

FY 2001 Pacific Northwest National Laboratory  
Environmental Management Science Program Awards

<b>Project Title</b>	<b>Lead Organization</b>	<b>Collaborators</b>	<b>Problem Area</b>	<b>Web Site Address</b>
Mechanisms and Kinetics of Organic Aging and Characterization of Intermediates in High-Level Waste	Pacific Northwest National Laboratory (PNNL)	N/A	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=554">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=554</a>
Radioanalytical Chemistry for Automated Nuclear Waste Process Monitoring	PNNL	Clemson University	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=540">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=540</a>
Investigating Ultrasonic Diffraction Grating Spectroscopy and Reflection Techniques for Characterizing Slurry Properties	PNNL	University of Washington	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=533">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=533</a>
Origins of Deviations from Transition-State Theory: Formulating a New Kinetic Rate Law for Dissolution of Silicates	PNNL	Rice University, University of Oklahoma	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=525">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=525</a>
Precipitation and Deposition of Aluminum-Containing Phases in Tank Wastes	PNNL	Savannah River Technology Center, Princeton University	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=543">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=543</a>
Physiochemical Processes Controlling the Source Term from Tank Residuals	PNNL	University of North Carolina	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=545">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=545</a>
Speciation, Dissolution, and Redox Reactions of Chromium Relevant to Pretreatment and Separation of High-Level Tank Wastes	PNNL	Lawrence Berkeley National Laboratory, Washington State University	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=537">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=537</a>
Electroactive Materials for Anion Separation-Techneium from Nitrate	PNNL	Brookhaven National Laboratory, University of Minnesota	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=561">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=561</a>

FY 2001 PNNL EMSP Awards

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Technetium Chemistry in HLW: Role of Organic Complexants	PNNL	Los Alamos National Laboratory	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=562">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=562</a>
Contaminant-Organic Complexes: Their Structure and Energetics in Surface Decontaminant Processes	PNNL	Ohio State University Princeton University	Decontamination & Decommissioning	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=551">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=551</a>
Development of Biodegradable Isosaccharinate-Containing Foams for Decontamination of Actinides: Thermodynamic and Kinetic Reactions Between Isosaccharinate and Actinides on Metal and Concrete Surfaces	PNNL	Sandia National Laboratories, Lawrence Berkeley National Laboratory	Decontamination & Decommissioning	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=565">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=565</a>
Optical and Microcantilever-Based Sensors for Real-Time In Situ Characterization of HLW	Oak Ridge National Laboratory	PNNL and Tufts University	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=557">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=557</a>
Millimeter-Wave Measurements of High Level and Low Activity Glass Melts	Massachusetts Institute of Technology	PNNL and Savannah River Technology Center	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=534">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=534</a>
Physical Characterization of Solid-Liquid Slurries at High Weight Fractions Using Optical and Ultrasonic Methods	University of Washington	PNNL	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=546">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=546</a>
Ion Recognition Approach to Volume Reduction of Alkaline Tank Waste by Separation of Sodium Salts	Oak Ridge National Laboratory	PNNL, University of North Texas	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=544">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=544</a>
Stability of High-Level Radioactive Waste Forms	Oak Ridge National Laboratory	PNNL and Pennsylvania State University	High-Level Waste	<a href="http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=553">http://emsp.em.doe.gov/portfolio/ProjectDetails.asp?trackID=553</a>