

Directory of commercially available OST-funded technologies

Since its inception in 1989, DOE's Office of Science and Technology has provided development support for many technologies that are now commercially available. The following directory, sorted by DOE Environmental Management problem areas, was generated in September 1999. Only those technologies which both DOE and the vendor agreed were commercially available at that time are included in the directory. Italicized names in parentheses indicate vendors' names for their technologies when these names differ from those used by OST. The number in brackets corresponds to the technology's ID number in OST's Technology Management System (TMS), which is available at http://ost.em.doe.gov/tms.

Deactivation and	Decommissioning	Problem Area

2-D Linear Motion System (<i>WallWalker</i> <i>Automatic Vertical Surface Locomotion</i>) [#1476]	Pentek, Inc., (412) 262-0725	Semirobotically operates decontamina- tion tools and characterization instruments on walls
Advanced Recyclable Media System [#1971]	Surface Technology Systems, Inc., (330) 497-5905	Cleans surfaces by blasting with recyclable urethane foam matrix in various grades of abrasiveness
Alloy Analyzer [#2397]	Niton Corporation, (800) 875-1578	Uses X-ray fluorescence spectrum analysis to identify and quantify elements in metal
Centrifugal Shot Blasting [#1851]	PW Stephens Services, Inc./Concrete Cleaning, Inc., (509) 226-1295	Removes concrete and coatings from floors by blasting with hardened steel shot
Cogema 3-D Gamma Imaging [#2302]	COGEMA Engineering Corp., (509) 372-1130	Provides precise information on the quantity and location of gamma radiation–emitting sources
Compact Subsurface Investigation System [#2153]	Geoprobe Systems, Western Regional Office, (559) 637-1696	Retrieves soil samples in congested areas where standard sampling equipment cannot fit
Concrete Dust Suppression System [#2154]	Rowand Machinery, (509) 547-8813	Sprays water from vehicle-mounted tank to suppress dust from dismantling operations
Concrete Grinder [#2102]	CS Unitec, Inc., (800) 700-5919	Lightweight, handheld tool for removing concrete and coatings
Concrete Shaver [#1950]	Marcrist Industries Limited, 011-44-1302-890888	Self-propelled, electric-powered, diamond shaving machine for concrete and coating removal
CORPEX Nuclear Decontamination Process [#87]	CORPEX Technologies, Inc., (919) 388-2300	Chemical process to nondestructively decontaminate plutonium-contaminated facilities and equipment

Decommissioning In Situ Plutonium Inventory Monitor (DISPIM) [#2241]	BNFL Instruments, Inc., (505) 662-4192	Performs in situ assay of plutonium- contaminated equipment with passive neutron counting and 3-D imaging
Decontamination and Conversion of Nickel Radioactive Scrap Metal [#234]	Manufacturing Sciences Corporation, (423) 481-0455, x236	Effective and cost-efficient process to reduce or remove radioactive contamination of nickel
Decontamination of Process Equipment Using Four Technologies [#1594]	GTS Duratek, (423) 481-0222	Decontaminates equipment by blasting with dry grit, wet grit, water, and carbon dioxide pellets
Electret Ion Chambers [#2315]	Rad Elec, Inc., (301) 694-0011	Measures alpha radiation
Field Raman Spectrograph [#873]	InPhotonics, Inc., (781) 440-0202	Screens, monitors, and identifies a wide variety of contaminants from more than 50 meters away
FRHAM-TEX Anti Contamination Suit [#1854]	Frham Safety Products, Inc., (615) 254-0841	Disposable, breathable, waterproof coverall for hot or wet atmospheres
Gamma Cam™ Radiation Imaging System [#1840]	AIL Systems, Inc., (800) 944-1180	Displays relative strength and location of gamma radiation
Gamma Ray Imaging System (<i>RadScan 700</i>) [#1793]	BNFL Instruments, Inc., (505) 662-4192	Displays and plots location of radioactive contamination
Geophex Airborne Unmanned Survey System (GAUSS) [#295]	Geophex, Ltd., (919) 839-8515	Robotic helicopter sweeps areas for metallic and nonmetallic anomalies
Heat Stress Monitoring System (<i>VitalSense®</i>) [#1953]	MINI MITTER, (800) 685-2999	Provides real-time gauge of workers' condition in heat-stress environment
High-Speed Clamshell Pipe Cutter [#1807]	Tri Tool, Inc., (800) 345-5015	Cuts in-line pipe 10 to 24 inches in diameter
In Situ Chemical Treatment of Asbestos [#73]	W. R. Grace and Company, (410) 531-4188	Chemically converts asbestos-containing material into nonregulated reaction products in situ
In Situ Object Counting System [#2098]	Canberra Industries, (317) 298-7953	Identifies specific nuclei and corresponding radioactive inventory
Indoor Radiation Mapping Using Laser- Assisted Ranging and Data System [#1946]	Thermo NUtech, Inc., (509) 531-6036	Performs and reports radiological surveys
Interactive, Computer-Enhanced, Remote-Viewing System [#33]	Foster-Miller Technologies, (518) 456-9919, x106	Provides reliable geometric description of a remote environment
Internal Duct Characterization System [#42]	Inuktun Services, Ltd., (250) 722-2209	Remotely operated system inspects and characterizes contaminated ventilation ductwork
Laser Cutting and Size Reduction [#1477]	GSI Lumonics, (734) 591-0101, x2276	Uses laser to remotely dismantle contaminated equipment
Lead Paint Analyzer [#2317]	Niton Corporation, (800) 875-1578	Identifies and quantifies metals and elements in lead-based paint
Liquid-Nitrogen Cooled Diamond-Wire Concrete Cutting [#2107]	Bluegrass Concrete Cutting, Inc., (800) 320-1462	Cuts thick concrete
Long-Range Alpha Detection for Component Monitoring [#2382]	BNFL Instruments, Inc., (505) 662-4192	Measures alpha contamination on surfaces of items and pipes
Low-Density Cellular Concrete Void Filling (Nuclear Decommissioning by Grouting) [#1846]	Pacific International Grout Company, (360) 733-5270	Fills voids of vessels to be buried to withstand load of overburden
Mobile Integrated Temporary Utility System [#1795]	Rumsey Electric Company, (610) 832-9000	Supplies power, communication, lighting, and alarm system, replacing site power for D&D projects
NuFab Anti Contamination Suit [#1855]	G/O Corp., (800) 933-8501	Disposable, waterproof coverall for hot or wet atmospheres



Oxy-Gasoline (Cutting) Torch [#1847]	Petrogen International, Ltd., (510) 569-7877	Produces temperatures over 5,000°F for cutting under adverse conditions
Personal Ice Cooling System (PICS) (CORETECH Body Temperature Control System) [#1898]	Delta Temax, Inc., (613) 735-3996	Self-contained system to control core body temperature
Pipe Crawler Internal Piping Characterization System [#1810]	Radiological Services, Inc., (860) 443-4944	Characterizes radiological contamina- tion inside piping systems
Pipe Explorer™ Surveying System [#74]	Science and Engineering Associates, Inc., (505) 346-9852	Characterizes radiological contamina- tion inside piping systems
Piping Inspection (<i>Remote Visual</i> Inspection Using Specialty Cameras) [#1811]	Everest VIT, Inc., (973) 448-0077, x806	Performs and records visual and radiological inspections of pipes
Portable X-Ray Fluorescence Spectrometer (<i>Analyzer</i>) [#1790]	Kevex Spectrace, (970) 207-1618	Provides nondestructive, real-time elemental analysis
Position-Sensitive Radiation Monitoring (Surface Contamination Monitor) [#1942]	Shonka Research Associates, (770) 509-7606	Motorized characterization and data analysis system surveys contaminated floor and wall surfaces
Proximity Sensor System Development [#1631]	SenSolve, Inc., (505) 237-1595	Provides noncontact, multiple degree- of-freedom control of tools
Reactor Surface Contaminant Long- Term (InstaCote [®] -ML) [#1839]	Master-Lee Hanford Corp., (509) 783-3523; RedHawk American, Inc., (509) 946-8608	Affixes radiologically contaminated surfaces
Remote Control Concrete Demolition System [#2100]	Duane Equipment Corporation, (888) 273-2511	Remote-controlled, tracked vehicle with articulated boom and hammer, bucket, and other attachments
Remotely Operated Scabbling (<i>Moose</i> <i>Remotely Operated Floor Scabbler</i>) [#2099]	Pentek, Inc., (412) 262-0725	Under remote control, scarifies large concrete floors and slabs and captures dust and debris
Rosie: Mobile Teleoperated Robot Worksystem [#1799]	RedZone Robotics, Inc., (412) 201-7232	Deploys tools for equipment removal and other D&D tasks
Rotary Peening with Captive Shot [#1812]	3M, (651) 736-1772	Removes concrete and coatings from concrete floors using heavy-duty roto peen flaps and collects debris
ROTO PEEN Scaler and VAC PAC System [#1943]	Pentek, Inc., (412) 262-0725	Handheld tool removes contaminated coatings from concrete and steel on floors, walls, ceilings
Sealed-Seam Sack Suit [#1954]	L.L. Safety West, (509) 659-1811	Innovative personal protective clothing for safety and comfort
SEG Recycle and Reuse of Radioactively Contaminated Scrap Metal [#1595]	GTS Duratek, (423) 481-0222	Recycles contaminated scrap metal by decontaminating and casting into ingots for container fabrication
Self-Contained (<i>Hydraulic</i>) Pipe Cutting Shear [#1948]	Lukas Rescue Team, Inc., (540) 891-6600	Neatly cuts and crimps pipes in close quarters
Small Pipe Characterization System (SPCS) [#43]	Foster-Miller Technologies, (781) 684-4000	Characterizes contaminants in pipes 2–3 inches in internal diameter
Soda Blasting Decontamination Process (Contam-Away™) [#369]	O'Brien & Gere, (315) 437-6400, x2830	Removes surface contamination from concrete and metal by blasting with water-soluble sodium bicarbonate
Soft Media Blast Cleaning [#1899]	AEA Technology Engineering Services, Inc., (412) 655-1200	Captures, absorbs, and removes surface contaminants (oils, greases, lead, chemicals, and radionuclides)
Stainless Steel Beneficial Reuse [#80]	Manufacturing Sciences Corporation, (423) 481-0455, x236; Starmet CMI, (803) 259-2321; Westinghouse Savannah River Company, (803) 557-6372	Reuses low-level radioactive stainless steel scrap metal to fabricate waste storage containers

Steam Vacuum Cleaning (Victory Decon System) [#1780]	Container Products Corp., (910) 392-6100, x33	Removes radioactive contamination from equipment with steam and collects/contains material removed
Surveillance and Maintenance Risk and Cost Reduction Evaluation Methodologies [#185]	ABS Group Inc., (423) 966-5287	Evaluates risk and benefits of using robotic systems for surveillance, maintenance, and deactivation
Swing-Reduced Crane Control (Anti-Sway Controls) [#1815]	Convolve, (212) 267-6775, x205	Adjusts crane bridge and trolley motion to limit induced load sway
System for Tracking Remediation, Exposure, Activities and Materials (STREAM) [#1947]	Delphinus Engineering, (610) 874-9160	Multimedia database consolidates project information for performance and management tracking
Thermal Conversion of Asbestos [#224]	Asbestos Recycling, Inc., (206) 575-9700	Converts removed asbestos to a nonhazardous substance
Urethane Foam Void Filling [#1816]	Urethane Foam Specialists, (740) 498-8424	Fills voids of vessels to be buried to withstand load of overburden
VecLoader HEPA Vacuum Insulation Removal [#1784]	Vector Technologies, Ltd., (414) 247-7100	Self-contained, trailer-mounted vacuum unit evacuates asbestos fibers
Wireless Remote Radiation Monitoring System (WRRMS) [#2104]	Science Applications International Corporation, (800) 962-1632	Remotely monitors personnel radiation dose and area exposure rate
X-Ray Fluorescence Metal Analyzer [#2001]	Quantrad Sensor, Inc., (408) 727-7827/x426	Determines common alloy elements in the field with lablike accuracy
Environmental Restoration	Problem Area	
Advanced In Situ Moisture Logging System [#533]	Troxler Electronic Laboratories, Inc., (919) 485-2203	Provides continuous data collection beneath waste sites for contaminant detection and monitoring
Alternative Landfill Cover [#10]	Daniel B. Stephens and Associates, (505) 822-9400	Innovative landfill covers that resist drying and cracking
Automated Control System for Soil Vapor Extraction [#64]	SVS, Inc., (505) 345-5451	Controls radio frequency heating for thermally enhanced vapor extraction
Barometrically Enhanced Remediation Technology (<i>BERT™</i>) [#2307]	Science and Engineering Associates, Inc., (505) 424-6955	Uses naturally occurring barometric pressure oscillations to remediate near-surface volatile contamination
BetaScint Fiber-Optic Sensor for Detecting Strontium-90 and Uranium- 238 in Soil (and Groundwater) [#70]	BetaScint, Inc., (509) 735-9446	Detects high-energy beta particles using multiple layers of fiber-optic detectors and coincidence techniques
Biocube [#1837]	AMETEK-Rotron Biofiltration Products, (914) 246-3711	Removes and degrades hydro/halo- carbon vapors by biofiltration
Biomolecular Probe Analysis: Bioremediation Organisms (<i>Microbial</i> <i>Community Identification</i>) [#468]	Microbial Insights, Inc., (423) 573-8188	Monitors enzyme activity and microbial growth as nutrients are added in bioremediation activities
Colloidal Borescope [#465]	AquaVision, (888) 830-4004	Determines groundwater flow and direction by observing movement of suspended colloidal particles
Cone Penetrometer Testing Lysimeter (Bladon Direct Push Lysimeter) [#2365]	Bladon International, Inc., (630) 574-3965	Obtains timely soil water samples from the vadose zone using cone penetrometer push methods
Cross Borehole Electromagnetic Imaging (<i>Logging of Toxic Waste Plumes</i>) [#547]	Stolar Horizon, Inc., (505) 445-3607	Determines permeability, saturation, and water chemistry
Cross-Well Seismic Imaging [#588]	TomoSeis, Inc., (713) 461-4620	Locates, identifies, and characterizes subsurface sites, waste plumes, and geologic structure and hydrology
Deep Soil Mixing [#54]	Millgard Environmental Corporation, (734) 425-8550	Delivers microorganisms and chemicals for in situ bioremediation



Directional Drilling [#650]	Mears/HDD, Inc., (517) 433-2929	Enables access to contaminated zones not otherwise accessible
Dry Barrier Applications for Landfills [#605]	Daniel B. Stephens and Associates, (505) 822-9400	Limits downward water flow in landfills in arid environments
Dynamic Underground Stripping [#7]	Integrated Water Technologies, (805) 565-0996; SteamTech Environmental Services, Inc., (661) 322-6478	A combination of steam injection and electrical heating to vaporize and remove organic contamination in soil and groundwater
Electrical Resistance Tomography for Subsurface Imaging [#17]	Integrated Water Technologies, (805) 565-0996	Provides 3-D imaging of subsurface changes due to remediation
Expedited Site Characterization [#77]	Argonne National Laboratory, (630) 252-8795; S2C2, Inc., (908) 542-1999	A methodology for rapid and cost- effective site characterization
Fenton's Reagent (In Situ Chemical Oxidation) [#2161]	GeoCleanse International, Inc., (908) 206-1250	An in situ oxidation method to destroy DNAPLs in groundwater
Fiber Optic Probe (<i>/Sensor</i>) for Trichloro- ethylene in Soil and Groundwater [#466]	Burge Environmental, (480) 968-5141	Monitors soil contamination levels in situ
Flameless Thermal Oxidation [#52]	Thermatrix Inc., (423) 539-9603, x3210	Provides process and waste-stream off- gas treatment of VOCs
Frozen Soil Barrier (CRYOCELL [®] Soil Freeze Technologies) [#51]	AFI PermaFreeze, (907) 562-2741; Soil Freeze Technologies, LLC, (425) 861-6010	Freezes soil for temporary in situ containment of contamination
Gamma-Ray Spectrometer [#626]	R.T. Reiman, (303) 581-4159	Improved in situ gamma-ray spectrometer for characterization
Ground-Penetrating Radar [#1148]	Coleman Research Corporation, (407) 352-3700	Reveals geological structures and layering in subsoil
HeavyWeight Cone Penetrometer [#489]	Applied Research Associates, Inc., (802) 763-8348	Installs monitoring points; collects chemical and radiological data
High-Speed GC and Cone Penetration Techniques for Measuring Fuel Contamination [#283]	Applied Research Associates, Inc., (802) 763-8348	Fast in situ quantification of fuel contamination speeds characterization and cleanup
Hydrous Pyrolysis/Oxidation [#1519]	Integrated Water Technologies, (805) 565-0996; SteamTech Environmental Services, Inc., (661) 322-6478	Destroys DNAPL source contamination in situ by oxidation
In Situ Decontamination of Aquifers by Surfactant Solubilization of DNAPLs (Chemically Enhanced Solubilization for Aquifer Remediation—CESAR [®]) [#297]	Duke Engineering & Services, (512) 425-2077	Greatly increases efficiency of DNAPL extraction from contaminated groundwater
In Situ Permeable Flow Sensor [#99]	HydroTechnics, Inc., (505) 797-2421	Measures direction and magnitude of groundwater flow in porous aquifers
In Situ Radio Frequency Heating [#132]	KAI Technologies, LLC, (603) 431-2266; Westinghouse Savannah River Company, (803) 725-5223	Improves vapor extraction of volatile organics by heating soil/sediments with radio frequency energy
In Situ Vitrification—Top Down [#1750]	Geosafe Corporation, (509) 375-0710	Destroys subsurface contamination, producing very durable waste form
In Situ Vitrification Bottoms-up [#59]	Geosafe Corporation, (509) 375-0710	Converts mixed and low-level radioactive wastes in soil to a leach-resistant, glasslike mass
In-Well Vapor Stripping [#6]	Project Performance Corporation, (509) 967-2347	Extracts volatile organic compounds dissolved in groundwater
Innovative Directional and Position- Specific Sampling Technique (POLO) (Steerable Vibratory Penetrometer) [#316]	UTD, Inc., (703) 393-0800	Accurately determines three- dimensional downhole position of characterization monitors

Innovative DNAPL Characterization Technologies [#237]	Applied Research Associates, Inc., (802) 763-8348	DNAPL detection techniques to be used with cone penetrometer
Lasagna [#4]	Monsanto Company, (314) 694-5179; Weiss Associates, (510) 450-6141	Extracts contaminants from low- permeability soils by electro-osmosis
LIF Probe for CPT(<i>—Direct Push</i>) [#2237]	Dakota Technologies, Inc., (701) 237-4908; Fugro Geosciences, (713) 778-5580	Provides quick screening for DNAPLs when deployed using cone penetrometer
Long-Range Alpha Detector (LRAD) [#596]	Eberline Instruments, (505) 471-3232, x230	Handheld, real-time monitor for alpha contamination
Magnetometer Towed Array (Surface Towed Ordnance Locator System) [#548]	Geo-Centers, Inc., (617) 964-7070	A vehicle-based system for characteri- zation with precise satellite positioning
Miniature Pumps in the Cone Penetrometer Tip for Groundwater and Soil Sampling (<i>Cone Sipper</i>) [#381]	Applied Research Associates, Inc., (802) 763-8348	Groundwater/soil vapor sampling device used with a cone penetrometer
Miniaturized Chemical Flow Probe Sensor Development (Food & Water Borne Pathogen Detectors & Sensors) [#218]	Life Sciences, Inc., (727) 345-9371	Portable chemical analyzer measures chemicals in liquid and gaseous states
Multi-Sensor Analysis Program for Environmental Restoration (MAPER) [#1861]	Advanced Manufacturing Center, (505) 526-6511	Target verification and data visualization system incorporating GPR and EM data evaluation
Passive Reactive Barrier [#46]	Applied Geotechnical Engineering & Construction, Inc., (509) 943-2432; EnviroMetal Technologies, Inc., (519) 746-2204, x235	In situ water permeable barriers that alter, destroy, or bind contaminants of concern
Passive Soil Vapor Extraction (Barometric Pumping) [#56]	Durham Geo Enterprises, Inc., (770) 465-7557; Science and Engineering Associates, Inc., (505) 424-6955	Exploits earth tides and barometric pressure changes to remove organic contaminant vapors from vadose zone
Rapid Geophysical Surveyor [#1995]	Sage Earth Science, (208) 522-5049	Automates the collection of high- spatial-resolution geophysical data
Rapid Sampling Using 3M Membrane Technology (<i>3M Empore™</i>) [#1514]	3M, (651) 575-1795	Rapid water-sampling system for radionuclides and heavy metals
Recirculating Wells [#65]	Mears/HDD, Inc., (517) 433-2929	Treat radioactive and hazardous waste plumes in situ without bringing contaminated water to the surface
Remote Sensing Systems Development and Applications [#208]	EarthWatch, Inc., (800) 496-1225; PCI, (703) 243-3700	Reads vegetation to locate contamination in soil or groundwater
Remotely Piloted Vehicles (RPVs) and Miniaturized Sensors [#76]	BAI Aerosystems, Inc., (410) 820-7500	Radio-controlled planes/helicopters collect characterization, monitoring, and verification data quickly, cheaply
ResonantSonic Drilling [#55]	ResonantSonic International, (530) 668-2424	Uses energy waves to access difficult soils for sampling and remediation
Road-Transportable Analytical Laboratory (RTAL) [#292]	Engineering Computer Optecnomics, Inc., (410) 757-3245	Rapid, accurate analysis of hazardous and radioactive contaminants in soil, groundwater, and surface waters
SEAMIST (Vadose FLUTe) [#53]	Flexible Liner Underground Technologies, Ltd., (505) 455-1300	Collects subsurface contaminant samples at discrete depth intervals
Secondary lon-Mass Spectroscopy Analysis: Development and Evaluation [#135]	ABB Extrel, (412) 967-5774	Fast, inexpensive, and nonpolluting instrumentation detects and identifies surface contaminants
Subsurface Barrier Emplacement [#11]	Applied Geotechnical Engineering & Construction, Inc., (509) 943-2432	Emplaced grout creates relatively impermeable barrier under waste sites without disturbing the waste
Surface Acoustic Wave/Gas Chromatography System for Trace Vapor Analysis [#282]	Electronic Sensor Technology, (805) 480-1994	Rugged, portable, sensitive detector identifies and analyzes vapors



Tomographic Site Characterization Using CPT, ERT and GPR [#284]	Applied Research Associates, Inc., (802) 763-8348	Cost-effectively identifies soil type, porosity, density, moisture content
Unsaturated Flow Apparatus [#105]	UFA Ventures, (509) 375-3268	Directly measures VOC transport
VOCs Off-Gas Recovery/Recycle [#458]	NUCON International, (614) 846-5710, x144	In-place regeneration of activated carbon adsorbers at extraction wells
Vortec Cyclone Melter System [#68]	Vortec Corporation, (610) 489-2255	Fossil fuel-fired vitrification of soils
X-Ray Fluorescence Spectroscopy for Heavy Metals (for All Metals) [#622]	EDAX Portable Products Division, (509) 783-9850	Quantifies heavy-metal content in soils above the water table
High-Level Waste Problem	Area	
AEA Fluidic Pulse Jet Mixer [#1511]	AEA Technology, (703) 433-0720	Mixes tank contents and maintains suspension to facilitate pumping
Borehole Miner [#1499]	Waterjet Technology, Inc., (253) 872-1925	Uses water jet to mobilize tank waste for pumping
Cesium Removal by Resorcinol- Formaldehyde [#2006]	Boulder Scientific, (970) 535-4494	Cation-exchange column removes cesium from tank wastes
Cesium Removal Using Crystalline Silicotitanate [#21]	UOP, LLC, (856) 727-9400	Mobile, modular ion-exchange unit removes cesium from tank wastes
Confined Sluicing End Effector [#812]	Waterjet Technology, Inc., (253) 872-1925	Dislodges, mobilizes, and conveys sludge in underground storage tanks
Electrical Resistance Tomography— Tanks [#140]	Leak Location Services, Inc., (210) 408-1241	Uses geophysical imaging technique to map liquids leaking from tanks
Flygt Mixer [#2232]	ITT Flygt Corporation, (770) 932-4320, x11	Submersible mixer rapidly mobilizes and mixes tank waste
Houdini: Reconfigurable In-Tank Mobile Robot [#98]	RedZone Robotics, Inc., (412) 201-7232	Collapsible, track-driven work system mobilizes and retrieves waste
Houdini-II Remotely Operated Vehicle System [#2085]	RedZone Robotics, Inc., (412) 201-7232	Improved multipurpose remote work platform
In-Tank Waste Retrieval—Vehicle-Based System [#2012]	ARD Environmental, Inc., (410) 724-0004, x214; Environmental Specialties Group, LLC, (509) 946-2927	Robotic vehicle removes residual and hard heel wastes from tanks
Light-Duty Utility Arm [#85]	MacDonald Dettwiler Space and Advanced Robotics, Ltd., (800) 891-7727, x4523	Mobile, multiaxis positioning system deploys various tools through existing tank openings
Lightweight Scarifier [#1500]	Waterjet Technology, Inc., (253) 872-1925	Dislodges waste in tanks that cannot be safely sluiced or diluted
Out-of-Tank Evaporator (Mobile Evaporator) [#20]	Delta Thermal, Inc., (904) 474-1733	Mobile system evaporates liquid to reduce waste volume
Raman Probe [#1544]	InPhotonics, Inc., (781) 440-0202; Nicolet Instrument Corp., (608) 273-5050	Analyzes tank chemicals to maintain safety and monitor treatment and transport conditions
Remotely Operated Vehicle (ROV) System for Horizontal Tanks [#2086]	R.O.V. Technologies, Inc., (802) 254-9353	Vehicle system to deploy tools in tanks with small access penetrations
Robotic End Effector for Inspection and Sampling of Storage Tanks [#278]	Oceaneering Space Systems, (281) 228-5414	Performs nondestructive evaluation in conjunction with visual examination
Soft Waste Dislodging End Effector [#809]	Waterjet Technology, Inc., (253) 872-1925	Uses combinations of blades, water, and air to cut and move tank waste
Topographical Mapping System (TMS)/Laser Range Finder (LRF) [#130]	Foster-Miller Technologies, (781) 684-4000	Maps waste and tank structures to model tank environment and determine residual volume

Mixed, Low-Level, and Transuranic Waste Problem Area			
Duramelter/Joule-Heated Melter [#58]	GTS Duratek Corporation, (410) 312-5100	Vitrifies mixed low-level inorganic sludge waste into leach-resistant glass	
Empore [™] Membrane Separation Technology (Specialized Separation Utilizing 3M Membrane Technology) [#1543]	3M, (651) 575-1795	Treats contaminated liquid waste streams by immobilizing captured radionuclides on easily handled cartridges	
Graphite Electrode DC Arc Furnace [#1652]	Electro-Pyrolysis, Inc., (610) 687-9070	Melts contaminated soils and other wastes into durable, glass waste form	
Humasorb™, A Lignite-Derived Humic Acid for Removal of Metals and Organics [#285]	Arctech, Inc., (703) 222-0280; Integrated Environmental Technology, LLC, (509) 946-5700; Pacific Northwest National Laboratory, (509) 376-5982	Adsorbs organic material, chelates metal ions, and captures radionuclides in a trench, in situ permeable barrier, or soil layer	
Intelligent Inspection and Survey Robot (<i>Aries, NavMaster® III</i>) [#272]	Cybermotion, (540) 981-0012, x225	Mobile robot system conducts routine inspection of stored waste drums	
Kinetic Mixer [#2160]	Envirocare of Utah, Inc., (801) 532-1330	Removes moisture and organics from sludge waste streams to permit polymer microencapsulation	
Membrane-Supported Particle-Bound Ligands for Cesium Removal (<i>3M</i> <i>Empore™</i>) [#179]	3M, (651) 575-1795	Flow-through membranes selectively remove radionuclides from ground- water and aqueous waste streams	
Nondestructive Waste Assay Using Gamma-Ray Active and Passive Computed Tomography [#2123]	WITCO, a division of Bio-Imaging Research, (847) 634-6425, x114	Uses two techniques to measure gamma-emitting radioactive sources in waste containers	
Plasma Hearth Process [#26]	Science Applications International Corporation (SAIC), (208) 528-2144	Uses high-temperature plasma torch to destroy organics and reduce mixed waste to a leach-resistant waste form	
Recovery of Mercury (Stabilization of Mercury-Containing Waste) [#1703]	ADA Technologies, (303) 792-5615	Removes mercury dissolved in liquid waste streams by selective sorption	
Removal and Recovery of Mercury from Mixed Wastes [#267]	Mercury Recovery Services, Inc., (724) 843-5000	Removes mercury from soils and wastes and recovers pure mercury	
Stabilized Contaminants Using Envirocare Polymer Macroencapsulation [#30]	Envirocare of Utah, Inc., (801) 532-1330	Stabilizes contaminated debris for disposal by totally encasing in low-density polyethylene	
Test Beds for Process Testing (VaporSep Technology for VOC Recovery) [#176]	Membrane Technology and Research, Inc., (650) 328-2228, x118	Provides continuous monitoring of gaseous emissions from thermal treatment systems	
Transportable Vitrification System (TVS) (<i>Waste-Vit® System</i>) [#222]	COGEMA, Inc., (419) 539-7297	Mobile facility melts inorganic mixed wastes into suitable waste forms	
Treatment Using Centrifugal Hearth Plasma Melter (<i>Plasma Waste Treatment</i> [MSE], <i>Vitrification of Low-Level and</i> <i>Mixed Wastes</i> [Vortec]) [#1592]	MSE Technology Applications, Inc., (406) 494-7412; Vortec Corporation, (610) 489-2255	Transferred electric plasma arc destroys organic material and immobilizes inorganic material in a low-leachable glassy, ceramic matrix	
Two Dimensional (2-D) Bar Code [#1365]	Peak Technology, Inc., (208) 342-2223	High-capacity, scannable labels incorporate characterization data	
Waste Inspection Tomography (WIT) [#259]	WITCO, a division of Bio-Imaging Research, (847) 634-6425, x114	Mobile, nondestructive assay system inspects waste drums	
Water-Soluble Chelating Polymers for Pu, Am Removal (<i>Polymer Filtration for</i> <i>Removal/Recovery of Heavy Metals</i>) [#35]	Polylonix Separation Technologies, Inc., (732) 274-3038	Selectively bind with metal ions in aqueous solutions, enabling filtration, concentration, recycle, and disposal	

