

**NORTH ANNA POWER STATION, UNITS 1 AND 2 (NAPS)  
SUBSEQUENT LICENSE RENEWAL APPLICATION (SLRA)  
REQUESTS FOR ADDITIONAL INFORMATION (RAIS)  
SAFETY - SET 3A**

**1. Buried and Underground Piping and Tanks, AMP B2.1.27**

Regulatory Basis:

Title 10 of the *Code of Federal Regulations* (10 CFR) Paragraph 54.21(a)(3) requires an applicant to demonstrate that the effects of aging for structures and components will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the period of extended operation. One of the findings that the staff must make to issue a renewed license (10 CFR 54.29(a)) is that actions have been identified and have been or will be taken with respect to managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis. In order to complete its review and enable making a finding under 10 CFR 54.29(a), the staff requires additional information in regard to the matters described below.

**RAI B2.1.27 2a**

Background:

As amended by letter dated April 1, 2021, SLRA Section B2.1.27, "Buried and Underground Piping and Tanks," states "[t]he Buried and Underground Piping and Tanks program is an existing program that, following enhancement, will be consistent, with NUREG-2191, Section XI.M41, Buried and Underground Piping and Tanks."

Dominion's response to RAI B2.1.27-2 dated April 1, 2021 (ADAMS Accession No. [ML21091A187](#)) states the following in part:

- "NUREG-2191, Section XI.M41, Buried and Underground Piping and Tanks program, allows examinations either to be conducted from the external surface of the tank using visual techniques or from the internal surface of the tank using volumetric techniques, in lieu of cathodic protection. As such, the Buried and Underground Piping and Tanks program (B2.1.27) conducts internal tank surface examinations of the buried EDG [emergency diesel generator] FOSTs [fuel oil storage tanks] consistent with the guidance in NUREG-2191, Section XI.M41, as an alternative to cathodic protection."
- "[t]he EDG FOSTs are cleaned and inspected on a 10-year frequency. During the 2013 EDG FOST inspections, a visual of the interior coating and an ultrasonic thickness examination from inside each tank were performed. Approximately 60 spot ultrasonic thickness readings were obtained from inside each tank, along the length of the tanks. Thickness readings on both tanks were acceptable and showed no degrading trend from

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the previous data recorded in 2002. Some minor coating degradation was identified within each tank and repairs were completed prior to returning the tanks to service.”

GALL-SLR Report AMP XI.M41 recommends inspections and cathodic protection for buried steel tanks.

Issue:

GALL-SLR Report AMP XI.M41 recommends inspections and cathodic protection for buried steel tanks (i.e., inspections are not performed in lieu of providing cathodic protection). Therefore, the staff does not consider inspections of these tanks as an adequate basis for not providing cathodic protection.

As part of its basis for not providing cathodic protection for the buried EDG FOSTs, Dominion Energy provided a qualitative summary of the previous two 10-year interval inspections (i.e., ultrasonic thickness readings were acceptable, no degrading trend from the previous inspection). However, no quantitative inspection results (e.g., ultrasonic thickness measurements in comparison to  $T_{min}$ ,  $T_{nom}$ , or original thickness; corrosion rates; etc.) were provided. The staff seeks more detailed (i.e., quantitative) inspection results to substantiate Dominion Energy’s claim that cathodic protection is not necessary for the buried EDG FOSTs during the subsequent period of extended operation (SPEO).

Request:

Provide quantitative inspection results from the 2002 and 2013 EDG FOST inspections (i.e., ultrasonic thickness measurements in comparison to  $T_{min}$ ,  $T_{nom}$ , and original thickness (if available); a drawing or sketch indicated where the ultrasonic thickness measurements were taken, corrosion rates, etc.) to substantiate the claim that cathodic protection is not necessary for the buried EDG FOSTs during the SPEO.

**RAI B2.1.27 3a**

Background:

In the “background” section of RAI B2.1.27 3, the staff identified plant specific operating experience indicating that portions of in-scope buried steel and stainless steel piping are not externally coated. Specifically, the staff noted (a) inspections have shown buried in scope stainless steel piping has been found without coating or with significantly disbonded coating; and (b) a leak due to external corrosion on a buried carbon steel service water line identified that the piping was not coated and wrapped in accordance with the installation specification.

Dominion Energy’s response to RAI B2.1.27-3 dated April 1, 2021, states the following in part: “[b]uried steel piping coating applications include coal tar epoxy, coal tar enamel, or tape wrap. Buried stainless steel piping coating applications include coal tar enamel or tape wrapped.”

GALL-SLR Report Table XI.M41 1 recommends that buried steel and stainless steel piping are externally coated in accordance with the “preventive actions” program element of GALL-SLR Report AMP XI.M41. In addition, GALL-SLR Report AMP XI.M41 states “[a]dditional

inspections, beyond those in Table XI.M41-2[, “Inspection of Buried and Underground Piping and Tanks,”] may be appropriate if exceptions are taken to program element 2, “preventive actions,” or in response to plant specific OE [operating experience].”

Issue:

Although buried steel and stainless steel piping are specified to be externally coated, plant specific operating experience indicates that coatings were not always provided. Based on this plant specific OE, the seeks additional clarification regarding why additional inspections of buried steel and stainless steel piping are not appropriate.

Request:

Please provide additional OE to demonstrate that State the basis for why additional inspections, beyond those recommended in GALL-SLR Table XI.M41-2, are not appropriate for buried steel and stainless steel piping.