

NRC REGULATORY PROCESSES FOR INDEPENDENT SPENT FUEL STORAGE INSTALLATIONS

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ABSTRACT

NRC issues licenses for independent fuel storage installations by two processes, the specific license and the general license. The paper describes the basic steps of each process. It also discusses the strong and weak aspects of each process.

INTRODUCTION

The nuclear utilities in the U.S. have invested billions of dollars in the Nuclear Waste Fund. The intent of the Nuclear Waste Policy Act was that commercial power plants would be able to begin shipping a significant amount of spent nuclear fuel to DOE facilities starting in 1998. Unfortunately, DOE's Office of Civilian Radioactive Waste Management has run into a large number of obstacles, and it appears the schedule milestones in the Act will not be met. Consequently, many nuclear utilities are giving serious consideration to the installation of Independent Spent Fuel Storage Installations (ISFSIs).

Approval to build an ISFSI is obtained from the US Nuclear Regulatory Commission. The principal regulation of significance to ISFSIs is Title 10, Part 72 of the Code of Federal Regulations (10 CFR 72). Incidentally, this is also the principal regulation that will be used to license DOE's Monitored Retrievable Storage facility (MRS). Although both types of facility are licensed pursuant to 10 CFR 72, an MRS and an ISFSI are not handled identically under this regulation. An ISFSI can be licensed under either of two procedures, a specific license or a general license. The general license procedure does not apply to the MRS. Both procedures are discussed below.

In order to obtain a specific license, a utility must develop a license application that includes designs for the storage hardware and the remaining portions of the ISFSI. The storage hardware design is usually developed by a cask vendor. The remainder of the ISFSI consists primarily of civil facilities such as buildings and roads, and these may be designed by the utility or an architect-engineering firm. In some cases, the license application addresses all these items in one document, a Safety Analysis Report (SAR) that discusses both the storage hardware and the civil facilities. In other cases, there are two licensing documents. First, the vendor submits a topical SAR (TSAR) on its cask design and obtains NRC approval. Then the utility's license application incorporates the TSAR by reference, and it supplements this with the site specific details of the ISFSI. Regardless of which path is chosen, the process includes a review by NRC staff and a review by an NRC trial board. The specific license also involves the preparation and review of environmental impact documentation by the applicant and NRC. A specific license can be used at a reactor site or some other location.

The process for a general license appears to be simpler, but not all parties are eligible to use it. First, it can be used only by a utility that seeks to locate the ISFSI on the site of an existing nuclear power plant. Second, the facility design and

site must satisfy a number of technical criteria. Third, the utility is required to use a cask that has been certified by NRC. Obtaining a certificate of compliance for a cask is similar to winning approval for a TSAR, but it takes more effort by the vendor and NRC Staff, because certification requires a rulemaking proceeding. If the proposed ISFSI meets all these requirements, then the utility essentially activates its license by providing a notice to the NRC. No license application is prepared or submitted. There is no requirement for a review by NRC staff or an NRC trial board. The philosophical basis for the general license concept includes the following factors: the utility is proposing to use a pre-approved cask, they will use it on a licensed reactor site that has been the subject of years of scrutiny by NRC staff, and the project poses no unreviewed safety questions. Furthermore, because NRC is taking no action (i.e., no review and approval), the National Environmental Policy Act does not come into play, and elaborate environmental documentation is not required.

The two types of license have some advantages and disadvantages. The specific license approach can have the following advantages. NRC can process a TSAR for a cask faster than they can process a certification. NRC staff is more familiar with the specific license approach, and they are less likely to get bogged down in procedural questions.

There are a number of disadvantages of the specific license approach. The applicant's team will probably need to develop more documentation. This will include an Environmental Report and safety analysis documentation. The process of issuing a license must play out. This includes NRC staff review, a question-and-answer period, publication of a Safety Evaluation Report and Environmental Impact Statement for public review, and adjudicatory hearings.

The general license process appears to have a number of advantages. Less documentation is required from the utility. The normal NRC process of review and hearings does not occur in connection with site-related matters. There is no license application, no Safety Evaluation Report, and no Environmental Impact Statement. If the utility intends to use a pre-certified cask, then it should be possible to develop an ISFSI in less time.

There are a number of weaknesses of the general license process. The vendor and NRC staff generally must do more work than would be needed to obtain a TSAR for a cask. That is because the certification process involves both NRC staff approval and rulemaking. The general license is a new process, with some elements that are quite a departure from normal NRC practice (e.g., issuance of a license with no application being filed or reviewed). NRC staff has not had

much experience with it yet, thus the potential for procedural difficulties is higher than with a specific license. Finally, the general license process is under attack in the courts. In the Palisades case, the principal complaint is that the National

Environmental Policy Act cannot be satisfied unless a site specific Environmental Impact Statement is developed for the ISFSI, thus the general license concept is flawed.