USED FUEL STORAGE AND TRANSPORTATION ISSUE SUMMARY FORM
Issue Number: X-YY-01 **Revision:** 0

I. Problem Statement (Provide a clear, concise description of the issue. Use continuation sheet as required.)

1. Independent Spent Fuel Storage Installations (ISFSIs) located near a coastal or salt water marine environment may be more subject to degradation due to wind borne salt-bearing aerosols. Specifically, austinetic stainless steels used in Spent Nuclear Fuel (SNF) storage casks and storage facility structures may be prone to chloride-induced stress corrosion cracking (SCC) when exposed to a coastal marine atmosphere [Research Programs on Stress Corrosion Cracking of Stainless Steel Canister for Concrete Cask," Central Research Institute of Scientific Power Industry (CRIEPI), Japan. January 16, 2007]. Fog and spray aerosols from salt water bodies can contain high concentrations of chlorides which may deposit on ISFSI structures and cask external surfaces potentially leading to SCC. Degradation from this phenomenon may impact the performance of storage cask confinement systems over an extended licensing period and/or impact the future transportation performance if the system is used for dual purpose. Early intervention may mitigate potential safety issues with long-term degradation. It is necessary to understand the effects of this issue at facilities that may be subject to the phenomenon; however, NRC does not believe this to be an adequate protection or immediate safety issue.

II. Screening Criteria (Provide an explanation as to how the issue meets each of the screening criteria to be considered for generic issue resolution. Use continuation sheet as required.)

Does the proposed issue involve spent fuel storage or transportation and affect multiple 10 CFR 71 or 10 CFR 72 regulated entities?

1. Yes. There are multiple ISFSIs located in coastal locations or near bodies of salt water that are potentially affected by this phenomenon.

Why does the proposed issue warrant generic resolution?

2. A consistent approach to resolution of this issue should be applied to satisfy the regulatory requirements of Part 72.

Why does the issue warrant engagement between the industry and NRC?

3. The NRC is prepared to issue generic communication and licensing guidance to address the issue but believes industry involvement would provide a better understanding regarding the extent of the condition and/or provide additional data to address salt deposition and potential degradation. An industry initiative to the address the issue in a safe and timely manner may result in a more efficient and effective method than issuance of NRC generic communication.

Why is the issue not already adequately covered by another process?

4. The issue can be covered by an existing NRC process for establishing regulatory acceptance criteria however direct interaction with industry stakeholders using this process may yield a more efficient and effective resolution to the issue.

What tangible benefits will generic resolution of the issue produce?

5. A consistent licensee and CoC holder approach to addressing this issue, and a stable, predictable licensing and inspection protocol will allow continued storage for potentially extended periods without additional safety or compliance issues arising after fuel loading.

III. Success Criteria (Describe the criteria to be used to define success for resolving this issue. Use continuation sheet as required.)

1. Industry documents current condition of ISFSI facilities and storage casks located in a coastal or near a salt water body marine environment/atmosphere and develops a generic industry initiative for ensuring that chloride-induced SCC will not affect the continued short term and long term dry cask storage of spent fuel that is currently loaded; and addressing the issue for future cask certifications.
2. NRC develops inspection guidance and staff review guidance consistent with an industry initiative, to the extent it is endorsed by NRC.