

Proposed Rules

Federal Register

Vol. 64, No. 176

Monday, September 13, 1999

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

NUCLEAR REGULATORY COMMISSION

10 CFR Part 73

[Docket No. PRM-73-10]

State of Nevada; Receipt of Petition for Rulemaking

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; notice of receipt.

SUMMARY: The Nuclear Regulatory Commission (NRC) is publishing for public comment a notice of receipt of a petition for rulemaking, dated June 22, 1999, which was filed with the Commission by the State of Nevada. The petition was docketed by the NRC on July 13, 1999, and has been assigned Docket No. PRM-73-10. The petitioner requests that the NRC amend its regulations governing safeguards for shipments of spent nuclear fuel against sabotage and terrorism. The petitioner requests that the NRC conduct a comprehensive assessment of the consequences of terrorist attacks that have the capability of radiological sabotage, including attacks against transportation infrastructure used during nuclear waste shipments, attacks involving capture of nuclear waste shipments and use of high energy explosives against a cask or casks, and direct attacks upon a nuclear waste shipping cask or casks using antitank missiles or other military weapons.

DATES: Submit comments by November 29, 1999. Comments received after this date will be considered if it is practical to do so, but the Commission is able to assure consideration only for comments received on or before this date.

ADDRESSES: Submit written comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff. Hand deliver comments to: 11555 Rockville Pike, Rockville, Maryland,

between 7:30 a.m. and 4:15 p.m. Federal workdays.

For a copy of the petition, write to David L. Meyer, Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

You may also provide comments via the NRC's interactive rulemaking website at <http://ruleforum.llnl.gov>. This site provides the capability to upload comments as files (any format), if your web browser supports that function. For information about the interactive rulemaking website, contact Ms. Carol Gallagher, (301) 415-5905 (e-mail: cag@nrc.gov).

The petition and copies of comments received may be inspected and copied for a fee at the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

FOR FURTHER INFORMATION CONTACT: David L. Meyer, Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Telephone: 301-415-7162 or Toll Free: 800-368-5642.

SUPPLEMENTARY INFORMATION:

The Petitioner

The petitioner (the State of Nevada) is a corridor state for spent nuclear fuel (SNF) shipments, and has been a destination and origin state for SNF shipments to and from federal research facilities. Under current law, Nevada is the potential host state for a federal geologic repository and could become the ultimate destination for shipments of SNF and high-level radioactive waste (HLW). The petitioner has an interest in protecting the citizens of Nevada from risks associated with the transportation of SNF and HLW. The petitioner also has an interest as the entity responsible for immediate emergency response, in ensuring that transporters of SNF have adequately prepared for potential emergencies within the State of Nevada. The petitioner notes a particular concern for physical protection of SNF shipments under 10 CFR part 73.

Background

As part of this petition, the petitioner has included two separate reports—

(1) *Nuclear Waste Transportation Security and Safety Issues; The Risk of Terrorism and Sabotage Against Repository Shipments*, prepared by Robert J. Halstead, Transportation Consultant, Portage, Wisconsin, and James David Ballard, School of Criminal Justice, Grand Valley State University, Grand Rapids, Michigan, dated October 1997 (Attachment A); and

(2) *The Transportation of Spent Nuclear Fuel and High-Level Waste; A Systematic Basis for Planning and Management at National, Regional, and Community Levels*, prepared for the Nevada Nuclear Waste Project Office by the Planning Information Corporation, dated September 10, 1996 (Attachment B).

The petitioner's primary interest is the potential for many thousands of SNF and HLW shipments to Yucca Mountain and the Nevada Test Site. The Nuclear Waste Policy Amendments Act (NWPA) of 1987 designated Yucca Mountain as the site to be characterized for a national geologic repository for SNF and HLW. The petitioner states that legislation pending in Congress would designate the Nevada Test Site as sole location for a centralized interim storage facility. The petitioner states that a study prepared for the Nevada Agency for Nuclear Projects, estimates that 20,200 shipments (13,900 by rail/6,300 by truck) will occur over about 30 years. The same study projected 56,600 to 104,500 shipments over 40 years, for a repository combined with an interim storage facility.

The petitioner believes that a national repository or interim storage facility may have a greater symbolic value to terrorists as a target for attack than at a reactor storage facility, and that the enhanced symbolic value of the facility as a target may extend to SNF shipments to a national repository or interim storage facility. The petitioner states that in a review of national storage and disposal policy options, the U.S. Nuclear Waste Technical Review Board (NWTRB) observed that compared to reactor sites "a single facility with a large stockpile of spent fuel might be a more tempting and visible target."¹ The petitioner agrees with the NWTRB

¹ Report of the U.S. Nuclear Waste Technical Review Board entitled "Disposal and Storage of Spent Nuclear Fuel—Finding the Right Balance; A Report to Congress and the Secretary of Energy," at 20 (March 1996).

conclusion that more analyses are needed to determine if "either an at-reactor or centralized storage facility would be more exposed to theft or sabotage," and that these analyses should also consider SNF shipments to a centralized facility. The petitioner also believes that a storage or disposal facility operated by the U.S. Department of Energy (DOE), the U.S. government agency responsible for producing nuclear weapons, may have greater symbolic value to terrorists as a target for attack than commercial storage facilities, and that the enhanced symbolic value may extend to DOE's shipments of SNF and HLW to this type of facility.

The petitioner believes that the nature of the terrorist threat has changed significantly since the Commission last evaluated the adequacy of its SNF transportation safeguards regulations in 1984. The petitioner believes that a general strengthening of the regulations intended to safeguard SNF shipments is necessary because of what they identify as new developments in two critical areas:

- (1) Changes in the nature of the terrorist threat; and
- (2) Increased vulnerability of shipping casks to terrorist attacks involving high-energy explosive devices.

It is the petitioner's position that since 1984, three major changes have occurred in the nature of the terrorist threat that argue for a strengthening of the safeguards regulations:

- (1) An increase in lethality of terrorist attacks in the United States;
- (2) An increase in serious terrorist attacks and threats against transportation systems; and
- (3) A renewal of concern about nuclear terrorism generally, and specifically terrorist actions involving potentially radioactive contamination.

The petitioner believes that the willingness of terrorists to kill or injure large numbers of Americans, demonstrated in the World Trade Center and Oklahoma City bombings, compels a focus on incidents that are clearly intended to cause, or could cause, radiological sabotage.

The petitioner believes that developments in two related areas have increased the vulnerability of spent fuel shipping casks to terrorist attacks involving high-energy explosive devices since the NRC last evaluated the adequacy of its SNF transportation safeguards regulations. Their first premise is that the capabilities and availability of explosive devices, especially antitank weapons, have increased significantly. Their second is that new spent fuel shipping cask

designs, developed to increase payloads without exceeding specified weight limits, appear to be more vulnerable to attacks involving past, current, and future weapons systems and commercial explosives. The petitioner believes that these developments argue for a strengthening of the safeguards regulations.

The petitioner believes that portable tank weapons have become more powerful, more reliable, and more available worldwide since the early 1980s. The petitioner believes that most, if not all, of the antitank missiles identified in Attachment A of the petition (Table 5), have warheads capable of completely perforating a truck cask and its spent fuel cargo, and most are capable of deeply penetrating or completing perforating a rail cask and damaging the spent fuel inside. The petitioner states that these weapons are designed to hit moving targets at a distance of 30 meters or more, eliminating the need to capture the cask, and facilitating selection of optimal attack times and locations. The petitioner believes that the portability of these weapons allows further flexibility in attack planning, including use of multiple warheads, and in escape planning.

The petitioner believes that the SNF shipping casks are vulnerable to attacks using military and commercial explosives, particularly conical shaped charges. The petitioner states that DOE-sponsored tests in the early 1980s demonstrated that an attack on a truck using a large military shaped charge could result in release of one percent of the SNF cargo, and that well-trained terrorists planning to capture, control and directly attack spent fuel shipping casks are likely to use shaped charges as their weapon of choice. The petitioner believes that the technology of shape charges and detonation systems, especially for applications in the construction and petroleum industries, and for specialized purposes such as military demining, have continued to evolve since the early 1980s. Numerous "off the shelf" military and commercial shape charges weighing around one kilogram are capable of penetrating 10 to 20 inches of steel.

The petitioner believes that new spent fuel shipping cask designs, developed to increase payloads without exceeding specified weight limits, appear vulnerable to attacks involving current and future military weapons systems and commercial explosives. The petitioner believes the casks used for shipments to a repository and/or interim storage facility shipments will have different design configurations, and will

use different structural and shielding materials, compared to casks currently in use, and compared to the older casks that were assumed in the DOE and NRC sabotage consequence assessments in the early 1980s. The petitioner states that some of these differences may make them more vulnerable to attack with armor-piercing weapons or high-energy explosives.

The Petition

The petitioner requests that the NRC reexamine the issue of terrorism and sabotage against spent nuclear fuel and high-level radioactive waste shipments to determine the adequacy of the current physical protection regulations and to assist the DOE and the affected stakeholders in the preparation of a legally sufficient environmental impact statement as part of the NRC licensing process for a geologic repository or an interim storage facility.

The petitioner requests that the NRC conduct a comprehensive assessment of consequences of three types of attacks that have the potential for radiological sabotage—

- (1) Attacks against transportation infrastructure used by nuclear waste shipments,
- (2) Attacks involving capture of a nuclear waste shipment and use of high-energy explosives against the cask; and
- (3) Direct attacks upon a nuclear shipping cask using antitank missiles or other military weapons.

The petitioner states that the consequence assessment for repository shipments should address the full range of impact of a terrorism/sabotage event resulting in a release of radioactive materials: immediate and long-term implications for public health; environmental impacts, broadly defined; standard socio-economic impacts, including cleanup and disposal costs and opportunity costs to affected individuals and businesses; and so-called special socio-economic impacts, including individual and collective psychological trauma, and economic losses resulting from public perceptions of risk and stigma effects.

The petitioner requests that the Commission reexamine the design basis threat used to design safeguards systems to protect shipments of SNF against acts of radiological sabotage. The current regulations under 10 CFR 73.1(a)(1)(i), require licensees to design safeguards systems to protect shipments against attacks involving several well-trained and dedicated individuals, hand-held automatic weapons, a four-wheel drive land vehicle, and hand-carried equipment, including incapacitating agents and explosives. The regulations

should also specify that the attackers may receive insider (employee) assistance and use a four-wheel drive land vehicle bomb.

The petitioner requests that the Commission clarify the meaning of "hand-carried equipment" within the current design basis threat. The petitioner requests that the NRC amend the design basis threat to include use of explosive devices and other weapons larger than those commonly considered to be hand-carried or hand-held, and the use of vehicles other than four-wheel drive civilian land vehicles. The petitioner states that well-trained and dedicated adversaries could conceivably obtain and use military attack vehicles or military aircraft armed with bombs, missiles, or other powerful weapons. The petitioner believes that the possibility of attacks involving stolen or otherwise diverted military weapons system should be given special consideration considering the number and nature of military installations in Nevada and along the transportation corridors to Nevada.

The petitioner requests that the NRC reexamine the definition of "radiological sabotage" in 10 CFR 73.2. Currently, NRC regulations define "radiological sabotage" as "* * * any deliberate act directed against a plant or transport in which an activity licensed pursuant to the regulations in * * * (10 CFR part 73) 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."

The petitioner believes that the wording "could directly or indirectly endanger" implies a judgment by the NRC regarding the consequences of the action, as opposed to the intentions of the individuals carrying out the action. The petitioner states that actions against SNF shipments that are intended to cause a loss of shielding or a release of radioactive materials should be included in the definition of "radiological sabotage," regardless of the success or failure of the action. The petitioner states that the definition should include deliberate actions that cause, or are intended to cause, economic damage or social disruption regardless of the extent to which public health and safety are actually endangered by exposure to radiation. The petitioner believes that an incident involving an intentional release of radioactive materials, especially in a heavily populated area, could cause widespread social disruption and substantial economic losses even if there were no immediate human casualties and few projected latent

cancer fatalities. The petitioner believes that local fears and anxieties would be amplified by national and international media coverage. The petitioner believes that adverse economic impacts would include the cost of emergency response, evacuation, decontamination and disposal; opportunity costs to affected individuals, property-owners, and businesses; and economic losses resulting from public perceptions of risk and stigma effects.

The petitioner requests that the NRC reexamine its regulations requiring advance route approval requirements, in light of the expected increase in SNF shipments once a Federal repository or interim storage facility begins operations. The petitioner states that neither the current physical protection regulations, nor the U.S. Department of Transportation's routing regulations, require shippers and carriers to minimize shipments through highly populated areas. The petitioner states that since 1979, the NRC has approved many highway routes through heavily populated areas, including I-15 through Las Vegas, NV, and I-80 through Reno-Sparks, NV. The petitioner states that a transportation risk assessment recently published by the NRC assumes that tens of thousands of truck shipments to a repository at Yucca Mountain, NV, could travel through Las Vegas, NV, and other heavily populated areas of Clark County, Nevada.

The current regulations requiring advance route approval require licensees to provide for advance approval by the NRC of the routes used for road and rail shipments of spent fuel, and of any U.S. ports where vessels carrying spent fuel shipments are scheduled to stop [10 CFR 73.37(b)(7)].

The petitioner believes that the NRC should specifically require shippers and carriers to identify primary and alternate routes that minimize highway and rail shipments through heavily populated areas. The petitioner states that the NRC should adopt the route selection criteria in NUREG-0561² as part of the regulations, and specifically require shippers and carriers to minimize use of routes that fail to comply with the route selection criteria.

The petitioner requests that the NRC reexamine its regulations requiring armed escorts for SNF shipments by

road. These current regulations state, in part:

§ 73.37 Requirements for physical protection of irradiated reactor fuel in transit.

(c) * * *

(1) A transport vehicle within a heavily populated area is:

(i) Occupied by at least two individuals, one of whom serves as escort, and escorted by an armed member of the local law enforcement agency in a mobile unit of such agency; or

(ii) Led by a separate vehicle occupied by at least one armed escort, and trailed by a third vehicle occupied by at least one armed escort.

(2) A transport vehicle not within any heavily populated area is:

(i) Occupied by at least one driver and one other individual who serves as escort; or

(ii) Occupied by a driver and escorted by a separate vehicle occupied by at least two escorts; or

(iii) Escorted as set forth in paragraph (c)(1) of this section.

* * * * *

The petitioner requests that the NRC amend its regulations to eliminate the differential armed escort requirements based on population. The petitioner contends that the current requirements for shipments within a heavily populated area should be uniformly applied to all road shipments. The petitioner believes that residents of small cities, towns, and rural areas along shipment routes are entitled to the same level of protection as residents of heavily populated areas. The petitioner states that there are many Nevada locations outside of designated, heavily populated areas with significant population concentrations within one-half mile of a potential SNF shipment route. The petitioner asserts that many difficult-to-evacuate facilities, such as schools, hospitals, industrial plants, shopping centers, hotels, and resorts, are located immediately adjacent to potential truck shipment routes in small cities and towns; several major water supplies and outdoor recreation facilities with high, seasonal population densities are located in close proximity to potential truck shipments routes in rural Nevada.

The petitioner also requests the NRC to increase the armed escort requirements for truck shipments. The petitioner believes that new, high-capacity, legal-weight truck SNF shipping cask designs may be particularly vulnerable to attacks involving high-energy explosive devices. At a minimum, the NRC should consider requiring at least one armed escort each in a lead vehicle and a chase vehicle, with one escort being a state or local law enforcement officer.

² Copies of NUREGS may be purchased from the Reproduction and Distribution Section, Office of the Chief Information Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Copies are also available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. A copy is also available for inspection and/or copying at the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

The petitioner requests that the NRC eliminate the differential armed escort requirements for rail shipments based on population. The current regulations state, in part:

§ 73.37 Requirements for physical protection of irradiated reactor fuel in transit.

(d) * * *

(1) A shipment car within a heavily populated area is accompanied by two armed escorts (who may be members of a local law enforcement agency), at least one of whom is stationed at a location on the train that will permit observation of the shipment car while in motion.

(2) A shipment car not within any heavily populated area is accompanied by at least one escort stationed at a location on the train that will permit observation of the shipment car while in motion.

* * * * *

The petitioner states that in Nevada and other western states, many small cities and towns grew up around rail lines and rail service facilities. In these communities, there are significant population concentrations within one-half mile of a potential SNF rail shipment route. In Nevada and other western states, mainline railroads are frequently located in river valleys near major water supplies. The petitioner also states that mainline railroads of national economic significance may, in-and-of themselves, be as attractive as targets for terrorists as heavily populated areas. The Union Pacific Salt Lake City-Los Angeles mainline through southern Nevada, potentially the primary shipment route to Yucca Mountain, is a rail route of national economic significance.

The petitioner requests that the NRC, as part of re-examining its physical protection requirements, consider increasing substantially the armed escort requirements for rail shipments. The petitioner believes that new high-capacity (125 ton) rail shipping cask designs may be particularly vulnerable to attacks involving antitank missiles, and that armed escorts aboard the train could be incapacitated at the beginning of an attack, or as a result of a train derailment. The petitioner requests that the NRC consider requiring at least two armed escorts in an escort vehicle, in addition to the two armed escorts aboard the train.

Based on recent experience during the foreign research reactor SNF shipments through Nevada, the petitioner believes the NRC should also consider requiring continuous, real-time aircraft surveillance along certain rail route segments through rough terrain and through heavily populated areas. The NRC should evaluate the advantages

and disadvantages of requiring a level of protection comparable to that provided for rail shipments of strategic special nuclear materials (SNM); seven armed escorts stationed in a variety of configurations aboard the train or in one or more escort vehicles.

The petitioner requests that the NRC adopt additional planning and scheduling requirements for the physical protection of SNF shipments based on the precautions already applied to shipments of SNM. The current regulations for shipments of SNM state, in part:

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

(b) * * *

(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.

* * * * *

The petitioner requests that the NRC amend the general requirements for physical protection of irradiated reactor fuel in transit by adopting the same planning and scheduling requirements for special nuclear material in transit.

The petitioner requests that the NRC require all rail shipments of SNF to be made in dedicated trains. Considering the potentially large number of cross-country rail shipments to a repository and/or storage facility, more than 12,000 rail cask shipments of SNF and more than 1,000 rail cask shipments of HLW, the petitioner believes that the performance objectives set forth in § 73.37(a)(1) can only be met by requiring all rail shipments to be made in dedicated trains. The petitioner also requests that the NRC consider the physical protection implications of shipping SNF in dedicated trains compared to general rail freight service. While continuing to believe that the use of dedicated trains should be mandatory, the petitioner acknowledges arguments that dedicated trains pose certain disadvantages from a physical protection standpoint. The petitioner states that dedicated trains may facilitate target tracking and attack scheduling by potential adversaries, and multiple casks in a short train may facilitate target selection and weapon delivery. According to the petitioner, the NRC's consequence assessment should evaluate the advantages and disadvantages of shipping SNF in dedicated trains, assuming both current

and enhanced requirements or rail shipment armed escorts.

The Petitioner's Conclusions

The petitioner submits that the foregoing regulatory amendments and the need for a comprehensive assessment are necessitated by changes in the nature of the terrorist threat and increased vulnerability of shipping casks to terrorist attacks involving high-energy explosive devices, as set forth in the petition. In the interest of safeguarding the public health, safety, and welfare, the petitioner urges the Commission to undertake the tasks outlined in the petition.

For the Nuclear Regulatory Commission.

Dated at Rockville, Maryland, this 7th day of September, 1999.

Annette L. Vietti-Cook,

Secretary of the Commission.

[FR Doc. 99-23691 Filed 9-10-99; 8:45 am]

BILLING CODE 7590-01-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 23

[Docket No. CE154; Notice No. 23-99-01-SC]

Special Conditions: Cessna Aircraft Company, Model 525A, High Altitude Operation.

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This notice proposes special conditions for the Cessna Aircraft Company Model 525A airplane. This airplane will have novel or unusual design features associated with high altitude operation. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These proposed special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: Comments must be received on or before October 13, 1999.

ADDRESSES: Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration, Regional Counsel, ACE-7, Attention: Rules Docket, Docket No. CE154, 601 East 12th Street, Kansas City, Missouri 64106, or delivered in duplicate to the Regional Counsel at the above address.