September 18, 1978 SECY-78-505

# COMMISSIONER ACTION

For: The Commissioners

From: Clifford V. Smith, Jr., Director
Office of Nuclear Material Safety and Safeguards

Thru: for Executive Director for Operations

Subject: AUGUST 15, 1978 LETTER FROM MESSRS. NADER, POLLOCK AND BANCROFT CONCERNING SHIPMENTS OF HIGH ENRICHED URANIUM THROUGH CHICAGO'S O'HARE AIRPORT

Purpose: To obtain Commission approval of proposed response to Messrs. Nader, Pollock and Bancroft.

Discussion: Background

On January 16, 1978, Ralph Nader, Richard Pollock and Michael Bancroft signed a joint letter to Chairman Hendrie and Mayor Bilandic of Chicago expressing their views on a proposed study of high enriched uranium shipments through Chicago's O'Hare airport (Enclosure A).

On March 9, 1978, while the Commission was still deliberating on a response to the incoming letter, a copy of NUREG-0170, Final Environmental Statement on Transportation of Radioactive Materials by Air and Other Modes, was sent to Mr. Pollock, one of the respondents (Enclosure B).

On July 24, 1978, the Chairman wrote to Messrs. Nader, Pollock and Bancroft responding to their letter of January 16, 1978 (Enclosure C).

On August 15, 1978, Messrs. Nader, Pollock and Bancroft wrote to the Chairman again, stating that they considered NRC's July 24, 1978 response to be inadequate and a misrepresentation of the facts. Their four-page letter contained numerous questions

CONTACT:
Robert A. Erickson, SG/NMSS
(301)427-4018

about NRC actions relative to shipments of high enriched uranium through O'Hare Airport. It closed with a recommendation that NRC prepare a generic environmental impact statement and ban the shipment of high enriched uranium from all civilian airports until the environmental statement is complete (Enclosure D).

Proposed Response to Messrs. Nader, Pollock and Bancroft

The incoming letter of August 15, 1978 reflects lack of information concerning facts and events. Accordingly, it seems appropriate for the Commission to lay these all out in a clear documented response. Since misconceptions about this matter may be fairly widespread, it might be helpful to provide copies of the NRC response to other interested parties. Enclosure E is a draft response to Messrs. Nader, Pollock and Bancroft. Enclosure F is a draft letter to transmit a copy of the response to Mayor Bilandic. NRC's Office of Congressional Affairs could provide copies of Enclosure F to the following interested members of Congress:

Senator John Glenn
Senator Charles H. Percy
Senator Adlai E. Stevenson, III
Representative Abner J. Mikva
Representative Dan Rostenkowski

Recommendation: Approval of draft letters (Enclosures E and F).

Coordination: The Offices of Standards Development, Congressional Affairs and Public Affairs concur in recommendations of this paper. The Office of Inspection and Enforcement has reviewed the paper and has no objections. The Executive Legal Director has no legal objections.

Clifford V. Smith, Jr., Director
Office of Nuclear Material Safety
and Safeguards

Enclosures: See p. 3

Enclosures:
A. Letter to Chairman Hendrie and Mayor Bilandic from Messrs. Nader, Pollock and Bancroft, dated January 16, 1978.
B. Note to Mr. Pollock dated March 9, 1978.
C. Letter to Messrs. Nader, Pollock and Bancroft from Chairman Hendrie dated July 24, 1978.
D. Letter to Chairman Hendrie from Messrs. Nader, Pollock and Bancroft dated August 15, 1978.
E. Proposed NRC response to August 15, 1978 incoming.
F. Proposed letter transmitting copy of response letter to Mayor Bilandic.

ENCLOSURE A

Chairman Joseph Hendrie
US Nuclear Regulatory Commission
Washington, D.C.

January 15, 1978

Mayor Michael Bilandic
City of Chicago
Chicago, Illinois 60602

Dear Mr. Mayor:

We are writing to express our views on the scope and substance of the joint study, announced on December 2, 1977, regarding the shipment of highly-enriched uranium through Chicago's O'Hare International Airport. We welcome this study, but urge you to assure that there is a systematic search for the best solution to this transportation problem and that there is opportunity for presentation of public views on this important issue affecting all air travelers and residents of urban areas. It is our position that highly-enriched uranium should not be shipped through civil airports, but only via secure military air fields.

Chicagoans experienced a rude awakening on November 27, 1977, when they learned through the news media that large quantities of highly-enriched uranium have been routinely shipped through O'Hare for over two years. As you are well aware, this material is the main ingredient for nuclear weapon devices. Technical experts in the field of nuclear arms control agree that such weapons can be manufactured with the support of modest facilities, elementary technical skills and with only a small fraction of some of the shipments of radioactive material which have been sent through Chicago. Chicago inherited these shipments after New York City prudently banned the transport of most radioactive material through its metropolitan area two years ago. Although the Nuclear Regulatory Commission approved the transfer of these shipments from New York to the nation's biggest airport in Chicago, it is indeed shocking that neither the people of Chicago nor city or state officials were ever consulted.

The environmental and social consequences of these uranium shipments are potentially severe. Associated with such shipments are tangible adverse effects to the human environment. There is the immediate danger of radioactive contamination in the event of human error, mechanical failure or sabotage. But the greater risks associated with the air shipment of highly-enriched uranium derive from its value as an ingredient for a nuclear weapon, which makes those shipments a tempting target for theft.

It has been acknowledged by both the Nuclear Regulatory Commission and the US Department of Transportation that transportation is a weak link in the security system that safeguards nuclear materials. A hijack-theft effort could be attempted at any point enroute to the airport or at the stationary cargo holding areas at the air terminal. Since the timing of particulatr shipments is not publicly released and routes are deliberately varied, the commercial airport provides the attraction of a known location. Nuclear theives could count on relatively unencumbered access to the airport and the cargo area without attracting undue suspicion. The large numbers of innocent travellers at the airport could facilitate escape, or provide perpetrators with the opportunity to take hostages if the attempt was foiled.

ENCLOSURE A

The theft of highly-enriched uranium would of course have potentially disastrous consequences for Chicagoans and the nation as a whole. A credible threat to explode the device in a city would pose agonizing choices for law enforcement and political decision-makers. It would throw the city into panic as well. City-wide sweeps might be implemented, massive pre-trial detention of potential suspects undertaken, and open-ended search and seizure measures adopted. During the immediate aftermath of a theft, the attempt to confine the material to Chicago and recover it quickly would conceivably involve severe deprivations of civil liberties. These real prospects naturally raise the public's apprehension about using O'Hare and instill concern among those living in the Chicago area, which could also negatively depress property values. The fears recently aroused by news media disclosures of the shipments were allayed six days later only when a temporary suspension of the shipments from O'Hare pending your present study was announced.

We therefore consider that the heavy risks associated with these uranium shipments and the required licensing actions by the NRC clearly constitutes a "major federal action significantly affecting the quality of the human environment." National Environmental Policy Act (NEPA), 42 U.S.C. § 4332 (2) (C). The NRC licenses the export of special nuclear material. 42 U.S.C. § 2074, 2131, and Executive Order No. 11902, set out as a note to 42 U.S.C. § 5841. Commission regulations require notice a week in advance of the details of shipment of strategic quantities of special nuclear material, 10 C.F.R. § 73.72, and otherwise require security measures to be employed in transportation of special nuclear material, 10 D.F.R. § 73.30. The NRC inspects the security arrangements for these export shipments.

NEPA's environmental concerns include hazards to the urban health, safety and quality of life. Hanly v. Mitchell, 460 F.2d 640, 647 (2d Cir. 1972); Maryland National Capital Park & Planning Comm'n v. U.S. Postal Service, 487 F. 2d 1029, 1037-38 (D.C. Cir. 1973); First National Bank of Chicago v Richardson, 484 F. 2d 1369, 1377-78 (7th Cir. 1973). The hazards described above--contamination, theft for blackmail, civil liberties deprivations, and injury of bystanders--are factors to be considered in the shipment of highly-enriched uranium from civil airports. These risks must be analyzed, mitigated, and balanced against the benefits obtained before licensing them.

Naturally it would not make sense to do an environmental assessment for each shipment, which would be repetitious and dilatory. This is a situation where NEPA's requirement of a comprehensive analysis of the environmental consequences of a proposal and its alternatives can best be met by preparation of a generic environmental impact statement. But such a comprehensive undertaking can be done in the context of the study already underway by the NRC and the Illinois officials. The main issues to be considered are the type of airport utilized, its location with respect to large population centers, and the safeguarding arrangements (including prevention of accident or theft and the plans for response to an emergency). The environmental issues should be addressed for the generic issue of air transport of highly-enriched uranium. The focus would naturally be on Chicago as a concrete instance where shipments have been primarily conducted for the past two years.

There is a precedent for having Chicago determine the wisdom of shipping weapons-grade uranium through all civil airports. At present, a generic environmental impact and risk assessment of the transportation of radioactive materials through cities is being conducted by Sandia Laboratories for the NRC. In that study

New York City is being used as a model despite the fact that it is a generic impact assessment. The current Sandia study does not specifically address the impact of transportation of weapons grade uranium through commercial and military airports.

It would be a great waste of time if your proposed study did not do justice to the issues raised in other airports throughout the country and did not satisfy the minimal obligations imposed by NEPA. What should be avoided is a study which merely describes the present security arrangements at O'Hare and some of the shortcomings of that system, recommends some beefing up of security, and offers assurances on the basis of expert testimony that all will be well.

First and foremost, there must be a comprehensive analysis of all the anticipated environmental consequences of air transport from civil airports as compared with the available alternatives. Secondly, there should be public hearings and comment to assure that the significant issues are raised and that there is opportunity for the expression and consideration of a wide range of views.

We understand that the interim suspension applies only to Chicago, and that rerouting of the shipments to other urban airports is therefore to be expected (but not announced). We strongly urge you to prevent this. In addition to violating NEPA, it would benefit no one to transfer Chicago's unpleasant hazard onto still yet another unsuspecting city. Nuclear transportation should not be a runaway industry, but must stand and face the public. The transportation problem has long been festering, with slow and grudging improvements in safety and safeguards. An ad hoc approach of finding new outlets (with ad hoc security arrangements) when ever the old or new are exposed, is not the answer. NEPA and common sense dictate comprehensive planning.

We are sending copies of this letter to the other Illinois parties invited by Mayor Bilandic to participate in the study and extend our request on the scope of the study to them.

We look forward to public participation in this effort if it is conducted in an open and broad manner.

Sincerely

Ralph Nader MG

Ralph Nader

Richard P. Pollock

Richard Pollock
Critical Mass Energy Project

Michael Bancroft

Michael Bancroft
Public Citizen Litigation Group

cc Chairman Joseph Hendrie,
US Nuclear Regulatory Commission

Members of the Illinois study panel

ENCLOSURE B

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

OFFICE OF THE
SECRETARY

March 9, 1978

Mr. Richard Pollock
Critical Mass
2000 P Street, N.W.
Washington, D.C. 20036

Dear Dick:

Enclosed is a copy of NUREG-0170, Final Environmental Statement on Transportation of Radioactive Materials By Air and Other Modes, which I am providing to you at the request of Commissioner Bradford.

Please note that the comment deadline is March 15.

Sincerely,

Tom

Thomas R. Combs

ENCLOSURE B

ENCLOSURE C

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

July 24, 1978

OFFICE OF THE
CHAIRMAN

Mr. Ralph Nader
Mr. Richard Pollack
Mr. Michael Bancroft
2000 P Street, N.W.
Washington, D. C. 20036

Gentlemen:

Early in the year you wrote to Mayor Bilandic of Chicago and the Nuclear Regulatory Commission expressing the view that a generic environmental impact statement should be prepared concerning the air transportation of highly enriched uranium and that the public should be afforded an opportunity to participate in the process.

As an initial response, Mr. Pollack was provided a copy of the Commission's Final Environmental Statement on Transportation of Radioactive Materials By Air and Other Modes (NUREG-0170) and invited to comment on it.

In your letter, you also stated your position that highly enriched uranium should not be shipped through civil airports, but only via secure military airfields. Since a decision about the use of specific airfields falls outside the Commission's regulatory authority, we have referred the question of military airfield use to the Executive Branch for consideration. A copy of my letter to Dr. Zbigniew Brzezinski is enclosed.

The concerns expressed by the Mayor of Chicago are expected to be presented by his representatives at the next meeting of the Ad Hoc Task Group selected by the NRC staff to perform an environmental assessment as the basis for a generic environmental impact statement on the transportation of radionuclides in urban environs. That meeting was scheduled to be held in New York City on July 24-25, 1978.

In conjunction with the Ad Hoc Task Group meeting, the NRC staff is planning to conduct an informal public workshop entitled "The Urban Transportation Study -- Looking Ahead; Status, Goals, and Approaches." Notice of these public meetings was published in the Federal Register on July 11, 1978 (43 FR 29864), a copy of which is enclosed. Also enclosed is a copy of the Sandia preliminary report, Transport of Radionuclides in Urban Environs; Working Draft Assessment, which will be discussed at the meeting in New York.

ENCLOSURE C

We are also engaging in an educational program for effected state and local law enforcement agencies. State and local officials who have expressed an interest in HEU export/import shipments routed through airports within their jurisdiction are now being briefed on NRC safeguards requirements. The staff will offer to brief officials in other jurisdictions where such shipments can be expected to occur.

The Commission appreciates your interest in these matters.

Sincerely,

Joseph M. Hendrie
Chairman

Enclosures:
1. Ltr to Dr. Brzezinski
2. Federal Register Notice
3. Sandia preliminary report

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

OFFICE OF THE
CHAIRMAN

April 28, 1978

The Honorable Zbigniew Brzezinski
Assistant to the President for
National Security Affairs
The White House
Washington, D. C. 20500

Dear Dr. Brzezinski:

One of the responsibilities of the Nuclear Regulatory Commission (NRC) is to regulate the commercial export and import of privately owned special nuclear materials such as high enriched uranium. During the past few years, O'Hare International Airport, Chicago, has served as the aerial port for a number of international shipments of high enriched uranium. In the case of exports, protected shipments normally travel by road to the O'Hare Airport and leave by scheduled commercial cargo flights for foreign destinations.

The NRC was satisfied with the security arrangements for air shipments when Mayor Bilandic of Chicago expressed his concerns about them and asked that shipments of high enriched uranium through Chicago's O'Hare Airport be stopped pending a review of safety and safeguards. The NRC temporarily agreed to this request. In the meantime, Mayor Bilandic has stated that use of a military air base or the military side of a civilian controlled airport (such as O'Hare) would go far to reassure the general public that every possible precaution is being taken relative to the transportation of these materials.

Aside from the concerns expressed by the Mayor of Chicago, there have also been several recent expressions of Congressional concern and a letter from Ralph Nader about the continued use of commercial facilities for such shipments. Since a decision about the use of specific airfields falls outside the purview of NRC regulatory authority, we considered it appropriate to refer the question of military airfield use to the Executive Branch for consideration. We look forward to working with you in reaching a reasonable solution on this matter.

I am forwarding a copy of this letter to Mayor Bilandic of Chicago who has expressed particular interest in exploring the use of military airfields for high enriched uranium shipments.

Sincerely,

Joseph M. Hendrie
Chairman

cc: The Honorable Michael A. Bilandic
Mayor of Chicago

The NRC has previously announced (42 FR 12271) its intent to prepare a generic environmental impact statement on the transportation of radionuclides in urban environs. This environmental impact statement on the transportation of radioactive material near, in, and through a large densely populated area is being prepared in connection with a reevaluation of present regulations as indicated in the advance notice of rulemaking proceedings published June 2, 1975 (40 FR 23768), and pursuant to the National Environmental Policy Act of 1969 (83 Stat. 852).

The generic environmental impact statement will consider such unique facets of the urban setting as:

(1) High population density: Heavy pedestrian traffic; diurnal variations in population; and horizontal vertical distribution.

(2) Unique transportation environment: Convergence of transportation routes; heavy traffic; many users and holders of radioactive materials; and different safeguards environment.

(3) Special effects: Effects of local and micrometeorology, and shielding effects of buildings.

Emphasis will be placed on radiological health effects, but all environmental impacts, both radiological and nonradiological, will be assessed.

The NRC staff has selected Sandia Laboratories, Albuquerque, N. Mex., to perform an environmental assessment, upon which the generic environmental impact statement will be largely based. To help in its environmental analysis, Sandia Laboratories has formed an ad hoc task group (AHTG) to provide a forum for the exchange of ideas and information between experts. The broadly based membership of the AHTG includes persons associated with government (local, State, and Federal), industry, academia, and environmental activist groups. Meetings of the AHTG are open to the public.

Dates and locations of previous AHTG meetings are: Sept. 20, 1976—New York, N.Y.; Nov. 16-17, 1976—Arlington, Va.; Mar. 29-30, 1977—Baltimore, Md.; and July 13-14, 1977—Houston, Tex.

Minutes of these meetings are placed in the USNRC Public Document Room, 1717 H Street NW., Washington, D.C., as they become available.

Sandia Laboratories is planning a fifth and final meeting of the AHTG for July 24-25, 1978, beginning at 9 a.m., in the main conference room of the Ford Foundation, 320 East 43d Street, New York, N.Y. The primary purpose of the fifth meeting of the AHTG is to discuss the preliminary report, "Transport of Radionuclides in Urban Environs: Working Draft Assessment," given to NRC by Sandia Laboratories late in May 1978. This preliminary report discusses the assessment methodology and presents

[7590-01]

## TRANSPORTATION OF RADIONUCLIDES IN URBAN ENVIRONS

### Public Meeting

The Nuclear Regulatory Commission (NRC) staff is planning an informal workshop on the transport of radionuclides in urban environs for July 25, 1978. This informal workshop starting at 2:30 p.m. will be held in the main conference room of the Ford Foundation, 320 East 43d Street, New York, N.Y. The title of the workshop is "The Urban Transportation Study—Looking Ahead: Status, Goals, and Approaches."

estimates of environmental impacts for an urban area resulting from accident-free transport, vehicular accidents, human error, and sabotage incidents. Although it is a preliminary report copies of the report are available to members of the public on request from:

1. U.S. Nuclear Regulatory Commission, Office of Standards Development, Transportation and Product Standards Branch, 5650 Nicholson Lane, Rockville, Md. 20853, Attn: Norman A. Eisenberg, telephone 301-443-6910.

2. Sandia Laboratories, Fuel Cycle Risk Analysis Division 5413, Albuquerque, N. Mex. 87115, Attn: Arthur R. DuCharme, telephone 505-264-5371.

3. U.S. Environmental Protection Agency, Region II: Regional Office of Radiation Programs, Attn: Paul Giardina, Chief, Room 907J, 26 Federal Plaza, New York, N.Y. 10007.

Copies of the working draft assessment are also available for public inspection at:

1. The NRC Public Document Room, 1717 H Street NW., Washington, D.C. 20555.

2. The NRC's five Regional Offices of Inspection and Enforcement: Region I: 631 Park Avenue, King of Prussia, Pa. 19406; Region II: Suite 1217, 230 Peachtree Street, Atlanta, Ga. 30303; Region III: 799 Roosevelt Road, Glen Ellyn, Ill. 60137; Region IV: Suite 1000, 611 Ryan Plaza Drive, Arlington, Tex. 76012 and Region V: Suite 202, 1999 North California Boulevard, Walnut Creek, Calif. 94596.

3. The four major reference collections of the New York City Public Library.

After consideration of comments received at the fifth AHTG meeting, Sandia Laboratories will prepare and submit to NRC a draft assessment in September 1978. The NRC staff plans to issue a draft environmental statement (DES) late in 1978 based largely upon the Sandia Laboratories draft assessment.

Upon preparation of the DES, the NRC will, among other things, cause to be published in the FEDERAL REGISTER a summary notice of availability of the draft generic environmental impact statement, with a request for comments from interested persons on the draft statement. The summary notice will also contain a statement to the effect that comments on Federal agencies and State and local officials will be made available when received. Upon consideration of comments submitted with respect to the draft environmental statement, the NRC staff will prepare a final generic environmental impact statement, the availability of which will be published in the FEDERAL REGISTER.

The informal workshop conducted by the NRC staff, planned for July 25, in part, is in recognition of the transition in emphasis from preparation of a technical assessment by Sandia Laboratories to the formulation and proposal of regulatory options by the [illegible] ceedings will be prepared and made available in the NRC public document room. Among the topics that may be discussed at this informal workshop are:

(1) Current status: (a) NRC staff plans for the draft environmental statement; (b) adequacy of the Sandia Laboratories assessment; (c) current regulations; and (d) related events and activities.

(2) Goals: (a) Suggested public health and safety goals, (b) suggested regulatory actions; and (c) suggested improvements in the environmental assessment.

(3) Approaches: (a) Distribution of regulatory responsibility among the various Federal agencies (e.g., NRC, DOT, EPA); (b) distribution of regulatory responsibility among the various Federal, State, and local governments; (c) potential legislative changes; and (d) the role of public meetings.

In keeping with the previous efforts throughout this study to obtain early public input, interested persons are encouraged to attend both the NRC and Sandia public meetings. Interested persons are invited to attend the meeting to ask questions or make comments and suggestions on the regulatory activities associated with the environmental impact statement and the preliminary Sandia report. Written comments may be submitted at the meeting or at any time to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Section. Further information on these meetings, the working draft assessment, or the study in general may be directed, as appropriate, to individuals at the NRC or Sandia Laboratories as listed above.

(5 U.S.C. 552(a).)

Dated at Rockville, Md., this 5th day of July 1978.

For the Nuclear Regulatory Commission.

ROBERT B. MINOGUE,
*Director, Office of Standards Development.*

[FR Doc. 78-18988 Filed 7-10-78; 8:45 am]

ENCLOSURE D

August 15, 1978

Commissioner Joseph Hendrie, Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Hendrie:

On January 16, 1978 we wrote to your office concerning the shipment of Highly Enriched Uranium (HEU) through Chicago's O'Hare International Airport. At the time of our letter, your office announced that HEU air shipments through O'Hare would be suspended pending a complete review of the safety of such activity. We expressed the view then that a generic environmental impact statement should be prepared concerning all HEU air shipments and that the public should be afforded an opportunity to participate in the process. It was also our position that HEU, which is weapons-grade material, should not be shipped through commercial airports but only via secure military air fields.

On July 24 we received your reply to these recommendations. We find the response to be inadequate and a misrepresentation of the facts. Neither the citizens of Chicago, nor citizens who use commercial airports can derive much satisfaction or reassurance from your reply. Rather, the July 24 correspondence raises several new and disturbing questions about NRC's commitment to safeguard the lives and property of air travellers and of those who reside near commercial airports.

First, on the subject of a generic environmental impact statement (GEIS), we observed that a GEIS could be drafted by the NRC/Illinois study group which NRC announced would be assembled in early December, 1977. The group was charged with the responsibility to investigate the shipment of HEU out of O'Hare. It was stated in December that until the group released its findings all HEU shipments would be suspended. This group was supposed to be comprised of representatives from the Mayor of Chicago, the state Attorney General, Senator Adlai Stevenson, Senator Charle Percy, the state health service, Rep. Dan Rostenkowski and the NRC.

In your response to us, you rejected the need for a GEIS. But your letter also neglected to mention that the Commission quietly dissolved the NRC/Illinois study group earlier this year. According to all of the parties originally invited to participate in the study group, not a single meeting was convened to examine the important safety issues raised by activity. The NRC has not assembled another group to investigate this area.

Second, your letter asserted that the City of Chicago would be represented before the July 24-25 meeting of the Ad Hoc Task Force on the transportation of radioactive materials in cities, which is a NRC/Sandia Laboratory joint venture. The Critical Mass Energy Project (CMEP) has a member sitting on that Task Force who attended the New York City meeting. In point of fact, well before your letter was sent on July 24, Mr. Arthur DuCharme, Sandia project director for the Task Force told both Mayor Bilandic's office and CMEP that given the advanced state of the Task Force's deliberations, participation by Chicago would not be advisable. In addition, Mr. Norman Eisenberg, an official from NRC's office of Standards Developme

ENCLOSURE D

who sits on the Task Force, noted in the July 25 public session that the City of Chicago was discouraged from participating because the scope of review would be of very limited use for the O'Hare case. There was no Chicago representative at the public session who addressed the Task Force. The Ad Hoc Task Force was terminated on July 25 when its assignment was completed.

Finally, your office suggested that we review and comment on an already completed EIS on the transportation of radioactive materials, designated NUREG 0170. This Statement devotes two paragraphs describing airport security regulations. It does not even come close to a comprehensive analysis of all the anticipated environmental consequences of HEU air transport from civil airports.

In fact, NUREG 0170 erroneously states that "the only air shipments currently being made or projected through 1978 are imports and exports at O'Hare airport." It is ludicrous to consider that this outdated study is comparable to the thorough review of airport facilities that was promised in December.

Furthermore, the informal NRC public workshop referred to in your letter did not address the shipment of HEU from O'Hare or from any other civil airport.

Your response also fails to mention or explain why NRC distributed a memo to potential HEU shippers on May 19, 1978 which suggests that the ban on HEU shipments through O'Hare has been lifted. The notice, signed by NRC Division of Safeguards Director Robert F. Burnett, simply advised private HEU handlers that they "carefully coordinate any such shipments with the Chicago Department of Health." There was no mention that a suspension was in force pending a study.

Thus the July 24 response raises several disturbing questions. Some of the disquieting aspects of this issue are:

1). Why was the NRC/Illinois study group dissolved?

2). Why did NRC fail to publically announce the termination of the study group?

3. Has NRC undertaken any effort to do a comprehensive review of the risks and benefits of HEU shipment through O'Hare. If not, is any such study planned for the future?

4). Is there a ban now in force on HEU transportation through O'Hare? What compelling events or developments motivated NRC to send the May 19 memo to shippers?

5). Why did your office believe that Chicago participation on the Ad Hoc Task Force was advisable when NRC officials and Sandia Laboratory contract employees indicated that it was not?

6). Why did NRC establish the NRC/Illinois task force if the issues were already addressed in NUREG 0170 as is implied in your letter?

7). Does NRC plan to change any of the conditions for HEU air shipments? When and how are such changes to be made?

8). Given the fact that NRC dissolved the NRC/Illinois task force and the Ad Hoc Task Force no longer exists, how does the NRC expect Chicagoans to rest assured that their concerns will be thoroughly studied and resolved?

In our estimation, responses similar to the July 24 letter are an affront to concerned citizens everywhere, and particularly in Chicago, who expect federal regulatory agencies to act on their behalf and in their interests. Such responses impair your own credibility and the Commission itself.

Given the profound risks associated with weapons-grade uranium shipments, the existing NRC licensing role in this activity and the numerous concerns cited by Mayor Bilandic, Illinois state officials and by our January 16 letter, we hereby resubmit our recommendation that a generic environmental impact statement (GEIS) be undertaken in conformity with the provisions of the National Environmental Policy Act.[1] We further suggest that Chicago's O'Hare Airport be utilized as a case study for the GEIS.

We urge the Commission to institute a ban on the shipment of High-Enriched Uranium from all civilian airports until the GEIS is complete. You will note that a copy of this correspondence is being forwarded to the President's National Security Adviser, Zbigniew Brzezinski requesting that future shipments travel only through military airfields pending completion of an Environmental Impact Statement.

Finally, due to the broad interest generated by this issue, we hope that the NRC will plan to provide full public participation in future NRC decisions on HEU air shipments and to hold hearings in areas where future air shipments are contemplated.

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[1]Since we last wrote you on the need for a GEIS, the U.S. Court of Appeals for the D.C. Circuit has addressed what NEPA requires when an agency undertakes a re-evaluation of an ongoing program. When the NRC, as here, decides to re-examine the safeguards for air shipment of HEU, which will set the course of this export program for the years to come, NEPA requires a programmatic environmental analysis:

> What we do hold is that an EIS is required when such a new look is had. A new look may be generated periodically and spontaneously as a matter of good management and revitalization of the bureaucracy. It may be a response to external stimulus, as when dramatically changed circumstances dry out for review, or perhaps to accommodate existing programs to changes in the agency's statutory mandate. It is clear that there is wide discretion in the agency to determine when such review will be conducted. That is the essence of government and administration. It is impossible to have a "new look" at everything all the time. When there is such a new look the ensuing request for appropriations is a "proposal for legislation" under NEPA.

Sierra Club v. Andrus, No. 75-1871 (D.C. Cir. May 15, 1978) slip op. at 18.

We are extremely concerned about the way this matter has been handled in its own right and as an instance of the NRC falling down in its obligation to serve the public interest fully and openly. We look forward to a substantive and expeditious reply.

Sincerely,

Ralph Nader

Ralph Nader

Richard Pollock

Richard Pollock
Director, CMEP

Michael Bancroft /DL

Michael Bancroft
Public Citizen Litigation Group

cc: Mayor Michael Bilandic
National Security Adviser Zbigniew Brzezinski
Members of the Illinois study panel
Arthur DuCharme, Sandia Laboratories
Stuart Eisenstadt, White House Domestic Council
Louis Benner, Nt'l Transp. Safety Board
Dr. Leonard Solon, NRC Department of Health

ENCLOSURE E

Mr. Ralph Nader
Mr. Richard Pollock
Mr. Michael Bancroft
2000 P Street, N.W.
Washington, D.C. 20036

Gentlemen:

Your letter of August 15, 1978 posed a number of questions about events following Chicago Mayor Bilandic's December 1977 announcement of a joint study by his office and the NRC concerning high enriched uranium shipments through O'Hare Airport.

In order to clear up apparent misconceptions, I believe it would be helpful for you to review the enclosed Status Report prepared by the NRC staff on this matter. In addition, let me offer the following observations.

On February 23, 1978 Mayor Bilandic wrote to NRC's Director of Nuclear Material Safety and Safeguards, noting that an on-going assessment of the transportation of radionuclides in urban environs might well address factors of concern to Chicago authorities. In that letter the Mayor stated, "Thus, it would seem illogical to attempt to push through a short term (30-day study) which would be unique to Chicago at a time when the major national urban environmental impact statement is already under active development by your Agency and the Federal Government acting in consort with state and local governments."

On four separate occasions Chicago representatives were invited to attend a meeting of the Ad Hoc Task Group formed by Sandia Laboratories to help

ENCLOSURE E

assess for NRC the environmental impact of transporting radionuclides in urban environs. NRC's Director of Nuclear Material Safety and Safeguards first proposed the idea of Chicago participation in a letter to Mayor Bilandic on January 19, 1978. Arthur R. DuCharme, project coordinator for Sandia Laboratories formally invited Chicago participation in a letter to the Deputy Commissioner, Chicago Department of Health on March 22, 1978 and repeated the invitation in another letter dated June 13, 1978. Finally, on July 17, 1978 NRC's Executive Director for Operations signed a letter inviting Mayor Bilandic's representatives to attend related meetings in New York on July 24-25, 1978. Chicago was represented in the New York meetings by Mr. James A. Meany of the Chicago Department of Health.

With regard to your recommendation for a generic environmental impact statement, I can only restate that on June 2, 1975, the Commission first announced its intent to prepare a generic environmental impact statement to support its rule-making proceeding concerning the air transportation of radioactive materials (40 FR 23768). That document was published in December 1977 as NUREG-0170, Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes.

On March 3, 1977 the Commission also announced its intent to prepare a separate generic environmental impact statement on the transportation of radioactive material near, in, and through, a large densely populated

area (42 FR 12271). This second generic environmental impact statement is currently being developed. The Ad Hoc Task Group (of which Mr. Pollock was a member) has helped Sandia develop an environmental assessment upon which NRC's generic environmental impact statement will be based. Furthermore, there will be continued opportunity for public participation as work progresses on this environmental impact statement through the draft stage. Among other things, when the draft statement is available, the public will be notified through the Federal Register and invited to comment on it.

The Commission is also conducting a rulemaking proceeding to upgrade physical protection requirements for significant quantities of strategic special nuclear materials in fixed sites and transportation. On July 5, 1977 the Commission published proposed rules for public comment (42 FR 34310). Extensive public comments were received and considered. As a result, on August 9, 1978 the Commission published revised proposed amendments for public comment (43 FR 35321). A copy of that notice is enclosed.

I should also point out that on February 9, 1976 the Commission announced its conclusion that the air transportation of special nuclear material under currently effective regulations need not, and should not, be suspended, or otherwise limited, while the review process noticed on June 2, 1975 is being conducted (41 FR 5627). Although we will continue to assist and cooperate in every way with the City of Chicago and other state and local governments, the Commission has not reached any new conclusion at this time.

With regard to air shipment of high enriched uranium through Chicago's O'Hare Airport, there is no federal or local regulation prohibiting it and available information has not shown that such activity, as currently regulated, is inimical to the common defense and security or constitutes an unreasonable risk to public health and safety. However, as a result of Mayor Bilandic's announcement, there has been a de facto suspension of such activity through O'Hare Airport since December 1977.

In closing, let me make the following comments in direct response to questions in your August 15 letter:

1. A joint NRC/Illinois study group never was formally "established" or "dissolved." While the membership of such a group was discussed in meetings between members of the NRC staff and City of Chicago officials, the scope of such a study became the principal issue of concern. On February 23, 1978 Mayor Bilandic decided it would be "illogical" to do a short term study unique to Chicago since the generic urban study was already underway.

2. The only public announcement concerning this effort was made through the Office of the Major of the City of Chicago on December 2, 1977. Since this was a Chicago initiative, it was considered appropriate

for the City to continue to take the lead responsibility in regard to public announcements. However, NRC has responded fully to all requests for information.

3. The NRC staff has not undertaken -- nor does it plan to undertake -- a unique review of the risks and benefits of shipping high enriched uranium through O'Hare Airport.

4. There is no official "ban" on high enriched uranium shipments through O'Hare Airport and available information has not shown that such activity, as currently regulated, is inimical to the common defense and security, or constitutes an unreasonable risk to public health and safety. However, shippers were informed of concerns expressed by the City of Chicago and have stopped using O'Hare Airport.

5. Sandia Laboratories did not consider it feasible to formally expand membership in its Ad Hoc Task Group for its final meeting in New York. Instead, Sandia conducted that meeting as a public forum and specifically invited Chicago representatives to attend and participate. The City of Chicago sent a representative to the meeting.

6. Together with the urban study, NUREG-0170 should satisfactorily address environmental issues of concern to the City of Chicago. Continued public

participation through the urban study drafting stage should help assure this.

7. Any decision to change requirements governing the air shipment of high enriched uranium will depend upon the outcome of current reviews and rulemaking proceedings.

8. The Commission hopes that continued participation by Chicago authorities in its current reviews will assure that their concerns are satisfactorily resolved.

The Commission appreciates your interest in these matters and invites your continued participation in its current reviews.

Sincerely,

Joseph M. Hendrie
Chairman

Enclosures: 1. Status Report
w/attachments
2. 43 FR 35321

# STATUS REPORT

## CHRONOLOGY AND STATUS OF JOINT CHICAGO-NRC REVIEW CONCERNING HIGH ENRICHED URANIUM SHIPMENTS THROUGH CHICAGO'S O'HARE AIRPORT AS OF AUGUST 25, 1978

### Mayor Bilandic Expresses Concern

On December 1, 1977, Mayor Bilandic of Chicago released a public statement of concern about transportation of highly enriched uranium through O'Hare Airport. On December 2, 1977, senior executives from the NRC staff met with Mayor Bilandic and agreed that no further shipments of highly enriched uranium would be made out of O'Hare Airport until the completion of a joint study by the Mayor's office and NRC (ref. attachment 1).

### NRC Staff Group Formed

On December 9, 1977, NRC formed an interoffice group of about twenty professional staff to participate in a short term review concentrating upon aspects of high enriched uranium transportation unique to the Chicago area.

### Meeting to Organize Joint Study

On December 15, 1977, members of the NRC staff met in Chicago with Mr. Edward King, Deputy Commissioner of Health to discuss the joint study (ref. attachment 2).

### NRC Letter to Mayor Bilandic

On January 19, 1978, Clifford V. Smith, Jr., Director, NMSS*, wrote a letter to Mayor Bilandic outlining a plan of action to resolve the Mayor's concerns (ref. attachment 3). Dr. Smith proposed an approach which he personally discussed with the Mayor in a meeting on January 20, 1978. It consisted of the following:

- A Short Term Study

  The NRC staff would participate in a 30-day review concentrating upon particular aspects of highly enriched uranium transportation unique to the Chicago area.

- Briefing on Final Environmental Statement

  The NRC staff would brief Chicago officials on its Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes (NUREG-0170). That statement was released in December 1977, and covers air transportation of radioactive material including packaging and related ground transportation.

* NRC Office of Nuclear Material Safety and Safeguards

ENCLOSURE 1

° Chicago Participation in Urban Study

Sandia Labs is performing for NRC an environmental assessment of the environmental impacts that result from the transport of radionuclides in densely populated areas.

New York City data will be used for model development and yield specific results; generic results applicable to any urban area will be obtained by mathematical analysis.

To assist in developing this assessment, Sandia Labs formed an Ad Hoc Task Group including persons associated with Federal, State, and local government, academia, industry, and environmental activism. Chicago representatives would be invited to attend meetings of the Ad Hoc Task Group.

Congress Notified

On January 24, 1978, NRC's Director of Congressional Affairs sent copies of Dr. Smith's January 19 letter to Mayor Bilandic to the following interested members of Congress:

Senator John Glenn
Senator Charles H. Percy
Senator Adlai E. Stevenson, III
Representative Abner J. Mikva
Representative Dan Rostenkowski

Briefing on NUREG-0170

On January 30, 1978, representatives from the NRC staff and Sandia Laboratories briefed senior Chicago officials on the NUREG-0170, final environmental statement on transportation of radioactive materials. The Mayor's staff suggested that a similar briefing be given to Illinois State officials. Accordingly, on February 13, 1978, the Director, NMSS sent a copy of NUREG-0170 to Attorney General Scott and offered to arrange a briefing for him (ref. attachment 4).

Mayor Bilandic's Letter to NRC

On February 23, 1978, Mayor Bilandic wrote to the NRC Director of Nuclear Material Safety and Safeguards (ref. attachment 5). Following are major points in the Mayor's letter:

° Chicago Considers NUREG-0170 Inadequate

In his letter, Mayor Bilandic referred to the urban environmental factors not specifically considered in NUREG-0170 and those raised by his staff which "are known to stress large segments of populations residing in densely populated urban environs."

° Chicago Considers the Forthcoming Generic Statement on Urban Environs More Appropriate Than a Short Term Chicago Unique Study For Resolving the Issues

Mayor Bilandic concurred in NRC's proposal that Chicago representatives be invited to attend meetings of the Ad Hoc Task Group formed by Sandia Laboratories to help in its environmental analysis of transportation in urban environs. Mayor Bilandic suggested that a generic environmental statement on transportation in urban environs may well address most, if not all, of the urban factors excluded from NUREG-0170 including concerns raised by his staff. Consequently, he considers it "illogical" to attempt to push through a short term study unique to Chicago at this time.

° Mayor Bilandic Recommends Use of Military Air Bases

The Mayor endorses the idea of using military air bases or military sections of civilian-controlled joint use airports for the air shipment of high enriched uranium.

Invitation to Meetings on Urban Study

On March 22, 1978, Arthur R. DuCharme of Sandia Laboratories sent a letter to Mr. Edward F. King, the Mayor's representative, providing background information on the urban study and extending an invitation for Chicago representatives to attend the next Task Group meeting, tentatively planned for late May in New York City (ref. attachment 6).

NRC Letter to Mayor Bilandic

On May 2, 1978, NRC's Director of Nuclear Material Safety and Safeguards, Dr. Clifford V. Smith, Jr., wrote to Mayor Bilandic responding to comments and recommendations contained in the Mayor's letter of February 23, 1978 (ref. attachment 7). Following are main points in Dr. Smith's letter:

° Acknowledges Chicago Rejection of Short Term Study Unique to Chicago

Dr. Smith acknowledged that Mayor Bilandic no longer considered it desirable to do a short term study of factors unique to Chicago and preferred instead to have Chicago representatives attend meetings of the Sandia Laboratory Ad Hoc Task Group assessing transportation of radionuclides in urban environs.

° Military Airfield Question Referred to Executive Branch

Dr. Smith informed Mayor Bilandic that the questions of military airfield use had been referred to the Executive Branch for consideration.

Shippers Notified

As promised in its May 2, 1978 letter to Mayor Bilandic, NRC notified all potential shippers of high enriched uranium on May 19, 1978, about the Mayor's concerns and requested that they carefully coordinate any such shipments with Chicago authorities (ref. attachment 8).

Note: Although there is no federal or local regulation prohibiting air shipment of high enriched uranium through Chicago's O'Hare airport, there has been a de facto suspension of such activity since the Mayor's announcement of December 2, 1977.

Invitation to Meetings on Urban Study

On June 13, 1978, A. R. DuCharme of Sandia Laboratories answered a letter from Mr. E. F. King, responding to his March 22, 1978 invitation. The invitation to Chicago officials to attend and participate in the New York meetings was reiterated (ref. attachment 9).

Chicago Representatives Invited to Meeting in New York

On July 17, 1978, NRC's Executive Director for Operations wrote to Mayor Bilandic inviting representatives to attend meetings in New York related to an environmental assessment on transport of radionuclides in urban environs (ref. attachment 10).

Meetings in New York City

On July 24-25, 1978, Sandia Laboratories conducted, with public participation, a meeting of the Ad Hoc Task Group advising on the development of Sandia's Environmental Assessment on Transport of Radionuclides in Urban Environs. On the afternoon of July 25, 1978, the NRC staff conducted an informal workshop on the Sandia assessment and related regulatory issues. (Mr. J. A. Meany, Chief Sanitation Officer, Department of Health, represented the City of Chicago. Mr. Richard Pollock, Director, Critical Mass Energy Project (CMEP), is a member of the Sandia Task Group and spoke at both meetings.)

Attachments: See p. 5

Attachments to Status Report

1. City of Chicago Public Announcement dated December 2, 1977.
2. City of Chicago Meeting Agenda dated December 15, 1977.
3. Letter to Mayor Bilandic from Clifford V. Smith, Jr. dated January 19, 1978, with six enclosures.
4. Letter to Attorney General William J. Scott from Clifford V. Smith, Jr. dated February 13, 1978.
5. Letter to Clifford V. Smith Jr. from Mayor Bilandic dated February 23, 1978.
6. Letter to Edward F. King from A. R. DuCharme dated March 22, 1978, without enclosure.
7. Letter to Mayor Bilandic from Clifford V. Smith, Jr. dated May 2, 1978, with enclosure.
8. Letter to Licensees from Robert F. Burnett dated May 19, 1978.
9. Letter to Edward F. King from A. R. DuCharme dated June 13, 1978.
10. Letter to Mayor Bilandic from Lee V. Gossick dated July 17, 1978, with two enclosures.

MICHAEL A. B
MAYO

# CITY OF CHICAGO
## OFFICE OF THE MAYOR

December 2, 1977

FOR IMMEDIATE RELEASE

Mayor Bilandic met today with senior members of the U. S. Nuclear Regulatory Commission (NRC) staff.

The Mayor and the NRC representatives agreed that no further shipments of high enriched uranium would be made out of O'Hare Airport until the completion of a joint study by the Mayor's Office and NRC. This study will be initiated promptly.

While NRC believes that these shipments are being made safely, it has agreed with Mayor Bilandic to restudy the situation.

At the Mayor's suggestion, the NRC agreed to invite Congressman Dan Rostenkowski, Senators Adlai Stevenson and Charles Percy and Illinois Attorney General William Scott, or their representatives as well as an official of the Illinois Department of Health to participate in the study.

# # # # # # # # # # # # # #

ATCH. 1

Michael A. Bilandic
Mayor

City of Chicago
DEPARTMENT
OF HEALTH
Richard J. Daley Center
Chicago, Illinois 60602

Murray C. Brown,
Commissioner

Edward F. King
Deputy Commissioner

The following were present at a meeting on December 15, 1977 in the Board Room of the Department of Health regarding Uranium:

Edward F. King, Deputy Commissioner, Department of Health

Gayle F. Haglund, Special Counsel to Mayor Bilandic

Robert F. Burnett, Director, Division of Safeguards, United States Nuclear Regulatory Commission

James F. Donahue, Chief, Security & Investigations Section, United States Nuclear Regulatory Commission, Region III, Glen Ellyn, Illinois

Jack A. Hind, Chief, Safeguards Branch, Region III, Glen Ellyn, Illinois

Bob Erickson, Nuclear Regulatory Commission, Division of Safeguards, (301) 427-4018

Dr. Ronald Foreman, Toxicologist, Department of Health

December 15, 1977

ATCH. 2

el A. Bilandic

DEPARTMENT
OF HEALTH
Richard J. Daley Center
Chicago, Illinois 60602

Murray C. Brown, M.D.
*Commissioner*

Edward F. King, R.S.
*Deputy Commissioner*

## POINTS FOR DISCUSSION

First organizing meeting, Joint Study Group, Office of the Mayor, and Nuclear Regulatory Commission, December 15, 1977

I. Definition of materials as hazardous or non-hazardous

   A. Intrinsically hazardous -- radiation hazard.

   B. Extrinsic hazard -- subject to security threat.

   C. Examiniation of objective and subjective impacts upon citizens in populous areas.

   D. Examiniation of options available to counteract intrinsic and extrinsic threats.

II. Security Safeguards

   A. Over the road transporation.

   B. Railroad

   C. Airport

      1) Pre-aircraft loading

      2) Aboard aircraft

III. Options

   To increase citizen safety and public health security.

IV. Definition of legal responsibility

   A. Municipal government

   B. State government

   C. Federal government

## POINTS FOR DISCUSION

**Cont.**

V. Need for regulations, local, state, federal.

VI. Study conclusion.

December 15, 1977

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

JAN 19 1978

The Honorable Michael A. Bilandic
Mayor of Chicago
Chicago, Illinois 60602

Dear Mr. Mayor:

During our discussions in Chicago on December 2, 1977, it was agreed that the U.S. Nuclear Regulatory Commission (NRC) staff would review the health, safety and other environmental impacts associated with transportation of high enriched uranium through the O'Hare Airport.

In a subsequent discussion with members of my staff, on December 15, 1977, Edward F. King, Deputy Commissioner, Chicago Department of Health, also expressed a desire to review health, safety and safeguards implications arising from transportation of a much broader range of nuclear materials over a wider geographical area.

Accordingly, I propose the following as a means of resolving these matters:

Conduct Short Term Study

According to the joint agreement which we reached on December 2, 1977, the NRC staff will lead a review concentrating upon aspects of high enriched uranium transportation unique to the Chicago area. This review should take about 30 days and will include an assessment of the capabilities of Chicago area authorities to cope with incidents or accidents involving transportation of high enriched uranium. A list of study group participants is enclosed (enclosure 1) along with an outline scope of work (enclosure 2) and action plan (enclosure 3).

Briefing on Final Environmental Statement

In response to the broader concerns expressed by Mr. King on December 15, 1977, I have asked the NRC staff to prepare a briefing for Chicago officials on our Final Environmental Statement on the Transportation of Radioactive Material by Air and other Modes (NUREG-0170). I am releasing that study to the public as a final environmental statement covering air transportation of radioactive materials, including packaging and related ground transportation. It reinforces a Commission statement published in the Federal Register

ATCH. 3

on February 9, 1976 (41 FR 5627), concluding that the air transportation of special nuclear material, other than plutonium, under currently effective regulations needs not, and should not, be suspended or otherwise limited during the Commission's continuing rulemaking proceedings. Furthermore, NUREG-0170 covers normal and accident transport risks for urban population zones. In fact, a population density of 15,444 persons per square kilometer was used in NUREG-0170 to represent an extremely dense urban area for worst-case accident analysis. A copy of the public notice of availability is enclosed (enclosure 4) along with the announcement about the study published in the Federal Register on February 9, 1976 (enclosure 5). Copies of NUREG-0170 will be made available during the briefing for Chicago officials.

Chicago Participation in Follow-on Environmental Assessment

Except as noted above, NUREG-0170 does not specifically consider factors unique to the urban environment such as diurnal variation in population, convergence of transportation routes, shielding effects of buildings, or the effect of local meteorology on accident consequences. A separate study specific to such considerations is being conducted and will result in a separate environmental statement specific to such an urban environment.

During their discussion on December 15, 1977, members of your staff expressed a desire to become more knowledgeable and involved in nuclear matters, particularly as they relate to transportation of nuclear materials. Accordingly, I propose to have your representatives invited to join in meetings of an Ad Hoc Task Group which is currently assessing the environmental impact associated with transportation of radionuclides in urban environs. The Ad Hoc Task Group was formed by Sandia Laboratories. Sandia was selected by the NRC staff to perform an environmental impact statement on transportation of radionuclides in urban environs. The broadly based Ad Hoc Task Group includes persons associated with government (local, state, and federal), industry, academia, and environmental activist groups.

Thus far, they have held meetings in New York City, Arlington, Virginia, and Baltimore, Maryland. I have asked that your office be informed of the time and place of their Spring, 1978 meeting and your representatives be invited to attend. I have also enclosed a copy of our formal announcement about this study, published in the Federal Register in March, 1977 (enclosure 6).

Report on Transportation of Radioactive Material in Illinois

Currently, the State of Illinois is obtaining information on a continuing basis about the transportation of radioactive materials in Illinois through a joint Federal-State program. The NRC has provided portable instrumentation to the State for monitoring radioactive material being transported on the highways within the State.

In June, 1975, the Illinois Department of Public Health issued a report on surveillance of radioactive materials in transport in Illinois. This surveillance program was performed for the NRC and the U.S. Department of Transportation (DOT). The purpose of the contract was to establish a program between the State of Illinois, NRC and DOT to obtain information regarding the transportation of radioactive materials within the State of Illinois. Philip N. Brunner, Chief, Division of Radiological Health, acted as the state supervisor of the program.

My staff will provide your office with the 1975 report on that program, entitled Transportation of Radioactive Material in Illinois.

The NRC staff is ready to start these actions as soon as we receive your approval. I hope that these actions will resolve your concerns so that transportation of high enriched uranium can resume through the O'Hare airport, under currently effective NRC and DOT regulations, as soon as we complete our short term study.

Sincerely,

Original Signed by

Clifford V. Smith, Jr., Director
Office of Nuclear Material Safety
and Safeguards

Enclosures:
As stated

# TASK FORCE TO REVIEW LICENSED HIGH ENRICHED URANIUM SHIPMENTS THROUGH O'HARE AIRPORT

## Participants

Director: Robert F. Burnett, NRC, Director, Division of Safeguards

Chicago-area Advisor: Dr. Philip F. Gustafson, Director of Environmental Impact Studies, Argonne National Laboratory and Vice-Chairman, Illinois Commission on Atomic Energy

NRC Washington Staff Participants:

Robert F. Barker, Chief, Transportation and Product Standards Branch

Frank Brittell, Consultant, Commander Los Angeles Police Department (Retired)

Jay B. Durst, Field Evaluation Section, Division of Safeguards

Robert A. Erickson, Chief, Test and Evaluation Branch, Division of Safeguards

Robert L. Fonner, Attorney, Office of the Executive Legal Director

C. Vernon Hodge, Transportation Specialist, Division of Fuel Cycle and Material Safety

Donald J. Kasun, Senior Plant Protection Analyst, Physical Security Licensing Branch, Division of Safeguards

Charles E. MacDonald, Chief, Transportation Branch, Division of Fuel Cycle and Material Safety

Richard G. McCormick, Acting Assistant Director, Division of Safeguards Inspection

Harry M. Mitchell, Senior Systems Analyst, Contingency Planning Branch, Division of Safeguards

William A. Nixon, Senior Chemical Engineer, Fuel Processing and Fabrication Branch

ENCLOSURE 1
(ltr to Mayor Bilandic
1/19/78)

NRC Washington Staff Participants continued:

Donald A. Nussbaumer, Assistant Director, Division of Fuel Cycle and Material Safety

Sheldon A. Schwartz, Assistant Director, Office of State Programs

Eugene Sparks, Information Systems Section, Division of Safeguards

Gordon N. Spies, Field Evaluation Section, Division of Safeguards

William J. Ward, Investigator, Division of Safeguards Inspection

NRC Chicago-area Participants: (Office of Inspection and Enforcement, Region III, Glen Ellyn, Illinois)

John A. Hind, Chief, Safeguards Branch

James F. Donahue, Chief, Security and Investigations Section

Other Participants (As determined by Mayor's office)

# OUTLINE OF PURPOSE AND SCOPE FOR REVIEW OF HIGH ENRICHED URANIUM SHIPMENTS

Purpose:

To review and report on public health, safety and safeguards aspects of NRC licensed high enriched uranium shipments through O'Hare Airport.

Scope:

Nuclear Material: Uranium metal or compounds enriched to 20% or greater in the U-235 isotope.

Type of Transport

- Air
- Road

Geographic Area

- O'Hare Airport
- Roads and highways in and out

Potential Hazards

- Chemical
- Radiological
- Conventional explosives and weapons associated with attempted theft or sabotage

Aggravating Factors to be Considered

- Meteorology
- Diurnal effects
- Traffic conditions
- Shipment duration
- Accidents (collision, fire, air crash)
- Attempted theft or sabotage

Mitigating Factors to be Considered

- Federal regulations
- Federal Inspection and Enforcement
- Municipal, County, State and Federal awareness and capabilities for contingency and emergency operations.

ENCLOSURE 2
(ltr to Mayor Bilandic
1/19/78)

# REVIEW OF HIGH ENRICHED URANIUM SHIPMENTS

## ACTION PLAN

| Action | Estimated Time To Complete |
|---|---|
| - Establish Task Force | - Action Completed |
| - Distribute background material to participants | - Action Completed |
| - Establish NRC staff responsibilities for collection of data concerning public health and safety | - Action Completed |
| - 1. NRC data<br>2. Chicago-unique data<br>a. Police and Fire Department awareness<br>b. Contingency plans<br>c. Maps, routes, shipping data, etc. | |
| - Coordinate approach with Chicago officials | - Action Pending |
| - Collect Chicago-unique data | - One week |
| - Draft report | - One week |
| - Coordinate draft within NRC and Mayor's office | - One week |
| - Coordinate draft with outside agencies | - One week |
| - Prepare final report and arrange for joint release by NRC and the City of Chicago | - One week |

ENCLOSURE 3
(ltr to Mayor
Bilandic 1/19/78)

NUCLEAR REGULATORY COMMISSION
(10 CFR Parts 71 and 73)

# FINAL ENVIRONMENTAL STATEMENT ON TRANSPORTATION OF RADIOACTIVE MATERIAL BY AIR AND OTHER MODES

## NOTICE OF AVAILABILITY

In its advance notice of rulemaking proceeding published in the Federal Register on June 2, 1975, (40FR23768), the Nuclear Regulatory Commission noted that a generic environmental impact statement would be prepared on the air transportation of radioactive materials, including packaging and related ground transportation. Although the statement was to be directed at air transportation, other transportation modes - land and water - were to be considered in light of the requirement of the National Environmental Policy Act of 1969 (NEPA) that the relative cost and benefit of alternatives to certain proposed federal actions be fully considered. The statement was to be generic in nature, assessing the impact from all transportation, not just that associated with a particular rule change.

Pursuant to the National Environmental Policy Act of 1969 and the Commission's regulations in 10 CFR Part 51 "Licensing and Regulatory Policy and Procedures for Environmental Protection," the Commission's Office of Standards Development issued a draft environmental statement on transportation in March, 1976. After consideration of the 28 letters of comment received, from the public and from federal, state and local agencies, a Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes, has been issued and designated NUREG-0170.

ENCLOSURE 4
(ltr to Mayor
Bilandic 1/19/78)

41 FR 5627
Published 2/9/76

## PART 71—PACKAGING OF RADIOACTIVE MATERIAL FOR TRANSPORT AND TRANSPORTATION OF RADIOACTIVE MATERIAL UNDER CERTAIN CONDITIONS

## PART 73—PHYSICAL PROTECTION OF SPECIAL NUCLEAR MATERIAL

### Packaging and Transportation of Special Nuclear Material by Air: Continuation of Shipments During Pendency of Rule Making Proceeding

On June 2, 1975, the Nuclear Regulatory Commission published in the FEDERAL REGISTER (40 FR 23768) a notice that it was initiating a rulemaking proceeding concerning the air transportation of radioactive materials, including packaging, with a view to the possible amendment of its regulations in 10 CFR Parts 71 and 73, adopted pursuant to the Atomic Energy Act of 1954, as amended. Interested persons were invited to submit comments and suggestions to the Commission by August 1, 1975.

In the same notice, the Commission published its interim evaluation of the question of whether its current regulations allowing air transportation of special nuclear materials should remain in effect during the rule making proceeding. The Commission tentatively concluded that, in light of present information as to the safety and security of air shipment of radioactive material, there was no sound basis for requiring the suspension of air shipments of special nuclear material. The Commission's tentative evaluation took into account the following factors:

In more than 25 years of shipping special nuclear material, including plutonium, in civilian aircraft, there have been no air accidents involving the material.

The experience in shipping thousands of packages per year of all forms of radioactive materials by all modes of transport under existing NRC, DOT, and FAA regulations has been very favorable.

The requests for suspension that had been received as of that date did not set forth any significant new information which would indicate that present package or security requirements are inadequate.

In view of the physical security measures now required by 10 CFR Part 73, the protection provided against severe accidents by the high integrity packaging required by NRC, DOT, and FAA regulations, the consistency of these requirements with international standards, the low accident probability, and the favorable experience to date, the risk involved in the transportation of radioactive material under currently effective regulations were believed to be small.

Notwithstanding its tentative conclusions, in view of the concerns expressed and the fact that requests had been received for the suspension of air shipments of plutonium and other special nuclear materials, comments were specifically invited on the matter of whether suspension or other limitations on the air transportation of plutonium and other special nuclear materials are justified during the period that the rule making proceeding is being conducted.

Views on this matter, together with the supporting basis for such views, were invited to be submitted to the Commission by July 2, 1975.

After consideration of the comments received and other information and factors discussed below, the Commission has reaffirmed its tentative conclusion set out in the notice published in the FEDERAL REGISTER on June 2, 1975, with respect to special nuclear materials (other than plutonium that is not contained in a medical device designed for individual human application).

Twenty-six comments were received on the question of the Commission's interim evaluation set out in the June 2 notice.

The comments received, which represented a wide spectrum of views on the subject at issue, did not present any new information that would support the suspension of or other limitations on the air transportation of special nuclear material.

The Attorney General of the State of New York submitted his view that air transportation of special nuclear material should be suspended pending completion of the rule making proceeding and the accompanying environmental impact statement. The bases for his view were contained in affidavits submitted in an action instituted by the State of New York against the Commission and several other Federal agencies in the United States District Court for the Southern District of New York, seeking, among other things, an injunction against issuance of licenses permitting transport by air and related connecting transport of plutonium and other special nuclear materials from, in, and over the City and State of New York and the United States and its territories.

The affidavits filed by the State of New York contended that air shipment of special nuclear materials endangers the lives of New York citizens in two ways:

1. The possibility of an aircraft accident resulting in a release of special nuclear materials or radiation from them; and

2. The possibility of terrorist activities directed toward such materials in the course of air transport or related connecting transport resulting in:

(a) Deliberate dispersal of radioactive materials;

(b) Manufacture of nuclear weapons; or

(c) Accidental release of radioactive materials.

New York's affidavits regarding the *health* hazards of air shipment, like most of the concerns that have been expressed recently about air transportation of special nuclear material, relate to the possible consequences of an accidental release of a significant quantity of plutonium. It is assumed that the reason that plutonium is discussed more than uranium is that plutonim poses a much greater radiological health hazard than either low or high enriched uranium, due to its much greater radioactivity per unit mass, and its radiobiological characteristics. Uranium 233 exists only in small experimental quantities at this time and is rarely transported by air. Enriched uranium, whether of low or high enrichment, would not present a significant radiological health hazard even if a significant quantity were to be released in an aircraft accident. The low accident probability and the favorable experience to date with containers used to transport uranium 233 and uranium 235 demonstrate that the probability of an accident resulting in significant dispersal is extremely small.

For plutonium, other than in medical devices, the material regarded as most hazardous by most of the commenters, the question of continued air shipment at the present time has been foreclosed by Pub. L. 94-79, enacted August 9, 1975. It provides, among other things, that

> "The Nuclear Regulatory Commission shall not license any shipments by air transport of plutonium in any form, whether exports, imports or domestic shipments: *Provided, however,* That any plutonium in any form contained in a medical device designed for individual human application is not subject to this restriction. This restriction shall be in force until the Nuclear Regulatory Commission has certified to the Joint Committee on Atomic Energy of the Congress that a safe container has been developed and tested which will not rupture under crash and blast-testing equivalent to the crash and explosion of a high-flying aircraft."

Should such certifications be made in the future, they would of course demonstrate the absence of any cause for the health concerns put forward in the New York affidavits.

New York's contentions regarding the possibility of terrorist activities do apply equally to high enriched uranium 235 and plutonium. However, New York has failed to show that air transportation and associated ground transport are inherently more vulnerable to such activities than alternative modes of transportation that may be available. Indeed, air transportation may have significant advantages over other modes of transportation from this standpoint. Because transit time is minimized and the airport of destination can be quickly altered if necessary, opportunities for theft or acts of sabotage are reduced. Once in the air, special nuclear materials are significantly less vulnerable to hijacking than is the case for surface modes of transportation. These advantages are not demonstrably outweighed by the greater mobility the successful hijackers of an air shipment might enjoy; an airplane is, if anything, easier to track and find than an itinerant truck.

It should be noted that the United States District Court for the Southern District of New York has denied the State of New York's request for preliminary injunction in the action in which the affidavits submitted as comments were filed.

Based on the foregoing, including the considerations stated in the June 2 notice described supra, the Commission has concluded that the air transportation of special nuclear material, other than plutonium, under currently effective regulations needs not, and should not, be suspended or otherwise limited during the period that the rule making proceeding noticed on June 2, 1975, is being conducted.

ENCLOSURE 5
(ltr to Mayor
Bilandic 1/19/78)

≫42 FR 12271
Published 3/3/77

## TRANSPORTATION OF RADIONUCLIDES IN URBAN ENVIRONS

### Intent To Prepare a Generic EIS

The Nuclear Regulatory Commission (NRC) has commenced preparation of a generic environmental impact statement on the transportation of radionuclides in urban environs. This environmental impact statement on the transportation of radioactive material near, in, and through a large densely populated area is being prepared in connection with a re-evaluation of present regulations as indicated in the advance notice of rulemaking proceedings published June 2, 1975 (40 FR 23768) and pursuant to the National Environmental Policy Act of 1969 (83 Stat. 852).

Pursuant to the stated intention to review those regulations in place when NRC was formed in January 1975, the rulemaking proceeding was initiated with a view to the possible amendment of regulations in 10 CFR Parts 71 and 73 regarding transportation of radioactive material, including packaging. The considerations published previously apply to this environmental impact statement; however, this statement will focus on the special features of urban areas, and various transport modes will be given emphasis in accord with their environmental significance in an urban setting.

The generic environmental impact statement will consider such unique facets of the urban setting as:

(1) High population densities;

(2) Shielding effects of buildings under normal and accident conditions;

(3) The effect of local meteorology on accident consequences;

(4) The convergence of transportation routes in cities; and

(5) Diurnal variations in population.

Emphasis will be placed on radiological health effects, but all environmental impacts, both radiological and nonradiological, will be assessed. The NRC staff has selected Sandia Laboratories, Albuquerque, New Mexico, to perform an environmental assessment, upon which the generic environmental impact statement will be largely based.

To help its environmental analysis, Sandia Laboratories has formed an Ad Hoc Task Group to provide a forum for the exchange of ideas and information between experts. The broadly based membership of the AHTG includes persons associated with government (local, state and federal), industry, academia, and environmental activist groups. Meetings of the AHTG are open to the public. The first meeting was held in New York City on September 20, 1976; a second meeting was held in Arlington, Va. on November 16–17, 1976. As a result of the AHTG meetings the project scope has been expanded to treat social impact and quality assurance practices in further depth. A third meeting is planned for March 29–30, 1977 in Baltimore, Md. Minutes of these meetings will be placed in the USNRC Public Document Room (1717 H Street, N.W., Washington, DC.) as they become available. Interested persons are encouraged to attend these public meetings. Further information about the Sandia Laboratories assessment, the AHTG, or future meetings may be obtained from A. R. DuCharme, Division 5413, Sandia Laboratories, Albuquerque New Mexico 87115, telephone (505) 264–5571.

After the environmental impact assessment has been reviewed by the NRC staff, a draft generic environmental impact statement will be prepared. Upon preparation of the draft environmental statement, the NRC will, among other things, cause to be published in the FEDERAL REGISTER a summary notice of availability of the draft generic environmental impact statement, with a request for comments from interested persons on the draft statement. The summary notice will also contain a statement to the effect that comments on Federal agencies and State and local officials will be made available when received. Upon consideration of comments submitted with respect to the draft environmental statement, the NRC staff will prepare a final generic environmental impact statement, the availability of which will be published in the FEDERAL REGISTER.

ENCLOSURE 6
(ltr to Mayor
Bilandic 1/19/78)

FEB 13 1978

The Honorable William J. Scott
Attorney General
State of Illinois
Chicago, Illinois 60601

Dear Mr. Attorney General:

On January 30, 1978, at the request of Mayor Bilandic, NRC representatives briefed Chicago City officials on an environmental statement concerning transportation of radioactive materials.

The City officials suggested that this same information be provided to you and your staff. Accordingly, I have enclosed a copy of NRC's Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes (NUREG-0170). Also enclosed is a copy of the notice of availability published in the Federal Register on January 25, 1978. As stated in that notice, persons with views on the content or conclusion of NUREG-0170, which may be helpful to the Commission in its deliberations should file such comments by March 15, 1978 with the NRC.

If you desire any further information on this subject, you or your staff are welcome to call Mr. Robert F. Burnett at (301) 427-4033. If you desire, we would be pleased to arrange a briefing for you similar to that given to Mayor Bilandic's staff on January 30, 1978.

Sincerely,

Original Signed by
CLIFFORD V. SMITH, JR.

Clifford V. Smith, Jr., Director
Office of Nuclear Material Safety
and Safeguards

Enclosures:
As stated

ATCH. 4

OFFICE OF THE MAYOR

CITY OF CHICAGO

MICHAEL A. BILANDIC
MAYOR

February 23, 1978

Dear Dr. Smith:

This is in reply to your letter of January 19, 1978 relative to the transportation of high enriched uranium through O'Hare Airport. You further point out in your letter that during our joint discussions in Chicago on December 2, 1977, it was agreed that the U.S. Nuclear Regulatory Commission staff would review the health, safety and other environmental impacts associated with transportation of HEU through O'Hare.

On December 15, 1977, members of my staff again met with NRC staff for the purpose of exploring a joint agenda for a study to determine the environmental impact of the transportation of HEU through densely populated urban environments such as the City of Chicago and its major airport. It is my understanding that the agenda for the proposed short term study proposed by the NRC did not address some significant environmental and health and safety factors, including those which are known to stress large segments of populations residing in densely populated urban environs. It is my further understanding that NRC representatives then proposed a briefing on NUREG-0170, titled, "FINAL ENVIRONMENTAL STATEMENT ON THE TRANSPORTATION OF RADIOACTIVE MATERIAL BY AIR AND OTHER MODES," which was intended to address many of the questions raised at the December 15, 1977 meeting here in Chicago.

ATCH. 5

On January 30, 1978, NRC staff provided a detailed briefing on the contents of NUREG-0170, Volumes 1 and 2. This briefing was attended by six cabinet-level members of my staff, including the President of the Chicago Board of Health, Commissioner of Health, the Superintendent of Police, Commissioner of Environmental Control, Deputy Commissioner of Fire and the Deputy Commissioner of Health of the City of Chicago. During the briefing, NRC personnel admitted that NUREG-0170, Volumes 1 and 2, are still classified as "staff documents" and will not be submitted to the full Nuclear Regulatory Commission until at least March 15, 1978, at which time the Commission will decide whether or not to accept this "Final Environmental Impact Statement."

Furthermore, as stated in paragraph two of your letter of January 19, 1978, relative to NUREG-0170, page two, paragraph two:

> "Except as noted above, NUREG-0170 does not specifically consider factors unique to the urban environment such as diurnal variation in population, convergence of transportation routes, shielding effects of buildings, or the effect of local meteorology on accident consequences. A separate study specific to such considerations is being conducted and will result in a separate environmental statement specific to such an urban environment."

We have earlier expressed deep interest in this separate urban environmental assessment which you point out is being carried out by an ad hoc task group formed by Sandia Laboratories, and suggest that upon completion of an NRC-Sandia Laboratories Environmental Impact Statement on the transportation of radionuclides in urban environs, it may well address itself to most, if not all, of the urban factors, admittedly not covered in NUREG-0170 as well as those raised by my staff.

Thus, it would seem illogical to attempt to push through a short term (30-day study) which would be unique to Chicago at a time when the major national urban environmental impact statement is already under active development by your Agency and the Federal Government acting in consort with state and local governments.

We do, however, concur with your proposal that Chicago representatives be invited to attend the meetings of the Ad Hoc Task Group and appreciate your suggestions made in this regard.

Members of my staff have advised me that your Agency is currently exploring, with the Department of Defense, the feasibility of utilizing military air bases or the military side of civilian controlled airports in an effort to provide a viable alternative to exclusive use of civilian airports for the transportation of high enriched uranium. At the very least this would seem to be a highly commendable interim solution to our joint problem and would certainly go far to reassure the general public that every possible precaution is being taken relative to the transportation of these materials and to the safeguarding of the public interest.

Sincerely,

Michael A. Bilandic

Mayor

Dr. Clifford V. Smith, Jr.
Director
Office of Nuclear Material
Safety and Safeguards
United States Nuclear
Regulatory Commission
Washington, D.C. 20555

Sandia Laboratorie
Albuquerque, New Mexico 871

March 22, 1978

Mr. Edward F. King
Deputy Commissioner
Chicago Department of Health
Chicago Civic Center
Chicago, Illinois 60602

Dear Mr. King:

I have been informed by members of the Nuclear Regulatory Commission (NRC) staff that the Mayor and other officials of the City of Chicago are interested in a study being performed here at Sandia Laboratories on the transportation of radioactive materials in urban areas. You were mentioned as the appropriate contact on this matter.

The environmental assessment we are doing includes consideration of details of the urban environment such as high, varying population density, shielding of buildings, and local meteorology and how these factors affect exposure of people to radiation and other environmental impacts. Key aspects of the study include accident-free transport, human errors, vehicular accidents, and the safeguarding of radioactive materials in urban areas. The transport of all radioactive materials is being considered, except weapons shipments and shipments on military vehicles.

Sandia Laboratories has been receiving the advice and recommendations of a 20-member task group since the beginning of this study. The task group is composed of individuals from industry, the public interest area, governmental organizations, and academia. This task group has assembled four times at public meetings so far in the investigation with one additional meeting tentatively scheduled in New York City during the latter part of May of this year. That meeting will feature review of the Working Draft Environmental Impact Assessment currently being prepared.

I am pleased to invite you and any other interested public officials in Chicago to attend this meeting. Discussions at past meetings have primarily involved the task group, but the opportunity for inputs from interested attendees has been specifically provided for and encouraged. These contributions have broadened the scope and improved the accuracy of the investigation.

ATCH.-c

Enclosed is a copy of the interim report and available minutes of previous task group meetings. I will send you more details of the next meeting in New York City when plans are finalized and a copy of the Working Draft Assessment when it becomes available. I will gladly supply any available additional information on the study.

Sincerely,

A. R. DuCharme

A. R. DuCharme
Fuel Cycle Risk Analysis
Division 5413

DJM:5410:dm

Enclosures

Copy to: (without enclosures)
Mayor Michael A. Bilandic
Clifford V. Smith
Robert B. Minogue

NRC R. F. Barker
NRC R. Bernero
NRC R. F. Burnett
NRC N. A. Eisenberg
NRC R. A. Erickson
NRC V. Hodge
NRC D. J. Kasun
NRC C. E. MacDonald
NRC D. A. Nussbaumer
5400 A. W. Snyder
5410 D. J. McCloskey
5413 P. E. McGrath
5413 A. R. DuCharme

MAY 2 1978

The Honorable Michael A. Bilandic
Mayor of Chicago
Chicago, Illinois 60602

Dear Mayor Bilandic:

Thank you for your letter of February 23, 1978 concerning our joint review of the transportation of high enriched uranium through O'Hare airport.

As I understand from your letter, you do not now consider it desirable to do a short term study of factors unique to Chicago and would prefer instead, to have Chicago representatives attend meetings of Sandia Laboratory's Ad Hoc Task Group which is assessing transportation of radio-nuclides in urban environs.

I am pleased that you concur in our proposal to have Chicago representatives attend meetings of the Ad Hoc Task Group. The urban environs study should address all factors of concern, including those raised by your staff which might stress large segments of populations residing in densely populated urban environs. With regard to Chicago involvement in the urban study, I understand Sandia Laboratories has already contacted Mr. Edward F. King, Deputy Commissioner, Chicago Department of Health, about the next meeting of its Ad Hoc Task Group.

In your letter, you stated that use of military air bases or the military sides of civilian controlled airports would be a highly commendable interim solution to our joint problem and would certainly go far to reassure the general public that every possible precaution is being taken relative to the safeguarding of the public interest.

Since a decision about the use of specific airfields falls outside the NRC regulatory authority, we have referred the question of military airfield use to the Executive Branch for consideration. (Enclosed is a copy of NRC's letter to the Assistant to the President for National Security Affairs).

ATCH. 7

Since December 2, 1977, we have met with you and exchanged several letters about the shipment of high enriched uranium through O'Hare Airport. Members of our respective staffs have met several times to discuss this subject. We have informed members of your staff about relevant ongoing studies and provided them reports of completed work bearing on the subject of nuclear material transportation. Most recently, as you noted in your letter, NRC staff representatives provided Chicago officials, including six Cabinet-level members of your staff, a detailed briefing on NRC's Final Environmental Statement on the Transportation of Radioactive Materials by Air and Other Modes (NUREG-0170).

As you know, NRC regulations do not specify airports which shippers must use to transport high enriched uranium. As stated above, the use of specific airfields falls outside the NRC regulatory authority. Having referred the question of military airfield use to the Executive Branch for consideration, we will keep you informed of further developments. In the interim, we are notifying all shippers of your concerns about security arrangements and requesting careful coordination with your authorities.

In closing, I should like to emphasize our appreciation for the cooperation the city has been providing us in this matter.

Sincerely,

**Original Signed by**

Clifford V. Smith, Jr., Director
Office of Nuclear Material Safety
and Safeguards

Enclosure:
Ltr to the Assistant to the President
for National Security Affairs

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

OFFICE OF THE
CHAIRMAN

April 28, 1978

The Honorable Zbigniew Brzezinski
Assistant to the President for
National Security Affairs
The White House
Washington, D. C. 20500

Dear Dr. Brzezinski:

One of the responsibilities of the Nuclear Regulatory Commission (NRC) is to regulate the commercial export and import of privately owned special nuclear materials such as high enriched uranium. During the past few years, O'Hare International Airport, Chicago, has served as the aerial port for a number of international shipments of high enriched uranium. In the case of exports, protected shipments normally travel by road to the O'Hare Airport and leave by scheduled commercial cargo flights for foreign destinations.

The NRC was satisfied with the security arrangements for air shipments when Mayor Bilandic of Chicago expressed his concerns about them and asked that shipments of high enriched uranium through Chicago's O'Hare Airport be stopped pending a review of safety and safeguards. The NRC temporarily agreed to this request. In the meantime, Mayor Bilandic has stated that use of a military air base or the military side of a civilian controlled airport (such as O'Hare) would go far to reassure the general public that every possible precaution is being taken relative to the transportation of these materials.

Aside from the concerns expressed by the Mayor of Chicago, there have also been several recent expressions of Congressional concern and a letter from Ralph Nader about the continued use of commercial facilities for such shipments. Since a decision about the use of specific airfields falls outside the purview of NRC regulatory authority, we considered it appropriate to refer the question of military airfield use to the Executive Branch for consideration. We look forward to working with you in reaching a reasonable solution on this matter.

I am forwarding a copy of this letter to Mayor Bilandic of Chicago who has expressed particular interest in exploring the use of military airfields for high enriched uranium shipments.

Sincerely,

Joseph M. Hendrie
Chairman

cc: The Honorable Michael A. Bilandic
Mayor of Chicago

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

MAY 19 1978

TO NRC AND AGREEMENT STATE LICENSEES POSSESSING 1 GRAM OR MORE URANIUM-235 CONTAINED IN HIGH-ENRICHED URANIUM

Our records indicate that you possess high-enriched uranium (uranium enriched to 20 percent or more in the U-235 isotope).

We wish to advise you that the Mayor of Chicago has expressed concern over arrangements for shipments of high-enriched uranium traversing O'Hare International Airport. We recommend, therefore, that you carefully coordinate any such shipments with the Chicago Department of Health.

Sincerely,

Robert F. Burnett, Director
Division of Safeguards
Office of Nuclear Material Safety
and Safeguards

ATCH. 8

Sandia Laboratories

Albuquerque, New Mexico 87115

June 13, 1978

Mr. Edward F. King
Deputy Commissioner
Chicago Department of Health
Chicago Civic Center
Chicago, IL 60602

Dear Mr. King:

I was glad to hear from you recently in response to my letter of March 22, 1978, inviting you and any other interested public officials in Chicago to attend a task group meeting on the transportation of radioactive materials in urban areas. This fifth and last in a series of meetings is now scheduled for July 24-25, 1978, at the Ford Foundation in New York City. The meeting will featur discussions of the Working Draft Assessment which was recently issued by Sandia Laboratories. A copy of this document is enclosed for your information. The enclosed agenda also shows that the NRC will hold a workshop right after the Sandia meeting on the 25th.

Although the twenty member task group cannot at this late date be feasibly expanded to include your official membership, there will be ample opportunity for participation by you or your collegues in this July meeting which will be open to the public. I encourage you and your colleague to attend and to offer any suggestions or comments on our study and the preliminary results we will discuss at this meeting.

Sincerely,

A. R. DuCharme

A. R. DuCharme
Fuel Cycle Risk Analysis
Division 5413

ARD:ppp

Enclosures

ATCH. 9

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

JUL 17 1978

The Honorable Michael A. Bilandic
Mayor of Chicago
Chicago, Illinois 60602

Dear Mayor Bilandic:

I wish to extend an invitation to representatives of the City of Chicago to attend two meetings, about transport of radioactive materials in cities, planned for the end of July. The NRC Staff is planning an informal workshop with public participation for July 25, starting at 2:30 p.m. Sandia Laboratories will conduct a meeting, open to the public, of its Ad Hoc Task Group formed to assist Sandia in preparing an environmental assessment on transport of radionuclides in urban environs, on July 24-25, 1978, beginning at 9:00 a.m. each day. Both meetings will be held in the main conference room of the Ford Foundation, 320 East 43rd Street, New York, N. Y.

The Sandia meeting will primarily be devoted to discussion of technical aspects of their recently issued report "Transport of Radionuclides in Urban Environs: Working Draft Assessment," (Enclosure A). Chapter 6 of this report discusses "Sabotage, Security and Safeguards in Urban Transport." The informal workshop conducted by the NRC Staff, entitled, "The Urban Transportation Study - Looking Ahead; Status, Goals, and Approaches," in part, is in recognition of the transition in emphasis from preparation of a technical assessment by Sandia Laboratories to the formulation and proposal of regulatory options by the NRC Staff.

Sandia Laboratories has been in contact with members of your staff about their Task Group meeting. Members of the NRC Staff have been in touch with members of your staff to provide information and to invite participation in both meetings. Both meetings have been announced in the Federal Register (Enclosure B). By this letter, I wish to make special effort to bring these meetings to your attention and to encourage your participation, so that we have the benefit of your views on these important issues in transportation safety.

Sincerely,

Lee V. Gossick
Executive Director for Operations

Enclosures:
A. Transport of Radionuclides in Urban Environs: Working Draft Assessment
B. 43 FR 29864

ATCH. 10

INTERIM REPORT

Accession No. 781710145
SAND77-1927

Contract Program or Project Title: Generic Environmental Assessment on Transportation of Radioactive Materials Near or Through a Large Densely Populated Area

Subject of this Document: Transport of Radionuclides in Urban Environs: A Working Draft Assessment

Type of Document: Preliminary Report
Draft Assessment

Author(s): A.R. DuCharme, Jr. (Project Coordinator); R.E. Akins; S.L. Daniel; D.M. Ericson, Jr.; B.H. Finley, N. N. Finley; P.C. Kaestner; D.D. Sheldon; J.M. Taylor; M.S. Tierney

Date of Document: May 1978

Responsible NRC Individual and NRC Office or Division: N. Eisenberg
Transportation and Product Standards Branch
Office of Standards Development



Sandia Laboratories
Albuquerque, New Mexico 87185

for the

U.S. Department of Energy

Prepared for
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
under DOE Contract AT(29-1)-789
NRC FIN No. A-1077-A
INTERIM REPORT

Cover page of Encl. A, ltr to Mayor Bilandic 7/17/78 (Rpt contains 718 pages)

[7590-01]

## TRANSPORTATION OF RADIONUCLIDES IN URBAN ENVIRONS

### Public Meeting

The Nuclear Regulatory Commission (NRC) staff is planning an informal workshop on the transport of radionuclides in urban environs for July 25, 1978. This informal workshop starting at 2:30 p.m. will be held in the main conference room of the Ford Foundation, 320 East 43d Street, New York, N.Y. The title of the workshop is "The Urban Transportation Study—Looking Ahead; Status, Goals, and Approaches."

The NRC has previously announced (42 FR 12271) its intent to prepare a generic environmental impact statement on the transportation of radionuclides in urban environs. This environmental impact statement on the transportation of radioactive material near, in, and through a large densely populated area is being prepared in connection with a reevaluation of present regulations as indicated in the advance notice of rulemaking proceedings published June 2, 1975 (40 FR 23768), and pursuant to the National Environmental Policy Act of 1969 (83 Stat. 852).

The generic environmental impact statement will consider such unique facets of the urban setting as:

(1) High population density: Heavy pedestrian traffic; diurnal variations in population; and horizontal vertical distribution.

(2) Unique transportation environment: Convergence of transportation routes; heavy traffic; many users and holders of radioactive materials; and different safeguards environment.

(3) Special effects: Effects of local and micrometeorology, and shielding effects of buildings.

Emphasis will be placed on radiological health effects, but all environmental impacts, both radiological and nonradiological, will be assessed.

The NRC staff has selected Sandia Laboratories, Albuquerque, N. Mex., to perform an environmental assessment, upon which the generic environmental impact statement will be largely based. To help in its environmental analysis, Sandia Laboratories has formed an ad hoc task group (AHTG) to provide a forum for the exchange of ideas and information between experts. The broadly based membership of the AHTG includes persons associated with government (local, State, and Federal), industry, academia, and environmental activist groups. Meetings of the AHTG are open to the public.

Dates and locations of previous AHTG meetings are: Sept. 20, 1976—New York, N.Y.; Nov. 16-17, 1976—Arlington, Va.; Mar. 29-30, 1977—Baltimore, Md.; and July 13-14, 1977—Houston, Tex.

Minutes of these meetings are placed in the USNRC Public Document Room, 1717 H Street NW., Washington, D.C., as they become available.

Sandia Laboratories is planning a fifth and final meeting of the AHTG for July 24-25, 1978, beginning at 9 a.m., in the main conference room of the Ford Foundation, 320 East 43d Street, New York, N.Y. The primary purpose of the fifth meeting of the AHTG is to discuss the preliminary report, "Transport of Radionuclides in Urban Environs: Working Draft Assessment," given to NRC by Sandia Laboratories late in May 1978. This preliminary report discusses the assessment methodology and presents



ENCLOSURE B
(ltr to Mayor
Bilandic 7/17/78)

estimates of environmental impacts for an urban area resulting from accident-free transport, vehicular accidents, human error, and sabotage incidents. Although it is a preliminary report copies of the report are available to members of the public on request from:

1. U.S. Nuclear Regulatory Commission, Office of Standards Development, Transportation and Product Standards Branch, 5650 Nicholson Lane, Rockville, Md. 20853, Attn.: Norman A. Eisenberg, telephone 301-443-6910.

2. Sandia Laboratories, Fuel Cycle Risk Analysis, Division 3413, Albuquerque, N. Mex. 87115, Attn.: Arthur R. DuCharme, telephone 505-264-5571.

3. U.S. Environmental Protection Agency, Region II: Regional Office of Radiation Programs, Attn.: Paul Giardina, Chief, Room 907J, 26 Federal Plaza, New York, N.Y. 10007.

Copies of the working draft assessment are also available for public inspection at:

1. The NRC Public Document Room, 1717 H Street NW., Washington, D.C. 20555.

2. The NRC's five Regional Offices of Inspection and Enforcement: Region I: 631 Park Avenue, King of Prussia, Pa. 19406; Region II: Suite 1217, 230 Peachtree Street, Atlanta, Ga. 30303; Region III: 799 Roosevelt Road, Glen Ellyn, Ill. 60137; Region IV: Suite 1000, 611 Ryan Plaza Drive, Arlington, Tex. 76012; and Region V: Suite 202, 1999 North California Boulevard, Walnut Creek, Calif. 94596.

3. The four major reference collections of the New York City Public Library.

After consideration of comments received at the fifth AHTG meeting, Sandia Laboratories will prepare and submit to NRC a draft assessment in September 1978. The NRC staff plans to issue a draft environmental statement (DES) late in 1978 based largely upon the Sandia Laboratories draft assessment.

Upon preparation of the DES, the NRC will, among other things, cause to be published in the FEDERAL REGISTER a summary notice of availability of the draft generic environmental impact statement, with a request for comments from interested persons on the draft statement. The summary notice will also contain a statement to the effect that comments on Federal agencies and State and local officials will be made available when received. Upon consideration of comments submitted with respect to the draft environmental statement, the NRC staff will prepare a final generic environmental impact statement, the availability of which will be published in the FEDERAL REGISTER.

The informal workshop conducted by the NRC staff, planned for July 25, in part, is in recognition of the transition in emphasis from preparation of a technical assessment by Sandia Laboratories to the formulation and proposal of regulatory options by the NRC staff. A transcript of the proceedings will be prepared and made available in the NRC public document room. Among the topics that may be discussed at this informal workshop are:

(1) Current status: (a) NRC staff plans for the draft environmental statement; (b) adequacy of the Sandia Laboratories assessment; (c) current regulations; and (d) related events and activities.

(2) Goals: (a) Suggested public health and safety goals; (b) suggested regulatory actions; and (c) suggested improvements in the environmental assessment.

(3) Approaches: (a) Distribution of regulatory responsibility among the various Federal agencies (e.g., NRC, DOT, EPA); (b) distribution of regulatory responsibility among the various Federal, State, and local governments; (c) potential legislative changes; and (d) the role of public meetings.

In keeping with the previous efforts throughout this study to obtain early public input, interested persons are encouraged to attend both the NRC and Sandia public meetings. Interested persons are invited to attend the meeting to ask questions or make comments and suggestions on the regulatory activities associated with the environmental impact statement and the preliminary Sandia report. Written comments may be submitted at the meeting or at any time to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Section. Further information on these meetings, the working draft assessment, or the study in general may be directed, as appropriate, to individuals at the NRC or Sandia Laboratories as listed above.

(5 U.S.C. 552(a).)

Dated at Rockville, Md., this 5th day of July 1978.

For the Nuclear Regulatory Commission.

ROBERT B. MINOGUE,
*Director, Office of Standards Development.*

[FR Doc. 78-18988 Filed 7-10-78; 8:45 am]

[7590-01]

## NUCLEAR REGULATORY COMMISSION

[10 CFR Parts 70, 73]

### PHYSICAL PROTECTION OF PLANTS AND MATERIALS

Proposed Rulemaking

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Revised proposed rule.

SUMMARY: In July 1977 the Commission published for public comment proposed amendments to its regulations for strengthened phycial protection for strategic special nuclear material and for certain fuel cycle facilities, associated transportation and other activities involving significant quantities of strategic special nuclear material. Extensive comments were received and considered. The Commission is now publishing revised propsed amendments for public comment on those changes that have been made. In particular the Commission requests comments on the changes made.

DATES: Comments must be received on or before September 25, 1978.

ADDRESSES: Comments or suggestions for consideration in connection with the proposed amendments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Copies of comments received may be examined at the Commission's Public Document Room at 1717 H. Street NW., Washington, D.C.

FOR FURTHER INFORMATION CONTACT:

Mr. L. J. Evans, Jr., Chief, Requirements Analysis Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301-427-4043 or Mr. R. J. Jones, Chief, Material Protection Standards Branch, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301-443-5907.

SUPPLEMENTARY INFORMATION: On July 5, 1977, the Nuclear Regulatory Commission published in the FEDERAL REGISTER (42 FR 34310) proposed amendments to 10 CFR Part 73 of its regulations. Interested persons were invited to submit written comments and suggestions in connection with the proposed amendments within 45 days after publication in the FEDERAL REGISTER. The comment period was subsequently extended thirty days. Upon consideration of the comments received on the proposed amendments published on July 5, 1977 and upon consideration of other factors involved the Nuclear Regulatory Commission has decided to publish revised proposed amendments to obtain further public comment on the changes that have been made to the proposed amendments.

Significant differences from the proposed amendments published for comment on July 5, 1977 are: (1) The definition of the conspiracy threat has been changed to a conspiracy between individuals in any position who may have access to and detailed knowledge of the facilities and activities referred to in § 73.20(a) or items that could facilitate theft of special nuclear material or both; (2) export/import requirements have been revised to reflect the jurisdictional aspects of the regulation; (3) the phrase "* * * but not necessarily limited to * * *" has been deleted from the general performance requirements and capability requirements; (4) the package search requirements have been changed so that packages carried into a protected area by persons having access authorization need only be searched at random when that person is searched. The package search requirement also has been changed to require only random search of packages delivered into a protected area; (5) the contingency and response plan requirements for in transit protection have been revised to add more detailed response requirements consistent with the fixed site requirements; (6) the requirement for three armed escorts on cargo aircraft and for sea shipments has been changed to two, (7) the requirements for Pu and U-233 containers resistant to small arms fire has been deleted; (8) the export/import security plan approval requirement has been changed to apply to all shipments and has been clarified as to timing; (9) the requirement for alarm stations to be considered vital areas has been changed; (10) the use of vault type rooms for storage of strategic special nuclear material directly usable in a nuclear explosive device has been prohibited and the definition of vault changed to better reflect the purpose of vaults; (11) the word immediately has been deleted from the requirement that armed response personnel be immediately available; (12) definitions have been added for deceit, stealth, and force and other changes in wording and language were made throughout the rule to clarify the intent and be more specific in the meaning of the requirements; (13) obsolete sections to be deleted when the effective rule is published have been noted; and (14) planning and implementation times have been changed.

The following discussion pertains to items (1) through (14) above.

(1) Commenters stated that without some limit to the number of conspirators it would be impossible to design a protection system against an unlimited number of employees. Commenters also stated that some credit should be given cleared employees.

The safeguards focus should be on neutralizing adversary capabilities, not on the number of adversaries. A more realistic and effective approach to the internal threat is to apply a systems capability measure. In this regard, the amendments have ben revised to add more detail to the reference systems in §§ 73.28 and 73.46 to assist the licensee in bounding the threat.

Although the Commission recognizes that individual material access authorization would give an added measure of assurance against a conspiracy, it believes that giving absolute credit for such access authorizations to defeat an internal threat to divert or steal strategic special nuclear material is unreasonable and not supported by historical evidence. Rather, it believes that, in addition to individual material access authorizations, a prudent safeguards system should include other measures designed to protect against conspiracy.

(2) International Transport Protection.—Commenters stated that protection of export and import shipments outside the United States should be arranged through international agreements rather than unilateral regulations. Commenters 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.

The primary issue appears to be whether NRC can require armed guards to accompany an import shipment from its last foreign terminal,



ENCLOSURE 2

and accompany and export shipment to its first foreign terminal. Under the Atomic Energy Act of 1954, as amended, NRC has responsibility for insuring the safeguarding of special nuclear material. The acts of importation or exportation commence or end, respectively, within the geographical limits of the United States and physical protection requirements, including armed guards, may clearly 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 practice, 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 exporting or importing formula quantities.

International agreements 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 export and import shipments through requirements imposed upon U.S. licensees. The export and import 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. The rule has been revised to reflect the jurisdictional aspect of the regulation.

(3) Commenters noted that the phrase "* * * but not necessarily limited to * * *" in the general performance requirements and the capability requirements could lead to unlimited ratcheting without benefit of rulemaking.

The capability and performance requirements are broadly stated to permit flexibility in the design of licensee systems. They are so stated so as to encompass all that is needed in a safeguards security system so that such an openended phrase is not needed. The revised amendments have been changed to delete the phrase wherever it appeared in the performance and capability requirements.

(4) Commenters noted that it did not seem appropriate to search persons having access authorizations on a random basis but to search any packages they might be carrying on a 100 percent basis. The revised amendments require packages carried into a protected area by persons having access authorizations to be searched only when that person is selected for random search.

(5) Staff noted that the response requirements for in transit protection were not consistent with those for fixed sites because the details of guard and armed response personnel response was not stated. The rule has been revised to add such detailed requirements consistent with those for fixed sites.

(6) Aircraft and Sea Shipment Armed Escorts.—Commenters identified several potential problems with armed escorts on aircraft:

a. May not be permitted by aircraft pilot or airline;

b. May not be enough seating capacity on cargo plan so escort could get "bumped";

c. Could cause problems by having armed escorts at foreign airports.

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. Export/import shipping arrangements also should determine the arrangements that should be made and notifications for armed escorts to accompany shipments. Checks with airlines showed that three escorts could be accommodated on their cargo planes. Note, however, that the rule has been changed to require only two escorts because it appears that three armed escorts on cargo aircraft are not needed. This change also has been made for sea shipments.

(7) Comments indicated that it was inappropriate to specify container characteristics in this rule. The NRC specifies container approved criteria in part 71. The rule has been changed to delete the requirements for containers resistant to small arms fire. Any requirements for Pu and U-233 containers will be included in part 71.

(8) Comments questioned the need for approval of specific export/import plans if an overall plan had been approved. Comments also questioned whether the seven day notice period of § 73.72 was sufficient for the specific shipment security approval.

Each shipment has some unique characteristics that normally cannot be covered in a general security plan. This calls for approvals for each shipment or detailed security plans that cover such characteristics for routine shipments. This is true for both domestic and export/import shipments. The plans for any shipment must be approved prior to the seven day shipping notice. Depending on the details, it may take longer than seven days to approve a shipment security plan. The rule has been changed to apply to both domestic and to export/import shipments and to clarify the relationship of the approval to the seven day notice.

(9) Comments questioned the need for the secondary alarm station to be in the protected area and for the alarm stations to be vital areas thus requiring them to be in a protected area.

The intent of the requirement is to have the alarm stations to be hardened, access controlled areas. The secondary station does not have to be within the protected area but should be "on-site," i.e., within the confines of the owner-controlled area. The rule has been changed accordingly.

(10) Staff comments and system evaluation experience has shown that storage in vault type rooms of strategic special nuclear material that is directly useable in a nuclear explosive device may not provide acceptable penetration resistance or delay time in the context of the stated threat. The revised amendments have been changed to require the storage of such material only in vaults. The definition of vaults presently in § 73.2(n) also has been changed to better reflect the purpose of vaults.

(11) Guards and Armed Response Personnel Other Duties and Immediate Response.—Commenters 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."

Guards and armed response personnel can have other duties so long as such duties do not interfere with their response to a safeguards contingency. Normally it is expected that the response force would be made up of guards who have routine duties other than response, other members of the licensee's organization who are qualified and trained in accordance with appendix B, and guards from the licensee's organization who may be located at a facility that is adjacent to the protected area. Guards manning the alarm stations have continuing duties in case of an assault and are not considered to be part of the response force. The determination of "immediately available" will depend on how the licensee response plan is structured and the duties and responsibilities of the response personnel. The word immediately has been deleted as being unnecessary.

(12) Questions were raised about the meaning of a number of terms in the

proposed rule. Response to these questions is made in several ways:

a. Definitions are added for deceit, stealth and force;

b. Changes in wording and language are made to make the meaning clear without special definition; (in particular extensive changes were made to § 73.25 to more clearly define the required transportation protection capabilities);

c. Guidance as to the intent of a term is provided by means of a regulatory guide or NUREG document, e.g., duress alarms are the subject of a forthcoming NUREG report; or

d. No change is made because the wording appeared to be sufficiently clear.

(13) There was considerable confusion with regard to the present sections in part 73 and what would happen to them. The statement of considerations for the proposed rule indicated that they would be deleted but the amendments themselves did not. The revised amendments have been changed to state which sections would be deleted and when. It is noted that § 73.50 is not being deleted at this time but being revised to apply only to spent fuel storage other than at a power reactor.

(14) Comments stated that there was insufficient time to properly plan a revised security program and to implement it. The Commission agrees that adequate time must be allowed for proper planning and implementation to assure effective programs. The rule has been changed to allow more time for both planning and implementation. Allowance also has been made for installation and construction that may require longer than the specified times in specific cases.

In addition to the comments that resulted in changes in the proposed amendments a number of other issues were raised which resulted in no changes to the proposed amendments but which warrant discussion and explanation.

(1) *External threat and general performance requirements.* 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. Some commenters felt the threat was not conservative enough while others felt it was overconservative.

The Commission directed that a reevaluation of the threat studies be conducted by the staff. The results of this reevaluation do not impact the level of threat to be considered in safeguards system design.

(b) Commenters stated 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 physical protection systems. Commenters stated that a licensee could not know whether his physical protection system met the requirements because no bounds were given for the threat and general performance requirements.

The purpose of the threat defined in the proposed amendments is to define the general character of the domestic safeguards challenge. It is intended to provide a design basis for physical protection systems; therefore, additional adversary attributes are not necessary to serve this purpose. Physical protection 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.

With respect to specific numbers of adversaries, the numbers are not as significant as are the capabilities and resources of the adversary. For example, the threat from a disorganized mob of 50 or so people is much different from that of only a few well organized, well trained people.

Given that the described threat is a design basis for a physical protection system, additional design creteria are given in the form of required system capabilities. These capabilities are further supported by the subsystems and components of the reference systems in the regulations designed to meet the general performance requirements and required capabilities. Additional guidance to assist the licensee in the design of his safeguards system is in preparation and will be promulgated in regulatory guides and NUREG reports. This type of guidance will provide the logic to relate the subsystems and components of physical protection systems to the required capabilities and the general performance requirements. This logic will provide design criteria that may be used by the licensee and show how the general performance requirements and system capabilities may be used in the design of a specific physical protection system. Draft copies of this guidance will be circulated for comment. Further, licensees will obtain guidance through the issuance of license review criteria for use in physical protection system design and in the license review process. Appropriate references to applicable regulatory guides, NUREG documents and other publications responsive to specified regulatory requirements will be provided in both the design guidance documents and the evaluation criteria documents. Enforcement of the regulation will be based on the specific approved licensee plan.

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

Due to the disasterous consequences of the successful detonation of a clandestine weapon conservative policy dictates the need to consider safeguards systems exclusive of other considerations such as the form of the strategic special nuclear material and the probability of an adversary constructing a nuclear fission device. Nevertheless in one instance the rule has been strengthened by requiring material directly useable in a nuclear fission device to be stored only in a vault.

(2) *Use of deadly force.* 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 strategic special nuclear material by use of deadly force and that seizure or diversion of strategic special nuclear material be made a Federal offense with severe criminal penalties imposed.

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, commonplace. They are found in airports, banks, with armored trucks transporting currency, in the employ of railroads, and frequently in large shopping centers. Thus, the requirement for armed guards to protect property is not a departure from an accepted industrial practice.

Section 73.46(h)(4) of the proposed amendments states 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). A recent amendment to this paragraph further clarified expected guard response. (See 42 FR 64103.)

In view, however, of the comments received, 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 generally 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., *People* v. *Estrada*, 213 P. 67 (Calif. 1923); *Perez* v. *State*, *300* P.

428 (Okla. 1931)). In other States a person need not retreat in his place of business (e.g., *State* v. *Feltovic*, 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., *Purdon's Pennsylvania Statutes*, Annotated, section 18-505(b)(2)(ii)(B)). A guard's job includes the investigation of intrusions or unauthorized entry to protected areas. If circumstances warrant, generally 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).

Another aspect of the response requirement also requires clarification. The requirement as now written, adopted verbatim from 10 CFR 73.50(g)(2), places a duty on licensees to instruct their guards to prevent or impede acts of radiological sabotage or theft of strategic special nuclear material and 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 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 them—the guards. 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 grievious bodily injury. Indeed, in view of the reference system requirement that he investigate intrusions or unauthorized entries and try to forestall theft, diversion, or sabotage, it is seen as essential for the protection of the guard to allow him to use his weapons under such circumstances.

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 civilian 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 grievious bodily injury, is clearly within the mainstream of American law.

Licensees who believe any part of the guard response rule to be demonstrably illegal under the law of their respective jurisdictions 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.

The Commission does not believe legislation is required in the matter of the use of deadly force nor is legislation required to impose penalties for theft or diversion of strategic special nuclear material. The Atomic Energy Act of 1954 as amended, already provides severe penalties for the unauthorized possession, or attempt to gain possession, of special nuclear material. Section 57a. of the act (42 U.S.C. 2077) makes it unlawful for any person to acquire or possess special nuclear material 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 conspire 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.

(3) *Use of Government guards.* Commenters stated that the level of force required by the rule is beyond that which should be expected of private industry. One commenter recommended that NRC restudy the use of public sector personnel to guard licensed strategic special nuclear material. Specifically, commenters gave several reasons for these comments, including: (1) That the private sector cannot satisfy the proposed transportation requirements with commercially available equipment; (2) there is no evidence to support the design threat level stated in the rule, and, therefore, if the Government establishes a need to protect against such a threat, the Government should do it; (3) the rule is so open-ended only Federal forces could satisfy it; and (4) private "SWAT teams" should not be created to suppress crime.

The Security Agency study, done in compliance with the Energy Reorganization Act of 1974, concluded that licensee guards, properly trained and equipped, could be as effective as Federal forces. In fact, the Federal Government employs private guards to protect federally owned strategic special nuclear material. DOE, which uses both public and private sector guards, has stated in congressional testimony (Committee on Government Affairs, March 23, 1978) that these guards are equally effective. In addition, the Security Agency study (SAS) reviewed a number of other issues applicable to the question of whether Government or private guards should be responsible for nuclear security and concluded that there was no reason this responsibility should not continue to rest with the private sector. Since this rule does not increase safeguards requirements beyond those considered by the SAS, its conclusions remain valid.

Nevertheless, Government has a responsibility to assist licensees in the protection of their facilities against theft of strategic special nuclear material particularly in the face of deteriorating civil order. This fact is recognized in both the proposed upgrade rule and the recently published contingency planning rule (43 FR 11962).

Regarding the specific reasons why commenters recommended Government guards, the first, that the private sector cannot satisfy the transportation requirements with commercially available equipment, is not valid. The staff has made numerous changes to the proposed rule which are responsive to public comments and as modified, the transportation requirements of the rule can be satisfied with commercially available equipment. Regarding the second reason cited, the proposed threat level is reflective of a number of studies which were extrapolated from historical evidence, communications with various law enforcement agencies, review of actual or threatened violence in the commercial nuclear industry, and prudent judgment by NRC staff based on consideration of all of this information. The results of these studies are reflected in the Joint ERDA/NRC Task Force report (NUREG 0095) and the GESMO safeguards study (NUREG 0414), which recommended protection against essentially the same threat level as that established in the rule. Both of these reports reflected the threat information available to their preparers at that time. In addition, the results of a current thorough review of all threat information available to the Commission at this time does not provide any basis for changing the design threat.

Regarding the third reason, that the rule is too open ended, the phrase which caused the greatest concern about this (i.e., " " " but not necessarily limited to " " ") has been deleted because the capabilites and performance requirements are comprehensive enough to cover all safeguards contingencies. In addition, a section has been added to the statement of considerations which states what guidance will be used by NRC and issued to licensees to assure that the development, licensing review, and inspection of secu-

rity plans and facilities are not open ended.

Fthally, this rule does not require licensees to use "private SWAT teams" to suppress crime in general. Licensees are not expected to assume normal responsibilities of Government defense or law enforcement agencies. Rather, licensees are required, in accordance with NRC regulations and their licensing agreement, only to prevent the theft of strategic special nuclear material and protect against the radiological sabotage of a licensed facility. There are no NRC requirements relating to: (1) Protection against ordinary theft of nonnuclear materials or other criminal acts; (2) apprehension and arrest of criminals; or (3) defeating an adversary force.

(4) *Conflict with State and local gun laws and use of automatic weapons.* 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 weapons was raised.

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.

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).

The Commission, however, believes that the increment in firepower 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.

The Commission recognizes that carriers would need to consider the various local and State gun laws for the jurisdictions through which they would be transporting strategic special nuclear material. This is not a new situation. There are many companies transporting valuable shipments with armed escorts through various jurisdictions. This would indicate that it is not an insoluble problem.

It is not intended that the proposed amendments would override State and local laws. It is the belief of the Commission 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. Where a licensee can show conclusively that there is conflict with State and local laws alternative measures would be considered.

(5) *Comments indicated confusion regarding the status of research reactors under the proposed rule.* Commenters 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."

The intent and context of the proposed regulation was to include only those research reactors having more than formula quantities of strategic special nuclear material 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 apparently resulted from misunderstanding as to the treatment of the present sections in part 73. These sections would be removed when the new sections became effective. Coverage for research reactors having less than the formula quantity of strategic special nuclear material would continue to be covered under § 73.40. The Commission is considering a separate section in part 73 to cover research reactor protection just as there is a separate section, § 73.55, to cover the protection of power reactors. Until such an amendment is made, research reactors having more than formula quantities would be covered by the proposed regulation when it is made effective.

(6) *Performance-oriented requirements flexibility.* Commenters suggested that flexibility be allowed in the regulation to vary the number of escorts or escort vehicles, to use an unarmored vehicle that would be less conspicuous, to permit changes of routing en route, and to adopt requirements to site specific conditions. Other suggestions were made for changes in wording to permit exemptions for specific conditions or deletion of requirements that would not be appropriate for certain conditions.

The objective of the performance capability requirements is to provide flexibility to the licensee in designing his system to provide the designated capabilities. The capabilities are design goals for the licensee to fit to his individual site or transport conditions. The capabilities are the stated goals or requirements. Whether a given system actually attains a specific goal in practice will depend on 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 or under a given transport situation. Guidance in the design of safeguards systems is being prepared and will be provided to the licensees. This guidance identifies various subsystems and components that can be used to attain the specified capabilities. The licensee must select the appropriate combinations for his needs. The first paragraphs of the system specification §§ 73.26 and 73.46 states that the Commission may authorize other measures if in its opinion the overall level of performance meets the general performance requirements and the performance capability requirements.

It is the intent of these capability requirements and general performance requirements to allow maximum flexibility to the licensee in designing his system. No exemptions to the specific requirements of § 73.26 or § 73.46 are needed so long as the differences are shown to meet the general performance and capability requirements.

(7) *Costs.* Commenters stated that the costs given in the statement of considerations were too low but provided no supporting data for higher costs. The comment also was made that some of the requirements could not be implemented at any cost but no details were given.

The Commission has studied the costs of the proposed amendments further and has had a value/impact analysis prepared on the basis of the reference system in the regulation. A copy of this analysis has been placed in the Commission's Public Document Room at 1717 H Street NW., Washington, D.C.

If the Commission adopts the proposed amendments to 10 CFR Part 73, each affected licensee would be given a period of 120 days following the effective date of the amendments to submit a revised fixed site safeguards physical protection plan and, if appropriate, a revised safeguards transportation protection plan describing how the licensee will comply with the requirements of § 73.20 (a)(1) and (a)(2). A licensee

would be given up to 300 days after the effective date of the amendments or 90 days after the submitted plan is approved, whichever is later, to implement the approved plan except for certain activities involving new construction, significant physical modification of existing structures, or major equipment installation for which 540 days or 180 days after the plan is approved would be allowed.

In addition, a licensee would be given up to 210 days after the effective date of these amendments to submit a revised fixed site safeguards physical protection plan and, if appropriate, a revised safeguards transportation protection plan describing how the licensee will comply with the requirements of § 73.20(a)(3).

A licensee would be given up to 390 days after the effective date of these amendments or 90 days after this latter plan is approved, whichever is later, to implement the approved plan except for activities specifically identified by the licensee which involve new construction, significant modification of existing structures or major equipment installation for which 540 days after the effective date of these amendments or 180 days after the plan(s) is approved, whichever is later, would be allowed.

The amendments would become effective 30 days after publication in the FEDERAL REGISTER.

The system specifications included in § 73.26 for transportation physical protection systems are based on comments received on the transportation protection requirements proposed for comment on November 13, 1974 (39 FR 40036) and subsequent considerations.

The commission has determined under Council of Environmental Quality guidelines and the criteria in 10 CFR Part 51 that an environmental impact statement for the proposed amendments to 10 CFR Part 73 is not required. Concurrently with publication of the notice of proposed rulemaking of July 5, 1977 (42 FR 34310) the Commission made available in its Public Documents Room at 1717 H Street NW., Washington, D.C. an "Environmental Impact Appraisal of Amendments To 10 CFR Part 73," to support a Negative Declaration. This document is appropriate for the revised proposed amendments as well.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and section 553 of title 5 of the United States Code, notice is hereby given that adoption of the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 73 is contemplated.

1. Section 73.1(a) of 10 CFR Part 73 is revised to read as follows:

§ 73.1 Purpose and scope.

(a) *Purpose.* This part prescribes requirements for the establishment and maintenance of a physical protection system which will have capabilities for the protection of special nuclear material at fixed sites and in transit and of plants in which special nuclear material is used, to protect against acts of radiological sabotage and prevention of theft of special nuclear material.

* * * * *

2. Sections 73.2(c), (f), (h), (k), (n), and (p) of 10 CFR Part 73 are revised to read as follows:

§ 73.2 Definitions.

As used in this part:

* * * * *

(c) "Guard" means a uniformed individual armed with a firearm whose primary duty is the protection of special nuclear material against theft, the protection of a plant against radiological sabotage, or both.

* * * * *

(f) "Physical Barrier" means

(1) Fences constructed of No. 11 American wire gage, or heavier wire fabric, topped by three strands or more of barbed wire or similar material on brackets angled outward between 30° amd 45° from the vertical, with an overall height of not less than 8 feet, including the barbed topping;

(2) Building walls, ceilings and floors constructed of stone, brick, cinder block, concrete, steel or comparable materials (openings in which are secured by grates, doors, or covers of construction and fastening of sufficient strength such that the integrity of the wall is not lessened by any opening), or walls of similar construction, not part of a building, provided with a barbed topping described in paragraph (f)(1) of this section of a height of not less than 8 feet; or

(3) Any other physical obstruction constructed in a manner and of materials suitable for the purpose for which the obstruction is intended.

* * * * *

(h) "Vital area" means any area which contains vital equipment.

* * * * *

(k) "Isolation zone" means any area, clear of all objects which could conceal or shield an individual, adjacent to a physical barrier.

* * * * *

(n) "Vault" means a windowless enclosure constructed with walls, floor, roof and door(s) that will delay penetration appropriate to the response time of the local law enforcement authority that would respond to a safeguards contingency at the site.

* * * * *

(p) "Radiological sabotage" means any deliberate act directed against a plant or transport in which an activity licensed pursuant to the regulations in this chapter is conducted, or against a component of such a plant or transport which could directly or indirectly endanger the public health and safety by exposure to radiation.

3. Section 73.2 of 10 CFR Part 73 is amended to add paragraphs (x) thru (ff).

§73.2 Definitions.

As used in this part:

* * * * *

(x) "Strategic special nuclear material" means uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium.

(y) "Formula quantity" means strategic special nuclear material in any combination in a quantity of 5,000 grams or more computed by the formula, grams = (grams contained U-235 + 2.5 (grams U-233 + grams plutonium).

(z) "Transport" means any land, sea, or air conveyance or modules for these conveyances such as rail cars or standardized cargo containers.

(aa) "Incendiary device" means any self-contained device intended to create an intense fire that can damage normally flame resistant or retardant materials.

(bb) "Controlled access area" means any temporarily or permanently established clearly demarcated area, access to which is controlled and which affords isolation of the material, equipment or persons within it.

(cc) "Movement control center" means an operations center which is remote from transport activity and which maintains periodic position information on the movement of strategic special nuclear material, receives reports of attempted attacks or thefts, provides a means for reporting these and other problems to appropriate agencies and can request and coordinate appropriate aid.

(dd) "Force" means potentially violent methods used to attempt to gain unauthorized access or introduce unauthorized materials into or remove stragetic special nuclear material from protected areas, vital areas, material access areas, controlled access areas, or transports.

(ee) "Stealth" means covert methods used to attempt to gain unauthorized access or introduce or remove unauthorized materials where the fact of

such attempt is concealed or an attempt is made to conceal it.

(ff) "Deceit" means methods used to attempt to gain unauthorized access or introduce or remove unauthorized materials where the attempt involves falsification to present the appearance of authorized access.

4. The undesignated first paragraph of § 73.6 is revised to read as follows:

**§ 73.6 Exemptions of certain quantities and kinds of special nuclear material.**

A licensee is exempt from the requirements of §§ 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.70, and 73.72 with respect to the following special nuclear material:

* * * * *

5. Section 73.6 is amended to add paragraph (d) to read as follows:

**§ 73.6 Exemptions of certain quantities and kinds of special nuclear material.**

* * * * *

(d) Special nuclear material that is being transported by the United States Department of Energy transport system.

**§§ 73.30 through 73.36 and 73.50 [Deleted]**

6. Sections 73.30 through 73.36, and 73.50 are deleted.

7. The undesignated first paragraph of § 73.50 is revised to read as follows:

**§ 73.50 Requirements for physical protection of licensed activities.**

Each licensee who is authorized to possess, use, or store formula quantities of strategic special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding other than at a nuclear reactor facility licensed pursuant to part 50 of this chapter shall comply with the following:

* * * * *

8. Section 73.40(a) is revised to read as follows:

**§ 73.40 Physical protection: General requirements at fixed sites.**

(a) Each licensee shall provide physical protection against industrial sabotage and against theft of special nuclear material at the fixed sites where licensed activities are conducted. Physical security systems shall be established and maintained by the licensee in accordance with security plans approved by the Nuclear Regulatory Commission.

(b) [Amended]

9. Paragraph 73.40(b) is revised to replace references to §§ 73.30 and 73.50 with references to §§ 73.20; 73.25; 73.26; 73.45; and 73.46.

10. New §§ 73.20, 73.25, 73.26, 73.27, 73.45, and 73.46 are added to read as follows:

**§ 73.20 General performance requirements.**

(a) In addition to any other requirements of this part, each licensee who is authorized to operate a fuel reprocessing plant pursuant to part 50 of this chapter; possesses or uses formula quantities of strategic special nuclear material at any site or contiguous sites subject to control by the licensee; is authorized to transport or deliver to a carrier for transportation pursuant to part 70 of this chapter formula quantities of strategic special nuclear material; takes delivery of formula quantities of strategic special nuclear material free on board (f.o.b.) the point at which it is delivered to a carrier for transportation; or imports or exports formula quantities of strategic special nuclear material shall establish and maintain or make arrangements for a physical protection system which will prevent with high assurance theft of strategic special nuclear material and protect against radiological sabotage by the following:

(1) A determined violent external assault, attack by stealth, or deceptive actions, by a small group with the following attributes, assistance and equipment: (i) Well-trained (including military training and skills) and dedicated individuals, (ii) inside assistance which may include a knowledgeable individual who attempts to participate in both a passive role (e.g., provide information) and an active role (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack), (iii) suitable weapons, up to and including handheld automatic weapons, equipped with silencers and having effective long range accuracy, (iv) handcarried equipment, including incapacitating agents and explosives for use as tools of entry or otherwise destroying the plant or transport integrity, and (v) the ability to operate as two or more teams,

(2) An individual, including an employee (in any position), and

(3) A conspiracy between individuals in any position who may have: (i) Access to and detailed knowledge of the facilities and activities referred to in § 73.20(a), or (ii) items that could facilitate theft of special nuclear material (e.g., small tools, substitute material, false documents, etc.), or both.

(b) To meet the general performance requirements of paragraph (a) of this section a licensee shall establish and maintain, or arrange for, a physical protection system that:

(1) Provides the performance capabilities described in § 73.25 for in-transit protection or in § 73.45 for fixed site protection unless otherwise authorized by the Commission;

(2) Is designed with sufficient redundancy and diversity to assure maintenance of the capabilities described in § 73.25 or § 73.45; and

(3) Includes a testing and maintenance program to assure control over all activities and devices affecting the effectiveness, reliability, and availability of the physical protection system, including a demonstration that any defects of such activities and devices will be promptly detected and corrected for the total period of time they are required as a part of the physical protection system.

(c) Each licensee subject to the requirements of paragraphs (a) and (b) of this section shall:

(1) Within 120 days after the effective date of these amendments, submit a revised fixed site safeguards physical protection plan and, if appropriate, a revised safeguards transportation protection plan describing how the licensee will comply with the requirements of paragraphs (a)(1) and (a)(2) of this section; and

(2) Within 300 days after the effective date of these amendments or 90 days after the plan submitted pursuant to paragraph (c)(1) of this section is approved, whichever is later, implement the approved plan except for activities specifically identified by the licensee which involve new construction, significant physical modification of existing structures or major equipment installation for which 540 days after the effective date of these amendments or 130 days after the plan(s) is approved, whichever is later, will be allowed.

(3) Within 210 days after the effective date of these amendments submit a revised fixed site safeguards physical protection plan and, if appropriate, a revised safeguards transportation protection plan describing how the licensee will comply with the requirements of paragraph (a)(3) of this section; and

(4) Within 390 days after the effective date of these amendments or 90 days after the plan(s) submitted pursuant to paragraph (c)(3) of this section is approved, whichever is later, implement the approved plan except for activities specifically identified by the licensee which involve new construction, significant modification of existing structures or major equipment installation for which 540 days after the effective date of these amendments or 130 days after the plan(s) is approved, whichever is later, will be allowed.

**§ 73.25 Performance capabilities for physical protection of strategic special nuclear material in transit.**

(a) To meet the general performance requirement of § 73.20 an in-transit physical protection system shall include the performance capabilities described in paragraphs (b) through (d) of this section unless otherwise authorized by the Commission.

(b) Restrict access to and activity in the vicinity of transports and strategic special nuclear material. To achieve this capability the physical protection system shall:

(1) Minimize the vulnerability of the strategic special nuclear material by using the following subfunctions and procedures:

(i) Preplanning itineraries for the movement of strategic special nuclear material;

(ii) Periodically updating knowledge of route conditions for the movement of strategic special nuclear material;

(iii) Maintaining knowledge of the status and position of the strategic special nuclear material en route; and

(iv) Determining and communicating alternative itineraries en route as conditions warrant.

(2) Detect and delay any unauthorized attempt to gain access or introduce unauthorized materials by stealth or force into the vicinity of transports at all stops using the following subsystems and subfunctions:

(i) Controlled access areas to isolate strategic special nuclear material or transports at all stops to assure that unauthorized persons or materials shall not have direct access to the transports or strategic special nuclear material;

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized penetration (or such attempts) of a controlled access area by persons, vehicles or materials at the time of the penetration (or attempt) so that the response can prevent the penetration (or attempt) from resulting in the theft of strategic special nuclear material or radiological sabotage.

(3) Detect and delay any unauthorized attempt to gain access by stealth or force into the vicinity of strategic special nuclear material on board moving transports using the following subsystems and subfunctions:

(i) Controlled access areas to assure unauthorized persons shall not have direct access to the strategic special nuclear material;

(ii) Secured cargo compartments; and

(iii) Monitoring and surveillance subsystems and procedures to detect, assess and communicate any unauthorized access into the vicinity of strategic special nuclear material or penetration of cargo compartments or controlled access areas (or such attempts) so that the response can prevent the theft of strategic special nuclear material.

(4) Detect attempts to gain unauthorized access or introduce unauthorized materials into the vicinity of transports by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and access criteria for persons, materials and vehicles; and

(ii) Access controls and procedures to verify the identity of persons, materials and vehicles and assess such identity against current authorization schedules and access criteria before permitting access and to intitiate response measures to deny unauthorized entries.

(c) Prevent or delay unauthorized entry or introduction of unauthorized materials into, and unauthorized removal of strategic special nuclear material from transports. To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized entry or introduce unauthorized materials into transports by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for access into transports for both persons and materials; and

(ii) Entry controls and procedures to verify the identity of persons and materials and to permit transport entry only to those persons and materials specified by the current authorization schedules and entry criteria.

(2) Detect attempts to gain unauthorized entry or introduce unauthorized material into transports by stealth or force using the following subsystems and subfunctions:

(i) Transport features to delay access to strategic special nuclear material sufficient to permit the detection and response systems to function so as to prevent the theft of strategic special nuclear material;

(ii) Inspection and detection subsystems and procedures to detect unauthorized tampering with transports and cargo containers; and

(iii) Surveillance subsystems and procedures to detect, assess and communicate any unauthorized presence of persons or materials and any unauthorized attempt to penetrate the transport so that the response can prevent the theft of strategic special nuclear material.

(3) Prevent unauthorized removal of strategic special nuclear material from transports by deceit using the following subsystems and subfunctions:

(i) Authorization controls and procedures to provide current schedules for authorized removal of strategic special nuclear material which specify the persons authorized to remove and receive the material, the authorized times for such removal and receipt and authorized places for such removal and receipt.

(ii) Removal controls and procedures to establish removal procedures for transferring cargo in emergency situations; and

(iii) Removal controls and procedures to permit removal of strategic special nuclear material only after verification of the indentity of persons removing or receiving the strategic special nuclear material, and the identity and integrity of the strategic special nuclear material being removed from transports.

(4) Detect attempts to remove strategic special nuclear material from transports by stealth or force using the following subsystems and subfunctions:

(i) Transport features to delay unauthorized strategic special nuclear material removal attempts sufficient to assist detection and permit a response to prevent the theft of strategic special nuclear material; and

(ii) Detection subsystems and procedures to detect, assess and communicate any attempts at unauthorized removal of strategic special nuclear material so that response to the attempt can be such as to prevent the removal theft of strategic special nuclear material.

(d) Respond to safeguards contingencies and emergencies to assure that the two capabilities paragraphs (b) and (c) of this section are achieved, and to engage and impede adversary forces until local law enforcement forces arrive. To achieve this capability, the physical protection system shall:

(1) Respond rapidly and effectively to safeguards contingencies and emergencies using the following subsystems and subfunctions:

(i) A security organization composed of trained and qualified personnel, including armed escorts, one of whom is designated as escort commander, with procedures for command and control, to execute response functions.

(ii) Assessment procedures to assess the nature and extrent of security related incidents.

(iii) A predetermined plan to respond to safeguards contingency events.

(iv) Equipment and procedures to enable responses to security related incidents sufficiently rapid and effective to achieve the predetermined objective of each action.

(v) Equipment, vehicle design features, and procedures to protect security organization personnel, including those at the movement control center.

in their performance of assessment and response related functions.

(2) Transmit detection, assessment and other response related information using the following subsystems and subfunctions:

(i) Communications equipment and procedures to rapidly and accurately transmit security information among armed escorts.

(ii) Equipment and procedures for two-way communications between the escort commander and the movement control center to rapidly and accurately transmit assessment information and requests for assistance by local law enforcement forces, and to coordinate such assistance.

(iii) Communications equipment and procedures for the armed escorts and the movement control center personnel to notify local law enforcement forces of the need for assistance.

(3) Establish liaisons with local law enforcement authorities to arrange for assistance enroute.

(4) Assure that a single adversary action cannot destroy the capability of armed escorts to notify the local law enforcement forces of the need for assistance.

**§ 73.26 Transportation physical protection systems, subsystems, elements components, and procedures.**

(a) A transportation physical protection system established pursuant to the general performance requirements of § 73.20 and performance capability requirements of § 73.25 shall include, but are not necessarily limited to, the measures specified in paragraphs (b) through (l) of this section. The Commission may require, depending on the individual transportation conditions or circumstances, alternate or additional measures deemed necessary to meet the general performance requirements of § 73.20. The Commission also may authorize protection measures other than those required by this section if in its opinion the overall level of performance meets the general performance requirements of § 73.20 and the performance capability requirements of § 73.25.

(b) Planning and scheduling.

(1) Shipments shall be scheduled to avoid regular patterns and preplanned to avoid areas of natural disaster or civil disorders, such as strikes or riots. Such shipments shall be planned in order to avoid storage times in excess of 24 hours and to assure that deliveries occur at a time when the receiver at the final delivery point is present to accept the shipment.

(2) Arrangements shall be made with law enforcement authorities along the route of shipments for their response to an emergency or a call for assistance.

(3) For any series of shipments of strategic special nuclear material by a licensee to the same consignee in which individual shipments are less than the quantities requiring physical protection in transit under 10 CFR 73.1(b)(2), but the total quantity for the series exceeds the formula quantity of strategic special nuclear material the licensee shall confirm and log the arrival at the final destination of each shipment in the series before releasing the subsequent shipment.

(4) Security arrangements for each shipment shall be approved by the Nuclear Regulatory Commission prior to the time for the seven day notice required by § 73.72. Information to be supplied to the Commission in addition to the general security plan information is as follows:

(i) Shipper, consignee, carriers, transfer points, modes of shipment;

(ii) Point where escorts will relinquish responsibility or will accept responsibility for the shipment;

(iii) Arrangements made for transfer of shipment security; and

(iv) Security arrangements at point where escorts accept responsibility for an import shipment.

(5) Hand-to-hand receipts shall be completed at origin and destination and at all points enroute where there is a transfer of custody.

(c) Export/import shipments.

(1) A licensee who imports formula quantities of strategic special nuclear material shall make arrangements to assure that such material will be protected in transit as follows:

(i) An individual designated by the licensee or his agent, or as specified by a contract of carriage, shall confirm the container count and examine locks and/or seals for evidence of tampering, at the first place in the United States at which the shipment is discharged for the arriving carrier.

(ii) The shipment shall be protected at all times within the geographical limits of the United States as provided in this section and §§ 73.25 and 73.27.

(2) A licensee who exports formula quantities of strategic special nuclear material shall comply with the requirements of this section and §§ 73.25 and 73.27, as applicable, up to the first point where the shipment is taken off the transport outside the United States.

(d) Security organization.

(1) The licensee or his agent shall establish a transportation security organization, including armed escorts, armed response personnel or guards, and a movement control center manned and equipped to monitor and control shipments, to communicate with local law enforcement authorities, and to respond to safeguards contingencies. All individuals engaged in the protection of a shipment, including armed escorts, armed response personnel, employees of the licensee or his agent who acompany the shipment, and the operators in the movement control center shall have an NRC or DOE material access authorization.[1]

(2) At least one full time member of the security organization who has the authority to direct the physical protection activities of the security organization shall be on duty at the movement control center during the course of any shipment.

(3) The licensee or his agent shall establish, maintain, and follow a management system to provide for the development, revision, implementation, and enforcement of transportation physical protection procedures. The system shall include:

(i) Written security procedures which document the structure of the transportation security organization and which detail the duties of drivers and escorts and other individuals responsible for security; and

(ii) Provision for written approval of such procedures and any revisions thereto by the individual with overall reponsibility for the security function.

(4) Neither the licensee or his agent shall permit an individual to act as an escort or other security organization member unless such individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with appendix B, of this part, "General Criteria for Security Personnel" to be published soon as an effective rule. Upon the request of an authorized representative of the Commission the licensee or his agent shall demonstrate the ability of the physical security personnel to carry out their assigned duties and responsibilities. Armed escorts shall requalify in accordance with Appendix B of this part at least every 12 months. Such requalification shall be documented.

(e) Contingency and response plans and procedures.

(1) The licensee or his agent shall establish, maintain, and follow a safeguards contingency plan for dealing with threats, thefts, and radiological sabotage related to strategic special nuclear material in transit subject to the provisions of this section. Such safeguards contingency plan shall be in accordance with the criteria in appendix C to this part, "Licensee Safeguards Contingency Plan" (43 FR 11962).

(2) Upon detection of abnormal presence or activity of persons or vehicles attempting to penetrate a moving

[1] Proposed amendments requiring NRC material authorization program for licensee access to or control over special nuclear material (SECY-78-308) were published as a proposed rule on March 17, 1977 (42 FR 14880) and were discussed in a public hearing on July 10, 11, and 12, 1978.

convoy or persons attempting to gain access to a parked cargo vehicle or upon evidence or indication of penetration of the cargo vehicle the armed escorts or other armed response personnel shall:

(i) Determine whether or not a threat exists;

(ii) Assess the extent of the threat, if any;

(iii) Take immediate concurrent measures to neutralize the threat by:

(a) Making the necessary tactical moves to prevent or impede acts of radiological sabotage or theft of strategic special nuclear material, and

(b) Informing local law enforcement agencies of the threat and requesting assistance.

(3) The licensee or his agent shall instruct every armed escort and all armed response personnel to prevent or impede acts of radiological sabotage or theft of strategic special material by using sufficient force to counter the force directed at him including the use of deadly force when armed escorts or armed response personnel have a reasonable belief that it is necessary in self-defense or in the defense of others.

(f) Transfer and storage of strategic special nuclear material for domestic shipments.

(1) Strategic special nuclear material shall be placed in a protected area at transfer points if transfer is not immediate from one transport to another. Where a protected area is not available a controlled access area shall be established for the shipment. The transport may serve as a controlled access area.

(2) All transfers shall be protected by at least nine armed escorts or other armed personnel—one of whom shall serve as commander. At least seven of the armed personnel (including the commander) shall be available to protect the shipment and at least three of the seven shall keep the strategic special nuclear material under continuous surveillance while it is at the transfer point. The two remaining armed personnel shall take up positions at a remote monitoring location. The remote location may be a radio-equipped vehicle or a nearby place, apart from the shipment area, so that a single act cannot remove the capability of the personnel protecting the shipment for calling for assistance. Each of the nine armed escorts or other armed personnel shall be capable of maintaining communication with each other. The commander shall have the capability to communicate with the personnel at the remote location and with local law enforcement agencies for emergency assistance. In addition the armed escorts personnel at the remote location shall have the capability to communicate with the law enforcement agencies and with the shipment movement control center. The commander shall call the remote location at least every 30 minutes to report the status of the shipment. If the calls are not received within the prescribed time, the personnel in the remote location shall request assistance from the law enforcement authorities, notify the shipment movement control center and initiate the appropriate contingency plans. Armed escorts or other armed personnel shall observe the opening of the cargo compartment of the incoming transport and insure that the shipment is complete by checking locks and seals. A shipment loaded onto or transferred to another transport shall be checked to assure complete loading or transfer. Continuous visual surveillance of the cargo compartment shall be maintained up to the time the transport departs from the terminal. The escorts shall observe the transport until it has departed and shall notify the licensee or his agent of the latest status immediately thereafter.

(g) Access control subsystems and procedures.

(1) A numbered picture badge identification procedure shall be used to identify all individuals who will have custody of a shipment. The identification procedure shall require that the individual who has possession of the strategic special nuclear material shall have, in advance, identification picture badges of all individuals who are to assume custody for the shipment. The shipment shall be released only when the individual who has possession of strategic special nuclear material has assured positive identification of all of the persons assuming custody for the shipment by comparing the copies of the identification badges that he has received in advance to identification badges that the individuals who will assume custody of the shipment carry.

(2) Access to protected areas, controlled access areas, transports, escort vehicles, aircraft, rail cars, and containers where strategic special nuclear material is contained shall be limited to individuals authorized access to these areas after they have been properly identified.

(3) Strategic special nuclear material shall be shipped in containers that are protected by tamper-indicating seals. The containers also shall be locked if they are not in another locked container or transport. The outermost container or transport also shall be protected by tamper-indicating seals.

(h) Test and maintenance programs. The licensee or his agent shall establish, maintain and follow a test and maintenance program for communications equipment and other physical protection related devices and equipment used pursuant to this section which shall include the following:

(1) Tests and inspections shall be conducted during the installation, and construction of physical protection related subsystems and components to assure that they comply with their respective design criteria and performance specifications.

(2) Preoperational tests and inspections shall be conducted for physical protection related subsystems and components to demonstrate their effectiveness, availability, and reliability with respect to their respective design criteria and performance specifications.

(3) Operational tests and inspections shall be conducted for physical protection related subsystems and components to assure their maintenance in an operable and effective condition.

(4) Preventive maintenance programs shall be established for physical protection related subsystems and components to assure their continued maintenance in an operable and effective condition.

(5) All physical protection related subsystems and components shall be maintained in operable condition. Corrective action procedures and compensatory measures shall be developed and employed to assure that the effectiveness of the physical protection system is not reduced by any single failure or other contingencies affecting the operation of the physical protection related equipment or structures.

(6) The transportation security program shall be reviewed at least every 12 months or prior to each use, whichever is greater, by individuals independent of both security management and security supervision. Such a review shall include a review and audit of security procedures and practices, evaluation of the effectiveness of the physical protection system, an audit of the physical protection system testing and maintenance program, and an audit of commitments established for response by local law enforcement authorities. The results of the review and audit along with recommendations for improvements shall be documented, reported to the responsible organization management, and kept available for inspection for a period of five years.

(i) Shipment by road.

(1) A detailed route plan shall be prepared which shows the routes to be taken, the refueling and rest stops, and the call-in times to the movement control center. All shipments shall be made on primary highways with minimum use of secondary roads. All shipments shall be made without intermediate stops except for refueling, rest or emergency stops.

(2) Cargo compartments of the trucks or trailers shall be locked and protected by tamper-indicating seals.

(3) The shipment shall be protected by one of the following methods:

(i) A specially designed cargo vehicle truck or trailer that reduces the vulnerability to theft. Design features of the truck or trailer shall permit immobilization of the truck or of the cargo-carrying portion of the vehicle and shall provide a deterrent to physical penetration of the cargo compartment. Two separate escort vehicles shall accompany the cargo vehicle. There shall be a total of nine armed escorts with at least two in the cargo vehicle. Escorts may also operate the cargo and escort vehicles.

(ii) An armored car cargo vehicle. Three separate escort vehicles shall accompany such a cargo vehicle. There shall be a total of nine armed escorts, with at least two in the cargo vehicle. Escorts may also operate the cargo and escort vehicles.

(4) All escort vehicles shall be bullet-resisting.

(5) Procedures shall be established to assure that no unauthorized persons or materials are on the cargo vehicle before strategic special nuclear material is loaded, or on the escort vehicles, immediately before the trip begins.

(6) Cargo and escort vehicles shall maintain continuous intraconvoy two-way communication. In addition at least two of the vehicles shall be equipped with radio telephones having the capability of communicating with the movement control center. A redundant means of communication shall also be available. Calls to the movement control center shall be made at least every half hour to convey the status and position of the shipment. In the event no call is received in accordance with these requirements, the licensee or his agent shall immediately notify the law enforcement authorities and the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in appendix A of this part and initiate the appropriate contingency plan.

(7) At refueling, rest, or emergency stops at least nine armed escorts or other armed personnel shall be available to protect the shipment and at least three armed escorts or other armed personnel shall maintain continuous visual surveillance of the cargo compartment.

(8) Transfers to and from other modes of transportation shall be in accordance with paragraph (f) of this section.

(j) Shipment by Air.

(1) Except as specifically approved by the Nuclear Regulatory Commission, no shipment of special nuclear material shall be made in passenger aircraft in excess of (i) 20 grams or 20 curies, whichever is less, of plutonium or uranium-233, or (ii) 350 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope).

(2) All shipments on commercial cargo aircraft shall be accompanied by two armed escorts who shall be able to converse in a common language with the captain of the aircraft.

(3) Transfers of these shipments shall be minimized and shall be conducted in accordance with paragraph (f) of this section. Such shipments shall be scheduled so that the strategic special nuclear material is loaded last and unloaded first.

(4) At scheduled stops, at least nine armed escorts or other armed personnel shall be available to protect the shipment and at least three armed escorts or other armed personnel shall maintain continuous visual surveillance of the cargo compartment.

(5) Export shipments shall be accompanied by two armed escorts from the last terminal in the United States until the shipment is unloaded at a foreign terminal and prime responsibility for physical protection is assumed by agents of the consignee. While on foreign soil, the escorts may surrender their weapons to legally constituted local authorities. After leaving the last terminal in the United States the shipment shall be scheduled with no intermediate stops.

(6) Import shipments shall be accompanied by two armed escorts at all times within the geographical limits of the United States. These escorts shall provide physical protection for the shipment until relieved by verified agents of the U.S. consignee.

(7) Procedures shall be established to assure that no unauthorized persons or material are on the aircraft before strategic special nuclear material is loaded on board.

(8) Arrangements shall be made at all domestic airports to assure that the nine required armed escorts or other armed personnel are available and that the required security measures will be taken upon landing.

(9) Arrangements shall be made at the foreign terminal at which the shipment is to be unloaded to assure that security measures will be taken on arrival.

(k) Shipment by Rail.

(1) A shipment by rail shall be escorted by nine armed escorts in the shipment car or an escort car next to the shipment car of the train. At least three escorts shall keep the shipment car under continuous visual surveillance. Escorts shall detrain at stops when practicable and time permits to maintain the shipment cars under continuous visual surveillance and to check car or container locks and seals.

(2) Procedures shall be established to assure that no unauthorized persons or materials are on the shipment or escort car before strategic special nuclear material is loaded on board.

(3) Only containers weighing 5,000 lbs or more shall be shipped on open rail cars.

(4) A voice communication capability between the escorts and the movement control center shall be maintained. A redundant means of continuous communication also shall be available. Calls to the movement control center shall be made at least every half hour to convey the status and position of the shipment. In the event no call is received in accordance with these requirements, the licensee or his agent shall immediately notify the law enforcement authorities and the appropriate Nuclear Regulatory Commission Regional Office listed in appendix A of this part and initiate their contingency plan.

(5) Transfer to and from other modes of transportation shall be in accordance with paragraph (f) of this section.

(l) Shipment by Sea

(1) Shipments shall be made only on container-ships. The strategic special nuclear material container(s) shall be loaded into exclusive use cargo containers conforming to American National Standards Institute (ANSI) MH5.1 or International Stardands Organization (ISO) 1496. Locks and seals shall be inspected by the escorts whenever access is possible.

(2) All shipments shall be accompanied by two armed escorts who shall be able to converse in a common language with the captain of the ship.

(3) Minimum domestic ports of call shall be scheduled and there shall be no scheduled transfer to other vessels after the shipment leaves the last port in the United States. Transfer to and from other modes of transportation shall be in accordance with paragraph (f) of this section.

(4) At all ports of call the excorts shall insure that the shipment is not removed. At least two armed escorts or other armed personnel shall maintain continous visual surveillance of the cargo area where the container is stored up to the time the ship departs.

(5) Export shipment shall be accompanied by two armed escorts from the last port in the United States until the shipment is unloaded at a foreign terminal and prime responsibility for physical protection is assumed by agents of the consignee. While on foreign soil, the escorts may surrender their weapons to legally constituted local authorities.

(6) Import shipments shall be accompanied by two armed escorts at all times within the geographical limits of the United States. These escorts shall

provide physical protection for the shipment until relieved by verified agents of the U.S. consignee.

(7) Ship-to-shore communications shall be available, and a ship-to-shore contact shall be made every 6 hours to relay position information, and the status of the shipment.

(8) Arrangements shall be made at the foreign terminals at which the shipment is to be unloaded to assure that security measures will be taken upon arrival.

§ 73.27 Notification requirements.

(a) (1) A licensee who delivers formula quantities of strategic special nuclear material to a carrier for transport shall immediately notify the consignee by telephone, telegraph, or teletype, of the time of departure of the shipment, and shall notify or confirm with the consignee the method of transportation, including the names of carriers, and the estimated time of arrival of the shipment at its destination. (2) In the case of a shipment (f.o.b.) the point where it is delivered to a carrier for transport, a licensee shall, before the shipment is delivered to the carrier, obtain written certification from the licensee who is to take delivery of the shipment at the f.o.b. point that the physical protection arrangements required by §§ 73.25 and 73.26 for licensed shipments have been made. When a contractor exempt from the requirements for a Commission license is the consignee of a shipment, the licensee shall, before the shipment is delivered to the carrier, obtain written certification from the contractor who is to take delivery of the shipment at the f.o.b. point that the physical protection arrangements required by the United States Department of Energy Manual Chapters 2401 or 2405, as appropriate, have been made. (3) A licensee who delivers formula quantities of strategic special nuclear material to a carrier for transport or releases such special nuclear material f.o.b. at the point where it is delivered to a carrier for transport shall also make arrangements with the consignee to be notified immediately by telephone and telegraph, teletype, or cable, of the arrival of the shipment at its destination or of any such shipment that is lost or unaccounted for after the estimated time of arrival at its destination.

(b) Each licensee who receives a shipment of formula quantities of strategic special nuclear material shall immediately notify by telephone and telegraph or teletype, the person who delivered the material to a carrier for transport and the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in appendix A of the arrival of the shipment at its destination. When a United States Department of Energy license-exempt contractor is the consignee, the licensee who is the consignor shall notify by telephone and telegraph, or teletype, the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in appendix A of the arrival of the shipment at its destination immediately upon being notified of the receipt of the shipment by the license-exempt contractor as arranged pursuant to paragraph (a)(3) of this section. In the event such a shipment fails to arrive at its destination at the estimated time, or in the case of an export shipment, the licensee who exported the shipment, shall immediately notify by telephone and telegraph or teletype, the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in appendix A of this part, and the licensee or other person who delivered the material to a carrier for transport. The licensee who made the physical protection arrangements shall also immediately notify by telephone and telegraph, or teletype, the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in appendix A of the action being taken to trace the shipment.

(c) Each licensee who makes arrangements for physical protection of a shipment of formula quantities of strategic special nuclear material as required by §§ 73.25 and 73.26 shall immediately conduct a trace investigation of any shipment that is lost or unaccounted for after the estimated arrival time and file a report with the Commission as specified in § 73.71. If the licensee who conducts the trace investigation is not the consignee, he shall also immediately report the results of his investigation by telephone and telegraph, or teletype to the consignee.

73.45 Performance capabilities for fixed site physical protection systems.

(a) To meet the general performance requirements of § 73.20 a fixed site physical protection system shall include the performance capabilities described in paragraphs (b) through (g) of this section unless otherwise authorized by the Commission.

(b) Prevent unauthorized access of persons and materials into material access areas and vital areas. To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized access or introduce unauthorized material across material access or vital area boundaries by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons and material to material access and vital area entry control points and to delay any unauthorized penetration attempts by persons or materials sufficient to assist detection and permit a response that will prevent the penetration; and

(ii) Access detection subsystems and procedures to detect, assess and communicate any unathorized penetration attempts by persons or materials at the time of the attempt so that a response can prevent the unauthorized access or penetration.

(2) Detect attempts to gain unauthorized access or introduce unauthorized materials into material access areas or vital areas by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for both persons and materials; and

(ii) Entry controls and procedures to verify the identity of persons and materials and assess such identity against current authorization schedules and entry criteria before permitting entry and to initiate response measures to deny unauthorized entries.

(c) Permit only authorized activities and conditions within protected areas, material access areas, and vital areas. To achieve this capability the physical protection system shall:

(1) Detect unauthorized activities or conditions within protected areas, material access areas and vital areas using the following subsystems and subfunctions:

(i) Controls and procedures that establish current schedules of authorized activities and conditions in defined areas;

(ii) Boundaries to define areas within which the authorized activities and conditions are permitted; and

(iii) Detection and surveillance subsystems and procedures to discover and assess unauthorized activities and conditions and communicate them so that response can be such as to stop the activity or correct the conditions before strategic special nuclear material is stolen or radiological sabotage committed.

(d) Permit only authorized placement and movement of strategic special nuclear material within material access areas. To achieve this capability the physical protection system shall:

(1) Detect unauthorized placement and movement of strategic special nuclear material within the material access area using the following subsystems and subfunctions:

(i) Controls and procedures to delineate authorized placement and control for strategic special nuclear material;

(ii) Controls and procedures to establish current authorized placement and movement of all strategic special

nuclear material within material access areas;

(iii) Controls and procedures to maintain knowledge of the identity, quantity, placement, and movement of all strategic special nuclear material within material access areas; and

(iv) Detection and monitoring subsystems and procedures to discover and assess unauthorized placement and movement of strategic special nuclear material and communicate them so that response can be such as to return the strategic special nuclear material to authorized placement or control.

(e) Permit removal of only authorized and confirmed forms and amounts of strategic special nuclear material from material access areas. To achieve this capability the physical protection system shall:

(1) Detect attempts at unauthorized removal of strategic special nuclear material from material access areas by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons and materials exiting a material access area to exit control points and to delay any unauthorized strategic special nuclear material removal attempts sufficient to assist detection and assessment and permit a response that will prevent the removal; and

(ii) Detection subsystems and procedures to detect, assess and communicate any attempts at unauthorized removal of strategic special nuclear material so that response to the attempt can be such as to prevent the removal.

(2) Confirm the identity and quantity of strategic special nuclear material presented for removal from a material access area and detect attempts at unauthorized removal of strategic special nuclear material from material access areas by deceit using the following subsystems and subfunctions:

(i) Authorization controls and procedures to provide current schedules for authorized removal of strategic special nuclear material which specify the authorized properties and quantities of material to be removed, the persons authorized to remove the material, and the authorized time schedule;

(ii) Removal controls and procedures to identify and confirm the properties and quantities of material being removed and verify the identity of the persons making the removal and time of removal and assess these against the current authorized removal schedule before permitting removal; and

(iii) Communications subsystems and procedures to provide for notification of an attempted unauthorized or unconfirmed removal so that response can be such as to prevent the removal.

(f) Provide for authorized access and assure detection of and response to unauthorized penetrations of the protected area to prevent theft of strategic special nuclear material and to protect against radiological sabotage. To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized access or introduce unauthorized persons, vehicles, or materials into the protected area by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons, vehicles, and materials to protected area entry control points; and to delay any unauthorized penetration attempts or the introduction of unauthorized vehicles or materials sufficient to assist detection and assessment and permit a response that will prevent the penetration or prevent such penetration from resulting in theft of strategic special nuclear material or radiological sabotage; and

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized access or penetrations or such attempts by persons, vehicles, or materials at the time of the act or the attempt so that the response can be such as to prevent the unauthorized access or penetration, or prevent such penetration from resulting in theft of strategic special nuclear material or radiological sabotage.

(2) Detect attempts to gain unauthorized access or introduce unauthorized persons, vehicles, or materials into the protected area by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for persons, vehicles, and materials; and

(ii) Entry controls and procedures to verify the identity of persons, materials and vehicles and assess such identity against current authorization schedules before permitting entry and to initiate response measures to deny unauthorized access.

(g) Response. Each physical protection program shall provide a response capability to assure that the five capabilities described in paragraphs (b) through (f) of this section are achieved and the adversary forces will be engaged and impeded until offsite assistance forces arrive. To achieve this capability a licensee shall:

(1) Establish a security organization to:

(i) Provide trained and qualified personnel to carry out assigned duties and responsibilities; and

(ii) Provide for routine security operations and planned and predetermined response to emergencies and safeguards contingencies.

(2) Establish a predetermined plan to respond to safeguards contingency events.

(3) Provide equipment for the security organization and facility design features to:

(i) Provide for rapid assessment of safeguards contingencies;

(ii) Provide for response by assigned security organization personnel which is sufficiently rapid and effective so as to achieve the predetermined objective of the response; and

(iii) Provide protection for the assessment and response personnel so that they can complete their assigned duties.

(4) Provide communications networks to:

(i) Provide rapid and accurate transmission of security information among onsite forces for routine security operation, assessment of a contingency, and response to a contingency; and

(ii) Provide rapid and accurate transmission of detection and assessment information to offsite assistance forces.

(5) Assure that a single adversary action cannot destroy the capability of the security orgainzation to notify the offsite assistance forces of the need for assistance.

**§ 73.46 Fixed site physical protection systems, subsystems, elements, components, and procedures.**

(a) A licensee physical protection system established pursuant to the general performance requirements of § 73.20(a)(1) and (a)(2) and the performance capability requirements of § 73.45 shall include, but are not necessarily limited to, the measures specified in paragraphs (b) through (h) of this section. The Commission may require, depending on individual facility and site conditions, alternate or additional measures deemed necessary to meet the general performance requirements of § 73.20. The Commission also may authorize protection measures other than those required by this section if, in its opinion, the overall level of performance meets the general performance requirements of § 73.20 and the performance capability requirements of § 73.45.

(b) Security Organization.

(1) The licensee shall establish a security organization including guards.

(2) The licensee shall have onsite at all time at least one full time member of the security organization with authority to direct the physical protection activities of the security organization.

(3) The licensee shall have a management system to provide for the development, revision, implementation, and enforcement of security procedures. The system shall include:

(i) Written security procedures which document the structure of the security organization and which detail the duties of guards, watchmen and

other individuals responsible for security; and

(ii) Provision for written approval of such procedures and any revisions thereto by the individual with overall responsibility for the security function.

(4) The licensee shall not permit an individual to act as a guard, watchman, armed response person, or other member of the security organization unless such individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with Appendix B of this part "General Criteria for Security Personnel" to be published soon as an effective rule. Upon the request of an authorized respresentative of the Commission the licensee shall demonstrate the ability of the physical security personnel to carry out their assigned duties and responsibilities. Each guard, watchman, armed response person, and other member of the security organization shall requalify in accordance with Appendix B of this part at least every 12 months. Such requalification shall be documented.

(5) Within any given period of time, a member of the security organization may not be assigned to, or have direct operational control over, more than one of the redundant elements of a physical protection subsystem if such assignment or control could result in the loss of effectiveness of the subsystem.

(c) Physical barrier subsystems. (1) Vital equipment shall be located only within a vital area and strategic special nuclear material shall be stored or processed only in a material access area. Both vital areas and material access areas shall be located within a protected area so that access to vital equipment and to strategic special nuclear material requires passage through at least two physical barriers. More than one vital area or material access area may be located within a single protected area.

(2) The physical barriers at the perimeter of the protected area shall be separated from any other barrier designated as a physical barrier for a vital area or material access area within the protected area.

(3) Isolation zones shall be maintained in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and shall be large enough to permit observation of the activities of the people on either side of that barrier in the event of its penetration. If parking facilities are provided for employees or visitors, they shall be located outside the isolation zone and exterior to the protected area.

(4) Isolation zones and all exterior areas within the protected area shall be provided with illumination sufficient for the monitoring and observation requirements of paragraphs (c)(3), (e)(8), (h)(4) and (h)(5) of this section, but not less than 0.2 footcandle measured at ground level.

(5) Strategic special nuclear material, other than alloys, fuel elements or fuel assemblies, shall:

(i) Be stored in a vault when not undergoing processing if the material can be used directly in the manufacture of a nuclear explosive device,

(ii) Be stored in penetration-resistant, tamper-indicating containers;

(iii) Be processed only in material access areas constructed with barriers that provide significant delay to penetration; and

(iv) Be kept in locked compartments or locked process equipment while undergoing processing except when personally attended.

(6) Enriched uranium scrap in the form of small pieces, cuttings, chips, solutions or in other forms which result from a manufacturing process, contained in 30 gallon or larger containers with a uranium-235 content of less than 0.25 grams per liter, may be stored within a locked and separately fenced area within a larger protected area: *Provided*, That the storage area fence is no closer than 25 feet to the perimeter of the protected area. The storage area when unoccupied shall be protected by a guard or watchmen who shall patrol at intervals not exceeding 4 hours, or by intrusion alarms.

(d) Access control subsystems and procedures. (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 upon entrance into the protected area which must be returned upon exit from the protected area and which indicates (i) nonemployee—no escort required; (ii) areas to which access is authorized and (iii) the period for which access has been authorized. Badges shall be displayed by all individuals while inside the protected areas.

Unescorted access to vital areas, material access areas and contolled access areas shall be limited to individuals who have an NRC or DOE material access authorization,[1] who are authorized access to the material and equipment in such areas, and who require such access to perform their duties. Authorization for such individuals shall be indicated by the issuance of specially coded numbered badges indicating vital areas, material access areas, and controlled access areas to which access is authorized. No activities other than those which require access to strategic special nuclear material or equipment used in the processing, use or storage of strategic special nuclear material, shall be permitted within a material access area.

(3) 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.

(4) The licensee shall control all points of personnel and vehicle access into a protected area. Identification and search of all individuals for firearms, explosives, and incendiary devices, shall be made and authorization shall be checked at such points. U.S. Department of Energy couriers engaged in the transport of special nuclear material need not be searched. Licensee employees having an NRC or U.S. Department of Energy material access authorization shall be searched at least on a random basis. The individual responsible for the last access control function (controlling admission to the protected area) shall be isolated within a structure, with bullet-resisting walls, doors, ceiling, floor, and windows.

(5) At the point of personnel and vehicle access into a protected area, all hand-carried packages shall be searched for firearms, explosives, and incendiary devices except those packages carried by persons having an NRC or DOE material access authorization which shall be searched on a random basis when the person carrying them is selected for search.

(6) All packages and material for delivery into the protected area shall be checked for proper identification and authorization and searched on a random basis for firearms, explosives, and incendiary devices prior to admittance into the protected area, except those Commission approved delivery and inspection activities specifically designated by the licensee to be carried out within material access, vital, or protected areas for reasons of safety, security or operational necessity.

(7) All vehicles, except U.S. Department of Energy vehicles engaged in transporting special nuclear material and emergency vehicles under emergency conditions, shall be searched for firearms, explosives, and incendiary devices prior to entry into the protect-

[1] Proposed amendments requiring an NRC material authorization program for licensee access to or control over special nuclear material (SECY-76-508) were published as a proposed rule on March 17, 1977 (42 FR 14880) and were discussed in a public hearing on July 10, 11, and 12, 1978.

ed area. Vehicle areas to be searched shall include the cab, engine compartment, undercarriage, and cargo area.

(8) All vehicles, except designated licensee vehicles, requiring entry into the protected area shall be escorted by a member of the security organization while within the protected area, and to the extent practicable shall be offloaded in an area that is not adjacent to a vital area. Designated licensee vehicles shall be limited in their use to onsite plant functions and shall remain in the protected area except for operational, maintenance, security and emergency purposes. The licensee shall exercise positive control over all such designated vehicles to assure that they are used only by authorized persons and for authorized purposes.

(9) The licensee shall control all points of personnel and vehicle access to material access areas, vital areas and controlled access areas. Identification of personnel and vehicles shall be made and authorization checked at such points. Prior to entry into a material access area, packages shall be searched for firearms, explosives, and incendiary devices. All vehicles, materials and packages, including trash, wastes, tools and equipment exiting from a material access area shall be searched for concealed strategic special nuclear material by a team of at least two individuals who are not authorized access to that material access area. Each individual exiting a material access area shall undergo at least two separate searches for concealed strategic special nuclear material. For individuals exiting an area that contains only alloyed or encapsulated strategic special nuclear material, the second search may be conducted in a random manner.

(10) Before exiting from a material access area, containers of contaminated wastes shall be drum scanned and tamper sealed by at least two individuals, working and recording as a team, who do not have access to material processing and storage areas.

(11) Strategic special nuclear material being prepared for shipment offsite, including product, samples and scrap, shall be packed and placed in sealed containers in the presence of at least two individuals working as a team who shall verify and certify the content of each shipping container through the witnessing of gross weight measurements and nondestructive assay, and through the inspection of tamper seal integrity and associated seal records.

(12) Areas used for preparing strategic special nuclear material for shipment and areas used for packaging and screening trash and wastes shall be controlled access areas and shall be separated from processing and storage areas.

(13) Individuals not permitted by the licensee to enter protected areas without escort shall be escorted by a watchman, or other individual designated by the licensee, while in a protected area and shall be badged to indicate that an escort is required. In addition, the individual shall be required to register his name, date, time, purpose of visit and employment affiliation, citizenship, and name of the individual to be visited.

(14) All keys, locks, combinations and related equipment used to control access to protected, material access, vital, and controlled access areas shall be controlled to reduce the probability of compromise. Whenever there is evidence that a key, lock, combination, or related equipment may have been compromised it shall be changed. Upon termination of employment of any employee, keys, locks, combinations, and related equipment to which that employee had access, shall be changed.

(e) Detection, surveillance and alarm subsystems and procedures. (1) The licensee shall provide an intrusion alarm subsystem with a capability to detect penetration through the isolation zone and to permit response action.

(2) All emergency exits in each protected, material access, and vital area shall be locked to prevent entry from the outside and alarmed to provide local visible and audible alarm annunciation.

(3) All unoccupied vital areas and material access areas shall be locked and protected by an intrusion alarm subsystem which will alarm upon the entry of a person anywhere into the area, upon exit from the area, and upon movement of an individual within the area, except that for process material access areas only the location of the strategic special nuclear material within the area is required to be so alarmed. Vaults and process areas that contain strategic special nuclear material that has not been alloyed or encapsulated shall also be under the surveillance of closed circuit television that is monitored in both alarm stations and at least one other continously manned onsite location

(4) All manned access control points in the protected area barrier, all security patrols and guard stations within the protected area, and both alarm stations shall be provided with duress alarms.

(5) All alarms required pursuant to this section shall annunciate in a continuously manned central alarm station located within the protected area and in at least one other independent continuously manned onsite station not necessarily within the protected area, so that a single act cannot remove the capability of calling for assistance or responding to an alarm. The alarm stations shall be controlled access areas and their walls, doors, ceiling, floor, and windows shall be bullet-resisting. The central alarm station shall be located within a building so that the interior of the central alarm station is not visible from the perimeter of the protected area. This station may not contain any operational activities that would interfere with the execution of the alarm response function.

(6) All alarms required by this section shall remain operable from independent power sources in the event of the loss of normal power. Switchover to standby power shall be automatic and shall not cause false alarms on annunciator modules.

(7) All alarm devices including transmission lines to annunciators shall be tamper indicating and self-checking e.g., an automatic indication is provided when a failure of the alarm system or a component occurs, when there is an attempt to compromise the system, or when the system is on standby power. The annunciation of an alarm at the alarm stations shall indicate the type of alarm (e.g., intrusion alarm, emergency exit alarm, etc.) and location. The status of all alarms and alarm zones shall be indicated in the alarm stations.

(8) All exterior areas within the protected area shall be monitored or periodically checked to detect the presence of unauthorized persons, vehicles, materials, or unauthorized activities.

(9) Methods to observe individuals within material access areas to assure that strategic special nuclear material is not moved to unauthorized locations or in an unauthorized manner shall be provided and used on a continuing basis.

(f) Communication subsystems. (1) Each guard, watchman, or armed response individual on duty shall be capable of maintaining continous communication with an individual in each continuously manned alarm station required by paragraph (e)(5) of this section, who shall be capable of calling for assistance from other guards, watchmen, and armed response personnel and from law enforcement authorities.

(2) Each alarm station required by paragraph (e)(5) of this section shall have both conventional telephone service and radio or microwave transmitted two-way voice communication, either directly or through an intermediary, for the capability of communication with the law enforcement authorities.

(3) Nonportable communications equipment controlled by the licensee and required by this section shall remain operable from independent

power sources in the event of the loss of normal power.

(g) Test and maintenance programs. The licensee shall have a test and maintenance program for intrusion alarms, emergency exit alarms, communications equipment, physical barriers, and other physical protection related devices and equipment used pursuant to this section that shall provide for the following:

(1) Tests and inspections during the installation and construction of physical protection related subsystems and components to assure that they comply with their respective design criteria and performance specifications.

(2) Preoperational tests and inspections of physical protection related subsystems and components to demonstrate their effectiveness and availability with respect to their respective design criteria and performance specifications.

(3) Operational tests and inspections of physical protection related subsystems and components to assure their maintenance in an operable and effective condition, including:

(i) Testing of each intrusion alarm at the beginning and end of any period that it is used. If the period of continous use is longer than 7 days, the intrusion alarm shall also be tested at least once every 7 days.

(ii) Testing of communications equipment required for communications onsite, including duress alarms, for performance not less frequently than once at the beginning of each security personnel work shift. Communications equipment required for communications offsite shall be tested for performance not less than once a day.

(4) Preventive maintenance programs shall be established for physical protection related subsystems and components to assure their continued maintenance in an operable and effective condition.

(5) All physical protection related subsystems and components shall be maintained in operable condition. The licensee shall develop and employ corrective action procedures and compensatory measures to assure that the effectiveness of the physical protection system is not reduced by failure or other contingencies affecting the operation of the security related equipment or structures. Repairs and maintenance shall be performed by at least two individuals working as a team who have been trained in the operation and performance of the equipment. The security organization shall be notified before and after service is performed and shall conduct performance verification tests after the service has been completed.

(6) The security program shall be reviewed at least every 12 months by individuals independent of both security management and security supervision. The review shall include a review and audit of security procedures and practices, evaluation of the effectiveness of the physical protection system, an audit of the physical protection system testing and maintenance program, and an audit of commitments established for response by local law enforcement authorities. The results of the review, audit, and evaluation along with recommendations, corrections and for improvements, if any, shall be documented, reported to the licensee's plant management, and to corporate management at least one level higher than that having responsibility for the day to day plant operations. The reports shall be kept available at the plant for inspection for a period of 5 years.

(h) Contingency and response plans and procedures.

(1) The licensee shall have a safeguards contingency plan for dealing with threats, thefts, and radiological sabotage related to the special nuclear material and nuclear facilities subject to the provisions of this section. Safeguards contingency plans shall be in accordance with the criteria in appendix C to this part, "Licensee Safeguards Contingency Plans" (43 FR 11962). Contingency plans shall include, but not be limited to, the response requirements in paragraphs (h)(2) through (h)(5) of this section.

(2) The licensee shall establish and document response arrangments that have been made with local law enforcement authorities.

(3) A minimum of five (5) guards shall be available at the facility to fulfill assessment and response requirements. In addition a force of guards or armed response personnel also shall be available to provide assistance as necessary. The size and availability of the additional force shall be determined on the basis of site-specific considerations that could affect the ability of the total onsite response force to engage and impede the adversary force until offsite assistance arrives. The reason for determining the total number and availability of onsite armed response personnel shall be included in the physical protection plans submitted to the Commission for approval.

(4) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, a material access area, or a vital area, or upon evidence or indication of intrusion into a protected area, a material access area, or a vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any,

(iii) Take immediate concurrent measures to neutralize the threat by:

(A) Requiring responding guards or other armed response personnel to interpose themselves between vital areas and material access areas and any adversary attempting entry for purposes of radiological sabotage or theft of strategic special nuclear material and to intercept any person exiting with special nuclear material, and

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(5) The licensee shall instruct every guard or other armed response personnel to prevent or impede acts of radiological sabotage or theft of strategic special nuclear material by using force sufficient to counter the force directed at him, including the use of deadly force when the guards or other armed response personnel have a reasonable belief that it is necessary in self-defense or in the defense of others.

(6) To facilitate initial response to detection of penetration of the protected area and assessment of the existence of a threat, a capability of observing the isolation zones and the physical barrier at the perimeter of the protected area shall be provided, preferably by means of closed circuit television or by other suitable means which limit exposure of responding personnel to possible attack.

(7) Alarms occuring within unoccupied vaults and unoccupied material access areas containing unalloyed or unencapsulated strategic special nuclear material shall be assessed by at least two security personnel using closed circuit television (CCTV) or other remote means.

(8) Alarms occurring within unoccupied material access areas that contain only alloyed or encapsulated strategic special nuclear material shall be assessed as in paragraph (i) above or by at least two security personnel who shall undergo a search before exiting the material access area.

11. Section 73.55 is amended to change the term "industrial sabotage" to "radiological sabotage" wherever it appears.

12. Section 73.55(b) is revised to read as follows:

**§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage.**

* * * * *

(b) Physical security organization. (1) The licensee shall establish a security organization, including guards, to protect his facility against radiological sabotage.

(2) At least one full-time member of the security organization who has the authority to direct the physical pro-

tection activities of the security organization shall be onsite at all times.

(3) The licensee shall have a management system to provide for the development, revision, implementation, and enforcement of security procedures. The system shall include:

(i) Written security procedures which document the structure of the security organization and which detail and duties of guards, watchmen and other individuals responsible for security; and

(ii) Provision for written approval of such procedures and any revisions thereto by the individual with overall responsibility for the security functions.

(4) The licensee shall not permit an individual to act as a guard, watchman or armed response person, or other member of the security organization unless such individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with appendix B, of this part "General Criteria for Security Personnel" to be published soon as an effective rule. Upon the request of an authorized representative of the Commission the licensee shall demonstrate the ability of the physical security personnel to carry out their assigned duties and responsibilities. Each guard, watchman, armed response person, and other member of the security organization shall requalify in accordance with appendix B of this part at least every 12 months. Such requalification shall be documented. By (300 days after the rule becomes effective) each licensee shall submit a training and qualifications plan outlining the processes by which guards, watchmen, armed response persons, and other members of the security organization will be selected, trained, equipped, tested, and qualified to assure these individuals meet the requirements of this paragraph. The training and qualifications plan shall include a schedule to show how all security personnel will be qualified by (within 2 years after the rule becomes effective) or within 2 years after the submitted plan is approved, whichever is later. The training and qualifications plan shall be followed by the licensee after (500 days after the rule becomes effective) or 60 days after the submitted plan is approved by the NRC, whichever is later.

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13. Section 73.55(g) is amended to add a new subparagraph (4) to read as follows:

**§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage.**

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(g) Testing and Maintenance. • • •

(4) The security program shall be reviewed at least every 12 months by individuals independent of both security management and security supervision. The review shall include a review and audit of security procedures and practices, evaluation of the effectiveness of the physical protection system, an audit of the physical protection system testing and maintenance program and an audit of commitments established for response by local law enforcement authorities. The results of the review audit and evaluation along with recommendations for corrections and improvements, if any, shall be documented, reported to the licensee's plant managment and to corporate management at least one level higher than that having responsibility for the day to day plant operation. The reports shall be kept available at the plant for inspection for a period of 3 years.

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14. Section 73.55(h) is amended to renumber paragraph (h)(5) as (h)(6) and revise paragraph h(4) as paragraphs (h) (4) and (5) as follows:

**§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage.**

• • • • •

(h) Response requirement: • • •

(4) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, a material access area, or a vital area; or upon evidence or indication of intrusion into a protected area, material access area, or vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any,

(iii) Take immediate concurrent measures to neutralize the threat by:

(A) Requiring responsing guards to interpose themselves between material access areas and vital areas and any adversary attempting entry for the purpose of theft of special nuclear material or industrial sabotage and to intercept any person exiting with special nuclear material, and,

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(5) The licensee shall instruct every guard to prevent or impede attempted acts of theft or industrial sabotage by using force sufficient to counter the force directed at him including deadly force when the guard has a reasonable belief it is necessary in self-defense or in the defense of others.

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15. The prefatory language of § 73.70 and § 73.70 (c) and (g) is revised to read as follows:

**§ 73.70 Records.**

Each licensee subject to the provisions of §§ 73.20, 73.25, 73.26, 73.27, and/or 73.45, 73.46, and/or § 73.55 shall keep the following records:

• • • • •

(c) A register of visitors, vendors, and other individuals not employed by the licensee pursuant to §§ 73.46(d)(10) and 73.55(d)(6).

• • • • •

(g) Shipments of special nuclear material subject to the requirements of this part, including names of carriers, major roads to be used, flight numbers in the case of air shipments, dates and expected times of departure and arrival of shipments, verification of communication equipment on board the transfer vehicle, names of individuals who are to communicate with the transport vehicle, container seal descriptions and identification, and any other information to confirm the means utilized to comply with §§ 73.25, 73.26 and 73.27. Such information shall be recorded prior to shipment. Information obtained during the course of the shipment such as reports of all communications, change of shipping plan including monitor changes, trace investigations and other shall also be recorded.

• • • • •

**§ 73.71 [Amended]**

16. Section 73.71(a) is amended to change the reference to § 73.36(f) to reference § 73.27(c).

**§ 70.22 [Amended]**

17. Section 70.22(g) is amended to replace reference "• • • §§ 73.30 through 73.36 • • •" with reference to part 73.

**§ 70.32 [Amended]**

18. Section 70.32(d) is amended to replace the reference to § 73.30(e) with reference to part 73.

19. Section 70.32(e) is amended to replace the reference to paragraph (f) with reference to part 73.

20. Section 70.32(f) is deleted.

(Sec. 161i, Pub. L. 83-703, 68 Stat. 948; secs. 201, 204(b)(1), Pub. L. 93-438, 88 Stat. 1243, 1245 (42 U.S.C. 2201, 5841, 5844).)

Dated at Washington, D.C. this 1st day of August, 1978.

For the Nuclear Regulatory Commission.

SAMUEL J. CHILK,
*Secretary of the Commission.*

[FR Doc. 78-21791 Filed 8-3-78; 8:45 am]

ENCLOSURE F

The Honorable Michael A. Bilandic
Mayor of Chicago
Chicago, IL 60602

Dear Mr. Mayor:

On August 15, 1978, I received a letter from Messrs. Nader, Pollock and Bancroft about shipment of high enriched uranium through O'Hare airport. Their letter reflected some apparent misconceptions concerning this matter.

In response, therefore, I provided them a documented staff summary of facts and events following the December 2, 1977 announcement issued by the City of Chicago on this subject. I am enclosing a copy of that response which may also be useful to members of your staff and other interested parties.

The possible use of military airports for exports and imports of high enriched uranium is still being considered by the Executive Branch. The NRC staff will keep your office informed of any new developments in that regard and maintain close coordination with Chicago officials until this matter is finally resolved.

Sincerely,

Joseph M. Hendrie
Chairman

Enclosure: Letter to Messrs. Nader,
Pollock and Bancroft from
Chairman Hendrie dated _____

cc: The Honorable Zbigniew Brzesinski
Assistant to the President for
National Security Affairs

ENCLOSURE F