

RIRP MVC Problem Statement

Problem Statement

The NRC and industry disagree on whether or not original cable system designs were designed and built with the expectation of cables being in submerged conditions.

Regardless of these differing opinions, industry experience indicates that some medium voltage cable designs are not meeting design expectations and are susceptible to premature deterioration due to long-term submergence.

Goal

To resolve this issue the solution will satisfy both: regulatory requirements and will implement a technical process to ensure to the extent practical (random failures excluded) cable functionality in submerged environments.

Proposed Path Forward

1. Industry and NRC must clearly understand the regulatory bases relative to submerged power cables before a solution can be developed to meet the regulatory requirements. The industry must be able to understand what part of the solution ensures regulatory compliance and which part of the solution is a voluntary industry initiative.
2. The industry needs to develop and implement a solution, which meets regulatory requirements and addressed issues that arise from industry operating experience, for assessing the condition of cables exposed to long-term submergence.

Suggested Protocol Limitation

The industry must develop and implement a process to assess the condition of power cables. Because the industry issues have predominantly occurred in medium voltage cables that have become submerged in generally inaccessible, underground environments, it is recommended that the scope of the protocol be limited to inaccessible medium voltage power cables in submerged environments under the scope of the Maintenance Rule.

The protocol process is one that is in its infancy and is being tested on the MVC issue to determine if the processes identified help clarify and achieve resolutions to problems. It is not intended to solve the entire scope of cable issues that may exist. The industry does not intend to limit the scope of their technical review to inaccessible medium voltage power cables under the Maintenance Rule; however, trying to address the entire cable scope would require examining more extensive requirements resulting in many more questions that would need to be solved. The larger the scope of the issue being processed through RIRP the longer the close-out of the protocol will take. Therefore, the scope is only being limited for protocol purposes and not for the industry technical review.