D21. PROCEEDINGS: VITRIFICATION OF LOW-LEVEL WASTE - THE PROCESS AND POTENTIAL

Vitrification technology, or the consolidation of waste in a glass matrix, represents a proven method for achieving volume reduction for high-level industrial waste. Application of this technology is emerging as a visible treatment of low-level waste. The workshop focused on the range of vitrification technologies now available and highlighted issues associated with application of the vitrification process in the nuclear power industry.

EPRI has been actively engaged in assessing the application of vitrification technology to low-level waste (LLW). At present, the LLW processing industry is on the verge of marketing vitrification technology to nuclear utilities. This workshop provided a forum for vendors and utility representatives to exchange information and to shape the future application of this advanced technology for LLW processing.

EPRI's first vitrification of Low-Level Waste Workshop attracted more than 65 representatives. The conference included 29 papers along with 10 information tables. The workshop featured the following:

* A discussion of EPRI's work to date and the key issues that remain to be addressed, such as the cost of vitrification and validation of volume-reduction numbers with more direct applications to LLW.

* An overview of vitrification technology and comparison with established LLW processing technologies, including supercompaction and incineration.

* Vendor presentations detailing individual vitrification process technologies, experience, and market readiness as well as their assessment of the nuclear utility market in this area.

* Vendor discussions of issues such as the final waste forms achieved, actual volume reduction and the cost-benefits of using vitrification.

* DOE profiles of work to date on application of vitrification technology to LLW and mixed waste.

* Representative discussions of experience with vitrification projects, including the result of vitrifying spent resins and on-site processing of steam generator cleaning wastes using a mobile vitrification unit.

* A roundtable discussion by nuclear industry representatives addressing the benefits of volume reduction for specific waste streams and cost concerns.

* A South Carolina state regulator's view of vitrified waste as a final disposal form.

Direct information exchange between vitrification technology vendors and nuclear industry representatives will aid in establishing a meaningful dialog on the application of this technology to LLW. This workshop gave vendors the opportunity to sharpen their assessment of the LLW processing market, the service desired, and expectations for vitrification technology.

For more, "Proceedings: Vitrification of Low-Level Waste - the Process and Potential," EPRI TR-106079, Proceedings, March 1996.