

Response to questions from CGN dated December 4, 2025:

1) 对于非执照范围内的构筑物、系统和部件，如何筛选老化管理关注的范围？如何确保对象的完整性？如何开展老化管理策略的制定、实施？与执照更新申请安全评估的范围界定和筛选、老化管理审查有何不同？

For structures, systems, and components (SSCs) not within the license scope, how to screen the scope of aging management focus? How to ensure the completeness of the objects? How to formulate and implement aging management strategies? What are the differences from the scope definition, screening, and aging management review in the safety assessment for license renewal applications?

***RESPONSE: The scoping and screening of structures and components (SCs) within the scope of license renewal (LR) include both safety-related and non-safety related passive SCs. The guidance for performing these tasks is provided in NEI 95-10 and NEI 17-01 (see [lto.epri.com](http://lto.epri.com) for more information) and in SSG-48. Aging management of active SCs is generally covered by the maintenance program, which includes preventative and corrective maintenance. The regulatory required oversight of maintenance activities is under the Maintenance Rule (MR) for scoping and assessment, and guidance is provided in documents such as NUMARC 93-01 and NEI 18-10.***

2) 可靠性相关、但不属于执照范围内的构筑物、系统和部件，主要的老化机理和老化效应有哪些？以常规岛设备的FAC和冲蚀为例，如何开展敏感对象的识别？如何管理这些敏感部件的FAC和冲蚀问题？

What are the main aging mechanisms and aging effects of reliability-related structures, systems, and components (SSCs) that are not within the license scope? Taking Flow-Accelerated Corrosion (FAC) and erosion of conventional island equipment as examples, how to identify sensitive objects? How to manage the FAC and erosion issues of these sensitive components?

***RESPONSE: The guidelines for identification of FAC and erosion relevant areas or components are the same for SCs in scope of LR and for those not in scope of LR. The FAC program can be credited for both categories of components. The guidelines are based on material and environment combinations without regard to the LR scoping and screening process. This is true for other aging management programs as well, such as water chemistry, ASME Section XI IST, etc. These aging management programs may include both in scope and not in scope SCs for LR.***

3) 如何利用维修规则确保核电站构筑物、系统和设备的老化管理是有效的？资产管理、执照更新申请和维修规则这三者之间具有什么样的逻辑关系？尤其是关注对象。

How to use maintenance rules to ensure the effectiveness of aging management for nuclear power plant structures, systems, and equipment? What is the logical relationship among asset management, license renewal applications, and maintenance rules, especially regarding the objects of focus?

***RESPONSE: The MR program specifically addresses the effectiveness of maintenance activities that may include aging management. The MR performance metrics provide the standards for equipment reliability and availability, which measures the overall effectiveness of maintenance activities. EPRI document 3002020418, Maintenance Rule Implementation Self-Assessment Guidelines for Nuclear Power Plants, provides additional information on the topic of assessing the effectiveness of MR programs. Regarding the relationship among asset management, LR applications, and MR, there is some overlap of these activities. However, asset management is generally more of a financial planning tool, LR applications are focus on aging management of passive SCs, and MR is focus more on management of active SCs. Again, there is overlap, such as crediting the MR structures monitoring program for LR SCs.***

4) 除执照更新申请安全评估相关的老化管理大纲（如选择性浸出、电缆等）外，风险管理如何应用于可靠性相关设备部件的老化管理工作？能否介绍成熟的案例？

In addition to the aging management outlines related to the safety assessment for license renewal applications (e.g., selective leaching, cables, etc.), how is risk management applied to the aging management of reliability-related equipment and components? Can mature cases be introduced?

***RESPONSE: Risk informed approaches to aging management programs (AMPs) for passive SCs are somewhat limited. For example, the Risk-Informed ISI AMP and the buried piping AMP include consideration of risk insights. The EPRI report on use of risk insights related to the selective leaching AMP and the non-EQ cable AMP is discussed in EPRI Report 3002020713, Leveraging Risk Insights for Aging Management Program Implementation. For aging management of active SCs, the MR program uses risk insights to establish reliability and availability goals for maintenance activities (and aging management activities). If these goals are not met, corrective action is taken to correct the situation and re-establish the required reliability and availability.***