

Abstract

Waste Logic™ RadBench.NET Web Application for Benchmarking Liquid Effluent Performance

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A “benchmark” is a point of reference for measurement. It also serves as a standard against which other activities, processes or programs can be compared. Taking this a step further, “benchmarking” is a form of comparative analysis by which any given activity, process or program is compared to one or more similar activities, processes or programs. The intent is to identify areas of individual excellence and areas in need of improvement. Focusing on these improvement opportunities will typically result in higher overall performance and cost efficiency.

In the nuclear industry, benchmarking can be applied to a wide range of activities, processes and programs. Among the more important of these are the radiological programs, including in-plant processing of radioactive liquids, management of liquid and gaseous effluents, radioactive waste management, and radiological exposure management. EPRI’s RadBench web application was developed to benchmark these radiological programs.

At the present time, RadBench focuses on in-plant liquid processing and effluent, as well as liquid processing and solid waste dispositioning programs. This state-of-the-art web application provides the nuclear industry with the following:

- Secure, consistent, and accurate method for benchmarking an individual nuclear plant's radiological performance.
- Benchmarking for radioactive system liquid volumes, pH, conductivity, activity concentration, wet solid wastes generated (resin, filters, precoat media, membranes, etc.), liquid effluents, and program costs.
- Benchmarking for low and intermediate level waste (LILW) management programs, including LILW generation, shipping, storage and disposal volumes for a wide range of liquid and solid waste types, waste streams, and mixed waste.
- Benchmarking for associated key considerations which affect LILW management performance and program costs, including fuel cycle, reactor types (BWR, PWR, etc.), reactor size (MWe), number of refueling or major maintenance outages in comparative data years, containment and reactor cavity decontamination options and critical path impacts, and disposal sites used.
- Benchmarking for individual plant comparative analyses by reactor type, reactor size, single or multi-unit stations, and outage and non-outage years.
- Facilitates communication among key industry representatives by providing useful utility and plant information. This includes a comprehensive database with contact names, addresses, phone numbers, and email addresses, as well as email messaging and distribution group capabilities. This provides an efficient mechanism for gathering industry data supporting plant-specific analyses of individual programs for LILW.
- Data import/export from/to other Waste Logic programs.



This paper introduces the RadBench web application to the nuclear industry, and will focus on the liquid effluent management benchmarking capabilities of the program. Collaborative data collection activities with the North American Technical Center (NATC) will also be discussed. RadBench is currently in beta form, and it is scheduled for full publication by December 2003. Beta testing is available to members of EPRI’s Nuclear Business Group, and all EPRI members are encouraged to participate.