



Summary of Recent Projects

Area of Work: Solid Hazardous, and Radioactive Waste Management

Project Description: Exposure Pathway and Dose Modeling for Disposal of Nuclear Power Plant Reactor Vessel



AquAeTer provided the following services to its client for this landfill engineering project:

- Performed exposure pathways and dose modeling for various scenarios over time frames ranging from 500 to 10,000 years;
- Prepared documentation of modeling results in support of disposal; and
- Co-authored a technical paper of results that was presented at a American Nuclear Society conference.

AquAeTer was retained by its client to perform the dose model analysis for the disposal of a nuclear power generating plant intact Reactor Vessel at a Low-Level Radioactive Waste Disposal facility. The analysis examined the expected radiation dose via the groundwater pathway that could result from the land-burial disposal of the Reactor Vessel as a single, intact unit in a semi-arid environment. The analysis examined the expected dose for time periods of 1,000 and 10,000 years. The analysis also examined intermediate times associated with the corrosion resistance of the Reactor Vessel to the release of radionuclides to the environment. Doses associated with the Reactor Vessel were evaluated for intermediary time steps such as 500, 1,000, and 5,000 years. The analysis was performed using linked computer models to perform the transport and dose assessment. The Nuclear Regulatory Agency accepted the results of the model and the Reactor Vessel was disposed of.



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