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CHAPTER I-ATOMIC ENERGY COMMISSION

PART 73 - PHYSICAL PROTECTION OF PLANTS AND MATERIALS

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of Title 5 of the United States Code, the Atomic Energy Commission's regulation 10 CFR Part 73 is hereby republished as a document subject to codification for the purpose of incorporating into one document all amendments to the regulation to date including the amendments published in the FEDERAL REGISTER on November 6, 1973. In republishing Part 73 a number of editorial changes have been made, including clarification of the effective date of a number of sections.

PART 73 PHYSICAL PROTECTION OF PLANTS AND MATERIALS

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GENERAL PROVISIONS

§73.1 Purpose and scope.

(a) Purpose. This part prescribes requirements for physical protection of special nuclear material at fixed sites and in transit and of plants in which special nuclear material is used, for the purpose of protection against acts of industrial sabotage and protection of special nuclear material against theft by establishment and maintenance of a physical protection system of: (1) Protective barriers and intrusion detection devices at fixed sites to provide early detection of an attack, (2) deterrence to attack by

means of armed guards and escorts, and (3) liaison and communication with law enforcement authorities capable of rendering assistance to counter such attacks.

(b) Scope. (1) This part prescribes requirements for (i) the physical protection of production and utilization facilities licensed pursuant to Part 50 of this chapter; (ii) the physical protection of plants in which activities licensed pursuant to Part 70 of this chapter are conducted, and the physical protection of special nuclear material, by any person who pursuant to the regulations in Part 70 of this chapter possesses or uses at any site or contiguous sites subject to control by the licensee, uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium alone or in any combination in a quantity of 5,000 grams or more computed by the formula, $\text{grams} = (\text{grams contained U-235}) + 2.5 (\text{grams U-235} + \text{grams plutonium})$.

(2) This part prescribes requirements for the physical protection of special nuclear material in transportation by any person who is licensed pursuant to the regulations in Part 70 of this chapter who imports, exports, transports, delivers to a carrier for transport in a single shipment, or takes delivery of a single shipment free on board at the point where it is delivered to a carrier, either uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233,

or plutonium, or any combination of these materials, which is 5,000 grams or more computed by the formula, $\text{grams} = (\text{grams contained U-235}) + 2.5 (\text{grams U-233} + \text{grams plutonium})$.

(3) This part also applies to shipments by air of special nuclear material in quantities exceeding (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).

(4) Special nuclear material subject to this part may also be protected pursuant to security procedures prescribed by the Commission or another Government agency for the protection of classified materials. The provisions and requirements of this part are in addition to, and not in substitution for, any such security procedures. Compliance with the requirements of this part does not relieve any licensee from any requirement or obligation to protect special nuclear material pursuant to security procedures prescribed by the Commission or other Government agency for the protection of classified materials.

§73.2 Definitions.

As used in this part:

(a) Terms defined in Parts 50 and 70 of this chapter have the same meaning when used in this part.

(b) "Authorized individual" means any individual, including an employee, a consultant, or an agent of a licensee, who has been designated in writing by a licensee to have responsibility for surveillance of special nuclear material.

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

(d) "Watchman" means an individual, not necessarily uniformed or armed with a firearm, who provides protection for a plant and the special nuclear material therein in the course of performing other duties.

(e) "Continuous visual surveillance" means unobstructed view at all times of a shipment of special nuclear material, and of all access to a temporary storage area or cargo compartment containing the shipment.

(f) "Physical barrier" means

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

(2) Building walls 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.

(3) Ceilings and floors constructed to offer resistance to penetration equivalent to that of building walls described in paragraph (f) (2) of this section.

(g) "Protected area" means an area encompassed by physical barriers and to which access is controlled.

(h) "Vital area" means any area which contains vital equipment within a structure, the walls, roof, and floor of which constitute physical barriers of construction at least as substantial as walls as described in paragraph (f) (2) of this section.

(i) "Vital equipment" means any equipment, system, device, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public

health and safety following such failure, destruction, or release are also considered to be vital.

(j) "Material access area" means any location which contains special nuclear material, within a vault or a building, the roof, walls, and floor of which each constitute a physical barrier.

(k) "Isolation zone" means any area, clear of all objects which could conceal or shield an individual, adjacent to a physical barrier, which is monitored to detect the presence of individuals or vehicles within that area.

(l) "Intrusion alarm" means a tamper indicating electrical, electromechanical, electrooptical, electronic or similar device which will detect intrusion by an individual into a building, protected area, vital area, or material access area, and alert guards or watchmen by means of actuated visible and audible signals.

(m) "Lock" in the case of vaults or vault type rooms means a three-position, manipulation resistant, dial type, built-in combination lock or combination padlock and in the case of fences, walls, and buildings means an integral door lock or padlock which provides protection equivalent to a six-tumbler cylinder lock. "Lock" in the case of a vault or vault type room also means any manipulation resistant, electromechanical device

which provides the same function as a built-in combination lock or combination padlock, which can be operated remotely or by the "reading" or insertion of information, which can be uniquely characterized, and which allows operation of the device. "Locked" means protected by an operable lock.

(n) "Vault" means a burglar-resistant windowless enclosure with walls, floor and roof of: (1) Steel at least one-half inch thick, (2) reinforced concrete or stone at least 8 inches thick, (3) non-reinforced concrete or stone at least 12 inches thick, or (4) monolithic floor or roof construction of equivalent resistance to entry, with a built-in lock in a steel door at least 1 inch thick, exclusive of the locking mechanism.

(o) "Vault-type room" means a room with one or more doors, all capable of being locked, protected by an intrusion alarm which creates an alarm upon the entry of a person anywhere into the room and upon exit from the room or upon movement of an individual within the room.

(p) "Industrial sabotage" means any deliberate act directed against a plant in which an activity licensed pursuant to the regulations in this chapter is conducted, or to any component of such a plant, which could directly or indirectly endanger the public health and safety by exposure to radiation, other than such acts by an enemy of the United States, whether foreign government or other person.

§ 73.3 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized as binding upon the Commission.

§ 73.4 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this part should be addressed to the Director of Licensing, U.S. Atomic Energy Commission, Washington, D.C. 20545, or may be delivered in person at the Commission's offices at 1717 H Street, N.W., Washington, D.C.; at 7920 Norfolk Avenue, Bethesda, Maryland; or at Germantown, Maryland.

§ 73.5 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

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

A licensee is exempt from the requirements of §§ 73.30 through 73.36 and of §§ 73.60 and 73.70 of this part, with respect to the following special nuclear material:

(a) Uranium-235 contained in uranium enriched to less than 20 percent in the U-235 isotope:

(b) 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; and

(c) Special nuclear material in a quantity not exceeding 350 grams of uranium-235, uranium-233, plutonium, or a combination thereof, possessed in any analytical, research, quality control, metallurgical or electronic laboratory.

PHYSICAL PROTECTION OF SPECIAL NUCLEAR
MATERIAL IN TRANSIT

§ 73.30 General requirements.

(a) Except as specified in § 73.36(a) or as otherwise authorized pursuant to § 73.30(f), each licensee who transports or who delivers to a carrier for transport either uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium, or any combination of these materials,

which is 5,000 grams or more computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium), shall make arrangements to assure that such special nuclear material will, if a common or contract carrier is used, be transported under the established procedures of a carrier which provides a system for the physical protection of valuable material in transit and requires an exchange of hand-to-hand receipts at origin and destination and at all points enroute where there is a transfer of custody.

(b) Transit times of shipments other than those specified in § 73.1(b)(3) shall be minimized and routes shall be selected to avoid areas of natural disaster or civil disorders. Such shipments shall be preplanned to assure that deliveries occur at a time when the receiver at the final delivery point is present to accept receipt of shipment.

(c) Special nuclear material shall be shipped in containers which are sealed by tamper indicating type seals. The container shall also be locked if it is not in another container or vehicle which is locked. If inspection of the container or vehicle is not required by State or local authorities before final destination, the outermost container or vehicle shall also be sealed by tamper indicating type seals. No container weighing 500 pounds or less shall be shipped in open trucks,

railroad flat cars or box cars and ships. This paragraph does not apply to shipments of quantities specified in § 73.1(b)(3).

(d) When guards are used pursuant to §§ 73.31(c)(1), 73.31(c)(2), 73.33 and 73.35, the licensee shall not permit an individual to act as a guard unless there is documentation that the individual has been qualified by demonstrating an understanding of his duties and responsibilities. The licensee or his agent shall have documentation that guards have been requalified annually.

(e) By January 7, 1974, each licensee shall submit a plan outlining the procedures that will be used to meet the requirements of §§ 73.30 through 73.36 and 73.70(g) including a plan for the selection, qualification, and training of armed escorts, or the specification and design of a specially designed truck or trailer as appropriate. This plan shall be followed by the licensee after March 6, 1974.

(f) A licensee or applicant for a license may apply to the Commission for approval of proposed procedures for transport of special nuclear material in a manner not otherwise authorized by the regulations of this part. Such application shall include a description and quantity of the special nuclear material involved, the origin and destination, the carriers to be used, the expected time in transit, the number of transfer points, the communications to be used, the vehicle visual identification, and the cargo security and surveillance measures to be used.

(g) Paragraphs (b), (c), (d), and (f) of this section are effective March 6, 1974.

§ 73.31 Shipment by road.

(a) All shipments by road shall be made without any scheduled intermediate stops to transfer special nuclear material or other cargo between the facility from which it is shipped and the facility of the receiver.

(b) All motor vehicles used to transport special nuclear material shall be equipped with a radiotelephone which can communicate with a licensee or his agent. The licensee or agent with whom communications shall be maintained for different segments of the shipment shall be predesignated before a shipment is made. Calls to such licensee or agent shall be made at least every 2 hours when radiotelephone or conventional telephone coverage is not available along the preplanned route, at which time a conventional telephone call shall be made. In the event no call is received in accordance with these requirements, the licensee or his agent shall immediately notify an appropriate law enforcement authority and the appropriate Atomic Energy Commission Regulatory Operations Regional Office listed in Appendix A of this part.

(c) A shipment shall be accompanied by at least two people in the vehicle containing the shipment, which may be two drivers or

one driver and an authorized individual. The vehicle containing the shipment shall be under continuous visual surveillance, or one of the drivers or authorized individuals shall be in the cab of the vehicle, awake, and not in a sleeper berth. The shipment shall be further protected by one of the following methods:

(1) An armed escort consisting of at least two guards shall accompany the shipment in a separate escort vehicle. Escorts shall maintain continuous vigilance for the presence of conditions or situations which might threaten the security of the shipment, take such action as circumstances might require to avoid interference with continuous safe passage of the cargo vehicle, provide assistance to, or summon aid for crew of cargo vehicles in case of emergency, check seals and locks at each stop where time permits, and observe the cargo vehicle and adjacent areas during stops or layovers. Continuous radio communication capability shall be provided between the cargo vehicle and the escort vehicle. Escort vehicles shall also be equipped with a radiotelephone. The licensee may use his own employees as armed escorts or he may use an agent. Only the driver is required in the vehicle containing special nuclear material for shipments involving an average of less than an hour in transportation, if communication is maintained during the course of the shipment with the licensee or agent monitoring the shipment.

(2) The shipment shall be made in a specially designed truck or trailer which reduces the vulnerability to diversion. Design features of the truck or trailer shall permit immobilization of the van and provide barriers or deterrents to physical penetration of the cargo compartment unless armed guards are also used in which case immobilization of the vehicle is not required.

(d) Transfers to and from other modes of transportation shall be in accordance with § 73.35.

(e) Vehicles shall be marked on top with identifying letters or numbers which will permit identification of the vehicle under daylight conditions from the air in clear weather at 1,000 feet above ground level. The same code of letters and numbers as those used on the top shall also be marked on the sides and rear of the vehicle to permit identification from the ground.

(f) This section is effective March 6, 1974.

§ 73.32 Shipment by air.

(a) Except as specifically approved by the Atomic Energy Commission, no shipment of special nuclear material shall be made in passenger aircraft in excess of (1) 20 grams or 20 curies, whichever is less, of plutonium or uranium-233, or (2) 350 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope).

(b) In shipments on cargo aircraft of either uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233 or plutonium, or any combination of these materials which is 5,000 grams or more computed by the formula, $\text{grams} = (\text{grams contained U-235}) + 2.5 (\text{grams U-233} + \text{grams plutonium})$, transfers shall be in accordance with § 73.35. Transfers shall be minimized.

(c) Export shipments shall be escorted by an unarmed authorized individual, who may be a crew member, from the last terminal in the United States until the shipment is unloaded at a foreign terminal. He shall perform monitoring duties at foreign terminals as described in § 73.35.

(d) Paragraph (c) of this section is effective March 6, 1974.

§ 73.33 Shipment by rail.

(a) A shipment by rail shall be escorted by two guards, in the shipment car or an escort car of the train, who shall keep the shipment cars under observation and who shall detrain at stops when practicable and time permits to guard the shipment cars under observation, and check car or container locks and seals. Radiotelephone communication shall be maintained with a licensee or his agent to relay position every 2 hours or less, and at scheduled stops in the event that radiotelephone coverage was not available in the last 5

hours before the stop. The licensee or agent with whom communications shall be maintained for different segments of the shipment shall be predesignated before a shipment is made. In the event no call is received in accordance with these requirements, the licensee or his agent shall immediately notify an appropriate law enforcement authority and the appropriate Atomic Energy Commission Regulatory Operations Regional Office listed in Appendix A of this part.

(b) Transfers shall be in accordance with § 73.35.

(c) This section is effective March 6, 1974.

§ 73.34 Shipment by sea.

(a) Shipments shall be made on vessels making the minimum ports of call. Transfers to and from other modes of transportation shall be in accordance with § 73.35. There shall be no scheduled transfers to other ships. At domestic ports of call where other cargo is transferred, the shipments shall be protected in accordance with § 73.35(a).

(b) The shipment shall be placed in a secure compartment which is locked and sealed. Locks and seals shall be periodically inspected in transit, if accessible, by an escort or crew member.

(c) Export shipments shall be escorted by an unarmed authorized individual, who may be a crew member, from the last port in the United States until the shipment is unloaded at a foreign port. He shall perform monitoring duties at foreign ports as described in § 73.35.

(d) Ship-to-shore communications shall be available, and a ship-to-shore contact shall be made every twenty-four hours to relay position information, and the status of the shipment, which shall be determined by a daily inspection where possible. This information shall be sent, as often as it is available, to the licensee or his agent who makes the arrangements for the protection of the shipment.

(e) This section is effective March 6, 1974.

§ 73.35 Transfer of special nuclear material.

All transfers shall be monitored by a guard. An alternate guard shall be designated at all transfer points to substitute, if necessary. Monitoring of special nuclear material transfers shall be conducted as follows:

(a) At scheduled intermediate stops where special nuclear material is not scheduled for transfer, the guard shall observe the opening of the cargo compartment and assure that the shipment is not removed. The guard shall maintain continuous visual surveillance of the cargo compartment. Continuous visual surveillance of the cargo compartment shall be maintained up to the time the vehicle is ready to depart. The guard shall observe the vehicle until it has departed, and shall notify the licensee or his agent of the latest status immediately thereafter.

(b) At points where special nuclear material is transferred from a vehicle to storage, from one vehicle to another, or from storage to a vehicle, the guard shall keep the shipment under continuous visual surveillance by observing the opening of the cargo compartment of the incoming vehicle and assuring that the shipment is complete by checking locks and/or seals. Continuous visual surveillance of a shipment shall be maintained at all times it is in the terminal or in storage. Shipments shall be preplanned in order to avoid storage times in excess of 24 hours. Continuous visual surveillance of the cargo compartment shall be maintained up to the time the vehicle is ready to depart from the terminal. The guard shall observe the vehicle until it has departed, and shall notify the licensee or his agent of the latest status immediately thereafter.

(c) The guard shall be required to immediately notify the carrier and the licensee who made the arrangements for protection of special nuclear material of any deviation from or attempted interference with schedule or routing.

(d) This section is effective March 6, 1974.

§ 73.36 Miscellaneous requirements.

(a) Each licensee who takes delivery of special nuclear material free on board (f.o.b.) the point at which it is delivered to a carrier for transport shall make the arrangements to assure that such special

nuclear material will be protected in transit as prescribed in §§ 73.30 through 73.35, rather than the person who delivers such shipment to the carrier for transport.

(b) Each licensee who imports special nuclear material shall make arrangements to assure that such material will be protected in transit as follows:

(1) 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 from the arriving carrier.

(2) The shipment shall be protected at the first terminal at which it arrives in the United States and all subsequent terminals as provided in §§ 73.30 through 73.35 and paragraphs (c) and (f) of this section.

(c)(1) Each licensee who delivers 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 free on board (f.o.b.) the point where it is delivered to a carrier for transport, each 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 §§ 73.30 through 73.35 for licensed shipments have been made. When an AEC license-exempt contractor 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 AEC Manual Chapters 2401 or 2405 have been made. (3) Each licensee who delivers special nuclear material to a carrier for transport shall also make arrangements with the consignee to be notified immediately by telephone, telegraph, or teletype, of the arrival of the shipment at its destination.

(d) In addition to complying with the requirements specified in paragraphs (c) and (f) of this section, each licensee who exports special nuclear material shall comply with the requirements specified in §§ 73.30 through 73.35, as applicable, up to the first point where the shipment is taken off the vehicle outside the United States. The licensee 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.

(e) Each licensee who receives a shipment of special nuclear material shall immediately notify the person who delivered the material to a

carrier for transport of the arrival of the shipment at its destination. In the event such a shipment fails to arrive at its destination at the estimated time, the consignee, if a licensee, 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 Atomic Energy Commission Regulatory Operations 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 Atomic Energy Commission Regulatory Operations Regional office listed in Appendix A of the action being taken to trace the shipment.

(f) Each licensee who makes arrangements for physical protection of a shipment of special nuclear material as required by §§ 73.30 through 73.36 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.

(g) Paragraphs (a), (b), (c) and (d) of this section are effective March 6, 1974.

PHYSICAL PROTECTION REQUIREMENTS AT
FIXED SITES

§ 73.40 Physical protection: General requirements at fixed sites.

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. Security plans submitted to the Commission for approval shall be followed by the licensee after March 6, 1974.

§ 73.50 Requirements for physical protection of licensed activities.

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 or who possesses or uses uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium alone or in any combination in a quantity of 5000 grams or more computed by the formula, $\text{grams} = (\text{grams contained U-235}) + 2.5 (\text{grams U-233} + \text{grams plutonium})$, other than in the operation of a nuclear reactor licensed pursuant to Part 50 of this chapter, shall comply with the following.

(a) Physical security organization. (1) The licensee shall establish a security organization, including guards, to protect his facility against industrial sabotage and the special nuclear material in his possession against theft.

(2) At least one supervisor of the security organization shall be on site at all times.

(3) The licensee shall establish, maintain and follow 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.

(4) The licensee shall not permit an individual to act as a guard or watchman unless such individual has been properly trained and equipped and has qualified by demonstrating: (i) an understanding of the licensee's security procedures, and (ii) the ability to execute all duties required of him by such procedures. Each guard and watchman shall be requalified at least annually. Such requalification shall be documented.

(b) Physical barriers. (1) The licensee shall locate vital equipment only within a vital area, which, in turn, shall be located within a protected area such that access to vital equipment requires passage through at least two physical barriers. More than one vital area may be within a single protected area.

(2) The licensee shall locate material access areas only within protected areas such that access to the material access area requires passage through at least two physical barriers. More than one material access area may be within a single protected area.

(3) The physical barrier at the perimeter of the protected area shall be separated from any other barrier designated as a physical

barrier within the protected area, and the intervening space monitored or periodically checked to detect the presence of persons or vehicles so that the facility security organization can respond to suspicious activity or to the breaching of any physical barrier.

(4) An isolation zone shall be maintained around the physical barrier at the perimeter of the protected area and any part of a building used as part of that physical barrier. The isolation zone shall be monitored to detect the presence of individuals or vehicles within the zone so as to allow response by armed members of the licensee security organization to be initiated at the time of penetration of the protected area. Parking facilities, both for employees and visitors, shall be located outside the isolation zone.

(5) Isolation zones and clear areas between barriers shall be provided with illumination sufficient for the monitoring required by paragraphs (b) (3) and (4) of this section, but not less than 0.2 foot candles.

(c) Access requirements. The licensee shall control all points of personnel and vehicle access into a protected area, including shipping or receiving areas, and into each vital area. Identification of personnel and vehicles shall be made and authorization shall be checked at such points.

(1) At the point of personnel and vehicle access into a protected area, all individuals, except employees who possess an AEC personnel

security clearance, and all hand-carried packages shall be searched for devices such as firearms, explosives, and incendiary devices, or other items which could be used for industrial sabotage. The search shall be conducted either by a physical search or by the use of equipment capable of detecting such devices. Employees who possess an AEC personnel security clearance shall be searched at random intervals. Subsequent to search, drivers of delivery and service vehicles shall be escorted at all times while within the protected area.

(2) All packages being delivered into the protected area shall be checked for proper identification and authorization. Packages other than hand-carried packages shall be searched at random intervals.

(3) A picture badge identification system shall be used for all individuals who are authorized access to protected areas without escort.

(4) Access to vital areas and material access areas shall be limited to individuals who are authorized access to vital equipment or special nuclear material and who require such access to perform their duties. Authorization for such individuals shall be provided by the issuance of specially coded numbered badges indicating vital areas and material access areas to which access is authorized. Unoccupied vital areas and material access areas shall be protected by an active intrusion alarm system.

(5) Individuals not employed by the licensee 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, each individual not employed by the licensee shall be required to register his name, date, time, purpose of visit, employment affiliation, citizenship, name and badge number of the escort, and name of the individual to be visited. Except for a driver of a delivery or service vehicle, an individual not employed by the licensee who requires frequent and extended access to a protected area or a vital area need not be escorted provided such individual is provided with a picture badge, which he must receive upon entrance into the protected area and which he must return each time he leaves the protected area, which indicates (i) nonemployee-no escort required, (ii) areas to which access is authorized, and (iii) the period for which access has been authorized.

(6) No vehicles used primarily for the conveyance of individuals shall be permitted within a protected area except under emergency conditions.

(7) Keys, locks, combinations, and related equipment shall be controlled to minimize the possibility of compromise and promptly changed whenever there is evidence that they have been compromised. Upon termination of employment of any employee, keys, locks, combinations, and related equipment to which that employee had access shall be changed.

(d) Detection aids. (1) All alarms required pursuant to this part shall annunciate in a continuously manned central alarm station located within the protected area and in at least one other continuously manned station, not necessarily within the protected area, such that a single act cannot remove the capability of calling for assistance or otherwise responding to an alarm. All alarms shall be self-checking and tamper indicating. The annunciation of an alarm at the onsite central alarm station shall indicate the type of alarm (e.g., intrusion alarm, emergency exit alarm, etc.) and location. All intrusion alarms, emergency exit alarms, alarm systems, and line supervisory systems shall at minimum meet the performance and reliability levels indicated by GSA Interim Federal Specification W-A-00450 B (GSA-FSS).

(2) All emergency exits in each protected area and each vital area shall be alarmed.

(e) Communication requirements. (1) Each guard or watchman on duty shall be capable of maintaining continuous communication with an individual in a continuously manned central alarm station within the protected area, who shall be capable of calling for assistance from other guards and watchmen and from local law enforcement authorities.

(2) The alarm stations required by paragraph (d)(1) of this section shall have conventional telephone service for communication with the law enforcement authorities as described in paragraph (e) (1) of this section.

(3) To provide the capability of continuous communication, two-way radio voice communication shall be established in addition to conventional telephone service between local law enforcement authorities and the facility and shall terminate at the facility in a continuously manned central alarm station within the protected area.

(4) All communications equipment, including offsite equipment, shall remain operable from independent power sources in the event of loss of primary power.

(f) Testing and maintenance. Each licensee shall test and maintain intrusion alarms, emergency alarms, communications equipment, physical barriers, and other security related devices or equipment utilized pursuant to this section as follows:

(1) All alarms, communications equipment, physical barriers, and other security related devices or equipment shall be maintained in operable and effective condition.

(2) Each intrusion alarm shall be functionally tested for operability and required performance at the beginning and end of each interval during which it is used for security, but not less frequently than once every seven (7) days.

(3) Communications equipment shall be tested for operability and performance not less frequently than once at the beginning of each security personnel work shift.

(g) Response requirement. (1) The licensee shall establish liaison with local law enforcement authorities. In developing his physical security plan, the licensee shall take account of the probable size and response time of the local law enforcement authority assistance.

(2) 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 of intrusion into a protected area, a material access area or a vital area, the facility security organization shall (i) determine whether or not a threat exists, (ii) assess the extent of the threat, if any, and (iii) take immediate measures to neutralize the threat, either by appropriate action by facility guards or by calling for assistance from local law enforcement authorities, or both.

(h) This section is effective March 6, 1974.

§ 73.60 Additional requirements for the physical protection of special nuclear material at fixed sites.

In addition to the applicable requirements of § 73.50 of this part, each licensee who pursuant to the regulations in Part 70 of this chapter possesses at any site or contiguous sites subject to control by the licensee uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium alone or in any combination in a quantity of 5,000 grams or more computed by the formula, $\text{grams} = (\text{grams contained U-235}) + 2.5 (\text{grams U-233} + \text{grams plutonium})$ shall protect the special nuclear material from theft or diversion as follows:

(a) Access requirements. (1) Special nuclear material shall be stored or processed only in a material access area. No activities other than those which require access to special nuclear material or equipment employed in the process, use, or storage of special nuclear material, shall be permitted within a material access area.

(2) Material access areas shall be located only within a protected area to which access is controlled.

(3) Special nuclear material not in process shall be stored in a vault equipped with an intrusion alarm or in a vault-type room, and each such vault or vault-type room shall be controlled as a separate material access area.

(4) 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 which is within a larger protected area provided that the storage area 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 watchman who shall patrol at intervals not exceeding 4 hours, or by intrusion alarms.

(5) Admittance to a material access area shall be under the control of authorized individuals and limited to individuals who require such access to perform their duties.

(6) Prior to entry into a material access area, packages shall be searched for devices such as firearms, explosives, incendiary devices, or counterfeit substitute items which could be used for theft or diversion of special nuclear material.

(7) Methods to observe individuals within material access areas to assure that special nuclear material is not diverted shall be provided and used on a continuing basis.

(b) Exit requirement. Each individual, package, and vehicle shall be searched for concealed special nuclear material before exiting from a material access area unless exit is into a contiguous material access area. The search may be carried out by a physical search or by use of equipment capable of detecting the presence of concealed special nuclear material.

(c) Detection aid requirement. Each unoccupied material access area shall be locked and protected by an intrusion alarm on active status. All emergency exits shall be continuously alarmed.

(d) Testing and maintenance. Each licensee shall test and maintain intrusion alarms, physical barriers, and other devices utilized pursuant to the requirements of this section as follows:

(1) Intrusion alarms, physical barriers, and other devices used for material protection shall be maintained in operable condition.

(2) Each intrusion alarm shall be inspected and tested for operability and required functional performance at the beginning and end of each

interval during which it is used for material protection, but not less frequently than once every seven (7) days.

(e) This section is effective March 6, 1974.

RECORDS AND REPORTS

§ 73.70 Records.

Each licensee subject to the provisions of §§ 73.30 through 73.36 and/or § 73.50 and/or § 73.60 shall keep the following records:

(a) Names and addresses of all individuals who have been designated as authorized individuals.

(b) Names, addresses, and badge numbers of all individuals authorized to have access to vital equipment or special nuclear material, and the vital areas and material access areas to which authorization is granted.

(c) A register of visitors, vendors, and other individuals not employed by the licensee recorded pursuant to § 73.50(c)(5).

(d) A log indicating name, badge number, time of entry, reason for entry, and time of exit of all individuals granted access to a normally unoccupied vital area.

(e) Documentation of all routine security tours and inspections, and of all tests, inspections, and maintenance performed on physical barriers, intrusion alarms, communications equipment, and other security related equipment used pursuant to the requirements of this part.

(f) A record at each onsite alarm annunciation location of each alarm, false alarm, alarm check, and tamper indication that identifies the type of alarm, location, alarm circuit, date, and time. In addition, details of response by facility guards and watchmen to each alarm, intrusion, or other security incident shall be recorded.

(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, names and addresses of the monitor and one alternate monitor at each transfer point, 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 §§ 73.30 through 73.36. 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 others shall also be recorded.

(h) Procedures for controlling access to protected areas and for controlling access to keys for locks used to protect special nuclear material.

§ 73.71 Reports of unaccounted for shipments, suspected theft, unlawful diversion, or industrial sabotage.

(a) Each licensee who conducts a trace investigation of a lost or unaccounted for shipment pursuant to § 73.36(f) shall immediately report to the Director of the appropriate Atomic Energy Commission Regulatory Operations Regional Office listed in Appendix A, by telephone, telegram, or teletype, the details and results of his trace investigation and shall file within a period of fifteen (15) days a written report to the Director of the appropriate Regulatory Operations Regional Office with a copy to the Director of Regulatory Operations, U.S. Atomic Energy Commission, Washington, D.C. 20545, setting forth the details and results of the trace investigation.

(b) Each licensee shall report immediately to the Director of the appropriate Atomic Energy Commission Regulatory Operations Regional Office listed in Appendix A, by telephone, telegram, or teletype, any incident in which an attempt has been made, or is believed to have been made, to commit a theft or unlawful diversion of special nuclear material which he is licensed to possess, or to commit an act of industrial sabotage against his plant. The initial report shall be followed within a period of fifteen (15) days by a written report submitted to the Director of the appropriate Regulatory Operations Regional Office, with a copy to the Director of Regulatory Operations, U.S. Atomic Energy Commission, Washington, D.C. 20545, setting forth the details of the incident. Subsequent to the submission of the written report required by this paragraph, a licensee shall immediately inform the Director of

the appropriate Regulatory Operations Regional Office by means of a written report of any substantive additional information, which becomes available to the licensee, concerning the incident.

ENFORCEMENT

§ 73.80 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Act or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and upon conviction, may be punished by fine or imprisonment or both, as provided by law.

APPENDIX A

U.S. ATOMIC ENERGY COMMISSION
REGULATORY OPERATIONS REGIONAL OFFICES

Region and address	Telephone	
	Daytime	Nights and Holidays
Region I, Directorate of Regulatory Operations, USAEC 631 Park Avenue, King of Prussia, Pennsyl- vania 19406215-337-1150	215-337-1150
Region II, Directorate of Regulatory Opera- tions, USAEC, Suite 818, 230 Peachtree St. N.W., Atlanta, GA 30303404-526-4503	404-526-4503
Region III, Directorate of Regulatory Operations, USAEC, 799 Roosevelt Rd., Glen Ellyn, IL 60137312-858-2660	312-739-7711
Region V, Directorate of Regulatory Operations, USAEC, P. O. Box 1515, Berkeley, California 94701415-841-5121 (Ext. 651)	415-273-4237

For the purposes of this regulation, the geographical areas assigned to the Regional Offices are as follows:

REGION I

Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

REGION II

Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, and West Virginia.

REGION III

Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, and Wisconsin.

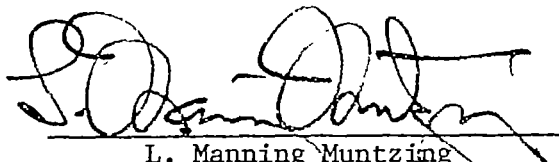
REGION V

Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, Washington, and Wyoming.

(Sec. 161, Pub. Law 83-703, 68 stat. 948; (42U.S.C. 2201))

Dated at Bethesda, Md. this 19th
day of December 1973.

FOR THE ATOMIC ENERGY COMMISSION



L. Manning Muntzing
Director of Regulation