# FEDERAL REGISTER NOTICE

[7590-01-P]

**NUCLEAR REGULATORY COMMISSION**

10 CFR Part 50

[Docket No. PRM-50-80]

Union of Concerned Scientists and San Luis Obispo Mothers for Peace;
Partial Denial of Petition for Rulemaking

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking: Partial denial.

SUMMARY: The Nuclear Regulatory Commission (NRC) is denying in part, a petition for rulemaking (PRM-50-80) submitted by the Union of Concerned Scientists (UCS) and San Luis Obispo Mothers for Peace (MFP). The petitioners requested two rulemaking actions in PRM-50-80. First, the petitioners requested the regulations establishing conditions of licenses and requirements for evaluating proposed changes, tests, and experiments for nuclear power plants be revised to require licensee evaluation of whether the proposed actions cause protection against radiological sabotage to be decreased and, if so, that the changes, tests, and experiments only be conducted with prior NRC approval. The NRC is contemplating a rulemaking action that would address the petitioners' request and, if issued as a final rule, essentially grant this portion of the petition. Second, the petitioners requested that regulations governing the licensing and operation of nuclear power plants be amended to require licensees to evaluate facilities against specified aerial hazards and make necessary changes to provide reasonable assurance that the ability of the facility to reach and maintain safe shutdown will not be compromised by such aerial hazards. The NRC is denying the petition with respect to the second issue.

The petitioners further requested the Commission to suspend the Diablo Canyon Independent Spent Fuel Storage Installation (ISFSI) proceeding during the NRC's consideration of PRM-50-80. That request was denied by Commission Memorandum and Order CLI-03-04, dated May 16, 2003.

ADDRESSES: Copies of the petition, the public comments received, and the NRC's letter of partial denial to the petitioner may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike, Public File Area O1F21, Rockville, Maryland. These documents are also available electronically at the NRC's Public Electronic Reading Room on the Internet at http://www.nrc.gov/reading-rm/adams.html. From this site, the public can gain entry into the Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. For further information, contact the PDR reference staff at (800) 397-4209 or (301) 415-4737 or by email to pdr@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Joseph L. Birmingham, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-2829, e-mail jlb4@nrc.gov.

SUPPLEMENTARY INFORMATION:

The Petition

The petition was sent to the NRC on April 28, 2003, and the notice of receipt of the petition and request for public comment was published in the *Federal Register* (FR) on June 16, 2003 (68 FR 35585). The public comment period ended on September 2, 2003. Four comments were received opposing the petition. No comments were received supporting the petition.

First Proposed Action

The petitioners requested that 10 CFR 50.54(p), "Conditions of licenses," and 10 CFR 50.59, "Changes, tests, and experiments," be revised to require licensee evaluations of whether proposed changes, tests, and experiments cause protection against radiological sabotage to be decreased and, if so, that such activities only be conducted with prior NRC approval. The petitioners stated that the two regulations have minimal overlap and that many changes, tests, and experiments have no effect on security. However, some proposed changes, tests, and experiments, including those that are short-term or temporary, may affect plant security.

The petitioners stated that short-term degraded or off-normal conditions are often determined to be acceptable because of the low probability of an accident initiator during a short period of time. However, the petitioners stated that sabotage is not random and the saboteur or saboteurs may choose to act during the degraded or off-normal conditions. Therefore, the probability of sabotage occurring during degraded or off-normal conditions increases towards 100 percent. The petitioners asserted that it is reasonable to assume an insider acting alone or an insider aided by several outsiders will time the sabotage to coincide with a vulnerable plant configuration. Therefore, the petitioners requested that licensees be

required to evaluate changes, tests, and experiments from both a safety and a security perspective. The petitioners suggested that the security review could flag a heightened vulnerability for a given change, but accept it (for temporary situations) based on compensatory measures (armed guards, etc.). The petitioners suggested the result would probably be that many licensee actions could proceed as planned, some could proceed with compensatory measures, a few would require NRC review, and a very small number might be denied.

Second Proposed Action

The petitioners requested that 10 CFR Part 50 be amended to require that licensees evaluate each facility against specified aerial hazards and make necessary changes to provide reasonable assurance that the ability of the facility to reach and maintain safe shutdown will not be compromised by an accidental or intentional aerial assault. The petitioners asserted that none of the nuclear power plants were designed to withstand suicide attacks from the air and that the fire hazards analysis process used by the NRC following the March 22, 1975, fire at the Browns Ferry reactor in Decatur, Alabama, should be implemented for aerial hazards.

The petitioners claimed that the Federal Aviation Administration (FAA) no-fly zones established in late 2001 were a concession by the Federal government to the vulnerability of nuclear power plants to air assaults. The petitioners also asserted that the control buildings at nuclear power plants are outside of the robust concrete structures studied by the Nuclear Energy Institute (NEI) in their analyses of nuclear power plant vulnerability to aircraft crashes. The petitioners further asserted that 37 of 81 Operational Safeguards Response Evaluations (OSRE) conducted to the date of the petition identified significant weakness(es), and contended that the control building is the Achilles' heel in the OSRE target sets. The petitioners claimed

that an aircraft hitting the control building may destroy the control elements for all four water supplies and much more. The petitioners asserted that the scope of the NRC-required fire hazards analyses are not restricted to containment and that this is a recognition that core damage can result from fires outside containment. The petitioners stated that licensees are required to show in their fire hazards analyses that there is enough equipment outside the control room for safe shutdown, and that these analyses have resulted in equipment and cable relocation. The petitioners further stated that the fire hazards analyses are "living documents" that future plant changes must be reviewed against.

The petitioners suggested that the way to ensure adequate protection from aerial threats is to replicate the fire hazards analysis process and that NRC should define the size and nature of the aerial threat that a plant must protect against as part of the design basis threat (DBT). The petitioners suggested the aerial threat should include, at a minimum, general aviation aircraft, because post-9/11 airport security measures generally overlook general aviation. The petitioners suggested the aerial threat include explosives delivered via mortars and other means (e.g. rocket propelled grenades). The petitioners further stated that, if the aerial hazards evaluation determines that all targets within a target set are likely to be disabled, the licensee should have three options:

(1) Add or install other equipment to the target set that is outside of the impact zone to perform the target set's function.

(2) Protect in place at least one of the targets (shield wall, etc.).

(3) Relocate or reroute affected portions of a system to outside of the impact zone.

The petitioners also suggested the aerial hazards analysis should provide a means to ensure that future changes do not compromise protection and that whether arriving on foot or by air adversaries would not be able to neutralize an entire target set. The petitioners asserted that in 13 of 57 plant OSREs the adversary team did not enter containment in order to destroy every target in the target set, (27 of the OSREs simulated destruction of at least 1 target set). The petitioners further argued that if an aircraft had hit a nuclear power plant on September 11, 2001, then the approach set forth in the petition would have been undertaken as necessary to prevent recurrence. The petitioners suggested that these measures should be implemented to prevent occurrence in the first place.

## Public Comment on the Petition

The NRC received four letters of public comment on PRM-50-80. All of the comments opposed the actions requested in the petition. Each comment is discussed below.

The Aircraft Owners and Pilots Association (AOPA) stated that they oppose inclusion of general aviation aircraft in the DBT. AOPA described the actions taken to date by the Federal government and industry in terms of airport and aircraft security and current flight restrictions near nuclear power plants. AOPA also cited a report by Robert M. Jefferson, who concluded that general aviation aircraft are not a significant threat to nuclear power plants. The report is on the AOPA's website at http://www.aopa.org/whatsnew/newsitems/2002/02-2-159_report.pdf.

Tennessee Valley Authority (TVA), a nuclear power plant licensee, stated that the proposed change to 10 CFR 50.59 is inconsistent with the purpose of the regulation and that

the DBT order already required revised physical security plans for the new DBT by April 29, 2004. The same commenter further stated that Sandia National Laboratories, in conjunction with NRC, has been performing vulnerability studies of aircraft impacts and that the NRC will promulgate changes to the regulations if they are needed.

A consortium of nuclear power plants, Strategic Teaming and Resource Sharing (STARS), stated that industry guidance in NEI 96-07, "Guidelines for 10 CFR 50.59 Implementation," for performing 10 CFR 50.59 evaluations specifies that all applicable regulations be considered in those evaluations and that a required dual security review for all changes is unnecessary. STARS stated further that requirements to prevent radiological sabotage already exist in 10 CFR 50.34 (c) and (d), 50.54(p), Part 73 and recent security orders. STARS further asserted that nuclear power plants have diverse, divided trains and shutdown capability. STARS asserted that NRC and industry studies of the effects of a large airborne object showed no massive releases of radiation. STARS concluded that an aircraft impact would pose no greater or different vulnerability than has already been analyzed.

NEI, an industry group representing all U.S. commercial nuclear power plants, plant designers, architect/engineering firms, and fuel cycle facilities, opposed the petition. NEI stated that industry guidance in NEI 96-07, "Guidelines for 10 CFR 50.59 Implementation," already requires all applicable regulations to be considered in those evaluations and a required dual security review for all changes is unnecessary. NEI also argued that 10 CFR 50.59 and 50.54(p) are necessarily different in purpose. NEI further asserted that there is no direct correlation between security plan effectiveness and the plant condition. NEI also argued that the Federal Government, not the licensee, is responsible for protection of nuclear power plants

from aircraft attacks. NEI further claimed that extensive aircraft impact analyses are not justified and cited an industry study of the risk from an armed terrorist ground attack that concluded there would be non-catastrophic consequences.

Reasons for NRC's Response

The NRC evaluated the advantages and disadvantages of the two proposed actions requested by the petition against the NRC Strategic Performance Goals.

First Proposed Action

1. Ensure protection of public health and safety and the environment: The NRC acknowledges that the requested rulemaking could help protect public health and safety and the environment. The NRC notes that nuclear power plant licensees are currently required to address the continued safety of the plant with regard to any change, test, or experiment (10 CFR 50.59), and also to ". . . establish, maintain, and follow an NRC-approved safeguards contingency plan for responding to threats, thefts, and radiological sabotage . . ." (10 CFR 73.55(h)(1)). Further, they are required to ". . . establish and maintain an onsite physical protection system and security organization that will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety." (10 CFR 73.55(a)), and ". . . may make no change which would decrease the effectiveness of a security plan . . ." (10 CFR 50.54(p)(1)). However, the regulations do not specifically require evaluation of the effect of plant changes on security or the effect of security plan changes on plant

safety. Further, the regulations do not require communication about the implementation and timing of changes amongst operations, maintenance, and security to promote awareness of the effects of changing conditions for appropriate assessment and response.

In addition, the NRC is aware of enough occurrences of adverse safety/security interactions at nuclear power plants over the years to justify consideration of a rule change. Many, but not all, of these occurrences were during refueling outages. Examples of operations adversely impacting on security include: inadvertent security barrier breaches while performing maintenance activities (e.g., cutting of pipes that provide uncontrolled access to vital areas, removing ventilation fans or other equipment from vital area boundary walls without taking compensatory measures to prevent unauthorized entry into vital areas, etc.); blockage of bullet resisting enclosure (or other defensive firing position) fields of fire; erection of scaffolding and other equipment without due consideration of its impact on security response time-lines or response pathways; and staging of temporary equipment within security isolation zones. An example of security adversely impacting operations could be inadequate staffing of security force personnel on backshifts, weekends, and holidays, to support operations during emergencies (e.g., opening and securing vital area access doors to allow operations personnel timely access to safety-related equipment).

2. Ensure the secure use and management of radioactive materials: The NRC believes that the requested rulemaking could help ensure the secure use and management of radioactive materials. As discussed, existing regulations require the evaluation of changes to the facility and to the security plan. However, the regulations do not

specifically require that these changes be evaluated for their effect on the safety/security interface. Therefore, revising the regulations to specifically require these changes to be evaluated for their potential effect on the safety/security interface could help ensure the secure use and management of radioactive materials.

3. Ensure openness in our regulatory process: The requested rulemaking would further openness in the regulatory process by providing an opportunity for public comment on the merits of the proposed revision. Public comment and the rulemaking process could help determine the need for the revision and the scope of any revision.

4. Ensure that NRC activities are effective, efficient, realistic, and timely: The proposed revisions would likely make existing regulations more effective and address realistic field implementation issues but would necessarily result in some increase in licensee and NRC burden.

The NRC evaluation determined that regulations currently exist related to safety and security but the regulations do not specifically require an evaluation of the effect of plant changes on security or the effect of security plan changes on plant safety. Therefore, the NRC will consider rulemaking to address this part of the petition. The NRC believes that rulemaking is appropriate but also believes that further consideration is needed to determine the sections of Parts 50 and/or 73 that should be revised. Additionally, the staff notes that communications between the NRC and licensees should comply with guidance in SECY-04-191 for sensitive unclassified information to preclude aiding a potential adversary.

Second Proposed Action

1. Ensure protection of public health and safety and the environment: The staff believes that the requested action would not significantly contribute to protecting public health and safety and the environment because vulnerability assessments to date indicate that the likelihood of such events damaging the reactor core and releasing radioactivity that could affect public health and safety is low. In addition, the staff believes that the best way to protect against an aerial is by effective implementation of Transportation Security Administration security measures at the nation's airports. Additional site-specific studies of operating nuclear power plants are underway or being planned to determine the need, if any, for additional mitigating capability on a site-specific basis. Furthermore, the staff will continue to review intelligence and threat reporting to recommend any appropriate modifications to the DBT. The specifics of the DBT for radiological sabotage are considered safeguards information and are not disclosed to the general public.

2. Ensure the secure use and management of radioactive materials: The staff believes that the requested action would not significantly contribute to ensuring the secure use and management of radioactive materials because evaluations that support the adequacy of the DBT already consider attacks by various modes of transport and their likelihood of occurrence.

3. Ensure openness in our regulatory process: The proposed revisions would not further increase openness in our regulatory process because the analyses and/or plant changes that would be required if the requested action was implemented would need to

be protected as Safeguards Information and would not be disclosed to the general public.

4. Ensure that NRC actions are effective, efficient, realistic, and timely: The proposed revisions would not make NRC activities and decisions more effective, efficient, realistic, and timely because NRC already required nuclear power plant licensees to implement specific security enhancements and/or measures to mitigate the potential consequences of a successful attack on a nuclear power plant in a manner that incorporates the full scope of the Interim Compensatory Measures required by Order dated February 25, 2002 and the DBT as supplemented by Order on April 29, 2003. Additional site-specific studies of nuclear power plants are underway or are being planned to determine the need, if any, for additional mitigating capability on a site-specific basis. Furthermore, the staff will continue to review intelligence and threat reporting to recommend any appropriate modifications to the DBT.

For these reasons, the Commission denies the second requested action of PRM-50-80.

Dated at Rockville, Maryland, this _____ day of _____, 2005.

For the Nuclear Regulatory Commission

Annette L. Vietti-Cook
Secretary of the Commission