

April 8, 2003

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SUBJECT: PROPOSED INTERIM STAFF GUIDANCE (ISG) ON IDENTIFICATION AND
TREATMENT OF HOUSING FOR ACTIVE COMPONENTS FOR LICENSE
RENEWAL

Dear Messrs. Nelson and Lochbaum:

The purpose of this letter is to provide you with the opportunity to comment on the proposed ISG on identification and treatment of housing for active components for license renewal. The NRC staff (the staff) has developed the subject ISG to clarify that screening of housings for active mechanical components is conducted in accordance with the requirements of Section 54.21(a)(1) of the license renewal rule (10 CFR Part 54). The staff has made further revisions to this ISG since it issued a May 1, 2002, letter that solicited comments on the issue. The proposed ISG incorporates lessons learned from recent license renewal reviews to indicate that housings for fans, dampers, and heating and cooling coils may be subject to an aging management review for license renewal.

Enclosure 1 is a copy of the proposed ISG on identification and treatment of housing for active components for license renewal. Enclosure 2 includes pertinent changes to Table 2.1-5 of the Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants (SRP-LR). The staff plans to incorporate this ISG position into the improved renewal guidance documents (NUREG-1800 and 1801) in a future update. We request that you comment on the proposed ISG and submit a schedule for resolution, in order to ensure a timely closure of this issue.

For the resolved ISGs, it is also possible that comparable changes might be needed to NEI 95-10, Revision 3, "Industry Guidance for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule." If you have any questions regarding this matter, please contact Peter Kang at 301-415-2779.

Sincerely,

/RA/

Pao-Tsin Kuo, Program Director
License Renewal and Environmental Impacts
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project 690

Enclosures: As stated

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PROPOSED INTERIM STAFF GUIDANCE (ISG) ON SCREENING OF HOUSINGS FOR ACTIVE COMPONENTS FOR LICENSE RENEWAL

Staff Position

The proper implementation of 10 CFR Part 54 requires an applicant for a renewed license to consider, in their screening evaluations, the intended function of the housing associated with an active mechanical component that performs a function within the scope of 10 CFR Section 54.4. Pump casings and valve bodies, as described in both the license renewal rule (10 CFR Part 54 or the Rule) and its statement of consideration (SOC), are examples of how an applicant should evaluate housings for active mechanical components. Specifically, based on experience with recent license renewal reviews, the staff believes that the housings for fans, dampers, and heating and cooling coils may perform a critical pressure retention and/or structural integrity function which, should that function not be maintained, could prevent the associated active mechanical component from performing its intended function. Further, if such housings perform these functions and meet the long-lived and passive criteria, then the housings should be subject to an aging management review (AMR).

The staff expects applicants for license renewal to identify active mechanical component housings that require an AMR pursuant to 10 CFR Section 54.21. This determination should consider whether failure of the housing would result in a failure of the associated active mechanical component to perform its intended function, and whether the housing meets the long-lived and passive criteria as defined in the Rule. The reasons for this position follow:

Rationale

The SOC for the Rule states that the objective of a license renewal review is to determine whether the detrimental effects of aging, which could adversely affect the functionality of systems, structures, and components (SSCs) that the Commission determines require review for the period of extended operation, are adequately managed. The SOC articulates the underlying philosophy of the Rule; that during the period of extended operation, safety-related functions should be maintained in the same manner and to the same extent as they are during the current licensing term. Aging effects, which could adversely impact the ability of SSCs to maintain these safety-related functions during the period of extended operation, should be evaluated.

Section 54.21(a)(1) of the Rule states that components that perform their intended functions without moving parts and without a change in configuration or properties (Section 54.21(a)(1)(i)) and that are not subject to replacement based on qualified life or a specified time period (Section 54.21(a)(1)(ii)), are subject to an AMR. Such components are commonly considered to be “long-lived” and to perform a passive function. Section 54.21(a)(1)(i) states, “These structures and components include, but are not limited to . . . pump casings, valve bodies . . .” and lists other components that perform passive functions.

The SOC explains that major components may have active functions, passive functions, or both, and cites pumps and valves as examples. 60 FR 22,477. Pumps and valves have moving parts, but the Commission concluded that the pressure-retaining function performed by the pump casing and the valve body should be subject to an AMR. The SOC further explains

that the Commission does not limit the consideration of pressure boundaries to the reactor coolant pressure boundary. The exclusion of a component from aging management review is focused on active functions, rather than on the exclusion of the entire component, while the AMR applies to the passive function of the component.

On these bases, the staff concludes that a license renewal applicant must consider the non-active part of a component that performs a function within the scope of Part 54 (e.g., pump casings, valve bodies, and housings for fans and dampers). The proper implementation of the Rule requires that screening evaluations consider not just the active mechanical component, but also the intended function of its associated housing.

PROPOSED REVISIONS TO SRP-LR TABLE 2.1-5

Current Table Entries

Item	Category	Structure, Component, or Commodity Group	Structure, Component, or Commodity Group Meets 10 CFR 54.21(a)(1)(i) (Yes/No)
58	Heat Exchangers	HVAC Coolers	Yes
116	Valves	Dampers	No
124	Fans	Ventilation Fans	No

Proposed Revisions to the Table Entries

Item	Category	Structure, Component, or Commodity Group	Structure, Component, or Commodity Group Meets 10 CFR 54.21(a)(1)(i) (Yes/No)
58	Heat Exchangers	HVAC Coolers (including housings)	Yes
116	Valves	Housings for Dampers (including louvers and gravity dampers)	Yes
124	Fans	Housings for Ventilation Fans (Including exhaust fans)	Yes

NUCLEAR ENERGY INSTITUTE

Project No. 690

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