

AMEC 1.3: Review and implementation of technology for solid radioactive waste volume reduction.Description:

Dismantlement generates large quantities of solid radioactive wastes other than spent nuclear fuel. This project will identify and implement suitable technologies as part of an integrated treatment system necessary to process (volume reduce) solid radioactive wastes generated and accumulated during the decommissioning of Russian nuclear submarines. This project is being coordinated with AMEC Project 1.4 for the storage of solid radioactive wastes.

Status/Accomplishments:

U.S. and Russian technical experts met in St. Petersburg, Russia, in July 1998 to examine the quantity and quality of solid radioactive wastes to be generated during the decommissioning of Russian nuclear submarines and a range of technical options. They reached consensus on a proposed technical solution that was approved by the Principals in October for limited implementation in fiscal year 1999.

Relationship to CTR:

Current CTR projects address solid radioactive wastes as part of the dismantlement and disposal of targeted Russian ballistic missile submarines and their reactor components. AMEC Project 1.3 activity involves assessing technologies for the disposition of a broader spectrum of solid radioactive wastes from ballistic missile submarine decommissioning and from general purpose nuclear submarine decommissioning as well. AMEC Project 1.3 activities are planned to be complementary, not redundant, to proposed CTR activities and will yield a systematic and synergistic approach to the life-cycle management of solid radioactive wastes from submarine decommissioning. CTR currently has provisions to process solid radioactive wastes only at Zvezdochka near Severodvinsk and Zvezda near Vladivostok in the Far East. The AMEC solid radioactive wastes processing system will be established at facilities on the northeastern portion of the Kola Peninsula near Murmansk, which are more than 500 miles from Severodvinsk. Additionally, the AMEC Project 1.3 plan proposes the use of supercompaction as a major part of a suite of technologies to address nearly all types of submarine decommissioning solid radioactive wastes. The addition of supercompaction to the complete solid radioactive wastes system will reduce the life cycle cost of solid radioactive wastes management, by reducing the final waste volume, and provide further incentive for Russian cooperation.

International Agreement:

This project is being undertaken pursuant to the CTR SOAE agreement.

National Security Issues:

Safe, responsible handling of the solid radioactive waste is necessary to prevent a backlog in the submarine dismantlement process.

Timeline:

Phase I: Technology Assessment	February 28, 1997 to September 30, 1998
Phase II: Limited Implementation with Systems Engineering Analysis	October 1, 1998 to September 30, 2000
Phase III: Full Scale Technology Implementation (proposed)	October 1, 2000 to September 30, 2002

Funding Matrix:

	FY 97	FY98	FY 99	FY 00	FY 01	FY 02	Total
US Project Requirements (\$ in thousands)	727	600	400	1,600	1,200	800	\$5,327