

power plant or its procedures. The first tier screens the proposed changes against the criteria in § 50.59 (c)(2)(i)-(viii). If at least one criterion might be invoked by the proposed changes, the second tier provides for a more rigorous evaluation. However, if the proposed changes do not invoke any of the criteria at tier one and if the evaluation determines that none of the criteria are invoked at tier two, the change can be made at the owner's discretion. Otherwise, the third tier requires that NRC approve the change in advance, the change be revised so that none of the criteria are invoked, or the change must be abandoned.

The petitioners state that 10 CFR 73.55, requires plant owners to establish and maintain an onsite physical protection system and security organization which 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 public health and safety. The petitioners state that the physical protection system shall be designed to protect against the design basis threat (DBT) of radiological sabotage as stated in § 73.1(a)(1)(i)-(iii). The petitioners note that the DBT is being revised in light of the events on September 11, 2001, but currently specifies protection against a determined violent external assault, attack by stealth, or deceptive actions, of several persons with the following attributes, assistance and equipment that include: (A) Well-trained (including military training and skills) dedicated individuals, (B) inside threat and assistance from a knowledgeable individual (an employee) who may provide information, facilitate entrance and exit, disable alarms and communications, or participate in a violent attack, (C) suitable weapons, including hand-held automatic weapons with silencers and long range capability, (D) hand-carried equipment and explosives to be used for destroying reactor, facility, transporter, or container integrity features of the safeguards system, and (E) a four wheel drive land vehicle used as a bomb, or for transporting personnel, and their equipment to the proximity of vital areas.

The physical protection system features elements such as perimeter fences, locked doors, access controls, intrusion detection systems, and armed responders. The petitioners note that 10 CFR 50.54(p) compared to 10 CFR 50.59 permits plant owners to change their physical protection equipment and procedures without prior NRC approval

as long as the changes do not decrease their effectiveness. The petitioners state that in practice, a security evaluation process determines if a proposed change to physical protection equipment or procedures can be made with NRC's approval, or cannot be made.

The petitioners state that U.S. nuclear power plants were designed and licensed to provide reasonable assurance that an accidental aircraft crash would not adversely harm public health and safety. The petitioners state that the process involved a mathematical exercise to determine the likelihood that an errant aircraft could damage vital part(s) of the plant by impact. The petitioners state further that the inputs to the number-crunching were the proximity of the nuclear power plant to aircraft flight paths, the amenity of the site to aircraft crashes, and any spatial parameters (e.g. vital plant areas being shielded by non-vital areas that the aircraft could destroy without consequence).

The petitioners state that nuclear power plants were also designed and licensed to provide reasonable assurance that an accidental fire within the facility would not adversely harm public health and safety, but note that a very serious fire at the Browns Ferry nuclear plant showed that the original regulation and associated implementing procedures were insufficient. The petitioners have included a detailed history of the fire at the Browns Ferry nuclear plant and a presentation of the formal structured approach by the owner of the plant. The petitioners state that while the initial regulations attempted to provide adequate protection, the Browns Ferry fire demonstrated regulatory deficiencies and caused a more formal, structured approach. The petitioners assert that U.S. nuclear power plants are protected from aerial hazards by pre-September 11 and pre-Browns Ferry fire regulations that rely in large part on the low probability of an aircraft impacting the site.

The petitioners state that the requested changes to 10 CFR part 50 for aerial hazards are analogous to the regulations promulgated by the NRC to rectify the fire protection regulation shortcomings exposed by the Browns Ferry fire (i.e., the addition of 10 CFR 50.48 and Appendix R to 10 CFR part 50).

The MFP also requests that the NRC suspend licensing proceedings on the Diablo Canyon Independent Spent Fuel Storage Installation until the issues presented in the petition are resolved. The petitioners believe the proposed amendments would provide better

protection to Independent Spent Fuel Facilities (ISFSIs) against radiological sabotage. In an order dated May 16, 2003, the Commission denied the petitioner's request. *Pacific Gas and Electric Company* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-03-04.

Proposed Amendments

The petitioners request the following amendment:

Revise 10 CFR 50.54(p) and 10 CFR 50.59 to require plant owners to formally evaluate whether proposed changes, tests, and experiments cause protection against radiological sabotage to be decreased and, if so, that such actions only be conducted with prior NRC approval.

Revise 10 CFR part 50 to require that plant owners formally evaluate their facilities against specified aerial hazards and make changes as necessary to provide reasonable assurance that the ability of the facility to reach and maintain safe shutdown would not be compromised by an aerial assault, whether accidental or intentional.

Rationale for the Changes

Safety and Security Evaluation Integration

The petitioners state that 10 CFR 50.59 requires plant owners to evaluate proposed changes, tests, and experiments and to obtain prior NRC approval for those having more than minimal adverse impact on the licensing basis, and that 10 CFR 50.54(p) requires plant owners to evaluate proposed changes to their physical protection equipment and procedures and to obtain prior NRC approval for those that decrease effectiveness.

The petitioners believe that the current safety and security change control regulations have minimal overlap, and note that a proposed modification to the decay heat removal system typically does not involve a formal evaluation of whether it makes radiological sabotage easier unless it directly affects a piece of physical protection equipment or the response capability of an armed guard. The petitioners state that many changes, tests, and experiments have no effect, direct or indirect, on nuclear plant security, but some may, particularly those involving short-term and temporary applications.

According to the petitioners, degraded conditions and off-normal configurations are often deemed acceptable from a safety evaluation perspective because of the low