding-left: 40px;">...delay...penetrations...<u>until the response system functions...</u></p> <p style="padding-left: 40px;">It is the guard forces task to delay the adversary only long enough for the proper authorities to react.</p> <p>Response Considerations:</p> <p style="padding-left: 20px;">RGP - agrees</p> <p style="padding-left: 20px;">SD - Rule says "sufficient to permit a response,"</p>	<p>III-10 Westinghouse Electric III-19 Exxon Nuclear</p>

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/RA Evans	<p>3.0 Discussion of Comments Received on Upgrade Rule</p> <p>3.9 Section 73.45: Performance Capabilities/Fixed Site Physical Protection Systems</p> <p>3.9.2 Performance Requirements should be further qualified. Further qualifications and/or explanation of the performance capabilities should be made in order to fit the Licensee's legal and predictable capabilities.</p> <p>3.9.2.3 Section 73.45(c) & (d) should be made more realistic by inserting: ...the physical protection system shall...consistent with site specific conditions.</p> <p>Response Considerations:</p> <p>RGP - change not needed. Regulations clearly state we will accept alternative physical protection measures.</p> <p>SD - Agree with RGP.</p> <p>RAB - Agree with RGP, this is purpose of performance rules.</p>	III-11 Westinghouse Electric

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Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/RA Evans	3.0 Discussion of Comments Received on Upgrade Rule	
	3.9 Section 73.45: Performance Capabilities/Fixed Site Physical Protection Systems	
	3.9.2 Performance Requirements should be further qualified. Further qualification and/or explanation of the performance capabilities should be made in order to fit the Licensee's legal and predictable capabilities.	
	3.9.2.4 Section 73.45(d)(1)(iii) should be restated to make the task possible.	III-14 Atomic International III-16 Nuclear Fuel Services
	"...To maintain current knowledge of the identity, quantity, placement, and movement... within the MAA."	
	This perpetual real time inventory is impossible to meet.	
	Response Considerations:	
	RGP - We need to clarify what we want. Discuss with Partlow.	
	SD - Need to define "current."	
	RAB - Agree with RGP, but may be done in guide. Not necessarily "perpetual;" must be realistic; Part 70 says "current within containers."	

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issue</p> <p>3.10.1 Comments Concerning Company Organization</p> <p>3.10.1.1 Written approval security procedures by plan management is not necessary. 73.46(b) (3) (ii)</p> <p>Response Considerations:</p> <p>RGP - I disagree.</p> <p>PSL - Agree delete: "and by security management."</p> <p>SD - Don't agree with RGP. No, plant management.</p>	III-30 Babcock & Wilcox

PHYSICAL PROTECTION UPGRADE RULE
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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.1 Comments Concerning Company Organization</p> <p>3.10.1.2 The results of the 12-month review and audit should not be sent to corporate. 73.46 (b) (3) (iii).</p> <p>Response Considerations:</p> <p>PSL - Provision for a review, at least every 12 months, of the security system by individuals independent of both security program management and personnel who have direct responsibility for implementation of the security program. The review shall include an evaluation and audit of security procedures and practices; an audit of the internal program for testing and maintenance of the security system; and evaluation of practical exercises to test the effectiveness of the physical security system. The results of the review, audit and evaluation, along with recommendations for corrections or improvements, shall be documented; reported to the licensee's plant management and to at least one higher level of the corporate structure that does not have day-to-day operational responsibility for the plant; and a copy kept available at the plant for inspection for a period of five years.</p> <p>RGP - Agree, with comment.</p> <p>SD - Agree with PSL, disagree with comment.</p> <p>RAB - Agree with PSL, disagree with comment.</p>	III-34 Westinghouse

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.1 Comments Concerning Company Organization</p> <p>3.10.1.3 Full-time consultants should have the same access requirements as employees. 73.46 (d) (1)</p> <p>Response Consideration:</p> <p>RGP - Agree.</p> <p>PSL - Resident non-employees are generally at the facility for a particular purpose and for a specific length of time. The staff believes that the use of a special badge which indicates access area and time period authorizations does not place an unreasonable burden on the licensee. The staff does agree however that the requirement for the resident non-employee to turn in his badge every time he leaves the protected area could be modified without a decrease in protection.</p> <p>73.46 (d) (1) will be amended as follows:</p> <p>(1) A numbered picture badge identification subsystem shall be used for all individuals who are authorized access to protected areas without escort. An individual not employed by the licensee but who requires frequent and extended access to protected material access and vital areas may be authorized access to such areas without escort provided that he receives a picture badge which indicates (i) Non-employee-no escort required; (ii) areas to which access has been authorized. Non-employee badges shall be returned to the licensee if the individual is to be absent from the facility for a period exceeding 30 calendar days.</p> <p>Badges shall be displayed by all individuals while inside the protected areas.</p> <p>SD - Disagree, Rule is okay as is.</p>	III-45 Exxon

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.2 Comments Concerning Security Organization</p> <p>3.10.2.1 Is a chain of succession for on-site authority required in the the contingency plan as in Appendix B C.2(a)(4). Shouldn't training and planning include practical criteria for determining incapacity and advanced designation of 2nd and 3rd in command.</p> <p>Response Consideration:</p> <p>RGF - Agree, with comment.</p> <p>PSL - The cited paragraphs are not referring to the Security Director/Manager who has overall responsibility for the physical security program; but rather to the Security Shift Supervisors, one of who must be on site at all times. The tactical exercises required by paragraph II.C.2.(a)(4) of Appendix B will describe the extent of planning, training, and local written directives required, on a site specific basis, to effectively cope with various contingencies, to include the predetermined succession of supervisory authority.</p> <p>RAB - Agree with PSL.</p>	III-28 (L. D. DeNike)

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.2 Comments Concerning Security Organization</p> <p>3.10.2.2 Is the on-site director required to be part of the security management 73.46 (b)(2) as implied in Appendix B, Part II.A.3(d)?</p> <p>Response Consideration:</p> <p>RGP - Need to clarify.</p> <p>PSL - 1. The individual referred to in 73.46 (b) (2) who has the authority to direct the physical security activities does not necessarily have to be a member of the licensee's plant management. This individual could be a guard who has been assigned the responsibility and authority.</p> <p>2. The training described in Appendix B Part II A 3 (d) applies to all individuals who have the authority to direct security activities whether or not they are members of licensee management.</p> <p>SD - Don't agree with RGP. If any clarification is needed it will be taken care of in Appendix B. (Appendix B is being changed.)</p>	III-29

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.2 Comments Concerning Security Organization</p> <p>3.10.2.3 What is the difference between program management and personnel utilized for the implementation of a program? 73.46(b)(3)(iii)</p> <p>Response Consideration:</p> <p>RGP - Good question - need to clarify.</p> <p>PSL - "Security program management" are those positions that have overall management responsibility for the physical security program, e.g., the Plant Manager and the Security Director/Manager. Persons with "direct responsibility for implementation of the security program" are the security supervisory personnel below the Security Director/Manager Level, e.g., the Security Officer and Security Shift Supervisors.</p> <p>SD - Need to clarify rule.</p>	III-31 Babcock & Wilcox

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46; Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.2 Comments Concerning Security Organization</p> <p>3.10.2.4 Are security management and clerical personnel included in the phrase "other security organization member?" 73.46(b)(4)</p> <p>Response Consideration:</p> <p>RGP - Agree, needs clarification.</p> <p>PSL - Appendix B makes allowances for different classes of security personnel with respect to qualifications and training (for example, clerical personnel would be exempt from the physical qualifications and all training requirements).</p> <p>SD - No change. Appendix B will be clarified.</p>	III-37 General Atomic

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.2 Comments Concerning Security Organization</p> <p>3.10.2.5 The minimum number of response force guards is site specific. 73.46(h) (3)</p> <p>Response Consideration:</p> <p>RGP - I tend to agree.</p> <p>PSL - The response force size is set by the size of the threat the facility is required to defend against (the Commission has in this case defined the threat, against which defenses are to be established, as a matter of prudence).</p> <p>Barrier delay times and required response timing to some extent do vary from facility to facility. Special conditions will be taken into consideration during the plan review and approval process. It is possible that in certain instances an equivalent level of protection could be achieved with a response capability different from that specified in 73.46(h)(3).</p>	III-93 Exxon

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.2 Comments Concerning Security Organization</p> <p>3.10.2.6 Must the licensed response force personnel meet the requirements of Appendix B. 73.46(h)(3)</p> <p>Response Consideration:</p> <p>RLP - Let's Clarify.</p> <p>PSL - The addition response force individuals would be subject to the qualification and training requirements of Appendix B.</p> <p>73.45(h)(3) will be reworded to substitute "armed response individuals" (which is defined in Appendix B) for the term "armed, trained personnel."</p> <p>SD - Yes, Appendix B and application will be clarified.</p> <p>RAB - See SD.</p>	III-95 Babcock & Wilcox

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues	
	3.10.2 Comments Concerning Security Organization	
	3.10.2.7 Can the response force be on-site personnel with other duties? 73.46(h) (3)	III-96 Babcock & Wilcox
	Response Consideration:	III-101 General Atomic
	RGP - Lets clarify.	
	PSL - Response guards may have other duties subject to the following:	III-102 Florida Power & Light
	1. They would be able to drop their duties immediately when needed.	
	2. Their duties would not place them in a position where they would be subject to attack and neutralization from offsite.	
	3. They would have access to necessary weapons and equipment.	
	SD - Yes, Appendix B and application will be clarified. It was never intended that guards or armed, trained personnel do nothing but wait for the posutlated threats. They can perform other functions, but must be ready when summoned to immediately take the necessary steps to protect material or facility in accordance with predeveloped contingency plans.	

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Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.3 Comments Concerning Physical Protection Procedures</p> <p>3.10.3.1 Does enriched uranium scrap mean only SSNM scrap? 73.46 (c) (6)</p> <p>Response Consideration:</p> <p>RGP - Seems clear to me</p> <p>PSL - The term "Enriched uranium scrap" will be changed to "Strategic special nuclear material scrap."</p> <p>SD - Enriched Uranium Scrap covers all U₂ (high, medium, low) leave rule as is. Pu will be exempted due to sabotage problem.</p>	III-44 Exxon

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.3 Comments Concerning Physical Protection Procedures</p> <p>3.10.3.2 It is impossible to identify all non-authorized vehicles. 73.46 (d) (3)</p> <p>Response Consideration:</p> <p>PSL - Paragraph 73.46 (d) (3) will be amended to read as follows: The licensee shall establish and follow procedures that will identify to access control personnel those vehicles that are authorized and those materials that are not authorized entry to protected, material access, and vital areas.</p> <p>SD -- Delete phrase requiring unauthorized list.</p>	<p>III-46 G. E. San Jose</p> <p>III-47 Exxon III-48 Westinghouse III-49 NFS Inc.</p>

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues	
	3.10.3 Comments Concerning Physical Protection Procedures	
	3.10.3.3 A random search of company-owned vehicles should be acceptable due to clearance of driving and due to ineffectiveness of vehicle search. Escort of vehicle is more effective than search. 73.46(d)(7)	III-57 Exxon
	Response Consideration:	
	RGP - Disagree - Do agree, however, that vehicle searches are difficult. Continuous surveillance of vehicles while in material area should be acceptable alternative to searching undercarriage. But searching should be made for unauthorized individuals.	III-58 Babcock & Wilcox
	PSL - 1. Vehicle searches are effective in detecting unauthorized personnel, large quantities of explosives and firearms that are located so as to be acceptable to the driver. They also provide considerable deterrence value.	
	2. Vehicle escort is required in addition to the physical search.	
	3. Licensee vehicle could be used without knowledge of cleared driver.	
	SD - Rule okay as is.	

PHYSICAL PROTECTION UPGRADE RULE
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SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.3 Comments Concerning Physical Protection Procedures</p> <p>3.10.3.4 A search of packages into a material access area that is not a vital area is unnecessary. 73.46(d) (9)</p> <p>Response Consideration:</p> <p>RGP - Disagree</p> <p>PSL - 1. The requirement for search for all hand carried packages at the protected area entrance is being changed to exempt packages carried by cleared employees who are exempt from the personnel search.</p> <p>3 2. At the material access area entrance, packages are also searched for counterfeit substitute items that could be used to steal SSNM. This is an anti-theft provision.</p> <p>SD - More worried about explosives for use in theft.</p>	III-60 Nuclear Fuel Service

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.3 Comments Concerning Physical Protection Procedures</p> <p>3.10.3.5 Radioactive packages should not be searched. 73.46(d) (9)</p> <p>Response Considerations:</p> <p>RGP - Agree</p> <p>PSL - 1. Section 73.46 (d) (6) permits an exception for the protected area entrance search for certain licensee designated activities. These would include packages containing radioactive materials that have to be opened in a special environment.</p> <p>2. Shipping containers that are packed under controlled conditions, following specific procedures that guard against introduction of unauthorized material and are adequately tamper sealed are considered to have met the exit search requirements.</p>	III-59 Exxon

PHYSICAL PROTECTION UPGRADE RULE
 Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.3 Comments Concerning Physical Protection Procedures</p> <p>3.10.3.6 There is no need to monitor portions of the protected area that are between the isolation zone and the material access and vital areas. 73.46(e) (8)</p> <p>Response Considerations:</p> <p>RGP - No</p> <p>PSL - Section 73.46 (e) (8) requires either monitoring or periodically checking exterior areas. While primary reliance for detailing intrusions or unauthorized activities is placed on intrusion alarms located at the perimeter of the protected area and inside buildings, periodic examination of other parts of the protected area (by patrols, CCTV, etc.) is an element of the defense in depth designed to offer protection in case the alarm system is defeated or compromised.</p>	II-75 Westinghouse

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.3 Comments Concerning Physical Protection Procedures</p> <p>3.10.3.7 73.46(f)(1) should be clarified by adding "Each guard... paragraph (e)(5) of this section, who, <u>in turn</u>, should be capable...authorities." Clarify who should be capable.</p> <p>Response Consideration:</p> <p>SD - The addition of the phrase "in turn" inserted after the communication link between the guard force and the individuals in the alarm stations and before the communication between the individuals in the alarm stations and the reinforcements implies that the individuals within the alarm stations cannot initiate reinforcement action without a request from the member of the guard force outside of the alarm stations. Scenarios of adversary action can demonstrate situations wherein only the individuals in the alarm stations will have sufficient input to notify response forces.</p> <p>RGP - Agree.</p> <p>PSL - Agree, "in turn" will be added in the appropriate place.</p>	III-78

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.3 Comments Concerning Physical Protection Procedures</p> <p>3.10.3.8 What is the required extent of liasion and to which law enforcement authorities does it apply? 73.46 (h) (2)</p> <p>Response Considerations:</p> <p>RGP - Lets clarify</p> <p>PSL - Law enforcement authorities refers to all local, state and federal agencies that have the authority to conduct law enforcement activities at or near the licensed facility.</p> <p>Liasion, as used here, includes establishing communications, agreements, understanding and commitments as necessary to ensure that offsite assistance will be forthcoming if required.</p> <p>SD - Agree with PSL. Clarify but not in rule.</p> <p>RAB - Put clarifying language in SOC.</p>	III-89 Nuclear Fuel Service

PHYSICAL PROTECTION UPGRADE RULE
Public Comment Issues and Response Considerations

Response Lead	Comment Issues and Response Considerations	Reference
SG/Licensing McCorkle	<p>3.10 Section 73.46: Specific Requirements/Fixed Site Systems Issues</p> <p>3.10.3 Comments concerning Physical Protection Procedures</p> <p>3.10.3.9 What is the definition of "immediately available?" 73.46(h)(3)</p> <p>Response Considerations:</p> <p>PSL - Unless the LLEA force were located on or adjacent to the facility it would be difficult to consider this force immediately available. Normally it is expected that this force would be made up of (1) guards who have routine duties other than response, (2) other members of the licensee's organization who are qualified and trained in accordance with Appendix B, and (3) guards from the licensee's organization who are located on a facility that is adjacent to the protected area.</p> <ol style="list-style-type: none"> 1. Guards manning the alarm stations have continuing duties in case of an assault and are not considered to be part of the response force. 2. If the additional response is not immediately available it would be of little value considering the short time frame of possible adversary actions. 3. This sentence will be changed to read "ability of the total onsite response force to engage and contain the adversary force until local law enforcement agencies arrive." 4. In the last sentence "onsite" will be added before "response." <p>SD - Will be clarified in plan. "Depends on what he has to do." Agree with PSL.</p>	<p>III-92 UNC #1 III-94 AID III-97 WEC #2</p>

STAFF
PAPER

PUBLIC COMMENT SUMMARY AND STAFF RESPONSES

1.0 Introduction

2.0 Generic Issues

2.1 Threat and General Performance Requirements

2.1.1 Comment Summary: Comments were directed at several aspects of the threat and its application as a general performance requirement. The comments can be categorized generally as follows:

- a. level of threat
- b. definition of threat
- c. application of general performance requirement

a. Comments were made that the threat was not supported by evidence.

It was noted that the NRC has stated that there is no clandestine market for SSNM and that there is no known group with motivation or talent to make a clandestine weapon. Some commentators felt the threat was not conservative enough while others felt it was over-conservative.

b. Commentors stated that the threat had not been sufficiently defined in the sense of bounding the capabilities, characteristics and resources of the adversary and in specifying the numbers of adversaries in particular with respect to internal conspiracy. They felt that without bounds the threat could not be used effectively as a general performance requirement since licensees would not know the bounds to place on their safeguards systems. Commentors stated that a licensee could not know whether his safeguards system met the requirements or not because no

bounds were given for the threat and general performance requirements. Commentors also stated that some credit should be given for clearances in considering application of the threat and in meeting the general performance requirements.

c. Commentors stated that the threat or general performance requirement should be applied in relation to the consequences of a successful advisory action as well as in relation to the usefulness of the material for malevolent uses.

2.1.2. Response: No change in the threat statement has been made in the revised rule except as noted later for the conspiracy part of the threat. The present study of the threat being conducted by the Contingency Planning Branch of the Safeguard Division of NMSS should provide a basis for a Commission decision regarding the threat level. Staff has no basis for change at this time.

b. As for as definitive bounds to the threat are concerned it should be made clear that the purpose of the described threat is to define the general character of the domestic safeguards challenge. It is not intended to be an exhaustive statement of the current perceived threat but rather a general level or design basis for safeguards systems. No additional or more specific attributes of the adversary should be implied beyond those stated. Safeguards, systems, when designed to the level specified in the general performance sections of the rule and in accordance with the reference system specified in the rule and other design guidances to be provided along with the final rule, will be responsive to a general range of threats characterized by that stated in the

regulations. Statements to this effect have been included in the statement of considerations for the revised rule.

With respect to specific numbers of adversaries, the numbers are not as significant as are the capabilities and resources of the adversary, except perhaps in the case of the inside conspiracy. For example, the threat from a disorganized mob of fifty or so people is much different from that of only a few well-organized well-trained people. The internal conspiracy threat, however, does need to be bounded since to protect against a conspiracy of three, four, five or more insiders becomes relatively impossible. This bound can be provided by specifying that the threat is a conspiracy of persons who do not have NRC access authorization clearances. Protection against such a threat is provided by obtaining clearances for persons having access to or control over SNM and by providing access controls and surveillance systems to assure that those that do not have clearances do not have access to successfully conspire to theft or sabotage. It is not necessary to specify numbers in the threat statement because the safeguards system can be designed to limit the numbers of uncleared persons having access. The threat statement in the revised regulation has been revised to include the statement that the conspiracy threat consists of uncleared persons.

Given that the described threat is a design basis for a safeguards system, additional design criteria are given in the form of required system capabilities. These capabilities are further supported by system

specifications presented in terms of reference systems designed to meet the general performance requirements and required capabilities. Additional guidance is in preparation which will provide the logic to connect the system specifications to the required capabilities and the general performance requirements. This logic will provide design criteria for the licensee and show how the general performance requirements and system capabilities are to be used in the design of a specific safeguards system. In any case the licensee will also obtain guidance through the license review process wherein his proposed safeguards plan will be reviewed and approved. Enforcement of the regulation will be based on the specific approved licensee plan. No change has been made in the revised regulation in this connection but additional separate guidance will be published. Discussion of this has been included in the statement of consideration for the revised rule.

c. Due to the disastrous consequences of the successful detonation of a clandestine weapon conservative policy can give no credit for the difficulty encountered by an adversary due to the form of material stolen nor can credit be given to the probability that an adversary might fail even if he does succeed in stealing the material.

2.2 Use of Deadly Force

2.2.1 Comment Summary: Comments indicated that requiring private guards to interpose themselves and to use deadly force could be in conflict with state and local laws and was beyond what should be expected of private industry. It was suggested that legislation be obtained to

permit protection of SSNM by use of deadly force and that seizure or division of SSNM be made a Federal offense with severe criminal penalties imposed.

2.2.2 Response: Staff does not believe it necessary to attempt to get legislation to protect SSNM with deadly force. The recent amendments to the regulations regarding guard responses, the efforts now in progress to inform LLEA of how their response is needed and can be of value, and the proposed guard training criteria should be sufficient to resolve the issue of deadly force and use of weapons. This issue will be more fully addressed in a Commission paper being prepared by NMSS in response to a Commission request of 11/17/77. The revised rule will reflect the recently approved amendments to Section 73.50.

The Atomic Energy Act of 1954, as amended, already provides severe penalties for the unauthorized possession, or attempt to gain possession, of SNM. Section 57a. of the Act (42 U.S.C. 2077) makes it unlawful for any person to acquire or possess SNM without a specific or general license issued by NRC. Section 222 (42 U.S.C. 2272) makes it a felony to wilfully violate, attempt to violate, or conspiring to violate Section 57. The penalty may be a fine up to \$10,000, imprisonment for up to 10 years, or both. If the offense is committed with an intent to injure the United States or to secure an advantage to any foreign nation the punishment may be imprisonment for life, or any term of years, or a fine up to \$20,000, or both. These are severe penalties.

2.3 Conflict With State And Local Gun Laws

2.3.1 Comment Summary: Comments raised the question of the regulation requiring armament for guards and transport escorts in violation of state and local laws. In particular the question was raised of transport guards carrying weapons in different jurisdictions. Also the specific question of automatic weapon was raised.

2.3.2 Response: It is not intended that this regulation would override state and local gun laws. Staff believes that adequate flexibility in armament with respect to state and federal laws exists. Automatic weapons are not called for in the rule. Where a licensee can show conclusively that there is conflict with state and local gun laws alternative measures would be considered. No change in the rule has been made but comment on the situation has been added to the statement of considerations.

2.4 Use of Federal Forces

2.4.1 Comment Summary: Commentors state that the level of force required by the rule is beyond that that can be expected of private companies. This is particularly the case in transport where commentors stated that the volume of business is not enough to make it worthwhile for private companies to provide the escalated level of protection.

2.4.2 Response: The Security Agency Study, done in compliance with the Reorganization Act of 1974, concluded that licensee forces properly trained and equipped could be effective as Federal Forces. The industry has changed some since that time, especially in the transport and where DOE has taken over the major part of the transport of SSNM now moving

among licensed facilities. In addition, a different statement of threat has been made since the study report was issued. It may be appropriate for the Commission to reopen the question of the use of Federal Forces. Legislation would be required to establish such a force or even to permit DOE to pick up the remainder of the transport for that SSNM not government owned.

2.5 International Transport Protection

2.5.1 Comment Summary: Commentors stated that protection of import and export shipments outside the U.S. should be arranged through international agreements rather than unilateral regulations. Commentors questioned the authority of the NRC to regulate activities outside the U.S. and the ability of licensees or their transport agents to assure compliance with such regulations.

2.5.2 Response: The primary issue is whether NRC can require armed guards to accompany an import shipment from its last foreign terminal, and accompany an export shipment to its first foreign terminal. Under the Atomic Energy Act of 1954, as amended, NRC has responsibility for ensuring the safeguarding of special nuclear material. The geographical coverage of the Act is the United States, all territories and possessions, the Canal Zone, and Puerto Rico. The acts of importation or exportation commence or end, respectively, within that jurisdiction, and, it goes without saying, physical protection requirements including armed guards may be mandated at those points. In addition, if it is reasonably necessary to protect the material while transiting any part of the United

States, appropriate conditions may be placed upon the shipment. In practicality, if this requires armed guards to come aboard the ship or aircraft at a foreign port, or to accompany an export shipment to a foreign port, it is reasonable to require them as a condition of importing or exporting formula quantities. To this extent the regulations would provide a framework to assist in developing requirements to be included in international agreements or other agreements licensees might make for export or import of SSNM.

It is possible that the requirement could conflict with some foreign law applicable at the foreign terminal, although no such law has been cited. But why should that conflict imply that a valid United States regulation with the force and effect of law should give way to the foreign law with the result that safeguards are decreased. Let the foreign law give way, if the foreign country wishes the shipment to move. If the foreign country refuses to allow the reasonable measure of physical protection it should be ground for denial of the import or export license. No changes have been made to this part of the regulations.

2.6 Cost Issues

2.6.1 Comment Summary: Very little comment was made on the cost of the proposed rule. Those comments that were made stated that the costs were underestimated but no basis was given. One commentator stated that some of the requirements could not be implemented at any cost but the specific requirements were not identified. Two companies currently involved in the transport of SSNM stated that the volume of business was not enough to warrant the cost of their upgrading their physical protection systems.

2.6.2 Response: The staff has reviewed the cost estimates and has prepared a more detailed value/impact analysis showing costs in more detail and providing statements of benefit to the extent possible. One aspect of performance oriented regulations is that they should permit the licensee flexibility to design the most cost effective system for his plant.

It may be that the licensee will have to consider alternate means of shipping their SSNM if the present companies decide not to continue due to the high costs of added protection. This issue was also discussed under the topic of the use of Federal Forces.

3.0 Specific Issues

3.1 Definitions

3.1.1 Comment Summary: A number of questions were raised regarding meaning of terms used in the proposed rule and relationship of terms to the some or similar terms in other parts of the regulations. In particular the use of the phrase "enemy of the U.S." and the need for quantification of the hazard in the definition of radiological sabotage was raised. Comments indicated confusion regarding terms in the proposed rule and the proposed criteria for guard training. Numerous other suggestions were made for terms requiring definitions.

3.1.2 Response: In general staff has attempted to use terms in the sense of their standard dictionary definition. However, where questions were raised four approaches were used to clarify terms and usage:

- a. wording was changed to eliminate the term,
- b. wording was changed to make clear the meaning of the term,
- c. a definition of the term was added, or
- d. the term is defined in a Regulatory Guide or NUREG report

In the specific case of the definition of radiological sabotage a phrase has been added to bound the hazard by using Part 100 limits. No change was made with regard to the use of the phrase "enemy of the U.S." in this definition since the regulatory history of this usage is well documented to mean that the licensee is not responsible for military operations in defense of the country.

Terms in the proposed appendix for guard training qualifications are being reviewed to assure consistent usage. Definitions previously included in the appendix are being considered for addition to the definition section of Part 73.

Other changes have been made to the revised regulation as noted above. They are not detailed here but the significant changes have been noted in the statement of consideration for the revised regulation.

3.2 Research Reactor Coverage

3.2.1 Comment Summary: Comments indicated confusion with regard to whether all research reactors were covered by the proposed rule or not. Commentors generally felt that research reactors should not be required to meet the stringent requirements of the proposed rule. Comments indicated that those organizations operating research reactors, such as universities could not afford the added costs of the upgraded protection. It was also

noted that imposition of these requirements on research reactors would be in violation of the Atomic Energy Act of 1954, as amended wherein the Commission should "...impose only such minimum amount of regulation... and will permit the conduct of widespread and diverse research and development."

3.2.2 Response: The intent and context of the proposed regulation was to include only those research reactors having more than formula quantities of SSNM that was not self protecting by being irradiated at the level specified in 73.6(b), i.e. 100 rems per hour at 3 feet. A major part of the confusion resulted from misunderstanding as to the treatment of the present sections in Part 73. These sections, in particular 73.50 and 73.60 would be removed when the new sections became effective. Coverage for research reactors having less than the formula quantity of SSNM would continue to be covered under 73.40 until such time specific requirements were imposed for such reactors. Amendments to the regulations to accomplish this are now in preparation as a new section in Part 73, i.e., section 73.47. No changes in the revised regulation are needed to resolve these comments, however, explanatory material has been added to the statement of consideration to clarify the status of research reactors.

3.3 ERDA Personnel and Vehicle Exemption

3.3.1 Comment Summary: Comments questioned the exemption of ERDA couriers and vehicles from the search requirements of the proposed rule.

3.3.2 Response: In consideration of the DOE (ERDA) courier and escort procedures staff has concluded that it is not credible to consider the DOE personnel and vehicles as possible imposters and part of the advisory team. No change has been made in the rule.

3.4 Section 73.25 - In Transit Performance Capabilities

3.6.1.1 3.4.1 Comment Summary: Comments stated that it would be impossible to restrict access to transports as indicated by the proposed capability requirements. Interpreted in combination with the system requirements commentors felt that the requirements would call for identification badges for anyone coming in contact with the transport, i.e. gas station or toll booth attendants.

3.4.2 Response: Commentors are interpreting the proposed capabilities too stringently. The intent was to restrict activity in the vicinity of transports that might result in sabotage or theft. The identification procedures were intended only for those persons who would have access to or possession of the SSNM being transported. The wording of the capability requirement has been changed to more clearly state the intent.

3.5 Section 73.26 - In Transit Protection System Specifications

3.7.1.1 3.5.1.1 Comment Summary: Commentor suggested that the requirements of 73.26 be amended to acknowledge that measures comprising a satisfactory transportation safeguards system might vary in numbers of escorts, escort vehicles, etc. depending on shipment characteristics.

3.5.1.2 Response: No change in the rule is needed. The first paragraph of the section, 73.26(a), states that the Commission may require

additional measures or authorize measures other than those specified in the section "...depending on the individual transportation conditions or circumstances,"

3.5.2 Paragraph 73.26(b)(1) - Planning and Scheduling Shipments - Changes

3.7.2.1
3.7.1.3 3.5.2.1 Comment Summary: Comments suggested that provision be made for change of route and time while shipment is enroute.

3.5.2.2 Response: No specific provision needs to be made for such changes. They are not precluded under the present rule so long as proper notification is made and other requirements are met such as assuring adequate protection on the changed route or time.

3.5.3 Paragraph 73.26(b)(1) - Planning and Scheduling Shipments - Conflicts in Requirements

7.2.2 3.5.3.1 Comment Summary: Comments stated there was a conflict between the requirement to avoid regular patterns and to use primary highways since primary highways are limited in number and would result in a regular route pattern.

3.5.3.2 Response: There is no conflict. Shipping patterns include both time and location. If location, i.e. primary highway is fixed then the time can be varied. For example, shipments should not all be made on Friday afternoon but varied from day to day or time of day to the extent possible consistent with plant schedules. No change in the rule is needed.

3.5.4 Paragraph 73.26(b)(2) - Security Arrangements

3.7.3.1 3.5.4.1 Comment Summary: Commentors stated that it was not possible for private transporters to make formal arrangements for law enforcement response along transport routes.

3.5.4.2 Response: It was not the intent of the requirement that formal arrangements be entered into by the transporter with law enforcement authorities. The word formal was not in the requirement. The intent of the requirement was that the transporter assure that law enforcement authorities were aware of any shipments through their jurisdictions so that they could respond appropriately in case of need to do so. The NRC has undertaken a program of LLEA awareness training which should assist in this respect. Wording in the regulation has been changed to more clearly state the intent of the requirement.

3.5.5 Paragraph 73.26(b)(4) Export/Import Security Arrangement Approvals

3.7.4.1 3.7.4.2 3.7.4.3 3.5.5.1 Comment Summary: Commentor questioned the need and purpose for specific shipment approval if shipment is to be made by an approved security plan. Commentor also asked if seven day notice of 73.72 applied to this approval.

3.5.5.2 Response: Export/Import shipments have some unique characteristics that cannot always be treated in a generic security plan. Specifically those items called out in 73.26(b)(4) could be different for each shipment. While the overall plan may be acceptable the specific details that change from shipment to shipment may affect the protection

and must be approved. The approval must be obtained prior to the seven days notice required in 73.72. The plan should be complete and approved before shipment scheduling. No change in the rule is needed.

3.5.6 Paragraph 73.26(c)(3) Safeguards System Testing

3.7.5.1 3.5.6.1 Comment Summary: Commentor objected to "tests" of a safeguards system that would involve LLEA response or would involve activities that could result in injuries.

3.5.6.2 Response: There is no intent in the use of the word "test" to require "black hat" exercises or actual response by LLEA. Other checks and audits can be used to "test" the system. Guidance in this area is to be prepared. A statement has been included in the statement of consideration to this effect.

3.5.7 Paragraph 73.26(f)(4) - Armored Escort Vehicles

3.7.7.1 3.5.7.1 Comment Summary: Commentor suggested that since armored escort vehicles would be conspicuous, one escort vehicle should not be armored so it could be inconspicuous and not appear as part of the convoy.

3.5.7.2 Response: This is a possible variation that a transport plan might use. It could be acceptable if it is shown that it provides equivalent or better protection. No change in the rule is needed.

3.5.8 Paragraph 73.26(g)(6) Communications

3.7.8.1 3.7.8.2 3.5.8.1 Comment Summary: Commentors stated that there were not now communications systems available to private transporters that would meet this requirement.

3.5.8.2 Response: Staff recognizes the limitation of present commercial systems. Efforts are in progress to provide such systems. If these efforts are not successful changes in the requirements will need to be made.

3.5.9 Paragraph 73.25(h)(2) Aircraft Escorts

3.5.9.1 Comment Summary: Commentors identified several potential problems with armed escorts on aircraft:

- 3.7.9.1 a. may not be permitted by aircraft pilot or airline,
- 3.7.9.2 b. may not be enough seating capacity on cargo plan so
- 3.7.9.3 escort could get "bumped",
- 3.7.9.4 c. could cause problems by having armed escorts at foreign
- 3.7.9.5 - airports.
- (3.7.9.2)

3.5.9.2 Response: These problems have been discussed with several airlines and with State Department personnel. The solution to the problems is advance planning. Airlines have stated that given advance notice and assurance of trained personnel they see no problem. Prior arrangements with the aircraft pilot also can ascertain whether his permission will be granted. Import/export shipping arrangements also should determine the arrangements that should be made and notifications for armed escorts to accompany shipments. Check with airlines showed that three escorts could be accommodated on their cargo planes. Even though there may not be enough seats in the cockpit they could be made available in the cargo compartment. No change in the rule is needed.

3.6 Section 73.45 - Fixed Site Performance Capabilities

3.6.1 General Requirement 73.45(a)

3.6.1.1 Comment Summary: Commentors questioned the openendedness of the general requirement due mainly to the phrase "...bu not necessarily be limited to...." They stated that such a phrase would leave the way open to unending ratcheting without the appropriate rulemaking procedure.

3.6.1.2 Response: Staff agrees. The capabilities as stated in 73.45 are broadly stated performance capability requirements and do not need such qualifying clauses. The capabilities stated are those required. The specific systems designed to provide those capabilities will vary from site to site but such flexibility is not needed for the basic capabilities. The phrase "...but not necessarily be limited to..." has been deleted.

3.6.2 Paragraphs 73.45(b) through (g) - Performance Capability Requirements

3.6.2.1 Comment Summary: Commentors suggested numerous word changes to provide flexibility in the capabilities, to permit adapting the requirements to site specific conditions, and to indicate that attaining such goals as absolute prevention were not always possible.

3.6.2.2 Response: The objectives of the performance capability requirements is to provide flexibility to the licensee in designing his system to provide the capabilities designated. The capabilities are design goals for the licensee to fit to his individual site conditions.

The capabilities are the stated goals or requirements. Whether a given system actually attains a specific goal in practice will depend the conditions pertaining at the time. The system should nevertheless be designed to attain the specified goals or capabilities under the conditions that exist at a given site. Guidance in the design of safeguards systems has been prepared and will be provided to the licensees. This guidance identifies various systems, components, and procedures that can be used to attain the specified capabilities. The licensee must select the appropriate combinations for his site conditions. None of the suggested word changes were believed to add to the understanding of the capability requirements no changes in this regard have been made.

3.6.3 Paragraph 73.45(d)(1)(iii) - Current Knowledge of Material

3.6.3.1 Comment Summary: Commentors question the possibility and practicability of maintaining perpetual inventory of all materials within a material access area.

3.6.3.2 Response: The intent of this requirement was to call for control of materials within material access areas as well as between such areas so that this knowledge could be useful in detection of a diversion or locating an anomaly that might indicate a loss or diversion. It was not intended that perpetual inventory of all quantities be maintained within material access areas. Wording of this paragraph has been changed to clarify its intent.

3.7 Section 73.46 - Fixed Site Protection System Specification

3.7.1 Paragraph 73.46(b)(3)(ii) - Security Plan Approval

3.7.1.1 Comment Summary: Commentor stated that plant management should be aware of but not necessarily approve the plant security plan.

3.7.1.2 Response: Staff does not agree. Plant management should approve all major operating procedures for the plant. Among the most important of these are the security procedures. In no other way can plant management discharge its responsibility for adequate operating procedures.

3.7.2 Paragraph 73.46(b)(3)(iii) - Submission of Audit Reports

3.7.2.1 Comment Summary: Commentor stated that results of 12-month review should not be required to be sent to corporate management. In larger corporations such reports would be meaningless to top corporate persons.

3.7.2.2 Response: Staff agrees. The intent of the requirement is to have the review reports submitted to a level of management in the corporation above that being reviewed to assure that corrective action, if any, is taken. Revised wording has been included to clarify the intent of this requirement.

3.7.3 Paragraph 73.46(d)(1) - Picture Badge Subsystem

3.7.3.1 Comment Summary: Commentor stated that full time consultants should be granted access authorization equivalent to licensee employees.

3.7.3.2 Response: Staff agrees. The wording of the requirement is such that a full time consultant could be considered to be employed by

the licensee and treated as such. This is the type of flexibility allowed in the performance oriented approach. The requirements of Section 73.46 are not binding on the licensee if he can show compliance with the general performance requirements. No change in the rule is needed.

3.7.4 Paragraph 73.46(b) - Security Organizations

3.7.4.1 Comment Summary: Commentors question the meaning of several terms related to "security management," "program management," and "management responsibilities" both in this rule and in the proposed Appendix B on security personnel training and qualification and application of Appendix B criteria.

3.7.4.1 Response: Staff agrees that the intent of the use of the various terms was not clear. Changes in several places in the rule have been made to clarify intent. Appendix B also is being revised and will be changed to clarify references to various levels and types of security personnel.

3.7.5 Paragraph 73.46(d)(3) - Non-authorized Vehicles and Materials

3.7.5.1 Comment Summary: Commentors noted that this paragraph requires identification of vehicles and materials not authorized entry. They point out it is impossible to identify all such items that are not authorized.

3.7.5.2 Response: Staff agrees. The phrase requiring identification of vehicles and materials not authorized has been deleted.

3.7.6 Paragraph 73.46(d)(7) - Search of Vehicles

3.7.6.1 Comment Summary: Commentor states that following the precedent of random search of cleared employees, licensee-owned vehicles should be searched only at random.

3.7.6.2 Response: There is no connection between cleared employees and licensee-owned vehicles. A vehicle outside the protected area may be used for any number of clandestine purposes. Just because it is owned by the licensee does not make it immune to malevolent use. No change has been made in the rule.

3.7.7 Paragraph 73.46(d)(9) - Package Search Into Material Access Areas

3.7.7.1 Comment Summary: Commentor points out that package search into a material access area is redundant since packages are searched when brought into the protected area.

3.7.7.2 Response: Staff agrees. Search of packages into protected area and search of packages leaving a material access area should be sufficient. Rule will be changed accordingly. In addition rule will be changed to permit random search of packages carried by cleared personnel.

3.7.8 Paragraph 73.46(e)(8) - Monitor or Check of Exterior Areas

3.7.8.1 Comment Summary: Commentor states that mandatory monitoring of exterior areas is nonproductive and unnecessary.

3.7.8.2 Response: The requirement is for monitoring or periodic checking exterior areas. This is an element of defense in depth to offer protection in case an alarm is defeated or just to assure that, for

example, the fence is intact. The requirement can be met by CCTV, patrols or combinations thereof. No change in the rule is needed.

3.7.9 Paragraph 73.46(f)(1) - Guard Communication

3.7.9.1 Comment Summary: Commentor suggests adding the phrase "in turn" in paragraph to read "...who in turn shall be capable of calling...."

3.7.9.2 Response: The addition of the phrase "in turn" inserted after the communication link between the guard force and the individuals in the alarm stations and before the communication between the individuals in the alarm stations and the reinforcements implies that the individuals within the alarm stations cannot initiate reinforcement action without a request from the member of the guard force outside of the alarm stations. Scenarios of adversary action can demonstrate situations wherein only the individuals in the alarm stations will have sufficient input to notify response forces. No change is needed.

3.7.10 Paragraph 73.46(h)(2) - Liaison With LLEA

3.7.10.1 Comment Summary: Commentor questioned what is meant by law enforcement authority and what is meant by liaison therewith.

3.7.10.2 Response: Law enforcement authorities refers to all local, state and federal agencies that have the authority to conduct law enforcement activities at or near the licensed facility.

Liasion, as used here, includes establishing communications, agreements, understanding and commitments as necessary to ensure that offsite assistance will be forthcoming if required. Rule will be revised to clarify.

3.7.11 Paragraph 73.46(h)(3) - Minimum Number of Response Force Guards

3.7.11.1 Comment Summary: Commentor states that the minimum number of response force guards is site specific and should not be specified in the rule.

3.7.11.2 Response: Staff agrees but given the threat definition it is doubtful that any site could comply with the general performance requirement with fewer than five response guards. If it can be shown that five are not needed to meet the general performance requirement this is acceptable.

3.7.12 Paragraph 73.46(h)(3) - Response Force Availability

3.7.12.1 Comment Summary: Commentors questioned whether guards and armed response personnel could have other duties or if they had to be dedicated to response. The question was raised as to what was meant by "immediately available."

3.7.12.2 Response: Guards and armed response personnel can have other duties so long as such other duties do not interfere with their response to a safeguards contingency. No change in the rule is needed but discussion has been included in the statement of considerations and other guidance related to guards and their duties and responsibilities. Discussion also has been included to indicate that the "immediately available" will depend on the availability of forces either on site or off to respond to a safeguards contingency.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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March 11, 1977

MEMORANDUM FOR: L. J. Evans, Jr., Chief
Requirements Analysis Branch

FROM: Dean M. Kunihiro, Program Analyst
Requirements Analysis Branch

SUBJECT: LANGUAGE FOR OTHER THAN PERFORMANCE AND SYSTEM
SPECIFICATION REQUIREMENTS

The purpose of this memo is to expand upon the issues relating to the language of other than performance and systems specification portions of the upgrade rule that were identified and outlined in my memo to you dated March 8, 1977.

a. Threat

No change in wording of the threat statement contained in 73.55 is advisable. The same basis and rationale given in the Rusche-Chapman memo to the Commission (2 Feb 77) is applicable to justify its use in the upgrade rule.

b. Redundancy and Diversity

To require the licensee to provide redundancy and diversity in the design of his safeguard systems is conceptually appealing. However, many practical considerations make such a requirement questionable.

First of all, without any established degree of sufficiency, what constitutes adequate redundancy and diversity? To require that systems are designed against common and single mode failures may have significant justification in reactor safety system design where system breakdown may lead directly to an unacceptable event, but for safeguards systems the requirement may be too stringent and ill defined. It is difficult to appreciate how the breakdown of a single safeguard component can directly lead to the successful completion of an undesirable release or illicit acquisition of protected nuclear material. The vagueness of the requirement can be illustrated by extracting the following example

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from the SD draft, "Subsystem failure or component redundancy provides protection against single failure. For example, and adversary cannot defeat an alarm system by cutting off power if there is an emergency or back-up power source for safeguard equipment." What if the wire to the alarm were cut? Is an alternate circuit required? Should two alarms be installed? etc. (This nebulous nature of the requirement can result in a seemingly endless amount of redundancy, which could in turn lead to racheting.)

Secondly, with the in-depth design of safeguards system inherently built into the rules by the establishment of MAs, VAAs, and PAs, and with the diversity and flexibility provided by the use of guard forces, the utility of the redundancy and diversity requirement is even more suspect.

It is not clear how the scope of application can be limited so as to resolve these fundamental difficulties and, unless they can be resolved, it is recommended that this requirement be deleted, and substituted with the requirement contained in 73.55(g), (1). It adequately states the intent of the redundancy and diversity requirements while allowing the licensee a great deal of latitude in fulfilling that requirement. Paragraph 73.55(g), (1) is shown below:

(1) All alarms, communication equipment, physical barriers, and other security related devices or equipment shall be maintained in operable condition. The licensee shall develop and employ compensatory measures including equipment, additional security personnel and specific procedures to assure that the effectiveness of the security system is not reduced by failure or other contingencies affecting the operation of the security related equipment or structures.

c. Quality Assurance

Regulatory Guide 5.52, Chapter 3, states that a licensee should establish a quality assurance program "to provide assurance that the design, construction, and operation of the physical protection systems for a plant are in conformance with applicable regulatory requirements and with the design bases and criteria specified in the license applications." It goes on to elaborate the minute detail that the system should consist of. A copy of Chapter 3 is attached, (Enclosure A).

It is not clear that such an elaborate and detailed QA System is absolutely necessary to insure that an effective safeguards systems is employed, particularly in the design phase. Given the regulatory requirements, it would seem that an effective plant Safeguards System could be developed without a formal QA program. Either the safeguards plan is or is not acceptable to the NRC. This obviously being determined during the license review. Extending that reasoning thru the construction phase, the final system is either adequate or it is not. This again will be determined by the NRC in its compliance and site assessment inspections. To insure that the final product or system emplaced will meet NRC requirements should be the responsibility of the licensee. One would expect that the prudent licensee will take measures necessary to produce an acceptable end product. Whether he does that with a formal, detailed QA program, an informal QA program, or no QA program at all should be left up to the licensee. To expect the detailed QA program outlined in Reg Guide 5.52 Chapter 3 is a classic example of over regulation.

Once the system is operational it is clearly intended that the licensee maintain it so as to insure its continued and effective operation at all times. Since the NRC obviously does not have the resources to continuously inspect or test its operation effectiveness it is reasonable to expect the licensee to perform test and maintenance functions. If any component or subsystem fails, it is also prudent to expect that he take actions necessary so as to maintain the effectiveness of the system. These requirements to test, to maintain, and to employ compensatory measures to offset failures of the safeguards are clearly delineated in 73.55(g), (1), Test and Maintenance.

For the above reasons, quality assurance, as envisioned for reactor safety should not be extended to safeguards. A toning down can be accomplished by merely relying on a restatement of 73.5(g), (1), as quoted earlier, and deleting reference to (Chapter 3 of Reg Guide 5.52). (Part 50, Appendix B) should be deleted and not referenced, for the same reasons given above, and in addition, its frequent reference to safety functions as opposed to safeguards.

d. LLEA and Self-test

The following statement of purpose should be the basis for the LLEA and Self-test requirement:

"To demonstrate the effectiveness and to allow assessment of subsystems as well as the entire safeguards system by both the NRC and License Management"

Recommended wording of the proposed rule:

Each licensee shall conduct tests to demonstrate as well as assess his capability to provide physical protection against industrial sabotage and against theft of special nuclear materials. These tests shall be conducted semi-annually. In the conduct of the tests, the licensee shall take all reasonable and prudent actions required to endure the safety of all personnel involved, the protection of all property involved, and the maintenance of physical protection capabilities during and subsequent to all tests. To the extent possible the tests should be based on a variety of contingency responses, and include LLEA participation. The licensee shall notify the appropriate NRC Regional Office of these tests at least two weeks prior to the conduct of the test.

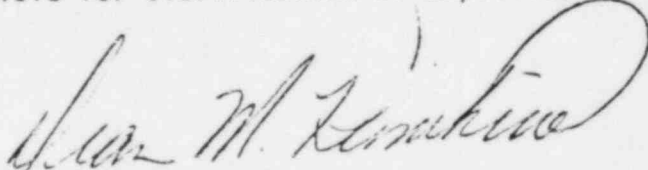
The self test would logically fit into the "Test and Maintenance" section of the existing rules if kept essentially intact as recommended above.

e. Material Amount

The SD draft uses the wording presently contained in 73.50. Without any concrete justification there exists no basis for recommending any changes in the scope of material covered.

f. Examples

Examples can in many cases be used to illustrate a particular point. However, at the same time, the examples themselves may lead to confusion and countered examples. A case in point was illustrated in the discussion in paragraph (b), above. Therefore, the use of examples in the rules is not recommended. The Regulatory Guide has been designated as the vehicle for clarification or amplification of the regulations.


Dean M. Kunihiro
Requirements Analysis Branch

Encl:
1. Chap 3 - Quality Assurance

CHAPTER 3 QUALITY ASSURANCE

To provide assurance that the design, construction, and operation of the physical protection systems for a plant are in conformance with applicable regulatory requirements and with the design bases and criteria specified in the license applications, the applicant should establish a Quality Assurance (QA) Program. In this chapter, the Preliminary Physical Security Plan should include a description of the QA Program to be established and executed for the physical protection system during the design and construction stages.

Prior to operation, the applicant should describe in his final plan the QA Program to be established and executed for the operation of the system. The QA Program should be established at the earliest possible time consistent with the schedule for accomplishing the activity covered. If some portions of the QA Program have not yet been established at the time of the preconstruction submission because the activity will be performed in the future, the description should provide a schedule for implementation. The QA Program should meet the requirements of Appendix B of 10 CFR Part 50 that are applicable and appropriate to a physical protection system.

If a portion of the QA Program to be implemented will conform to a particular quality assurance standard, such as one adopted by the American National Standards Institute, the description may consist of a statement that the particular standard will be followed. Where Regulatory Guides have been issued on acceptable methods of implementing portions of the QA Program, the description should specifically indicate whether the regulatory positions of the Regulatory Guides will be followed.

The applicant should provide a description of the proposed QA Program activities that will govern the quality of the physical protection systems during design and construction as well as during operation. These activities include operating, maintaining, repairing, and modifying the systems.

3.1 Organization

Organization charts for the project should be provided to denote the lines and areas of responsibility, authority, and communication within each of the major organizations involved, including those of the applicant, the architect-engineer, the system supplier, the constructor, and the construction manager (if different from the constructor). In addition, a single overall organization chart should denote how these companies interrelate for the specific project.

These charts and related explanatory material should clearly indicate the organizational location, organizational freedom, and authority of the individual or groups assigned the responsibility for checking, auditing,

inspecting, or otherwise verifying that an activity has been correctly performed. The charts and discussions should indicate the degree of the applicant's involvement in verifying the adequacy of the QA programs implemented by the applicant's contractors and suppliers, even in those cases where the applicant has delegated to other organizations the work of establishing and implementing the QA Program, or any part thereof.

3.2 Quality Assurance Program

The structures, systems, components, and equipment to be covered by the QA Program should be identified, along with the major organizations participating in the program and the designated functions of these organizations. The written policies, procedures, or instructions that implement the QA Program should be described. If these written policies, procedures, or instructions are not yet effective, a schedule for their implementation should be provided.

3.3 Design Control

A description of the design control measures should be provided. Included should be measures to ensure that appropriate quality standards are specified in design documents and that deviations from such standards are controlled; measures for the selection and review of suitability of application of materials, parts, equipment, and processes; measures for the identification and control of design interfaces and for coordination among participating organizations; and measures for verifying or checking adequacy of design, such as by design reviews, alternate or simplified calculational methods, or suitable testing programs. The descriptions should also cover measures to ensure that design changes, including field changes, will be subject to design control measures commensurate with those applied to the original design and will be reflected in accurate "as built" drawings and specifications.

3.4 Procurement Document Control

A description of the procurement document control measures should be provided. Included should be measures to ensure that applicable regulatory requirements, design bases, and other requirements (such as QA Program requirements) which are necessary to obtain adequate quality are included or referenced in procurement documents.

3.5 Instruction, Procedures, and Drawings

Provide a description of the measures to be used to ensure that activities affecting quality will be prescribed by documented instructions, procedures, or drawings and will be accomplished in accordance with these instructions, procedures, or drawings.

3.6 Document Control

A description of document control measures should be provided. It should include measures to ensure that documents, including changes, are reviewed for adequacy, approved for release by authorized personnel, and distributed to and used at the location where the prescribed activity is performed.

3.7 Control of Purchased Material, Equipment, and Services

Provide a description of the measures for the control of purchased material, equipment, and services. Include measures for source evaluation and selection, for assessment of the adequacy by means of objective evidence of quality furnished by the contractor, for inspection at the contractor source, and for examination of products delivery.

3.8 Identification and Control of Materials, Parts, and Components

Describe the measures to be used for the identification and control of materials, parts, and components to ensure that incorrect or defective items will not be used.

3.9 Control of Special Processes

A description of the measures for the control and accomplishment of special processes should be provided. Included should be a listing of the special processes used in the construction and installation of components or systems, such as welding, casting, or nondestructive testing. Include the measures to be used to ensure that such special processes are controlled and accomplished by qualified personnel using qualified procedures.

3.10 Inspection

Describe the program for the inspection of activities affecting quality, indicating specifically the items and activities to be covered. Included should be an organizational description of the individuals or groups performing inspections, indicating the independence of the inspection group from the group performing the activity being inspected. Also indicate how the inspection program for the involved organizations is established.

3.11 Test Control (copy)

Describe the test program used to demonstrate that structures, systems, and components will perform satisfactorily in service. Included should be an outline of the test program, procedures to be developed, means for

documenting and evaluating test results of the item tested, and designation of the responsibility for performing the various phases of the program. If a test program is used to verify the adequacy of a specific design feature, a description of the qualification testing of a prototype unit should be included.

3.12 Control of Measuring and Test Equipment

Describe the measures used to ensure that tools, gauges, instruments, and other measuring and testing devices are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits. This section does not refer to devices such as metal detectors, motion sensors, alarms, and communications equipment that make up the protection system, but rather to those devices used to test or calibrate the system devices during installations and preoperational testing.

3.13 Handling, Storage, and Shipping

The applicant should describe the measures used to control handling, storage, shipping, cleaning, and preservation of items in accordance with work and inspection instructions to prevent damage or deterioration.

3.14 Inspection, Test, and Operating Status

The applicant should describe the measures used to indicate the inspection and test status of items to prevent inadvertent bypassing of such inspections and tests. A description should also be provided of the measures for indicating the operating status of the structures, systems, components, and equipment.

3.15 Corrective Action

The applicant should describe the measures established to ensure that conditions adverse to quality maintenance are identified and corrected and that the cause of significant conditions adverse to quality is determined and corrective action is taken to preclude repetition.

3.16 Quality Assurance Records

Describe the program for the maintenance of records to document activities affecting quality. Included should be means for identifying the records, the retention requirements for the records (including duration, location, and assigned responsibility), and the means for retrieving the records when needed. Physical protection quality assurance records should be maintained and stored for a minimum of two years.

3.17 Audits

The applicant should describe the system of audits used to verify compliance with all aspects of the QA Program and to determine its effectiveness. Included should be the means for documenting responsibilities and procedures for auditing, required frequency of audits, audit results, and designating management levels to which audit results are reported.