

U.S. NUCLEAR REGULATORY COMMISSION
ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT FOR THE
PROPOSED RULE AMENDING 10 CFR PARTS 50, 52, and 73
ACCESS AUTHORIZATION AND PHYSICAL SECURITY FOR
NUCLEAR POWER PLANT CONSTRUCTION

Introduction and Background

Current U.S. Nuclear Regulatory Commission (NRC) regulations do not include requirements for access authorization or physical protection at construction sites for nuclear power plant construction before the receipt of nuclear fuel (protected area) under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, “Domestic Licensing of Production and Utilization Facilities,” or after receiving notice of the Commission’s finding under 10 CFR 52.103(g) that the acceptance criteria in the combined license are met. Although licensees may provide industrial or commercial security during construction to reduce commercial risk, the lack of required security measures before the receipt of fuel is inconsistent with the potential security risk stemming from malicious acts that could occur during the construction of nuclear power plants. This omission could result in an inadequate level of assurance of a licensee’s ability during construction to deter or detect malicious acts that could adversely affect the safe construction and subsequent operation of security- and safety-related systems and components (SSCs) at NRC-regulated commercial nuclear power plants.

The objective for this rulemaking is to substantially enhance security at new nuclear power plant construction sites by providing mechanisms to deter and detect malicious acts during construction that could later be used to cause or facilitate a radiological sabotage event during plant operation.

The staff recognizes that existing required activities conducted by licensees during the plant construction period (e.g., robust designs, safety-related quality assurance programs, and pre-operational testing) provide some measure of security at new nuclear power plant construction sites. NRC oversight activities at these construction sites also provide some additional degree of assurance that malicious acts would be deterred or detected. Further, the staff recognizes that industry voluntarily implements certain industrial security measures at their construction sites to protect their commercial interests. However, these existing requirements and voluntary licensee programs do not provide assurance that the public health and safety, common defense and security, and the environment are adequately protected.

In response to these concerns, the Commission directed the staff to initiate a rulemaking establishing access authorization and physical protection requirements for new reactor sites under construction and to develop measures to deter and detect malicious acts before the arrival of fuel onsite (protected area) and the plant's transition into its operational phase.

As part of the development process for the enhanced security measures, the NRC considered the effectiveness, costs, and feasibility of possible access authorization and physical protection enhancements.

Proposed Action

The NRC is proposing to amend its regulations to create a new 10 CFR 73.52 and make conforming amendments to other NRC regulations to incorporate effective access authorization and physical protection measures for the protection of new nuclear power plant construction activities under a construction permit or a combined license. The NRC considers the potential for malicious acts during nuclear power plant construction to be risk significant. Accordingly, the NRC is proposing new physical protection measures; access authorization controls; physical inspections; performance of high-quality security sweeps; and lockdown measures and

procedures for securing the security- and safety-related SSCs at new nuclear power plant construction sites before the facility becomes operational.

New requirements for an access authorization program are proposed to ensure that construction personnel who have access to construction areas with security- or safety-related SSCs have gone through pre-access screening checks and are determined to be trustworthy and reliable. New requirements are also proposed to establish physical protection to deter malicious acts to security- and safety-related SSCs during construction activities and to detect malicious acts to security- and safety-related SSCs after the implementation of lockdown procedures. Once the rule becomes effective, the proposed amendments would impact any construction permit holder or combined licensee that is authorized to construct a nuclear power plant under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," or after receiving notice of the Commission's finding under 10 CFR 52.103(g) that the acceptance criteria in the combined license are met.

The proposed rule would neither authorize nor license the use of any radioactive materials; licensees and applicants would still need to comply with all applicable NRC licensing requirements. There are 18 applications for combined licenses (COLs) for new nuclear power plants (13 applications for 22 units are under active review while five applications have been suspended or deferred) as well as activities of the Tennessee Valley Authority which is completing construction of Watts Bar, Unit 2 and is evaluating whether to complete its Bellefonte units. The NRC does not expect any additional COL applications to be submitted until fiscal year 2012. Although a second wave of commercial nuclear power plants have not materialized, the licensing and construction of these new COL plants may become the impetus for new COL applications.

Need for the Proposed Action

The proposed requirements are needed to provide enhanced security at new reactor construction sites so that the Commission has adequate assurance that malicious acts during construction cannot later reasonably result directly or indirectly in radiological sabotage as defined in 10 CFR 73.2. The rule provides the Commission with adequate assurance that the public health and safety and the common defense and security are adequately protected given the current threat environment.

Environmental Impact

This environmental assessment focuses on those aspects of the access authorization and physical protection for nuclear power plant construction rulemaking where there is a potential for the requirements to affect the environment. This proposed action would impose new security requirements on a number of the NRC construction permit holders and combined licensees. However, in no case would this proposed amendment to the NRC's regulations authorize the possession or use of radioactive material. Licensees would remain subject to all applicable existing licensing requirements in the NRC's regulations. The NRC has concluded that there will be no significant environmental impacts associated with implementation of these rule requirements.

The access authorization and physical protection requirements for nuclear power plants during construction would not result in changes to the systems in affected licensees' facilities that function to limit the release of radiological effluents. All systems associated with limiting the releases of offsite radiological effluents will continue to be able to perform their functions, and as a result, there are no significant radiological effluent impacts. The standards and requirements applicable to radiological releases and effluents are not affected by this proposed rulemaking and continue to apply.

The principal effect of this action is to add access authorization and physical protection requirements during nuclear power plant construction. None of the revisions affect current occupational exposure requirements. Consequently, the NRC has concluded that this action has no impact on occupational exposure.

The proposed action does not significantly increase the probability or consequences of accidents, nor result in changes being made in the types of any effluents that may be released offsite, and there is no significant increase in occupational or public radiation exposure.

With regard to potential nonradiological impacts, implementation of the rule requirements does not have a significant impact on the environment. Facility footprints should not change due to the proposed action. While the requirements of this rule could result in some licensees making temporary modifications to their facilities during initial construction activities, the NRC does not anticipate these modifications to have any significant environmental impact. In addition, the requirements do not affect any historic site and do not affect nonradiological plant effluents. Consequently, there are no significant non-radiological plant effluents. Therefore, there is no significant non-radiological environmental impact associated with this rule.

Accordingly, the NRC concludes that there is no significant environmental impact associated with the rulemaking action.

Alternatives to the Proposed Action

As an alternative to the proposed action, the NRC staff considered not taking the action (i.e., the no-action alternative). Under the no-action alternative, the NRC would not amend its regulations to require access authorization and physical protection features during nuclear power plant construction. Not adopting the access authorization and physical protection regulations results in no change in current environmental impacts because the existing requirements and resulting environmental impact would not change. Therefore, taking no action results in no net change to the environmental impact. However, the no-action alternative would

leave the existing security issues during nuclear power plant construction unresolved and would not reflect the requirements that the NRC has concluded are necessary for the adequate protection of the public health and safety and the common defense and security.

Alternative Use of Resources

There are no irreversible commitments of resources determined in this assessment.

Agencies and Persons Consulted

No agencies or persons outside the NRC were contacted in connection with the preparation of this draft environmental assessment.

Finding of No Significant Impact

Under the National Environmental Policy Act of 1969, as amended, and the NRC regulations in subpart A of 10 CFR Part 51, the NRC has determined that this proposed rule, if adopted, would not be a Federal action significantly affecting the quality of the human environment and, therefore, an environmental impact statement is not required for this rulemaking. The proposed amendments are procedural in nature and would have no significant impact on the environment.

The determination of this environmental assessment is that there will be no significant impact to the public from this action. However, the general public should note that the NRC welcomes public participation. Comments on any aspect of the environmental assessment may be submitted to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attn: Rulemakings and Adjudications Staff.