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Report Captures Best Practices from Groundwater Assessments

Based on groundwater assessments conducted between 2011 and 2013, EPRI has collected best practices and observations related to hydrogeology, monitoring wells, sampling, work practices, risk evaluations, and more.

A recent EPRI report, *Groundwater Assessment Best Practices and Observations* (3002002724), captures best practices supporting robust groundwater protection programs. Well-designed and well-managed groundwater programs help nuclear plants minimize site contamination, minimize decommissioning impact, and safeguard public safety by preventing off-site migration of licensed material through groundwater pathways.

The report, which is based on the results of EPRI assessments conducted from 2011 to 2013, captures industry best practices and observations in the areas of hydrogeology, wells, and groundwater sampling; atmospheric recapture; work practices and modification reviews; systems, structures, and component risk evaluations; and program organization and coordination. A few examples of best practices and observations are shown in table below.

While the content in the report is applicable to all nuclear plant owners, U.S. plants are obligated to implement groundwater protection programs at their sites under an industry initiative. As part of these obligations, U.S. nuclear utilities are required to perform self-assessments and peer assessments on a regular basis.

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Sample Best Practices and Observations from EPRI Report 3002002724.

	Best Practice	Observation
Hydrogeology and Groundwater Sampling	The use of historical wells is reviewed to ensure that the design of these wells support their function, especially monitoring wells for early detection, ensuring that early detection wells are optimally screened at the groundwater surface.	Most assessments recommended new wells to support early detection (near field). In some cases, wells classified as early detection wells were not located sufficiently close to SSCs to support early detection.
Atmospheric Recapture	Rainwater and/or building roof drain sampling have been conducted. Low concentrations of tritium in groundwater attributed to atmospheric recapture are supported with the rainwater and/or building roof drain sampling data. (EPRI Report 1021183)	Attributing low levels of tritium in groundwater to atmospheric recapture without documentation or rainwater studies was identified at some stations.
Program Organization	Well defined responsibilities between various organizational elements such as Radiation Protection, Chemistry, and Environmental.	The degree of coordination between the Groundwater Protection Program and the Underground Piping and Tanks Program varies a significant amount between the sites.