

A PUBLICATION OF THE AMERICAN NUCLEAR SOCIETY

Radwaste Solutions

THE MAGAZINE OF RADIOACTIVE WASTE MANAGEMENT AND FACILITY REMEDIATION

Fall 2015



Decontamination & Decommissioning

11th Annual Buyers Guide

More than 400 companies listed throughout 168 Products, Materials, and Services categories

Don't let there be a weak link in your supply chain.

Petersen Inc. - your experienced source for:

- NQA-1 Fabrication & Machining
- Nuclear Waste Processing Equipment
- Lead Shielded Cask
- Containers
- Gloveboxes
- Enclosures

At Petersen Inc., we manufacture products for the nuclear industry. These products range from exotic, heavy fabricated and machined assemblies to small, low-level waste containers. These products are built to quality standards ensuring the protection of families and the world we live in.

For decades companies like Bechtel, Nuclear Waste Partnership, NAC International, CB&I Areva, Energy Solutions and others have relied on the experienced craftsmen at Petersen Inc. to produce on-time, quality products for sites worldwide. Shouldn't you?

ASME U, U2, S, R • NQA-1 • ISO9001-2008
In-House CGD Test Lab 801-732-2000

Manufacturing • Fabrication • Large Precision Machining
Field Services • Small Precision Machining
Warehousing & Distribution

www.peterseninc.com



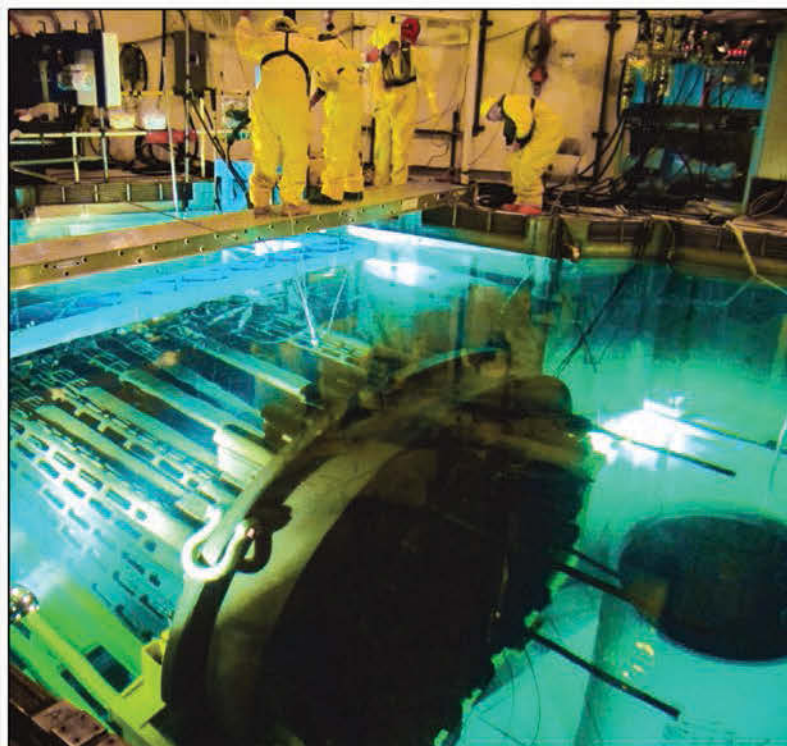
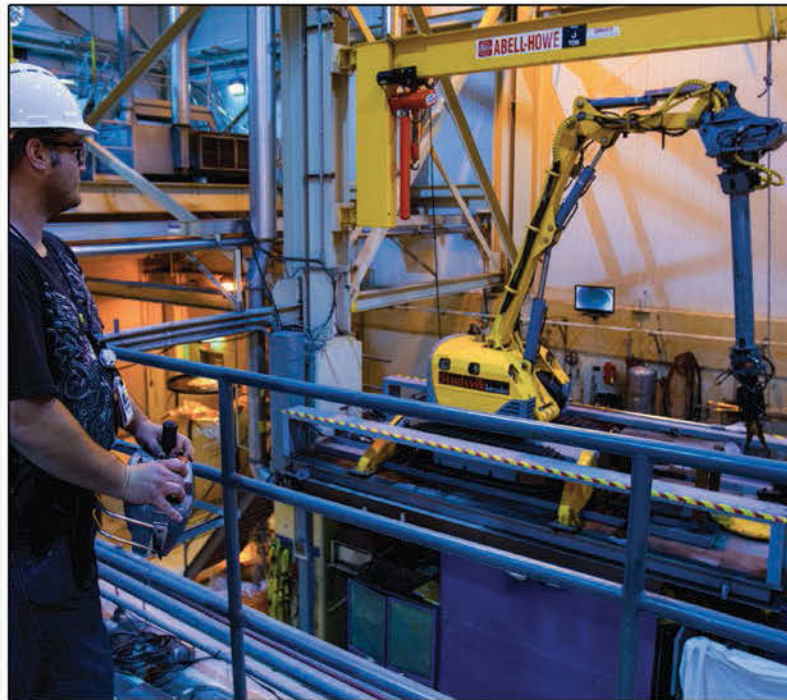
PETERSEN[®]
INCORPORATED

*"A Winning Combination."
Utah - Idaho*



ENERGYSOLUTIONS

LOGISTICS • PROCESSING • DECOMMISSIONING • DISPOSAL



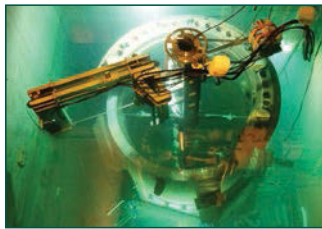


Decontamination and Decommissioning



Assessment of Technology Development Needs for Dismantlement and Decommissioning of Commercial Nuclear Power Reactor Sites..... 18

Evaluating previous successful plant D&D projects, the Electric Power Research Institute has identified areas where current technologies can be enhanced, or new technologies deployed, to improve efficiencies.



Technical Aspects of the Segmentation and Packaging Process for the José Cabrera Nuclear Power Plant Reactor Vessel.. 21

In the segmentation of the reactor vessel and its internals, Westinghouse demonstrates the safety and efficacy of underwater mechanical cutting technology.



Reducing the Risk..... 25

A Department of Energy contractor works with federal and state regulators, along with other stakeholders, in closing radioactive liquid waste tanks at the Savannah River Site.

2016 Radwaste Solutions Buyers Guide

Index to Categories 37

An alphabetical listing of the categories covered in the Buyers Guide, with cross-references and page locations of each category.

Products, Materials, and Services Directory 43

An alphabetical listing of product, material, and service categories, giving names and locations of suppliers for each category.

Directory of Suppliers 91

An alphabetical listing of suppliers, giving the complete mailing address and telephone number of each company, as well as the name of the person to contact for product information. Fax, website, and e-mail information is provided when available. Code numbers of products supplied by the company follow each listing.

Part I—Companies located in the United States 91

Part II—Companies located outside the United States 106

Acknowledgments: The directory sections of this Buyers Guide are kept current by means of an online database that was set up by Joe Koblich, Director, Information Technology, and his staff. Special acknowledgment goes to Advertising Department Staffers Erica McGowan and Jessica Vazquez for their diligence and perseverance in carrying out the advertising coordination, data collection, editing, and input processes. Layout and production are carried out by Chris Salvato, Radwaste Solutions Desktop Editor.



The DOE did not consider alternatives to treating tank waste at the Hanford Site in Washington, a federal audit found. For more, turn to Headlines, page 12.

Meeting Report

Waste management, environmental monitoring, and advanced reactors . . . 32

A report from the American Nuclear Society's 2015 Annual Meeting, held June 7-11 in San Antonio, Texas.

Departments

- | | |
|--|--|
| 4 Editor's Note
Comments on this issue | 111 Moving Up
People in the news |
| 6 Index to Advertisers | 113 It's Business
Contracts, business news, etc. |
| 10 Headlines
Industry news | 119 Calendar
Meetings of interest |
| 109 Radwaste Solutions Subscription Information | |

Next Issue:

- *Radioactive Waste Management and Environmental Remediation*

Editorial Staff

PUBLISHER
Betsy Tompkins

EDITOR
Tim Gregoire

DESKTOP EDITOR
Chris Salvato

COPY EDITOR
Allen Zeyher

Advertising & Circulation Staff

SALES MANAGER
Jeff Mosses

ADVERTISING/PRODUCTION ASSISTANT MANAGER
Erica McGowan

ADVERTISING/CIRCULATION SALES ASSISTANT
Jessica Vazquez

ANS Officers

PRESIDENT
Eugene S. Grecheck

TREASURER
Steven A. Arndt

VICE PRESIDENT/PRESIDENT-ELECT
Andrew C. Klein

CHAIRMAN, PUBLICATIONS STEERING COMMITTEE
Martin Grossbeck

Administrative

EXECUTIVE DIRECTOR
Robert C. Fine

ANS HEADQUARTERS
555 N. Kensington Ave.
La Grange Park, IL 60526
708/352-6611
Fax 708/352-0499
www.ans.org

RADWASTE SOLUTIONS EDITORIAL
166 Kensington Dr.
Madison, WI 53704
414/530-2455
Fax 708/579-8204
editor@radwastesolutions.org

RADWASTE SOLUTIONS ADVERTISING
Phone: 708/579-8226 • 800/682-6397 • Fax: 708/352-6464
advertising@ans.org • www.ans.org/advertising

Radwaste Solutions (ISSN 1529-4900), Volume 22, Number 2. Published two times a year (Spring and Fall) by the American Nuclear Society, Inc., with business, executive, and editorial offices at 555 N. Kensington Ave., La Grange Park, IL 60526. Copyright © 2015 by the American Nuclear Society. Subscription rate for 2015 is \$440, which includes complimentary electronic access, 1994 to current issue; for subscriptions outside of North America, add \$20 for shipping and handling. This rate is valid for all libraries, companies, departments, and any individual subscribers (who are not ANS members). Alternatively, subscription rate is \$400 for Electronic Access Only to entire historical archive, 1994 to current issue. ANS member rate is \$40; members who live outside of North America should add \$20 for additional postage and special handling. Single copy price is \$110, plus \$10 for customers outside of North America.

Opinions expressed in this publication are those of the authors and do not necessarily reflect the opinions of the publisher, the editor, the American Nuclear Society, or the organizations with which the authors are affiliated, nor should publication of the authors' points of view be construed as endorsement by the American Nuclear Society.

Reprints of articles that appear in *Radwaste Solutions* can be purchased by contacting Dennis Matl, Production Supervisor, American Nuclear Society, 708/579-8236; dmatl@ans.org

The work ahead of us

A world without nuclear is not a pretty thing. Beyond all the benefits it brings us—cheap, clean, and reliable power, life-saving medicine, advanced industrial technologies, etc.—there are more direct, and for many people, real benefits to nuclear. Just ask the people of Carlton, Wis., and Vernon, Vt., which until recently were the homes of two very well-functioning nuclear power plants—namely, Dominion's Kewaunee and Entergy's Vermont Yankee, respectively. When these plants closed, for purely economic reasons, they took with them a lot of jobs and revenue. And unlike, say, a San Onofre, where the effects of closing the plant can be largely absorbed by a large and economically diverse community, the small municipalities of Carlton and Vernon are not so lucky.

The *New York Times* recently ran an article on the impact Kewaunee's shutting down has had on the local community, noting that while Kewaunee was operating, Carlton received about \$350,000 in taxes from the plant annually. That was 70 percent of the town's budget! Likewise, Bruce Parker of The *Addison Eagle* reported that Vernon and its surrounding communities are likely to feel the economic consequences of Vermont Yankee's closure for years. Only adding to the tragedy is that the closing of the plants came with little warning and little time to prepare. It was a surprise to nearly everyone, including the local residents. As a longtime Carlton resident told the *Times* about Kewaunee, "I thought it would be there forever."

Of course, nothing lasts forever, and the truth is there will be more closures among the country's remaining fleet of 99 power reactors in the coming years. If

Our ability to build new nuclear will be directly related to our ability to D&D old reactors.

current market flaws are not addressed, there are some that, like Kewaunee and Vermont Yankee, may close due to economics. But even then, the majority of the fleet is aging and many reactors will be reaching the end of their useful lives, even with license extensions. Given a 60-year operating life, all the nuclear power plants operating in the United States today will be retired by 2055.

This coming wave of retired nuclear reactors poses both a challenge and opportunity for the nuclear industry. Of course, there is the difficult task of decontaminating and decommissioning a large, radiologically complex structure and managing its waste. There also will be the challenge of growing and maintaining a skilled workforce capable of doing the highly technical and exacting work required. Balancing the need of plant owners to decommission reactors safely and efficiently with the desires of community members and stakeholders, who often don't understand why you cannot "just get rid of the stuff," likewise will pose its own challenges.

Yet, as we do more of this work it is certain to become more efficient, if not easier. New methods will be adopted and old ones refined, as will machinery and technologies. In the feature article starting on page 18, Richard Reid, of the Electric Power Research Institute, looks at how new and existing D&D technologies are being enhanced to improve efficiencies. Then, the following article (starting on page 21) provides an excellent

example of how Westinghouse has used lessons learned through prior D&D projects to methodically segment and package Cabrera's reactor vessel in Spain.

In addition to more cost-effective and labor-saving D&D techniques, it is feasible that lessons learned also will lead to improved and more streamlined regulations. Indeed, the Nuclear Regulatory Commission currently is reviewing its rules regarding reactors that are transferring to decommissioning. And, is it too far fetched to imagine that with more and more used nuclear fuel languishing at closed sites, the public will demand once and for all that the country site and build a permanent geologic repository? Incidentally, as I write this, the NRC has just released its draft supplemental environmental impact statement for the Yucca Mountain repository. That statement found the impacts of the Nevada repository to be "small."

I still believe in the nuclear renaissance, but it looks more and more as if we'll be tearing down before we begin building up. As we examine the task before us, there will be a lot to learn during this age of decommissioning. Know that *Radwaste Solutions* will continue to be there. We will not only continue to produce our valuable annual Buyers Guide (starting on page 35), we will be publishing the informative articles, covering the pertinent meetings and conferences, and analyzing the news, all to keep you informed on what is happening.—*Tim Gregoire, Editor*



RAM Cask PLUS



RAM Cask PLUS ...

For the safe and efficient disposal of irradiated hardware

AREVA TN's RAM Cask PLUS program is the "tried and true" solution that is available and ready today to process and transport your irradiated reactor components. And our second RAM Cask will be ready in early 2016 to further enhance our ability to meet your radwaste disposal needs for the future.

- Safe, streamlined and proven program
- State-of-the-art volume reduction
- Full processing and packaging services
- AREVA TN logistics experts dedicated to safe and expedient delivery

Another smart solution from AREVA TN.

Find out more:

us.aveva.com/arevatn

Return on Experience:

**Safe, Irradiated
Hardware Disposal**

Index to Advertisers

Advertisers in this issue

The Publisher does not assume any liability for errors or omissions.

This index is provided as an additional reader service.

ANS Decommissioning and Environmental Sciences Division • www.desd.ans.org	17
ANS Fuel Cycle and Waste Management Division • www.fcwmd.ans.org	114
AREVA TN • www.us.areva.com Donna Gaddy-Bowen • donna.gaddybowen@areva.com • 434/832-3702	5
Argonne National Laboratory • (Decommissioning Training), (NE Div.) • www.dd.anl.gov/ddtraining/ Larry Boing • 630/252-6729 • lboing@anl.gov	56
AttentionIT, Inc. • www.attentionit.com Jeanice Pratt • 865/769-8888 x400 • jeanice@attentionit.com	49
Berkeley Nucleonics Corp. • www.berkeleynucleonics.com Bernadette Jamieson • 415/453-9955 • 800/234-7858 • bernadette@berkeleynucleonics.com	64
BES Technologies Shannon Eaker • 865/964-1124 • seaker@bestechtn.com	85
BHI Energy • www.bhienergy.com Stephanie Fox • 339/832-2012 • 800/225-0385 x1149 • stephanie.fox@bhienergy.com Butch Smith • 803/226-0330 • butch.smith@bhienergy.com	57
Brokk Inc. • www.brokkinc.com Tony Marlow • 505/466-3614 • 800/621-7856 • tony@brokkinc.com	75
BWX Technologies, Inc. • www.bwxt.com Dave Ferris • 434/522-6855 • drferris@bwxt.com	Cover 3
Canberra Industries • www.canberra.com 203/238-2351 • 800/243-3955 • customersupport@canberra.com	63
Container Technologies Industries, LLC • www.containertechnologies.com sales@ctifab.com • 423/569-2800	53
Decommissioning and Remote Systems (D&RS 2016) • www.drs.ans.org	31
DNS - Dedicated Nuclear Solutions • dnsalliance.com Greg Jones • 720/272-7907 • greg.jones@urs.com John Portillo • 817/239-1693 • johnportillo@dnsalliance.com	7
EnergySolutions LLC • www.energysolutions.com Mark Walker • 801/649-2000 • mwalker@energysolutions.com	1
ExchangeMonitor Publications & Forums • www.exchangemonitor.com Thomas Sloma-Williams • 301/354-1696 • 888/707-5814 • tawilliams@accessintel.com	67
The GEL Group, Inc. (General Engineering Laboratories, LLC) • www.gel.com Robert Wills • robert.wills@gel.com • 843/556-8171	46
Holtec International • www.holtecinternational.com Joy Russell • 856/797-0900 x3655 • j.russell@holtec.com Dr. Rick Springman • 856/797-0900 x3716 • r.springman@holtec.com	78
iRobot Corp. • www.irobot.com Kim Monti • 505/508-8952 • kmonti@irobot.com	74

DEDICATED

is the key word in our name.



The nuclear industry faces many unique challenges that require an increased level of confidence in equipment and construction materials that are important to safety. For both commercial nuclear facilities and those in the DOE/NNSA complex, the requirements on equipment and materials creates a significant burden on the organization that is time consuming and costly. Dedicated Nuclear Solutions (DNS) was formed to help minimize this burden.

DNS is an alliance between a leading engineering firm, AECOM, and a leading nuclear equipment and materials provider, AZZ Nuclear | NLI. Working together as a team, NLI assists AECOM with the Engineering and Procurement aspects of the EPC model to effectively reduce project time and cost.

Contact DNS to see how we can help ensure your next project is completed on time and within budget.



www.dnsalliance.com • 800.448.4124

Advertisers in this issue ▼

Joseph Oat Corp. • www.josephoat.com Crystal Harrington • 856/541-2900 • c.harrington@josephoat.com	9
Major Tool & Machine, Inc. • www.majortool.com Joel Manship • 317/917-2619 • jmanship@majortool.com	54
Mohawk Safety • www.mohawksafety.com James W. Francoline • 860/643-5107 • 800/394-6853 • jfrancoline@mohawksafety.com	62
National Nuclear Laboratory (UK) • www.nnl.co.uk Keith Miller • +44 0 7710975956 • keith.x.miller@nnl.co.uk	51
PacTec, Inc. • www.pactecinc.com Bill Smart • 225/683-8602 • 877/554-2541 • billsmart@pactecinc.com Trey Castleberry • 225/683-8602 • 877/554-2541 • treycastleberry@pactecinc.com	72
Petersen Inc. • www.peterseninc.com Rob Despain • 801/732-2000 • 800/410-6789 • 801/732-2098 • sales@peterseninc.com	Cover 2
Radiation Protection Systems, Inc. • www.radprosys.com Haley Stout • 860/445-0334 • 888/637-7779 • hstout@radprosys.com Ken Acker • 860/445-0334 x227 • 888/637-7779 x227 • kacker@radprosys.com	43
Reef Industries, Inc. • www.reefindustries.com Tom Scarborough • 713/507-4207 • 800/231-6074 • tscarborough@reefindustries.com	71
REI Nuclear, LLC • www.reinuclear.com Steve Garner • 803/851-4700 • sgarner@reinuclear.com	56
R.O.V. Technologies, Inc. • www.rovtech.com Jill Zachary • 802/254-9353 • jill.zachary@rolls-roycenuclear.com	76
SNC Lavalin Nuclear Inc. • (Head Office) • www.snclavalin.com/nuclear Jim VandenBerg • 905/823-9040 • jim.vandenberg@snclavalin.com	45
SSM Industries, Inc. • www.ssmi.biz Mark E. Saucier • 412/777-5101 x363 • m.saucier@ssmi.biz	42
Thermo Scientific - CIDTEC Cameras & Imagers • (Part of Thermo Fisher Scientific) • www.thermoscientific.com/cidtec Tony Chapman • 315/451-9410 • 800/888-8761 • sales.cidtec@thermofisher.com	81
UniTech Services Group, Inc. • (Sub. of UniFirst Corp.) • www.unitechus.com Gregg Johnstone • 413/543-6911 x146 • 800/344-3824 • gjohnstone@unitechus.com	58
Wagstaff Applied Technologies • www.wagstaffat.com Dan Payne • 509/321-3184 • dan.payne@wagstaff.com	61
Waste Control Specialists LLC • www.wcstexas.com Dan Davis • 432/556-7357 • ddavis@valhi.net Ken Grumski • 724/591-8770 • kgrumski@valhi.net	86-87
Westinghouse Electric Co. LLC • www.westinghousenuclear.com Kathleen M. Posteraro • 724/722-6717 • 724/722-5668 • posterkm@westinghouse.com	Cover 4
WMG, Inc. • www.wmginc.com Jim Harris • jharris@wmginc.com • 256/762-7509 John LePere • jlepere@wmginc.com • 914/736-7100	89
WM Symposia • www.wmsym.org Jim Voss • jamesvoss@wmarizona.org • 480/557-0263	82
Worthington Industries • www.worthingtonindustries.com Brett Williams • brett.williams@worthingtonindustries.com • 800/338-8265	73

WE MAKE METAL WORK™

THE EXPERIENCED AND RELIABLE SOURCE
FOR **RADWASTE COMPONENTS**

▽ Fabrication of over 2000 Plutonium Storage Containers for the D.O.E.



▲ Clean Room for the fabrication of components requiring physical segregation

▽ Commercial nuclear reactor burial cask



▲ Fabricated 418 MCOs for the K-Basin Facility in Hanford, WA

Over 100 power plants in 15 countries rely on Joseph Oat Corporation equipment.

- 35 continuous years of maintaining ASME SEC III CL. 1, 2 and 3 "N" stamp
- NUPIC audited
- Yucca Mountain Waste Package Prototype
- MCOs, Model 9975's & Other Canisters
- Dry storage fabrication for nuclear spent fuel
- Radioactive waste processing and storage equipment
- Heat exchangers
- Pressure vessels
- Hydrogen coolers
- Pulsation dampeners
- Filters
- Strainers
- Special weldments
- Steam condensers
- Heat transfer design services
- Seismic analysis
- Fatigue analysis
- Spare parts & miscellaneous materials



ESTABLISHED 1788

Joseph Oat Corporation

2500 Broadway
Camden, NJ 08104 USA

Voice: 856-541-2900

Fax: 856-541-0864

email: sales@josephoat.com

www.josephoat.com

Our **Quality Assurance Program** is qualified for ASME Section III Class 1,2,3, and MC, and Section VIII. It also conforms to 10CFR50 Appendix B, ANSI N45.2, NQA-1, PED/ESPN and ISO 9001.



HEAT TRANSFER RESEARCH, INC.

PED/ESPN

Interim Storage

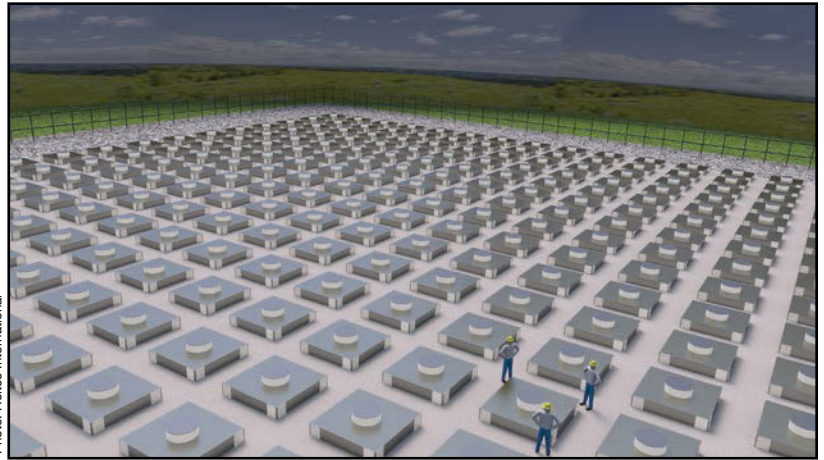
Less than two months after Waste Control Specialists (WCS) made public its intention to submit an application to the Nuclear Regulatory Commission for a license to build an interim storage site for commercial spent nuclear fuel at its site in Andrews County, in west Texas (*Radwaste Solutions*, Spring 2015, p. 6), the Eddy-Lea Energy Alliance (ELEA), in nearby southeastern New Mexico, announced that it has entered into an agreement with Holtec International to pursue a consolidated interim storage facility at its site. ELEA and Holtec announced the memorandum of agreement between the two parties during an April 29 press conference held at the National Museum of Nuclear Science and History in Albuquerque, N.M.

Formed in 2006 to promote nuclear development in the area, ELEA is a consortium of Eddy and Lea counties and the cities of Carlsbad and Hobbs. The alliance owns about 1,000 acres in southeastern New Mexico on which it wants to build the 32-acre storage facility. The site is located midway between Carlsbad and Hobbs, about 12 miles from the Waste Isolation Pilot Plant (WIPP), the Department of Energy's geologic repository for defense-related transuranic waste. Also nearby is the URENCO USA uranium enrichment facility, owned by Louisiana Energy Services.

In 2012, ELEA formed a partnership with Areva to pursue an aboveground interim storage facility. That partnership, however, ended in 2013 by mutual agreement, according to an April 25 report by the *New Mexican*.

At the time of its partnership with Areva, John Heaton, chairman of ELEA, told the National Association of Counties that the alliance will have to win the state's endorsement before it could attempt to get an NRC license. Most recently, New Mexico Gov. Susana Martinez, in an April 10 letter to Energy Secretary Ernest Moniz, indicated her support of ELEA and its efforts to develop a consolidated interim storage facility. In the letter, Martinez said that there is broad support for interim storage in southeastern New Mexico, that there is a strong existing scientific and nuclear workforce in the area, and that the dry climate is well suited for an interim storage site.

On April 30, however, U.S. Sens. Tom Udall (D., N.M.) and Martin Heinrich (D., N.M.) released a joint statement saying that they cannot support an interim storage site without having a permanent disposal option available. According to Udall, "Several aspects of this proposal concern me. No matter where it's built, I will not support an interim disposal site without a plan for permanent disposal—whether the site is in southeastern New Mexico or anywhere else in the



The proposed interim storage facility in New Mexico, depicted here in a computer-generated rendering, would store commercial spent nuclear fuel underground.

country—because that nuclear waste could be orphaned there indefinitely.”

Under the agreement with Holtec, ELEA would contract the company to design, license, construct, and operate the storage facility using Holtec's HI-STORM UMAX underground storage system. According to the Nuclear Energy Institute (NEI), which was consulted by ELEA on the project, the agreement would develop an interim site “to store all of the used nuclear fuel produced in the United States and all canisters currently licensed in dry storage in the country.”

According to Kris Singh, president and chief executive officer of Holtec, the facility would consist of a 60 by 60 array of below-grade canister cavities. According to Holtec, however, there would be no technical limit on the facility's storage capacity, and the size would be established by need. Singh said that the ELEA facility would have a service life of 100 years, with the ability to retrieve and move the canisters at any point.

While WCS indicated that it intends to submit a license application for an interim storage facility during the first half of the NRC's fiscal year 2016, which begins October 1, 2015, ELEA notified the NRC in February 2013 that it intends to submit a similar license application for a storage facility under 10 CFR Part 72. At the time, ELEA told the NRC that it expected to submit its license application in FY 2015. Singh, however, indicated that under Holtec's agreement with ELEA, the license application process would not begin for about another year.

In March, Moniz stated that the DOE intends to undertake a consent-based approach to siting storage and disposal facilities for both commercial and DOE-managed nuclear waste. Singh said that Moniz's announcement is “perfectly aligned” with the ELEA project.

WCS

Under an agreement signed between the two companies on May 20, Areva will be the exclusive primary subcontractor for Waste Control Specialists' proposed consolidated interim storage facility project in Andrews County, Texas. On February 6, WCS announced its intention to apply to the Nuclear Regulatory Commission for a license for the interim storage of spent nuclear fuel (*Radwaste Solutions*, Spring 2015, p. 6). This latest agreement extends the one announced in February in which Areva agreed to assist with the license application and environmental report for the WCS facility.

In addition to being the primary contractor for the design, development, construction, operation, and maintenance of the planned facility, Areva will offer services to support the transportation of nuclear materials to and from the facility. Areva also will continue to work jointly with WCS to support the license application process for the storage facility, which WCS intends to build on unused land on its property in western Texas. WCS currently operates a low-level radioactive waste disposal facility at the site.

According to a statement from Areva, the companies have the option through this agreement to offer bundled services to the Department of Energy for secure greater-than-Class-C and high-level radioactive waste removal, transportation, and interim storage. The development of a consolidated interim storage facility creates needed flexibility in the national spent nuclear fuel management system with the ability to consolidate spent fuel from multiple active and decommissioned nuclear power generating sites and to develop and implement a transportation system, Areva said.

NAC International will work with Areva on the licensing, design, construction, and operation of the WCS storage facility under a separate agreement of cooperation signed between the two companies on May 21. According to a statement from NAC International, the agreement ensures that the WCS facility can handle the majority of commercial used nuclear fuel and reactor-related greater-than-Class-C waste already in dry storage at shut down and operating sites in the United States, while also leveraging the companies' expertise in used nuclear fuel transportation.

WIPP Updates

The Department of Energy has agreed to a \$73-million deal with the state of New Mexico to settle claims related to the February 2014 incidents at the Waste Isolation Pilot Plant (WIPP), near Carlsbad, N.M. Energy Secretary Ernest Moniz and New Mexico Gov. Susana Martinez jointly announced the settlement on April 30.

In December 2014, the New Mexico Environment Department (NMED) notified the DOE of 31 violations of state hazardous waste permits at WIPP and Los Alamos National Laboratory (LANL) related to the DOE's handling of transuranic waste, which contributed to the two incidents at WIPP. NMED issued two administrative consent orders to the DOE for \$54 million in civil penalties, with the stipulation that federal dollars earmarked for cleanup and operational needs at WIPP and LANL cannot be used to pay the penalties. The DOE argued that any fines would have to be paid through operational funds.

Under the agreement between New Mexico and the DOE, instead of paying the fines, the DOE will fund a variety of projects, estimated at a total value of \$73 million, which are deemed critical and mutually beneficial to the state and the DOE. According to a joint DOE–New Mexico press release, the projects “will protect local communities and better safeguard transportation routes in New Mexico and around DOE sites, which will improve the safety and security of nuclear materials and the designated roads on which they travel.”

Signed by NMED, the DOE, and contractors Los Alamos National Security and Nuclear Waste Partnership, the agreement resolves the consent orders issued by the state, as well as any other potential DOE and DOE-contractor liabilities to the state arising out of last year's events at WIPP. The agreement also binds the parties' execution of a more detailed implementation plan in the weeks to come, according to the DOE and New Mexico.

● On June 2, the DOE and the NMED announced the isolation of all waste containers from the Los Alamos National Laboratory nitrate salt-bearing waste stream that was determined to be responsible for the 2014 radiological release. Closure of the WIPP's Panel 7, Room 7 was completed on May 29, following the initial closure of Panel 6 on May 13.

The closure of the panels and room is part of the DOE's recovery efforts at WIPP following the release last year of radioactive materials from a breached drum in Room 7 of Panel 7. WIPP comprises eight underground panels, each holding seven rooms in which defense-related transuranic waste is stored.

According to the DOE, both closures involved the installation of intake side and exhaust side steel bulkheads, preceded by chain link and brattice cloth, along with 10 feet of mined salt backfill for the initial closure of Panel 6. As an added precaution, continuous air monitors were added in front of each bulkhead at the closed panels.

The DOE's recovery plan also includes a phased approach to restoring full ventilation to the underground mine. Following the radiological event of February 2014, all air exiting the WIPP underground passes through high-efficiency particulate air (HEPA) filters prior to being released into the environment. As a result, the amount of airflow available to

ventilate the underground is reduced, based on the filter capacity, and currently is fixed at 60,000 cubic feet per minute (CFM).

On May 21, the DOE announced that it has begun work on the installation of an interim ventilation system that will increase the underground airflow to up to 114,000 CFM. According to the DOE, the interim system includes two skid-mounted HEPA filter units and fan units that will be placed on concrete foundations and connected to ductwork that exits in the WIPP underground. Once the interim ventilation system is installed, the filter units will be operated in parallel with the existing HEPA filters and fans, increasing the overall amount of airflow and allowing additional workers and equipment to operate in the underground.

The DOE set an initial target date for restarting limited operations at WIPP beginning in the first quarter of 2016. On July 31, however, the DOE said that date is no longer viable due to a variety of unanticipated issues. A revised cost and schedule plan is expected this fall.

Hanford

The Department of Energy did not consider potential alternatives to treating Hanford waste that may have been less costly, according to a Government Accountability Office report released on May 7. Currently, the DOE is building the Waste Treatment and Immobilization Plant (WTP) to treat the approximately 56 million gallons of radioactive waste at the Hanford Site near Richland, Wash. Construction of portions of the WTP, however, has been suspended while the DOE works out technical issues with the plant's design. To continue progress, the DOE has proposed a project that would treat some of the low-level waste while the WTP design issues are being resolved, along with a second project that would add a waste characterization and staging facility for high-level waste.

According to the GAO, the DOE narrowly defined its statements of mission need in its selection of the two projects, effectively excluding possible alternatives from consideration. "These two projects might represent the best path forward, but without unbiased statements of mission need, the DOE is unable to explore other alternatives, including some that might be less costly solutions," the report concluded.

The GAO also found that the DOE does not have reliable cost or schedule estimates for completing the proposed projects and that the WTP continues to be hindered by technical and management problems. The DOE's cost and schedule estimates cannot be considered reliable, according to the GAO, because the department has not followed industry best practices when

determining the estimates.

In comments on a draft of the report, Mark Whitney, acting assistant secretary for the DOE's Office of Environmental Management, said that the DOE generally agrees with the report's recommendations, but that its phased approach to the construction of the WTP "is the only practical and permanent way" to address Hanford's tank waste.

The full report, *Hanford Waste Treatment: DOE Needs to Evaluate Alternatives to Recently Proposed Projects and Address Technical and Management Challenges* (GAO-15-354), can be found online at www.gao.gov.

● In a letter dated April 28, Sen. Ron Wyden (D., Ore.) asked the Department of Energy's Inspector General to investigate "wasteful contracting practices" at Hanford's Waste Treatment Plant. Citing a letter to the DOE from WTP contractor Bechtel National, Wyden said that "hundreds of millions of dollars have been misspent on components and services for just a single portion of the WTP due to questionable procurement practices by the contractor and inadequate oversight by the department."

The Bechtel letter noted that 56 purchase orders have been suspended since 2012, when work on the WTP's Pretreatment Facility was put on hold to allow the DOE and its contractors to resolve technical issues with the design of the facility.



Photo: DOE.

A federal audit found that the DOE did not consider potential, less costly alternatives to treating tank waste at the Hanford Site in Washington.

According to Bechtel, it is costing the DOE almost \$5.3 million a year to maintain the suspended purchase orders, a situation that the company says will cost the government more than \$276 million in as little as seven years if left unchecked. To deal with the suspended purchase orders, Bechtel recommended a number of actions that it said would save \$66 million over seven years if they were to be enacted.

Wyden, who noted that construction of the WTP is years behind schedule and billions of dollars over budget, said that in one case, Bechtel has recommended terminating a contract for plant valves from a contractor whose manufacturing plant has been closed since 2010, well before work was suspended on the WTP. “While the Bechtel letter only addresses a handful of purchases for just a portion of the WTP, it illustrates a range of questionable procurement and project management practices that are emblematic of problems with the project and have proven so costly to the taxpayers,” Wyden said in his letter. Wyden also asked that the Inspector General look into whether Bechtel has earned fees for managing the purchase orders and whether the fees were appropriate.

● A federal judge has agreed to consider changes to a 2010 consent decree between the Department of Energy and the state of Washington that set deadlines for the treatment of radioactive tank waste at the Hanford Site. In an order issued on May 11, Judge Rosanna Malouf Peterson, of the U.S. District Court for the Eastern District of Washington, also agreed to hear proposals for modifying a separate consent decree between the DOE and the state of Oregon.

Under its consent decree with Washington, the DOE was to complete certain milestones in the treatment of approximately 56 million gallons of waste stored in underground tanks at Hanford. Malouf Peterson noted that as of the date of the order, the DOE had missed two milestones, and 14 others were at risk of being missed. Unable to agree on changes to the consent decree, the DOE and Washington asked the federal court to intervene in the fall of 2014.

Molouf Peterson found that the DOE and the two states “have met their burden to show that there has been a significant change in factual conditions warranting modification of the consent decrees.” She also found that federal law, rather than state law, applies to the modification of the agreements. The court will hear proposals this year from all three parties on changes to the consent decrees.

The DOE also has reached a settlement with the Environmental Protection Agency over the department’s failure to meet a milestone for beginning sludge removal from the K West reactor basin, the EPA announced on May 26. The DOE was to begin sludge removal by September 2014 and was to have all sludge removed from the reactor basin by December of this year. Under the settlement, the deadlines have been extended by four years, to September 2018 and December 2019, respectively. In addition, 10 other deadlines associated with the cleanup of Hanford’s 100 K Area are being extended because of the delay in the start of sludge removal, the EPA said.

The DOE has agreed to pay a stipulated penalty of \$125,000 for missing the September sludge removal start date, according to the EPA.

Vermont Yankee

The Nuclear Regulatory Commission will allow Entergy to use money from the decommissioning trust fund for the closed Vermont Yankee nuclear power plant to manage the plant’s used nuclear fuel. The exemption is one of two the NRC issued to Entergy, as published in the June 23 *Federal Register*. The second exemption allows Entergy to make withdrawals from the trust fund without prior notification to the NRC.

As the NRC continues to review its regulations for decommissioning power reactors, plants that have ceased operations and are transitioning to the decommissioning phase are expected to remain federally regulated work sites. To reflect the reduced risks posed by the defueled reactors, plant owners must seek exemptions to federal regulations or amendments to their operating licenses. Entergy closed Vermont Yankee and submitted its post-shutdown decommissioning activities report to the NRC in December 2014.

On January 26, 2015, Entergy requested exemptions from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv), which would allow the company to make withdrawals from the trust fund for the management of Vermont Yankee’s used fuel. The regulations, which restrict the use of decommissioning funds, are intended to ensure that adequate funds will be available for decommissioning work. The NRC determined that using a portion of the fund for used fuel management would not have an adverse impact on Entergy’s plan for decommissioning Vermont Yankee.

According to the NRC, as of October 31, 2014, the trust fund had a balance of approximately \$655.0 million in 2014 dollars. Entergy has estimated that it will cost approximately \$817.2 million (in 2014 dollars) to decommission the plant, and that \$364.4 million will be needed for the long-term management of the reactor’s used fuel. Based on a cash flow analysis of the fund, the NRC found that the current funds, planned future contributions, and projected earnings provide reasonable assurance that adequate funding will be available to store the used fuel and to complete all the required decommissioning work.

On June 20, the *Rutland Herald* reported that Vermont’s Department of Public Services is considering challenging the NRC’s approval of the exemptions in court.

Canada

The citizens group Save Our Saugeen Shores (SOS) has asked the Federal Court of Canada to reject a May 6 report recommending the approval of Ontario Power Generation’s (OPG) proposed deep geologic repository for the disposal of low- and intermediate-level radioactive waste. The report, prepared by an independent joint review panel, states that disposal in the repository—which would be located less than a mile from Lake Huron near OPG’s Bruce nuclear power plant in Kincardine, Ontario—would be safer than the current method of storing the waste at OPG’s waste management

facility at the Bruce plant and is the preferred solution for the long-term management of LLW and ILW.

SOS is claiming that the government-appointed review panel failed to comply with the Canadian Environmental Assessment Act of 2012 (CEAA), as well as with the “terms of reference” and the environmental impact study guidelines it was mandated to follow. SOS also claims that the panel failed to ensure that OPG fulfilled the requirements of its own environmental impact statement, and that OPG did not “adequately evaluate the potential for reasonable foreseeable or unplanned events, singly or in combination, to produce significant short- and long-term adverse effects on the Great Lakes Basin ecosystem as required under the CEAA and the Great Lakes Water Quality Agreement.” In addition, SOS claims that the panel failed to act on clear evidence of a reasonable apprehension of bias.

SOS requests that, in addition to quashing the report, the court declare the joint review panel’s conclusions and recommendations regarding the repository invalid and unlawful. SOS is also asking the court to issue an order prohibiting OPG, the government of Canada, and the Canadian Nuclear Safety Commission from proceeding with any further work on the repository.

Canada’s environment minister was to make a decision on the project’s authorization by September 3, 2015, following a public comment period. On June 3, however, the Canadian Environmental Assessment Agency extended the decision deadline to December 2, 2015. The agency said that the deadline was extended to accommodate the 90-day comment period, which ends on September 1. The extension also causes the deadline to fall after Canada’s general election in October.

United Kingdom

The United Kingdom’s Department of Energy and Climate Change on July 1 issued a “call for evidence,” seeking information on processes for working with communities in the siting of a deep geologic disposal facility for used nuclear fuel and high-level radioactive waste. According to the DECC, the responses will be used to help the Community Representation Working Group develop proposals on the issues of community representation, community investment, and public support during the siting process.

The call for evidence is the first step in the United Kingdom’s revised approach to siting a geologic disposal facility, as outlined in its July 2014 government white paper, “Implementing Geological Disposal.” The United Kingdom developed a new siting process following the rejection in 2013 of a proposed site in Cumbria, England, by local authorities. Under the new approach, the U.K. government will define any geologic disposal facility as a “nationally significant infrastructure project.” Groups opposed to the repository claim that this will allow the

government to bypass community approval, as the U.K. secretary of state for energy can approve such projects over the objections of local councils and communities.

As directed by the 2014 white paper, the DECC convened the Community Representation Working Group to address the issues of community representation, investment, and engagement at potential geologic repository sites. The group will base its work on the results of the DECC’s call for evidence. According to the DECC, the working group consists of experts who will help the U.K. government develop processes for working with communities and is not intended to be representative of particular constituencies or special interest groups.

In calling for evidence, the DECC is asking for input on the questions of how to define a community; how to provide effective representation, governance, and decision-making; how to manage and disburse community investments; and how to deliver a test of public support. The DECC said that it is looking for case studies or anecdotal evidence, in addition to quantitative and qualitative evidence.

The call for evidence, *Implementing Geological Disposal: Working with Communities*, can be found online at www.gov.uk/government/consultations/implementing-geological-disposal-working-with-communities. Responses were being accepted until September 4.

- Mini submarines are being used to retrieve hundreds of cobalt isotope cartridges from storage ponds at the Sellafield nuclear site in England. Sellafield Ltd., the company responsible for the cleanup of the site, announced the project to recover the cartridges on April 22. According to the company, about 800 cobalt cartridges are stored in the Pile Fuel Storage Pond and the First Generation Magnox Storage Pond at the site. The cartridges were produced for medical and industrial purposes, such as radiotherapy treatment, the sterilization of



A Sellafield worker manipulates an ROV to recover cobalt isotope cartridges from a storage pond.

medical equipment and waste, food sterilization, and industrial radiography.

Sellafield Ltd. is using remotely operated vehicles (ROV) in the form of mini subs to retrieve the cartridges, which are stored underwater in open-top skips. The cartridges are 1 meter (3.28 feet) long and weigh around 6 kilograms (13.23 pounds).

Initially used only to inspect the contents and structure of the ponds, Sellafield has adapted the ROVs for other tasks, such as the cleanup of radioactive sludge from the ponds. In the case of the cobalt cartridges, the ROVs are being used to repackage the cartridges to limit worker dose. While cobalt-60, the most stable of the cobalt radioisotopes, has a half-life of only 5.27 years, the cartridges still require careful handling, according to Sellafield Ltd.

Stored in the ponds since the 1950s and 1960s, the cartridges were irradiated in the early Magnox reactors at Calder Hall and Chapelcross. According to Sellafield Ltd., there are also a small number of cobalt isotopes that were discharged from the Windscale Pile reactors when they were shut down after the 1957 Windscale fire.

DOE Updates

The Department of Energy is moving forward on closing another underground tank at its Savannah River Site in South Carolina. The DOE announced on June 2 that contractor Savannah River Remediation has begun grouting activities on Tank 16, which was used to store liquid radioactive waste. The specially formulated grout will stabilize the emptied tank, immobilizing any residual radioactive material.

Tank 16 will be the seventh tank at Savannah River to be closed and the first tank in the site's H Area to be closed. Tanks previously closed in the F Area include Tanks 5 and 6 (closed in 2013), Tanks 18 and 19 (closed in 2012), and Tanks 17 and 20 (closed in 1997). According to the DOE, this is also the first closure of a Type II tank. Type II tanks are among the oldest at the site, having been constructed between 1955 and 1956.

For more on the closing of Savannah River's waste tanks, see "Reducing the Risk," starting on page 25.

● Expanded operations in Savannah River Site's H Canyon have been resumed to allow for the increased processing of spent nuclear fuel, the Department of Energy announced on April 15. The nation's only operating production-scale chemical separations facility, the H Canyon Complex at SRS produces low-enriched uranium (LEU) suitable for conversion to commercial reactor fuel by dissolving, purifying, and down-blending surplus high-enriched uranium (HEU) and aluminum-clad foreign and domestic research reactor fuel. According to the DOE, H Canyon recently began the current campaign to process aluminum-clad spent nuclear fuel currently stored at SRS.

H Canyon will process up to 1,000 bundles of material test reactor spent fuel and 200 cores of High Flux Isotope Reactor fuel. As before, SRS will blend the resulting HEU to LEU and provide it to TVA Nuclear for the manufacture of commercial reactor fuel for use in its reactors. H Canyon has already run spent fuel through a dissolver this year, the first step in the operations process. The DOE said that it is on schedule to complete the remaining steps in the operations process in fiscal year 2015, with a goal of having LEU trailers loaded and shipped to TVA in FY 2016. Between 2003 and 2011, H Canyon provided 335 trailer shipments, or 300 metric tons, of LEU to fulfill a contract with TVA, according to the DOE.

● Savannah River Nuclear Solutions (SRNS), the Department of Energy's management and operations contractor for the Savannah River Site, announced on May 18 that it has dismantled a 10,000-square-foot building that was used to store hundreds of 55-gallon drums of transuranic waste. According to SRNS, the company was able to reduce the costs associated with the decommissioning and demolition of the structure, known as Pad 16, using a variety of creative and highly efficient methods.

As an example, SRNS said that it loaded a railroad car that was no longer operational with material and dismantled steel supports that formerly made up the walls and roof of the demolished Pad 16 structure. By using the salvaged boxcar as a waste storage container, SRNS said, it avoided the purchase of eight additional "sea land" containers, each costing nearly \$4,000, to perform the same function. In all, 18,500 square yards of wall and roofing material and 60,000 pounds of steel were removed for permanent disposal. The loaded railroad boxcar has been classified as low-level radioactive waste and will be buried on-site.

SRNS also said that it was able to increase efficiency and reduce costs by gathering and using excess wooden pallets from across the site that had been classified as LLW. Using the slightly contaminated pallets made securing and placing the Pad 16 material into the boxcar for permanent disposal a more effective and faster process, according to SRNS, and also eliminated the need to store pallets that were no longer in use.



Photo: Savannah River Nuclear Solutions

A former 10,000-square-foot waste storage facility at the Savannah River Site has been completely dismantled.

SRNS will seal the remaining Pad 16 flooring with a thick, protective cap using approximately 450 cubic yards of concrete. In time, the company said, an engineered mound of fill dirt containing a continuous layer of clay will cover the pad's interim concrete cap. The project was expected to be completed by July 31, six weeks ahead of the original schedule, according to SRNS.

Located in the E Area at Savannah River, Pad 16 is the first of 15 buildings of this type that will eventually be decommissioned and dismantled. Most of the waste stored at Pad 16 had been previously shipped to the Waste Isolation Pilot Plant outside Carlsbad, N.M., before operations at that facility were suspended.

● The demolition of the K-31 Building at Oak Ridge's East Tennessee Technology Park (ETTP) has been completed, the Department of Energy announced on June 26. The DOE said that the demolition marks the removal of the fourth of five gaseous diffusion buildings at the former uranium enrichment site.

The ETTP is the site of the former Oak Ridge Gaseous Diffusion Plant, which began operations during World War II as part of the Manhattan Project. The site later produced enriched uranium for commercial and defense purposes. Operations ceased in 1985, and the site was permanently shut down in 1987. Work at the site now focuses on restoration of the environment, decontamination and demolition of the site facilities, and management of the legacy wastes. Reindustrialization of the site began in 1996.

Along with the K-29 and K-33 Buildings, K-31 was used for uranium enrichment processes. The demolition of K-29 was completed in 2006, and of K-33 in 2011. The demolition of the site's largest facility, the K-25 Building, was completed in December 2013.

The 750,000-square-foot K-31 Building was built in 1951. As part of a cleanup project in 2005, most of the hazardous

materials were removed from the facility, leaving its shell to be demolished. URS-CH2M Oak Ridge LLC (UCOR), the DOE's cleanup contractor for the Oak Ridge Reservation, began demolishing the building last October and completed demolition almost four months ahead of schedule and approximately \$4 million under budget, according to the DOE.

With the demolition of K-31, the K-27 Building is the only gaseous diffusion building remaining at the ETTP. The DOE said that UCOR is currently deactivating the 383,000-sq-ft facility to prepare it for demolition, working toward the DOE's Vision 2016 initiative to have all gaseous diffusion facilities removed from the ETTP by 2016.

● The Department of Energy's Office of Environmental Management (EM) announced on June 19 that it had recently completed the demolition of the C-410/C-420 Feed Plant at the Paducah Gaseous Diffusion Plant in Kentucky. According to the DOE, the 116,000-square-foot building, which was used to produce uranium hexafluoride (UF₆) for uranium enrichment during the Cold War, was the last of 32 inactive facilities to be removed as part of the cleanup scope that existed before commercial uranium enrichment operations ended at the plant.

Constructed in 1956, the feed plant operated until 1977, when the gaseous diffusion plant began receiving UF₆ from other sources, such as Honeywell in Metropolis, Ill. Besides its role in the enrichment process, the feed plant included offices and a machine shop. Its footprint was originally almost five acres, and its tallest building stood at 85 feet.

EM is overseeing the cleanup activities at the Paducah site, including environmental remediation, waste management, depleted uranium conversion, and decontamination and decommissioning. Beginning in 1952, the gaseous diffusion plant produced enriched uranium, initially for the nation's nuclear weapons program and later for fuel for commercial nuclear power plants. From 1993 to 2013, the United States Enrichment Corporation (USEC) leased the plant facilities to conduct gaseous diffusion operations. In October 2014, USEC returned the facilities to the DOE for cleanup and disposition.

EM said that the demolition of the feed plant included the removal of 2,600 panels of cement asbestos siding, each weighing as much as 175 pounds, and 9,000 feet of pipe. Workers removed the panels manually, and heavy equipment was used to lower the panels to the ground. With the panels removed, the remainder of the building was demolished to the slab. The amount of waste generated from the decontamination and demolition of the facility would be enough to cover a football field 15 feet deep, according to EM.

● The Department of Energy reported progress in the decontamination and decommissioning of Hanford's Plutonium Finishing Plant (PFP) on April 20, when it announced that contractor CH2M Hill Plateau Remediation Company has removed all 52 pencil tank assemblies from the



Photo: DOE.

Demolition of the K-31 Building, part of the former Oak Ridge Gaseous Diffusion Plant, was completed in June.

plant's Plutonium Reclamation Facility. The tanks reclaimed plutonium from scrap metal during the approximately 40 years that the PFP processed defense plutonium at the Hanford Site, near Richland, Wash. Called pencil tanks because of their long, narrow shape, the tanks ranged in size from 3 feet to 22 feet long, with pointed ends to prevent the buildup of plutonium and the occurrence of a criticality.

The DOE awarded CH2M Hill the D&D contract for the PFP in 2008. The remediation of the plant complex, which once consisted of 81 buildings, is a high priority for the DOE because of the high levels of contamination. In addition to the pencil tanks, workers will need to decontaminate and remove gloveboxes, hoods, and processing lines before demolishing the plant's buildings. The company also is in the process of decontaminating the PFP's "McCluskey Room," the site of a 1976 accident in which a chemical reaction caused a glovebox to burst, injuring operator Harold McCluskey. The DOE intends to raze the PFP to slab on grade by the end of 2016.

CH2M Hill initially estimated that it could finish the remediation of the PFP by September 2013 at a cost of \$581 million. According to a September 2014 audit by the DOE's Office of Inspector General, the project's completion date was later extended to September 2016, at an estimated cost

of \$932 million. The OIG cited problems with CH2M Hill's ability to plan, manage, and execute the D&D work as contributing to the delay and increase in cost.

Problems with the 65-year-old, remotely operated crane that was used to remove the pencil tanks from the Plutonium Reclamation Facility also caused delays in the work. Described by the OIG as a "single point failure," the crane was out of service due to malfunctions approximately half of the time since February 2010, when CH2M Hill completed preparations for the crane necessary to support the tank removal work. The crane was used to move the pencil tanks from along the interior wall of the facility's concrete canyon, where the tanks were arranged vertically, to a glovebox in a nearby maintenance cell where workers in protective equipment manually cut the tanks up into sections and prepared them for disposal.

The size-reduced pencil tank components were then transferred through a specially designed port in the canyon into sealed waste containers for transportation and disposal. The containers will be stored at Hanford's Central Waste Complex until they can be shipped for disposal at the Waste Isolation Pilot Plant in New Mexico once it reopens. ■



Join the Decommissioning and Environmental Sciences Division



ANS DESD

Working on projects in the nuclear decommissioning industry? Involved in the remediation of radiologically impacted sites? The **ANS Decommissioning and Environmental Sciences Division** wants you!

Membership benefits include:

- Opportunities to network with leaders working current and potential new projects in the nuclear community with expertise in decommissioning, license termination, and the characterization and remediation of contaminated sites.
- Work with industry and regulatory experts in sustainable development and environmental stewardship.
- A semi-annual DESD newsletter on the status of the industry available only to members.
- Special pricing on publications related to the decommissioning and environmental sciences industry.
- Recognition and awards from peers for exceptional performance and lifetime achievement.

Why wouldn't you want to be a member of the DESD community?

Visit our website at DESD.ANS.org

Assessment of Technology Development Needs for Dismantlement and Decommissioning of Commercial Nuclear Power Reactor Sites

By Richard D. Reid

Decommissioning of a commercial nuclear power reactor site is a complex process that may span 10 years or longer at a cost approaching \$1 billion for multi-unit sites. As the first wave of “baby boomer” plants that began operations from 1975 to 1985 reach the end of their original licensing period during the next 10 years, a surge in plant shutdowns is expected in response to social and economic factors that may make extended operations less favorable. Consequently, a steep increase in the number of plants entering the decommissioning phase of the plant lifecycle is anticipated, such that the number of shutdown plants may double by 2025 (see Fig. 1, below).

Through the end of 2014, 13 commercial nuclear power plant sites have been successfully decommissioned in the United States and Germany, and other projects around the world are nearing completion. These projects took advantage of lessons learned from decommissioning activities performed at larger prototype and test reactor sites such as Saxton (U.S.), Niederaichbach (Germany), and BR-3 (Belgium). The Electric Power Research Institute (EPRI) has evaluated experiences from these successfully completed and ongoing projects to identify areas in which the current technologies employed to perform the more complex, labor-intensive, and time-consuming tasks associated with plant decommissioning may be enhanced—or new technical approaches

developed—to improve efficiency.

Technology areas where improvements would be particularly beneficial include: expanded use of system automation and robotics; technologies for decontamination and characterization of large contaminated concrete structures; segmentation methods for the reactor pressure vessel and internals; and techniques for radiological characterization of large structures and land areas.

Expanded use of system automation and robotics

Use of robotics and automated systems during decommissioning can provide substantial benefits with respect to worker safety, exposure reduction, project cost, and overall schedule. Decommissioning is largely regarded as a production activity, however, favoring field-proven technologies. The use of more advanced technologies such as system automation and robotics in nuclear plant decommissioning projects has evolved slowly. Routine use of robotics has typically been limited to larger remote-controlled systems such as the Brokk manipulators (see Fig. 2). Likewise, approaches to system automation have focused on complex tasks performed in a high-radiation environment, such as reactor internals segmentation.

In recent years, substantial advancements have been made in robotics and system automation in many industries. In particular, rapid development of systems tailored to nuclear plant applications has taken place during the past four years in support of recovery efforts at the Fukushima Daiichi site. For example, a variety of robots have been designed and successfully deployed to perform visual and radiological surveys of inaccessible areas, to remove debris, to make simple repairs, and to perform decontamination of structures and components.

Expanded use of these technologies in standard decommissioning projects requires a critical evaluation of both available technologies and target applications to identify areas where a demonstrable benefit may be obtained. Further, candidate systems must be robust and generally trouble-free to operate in the demanding environment of plant decommissioning. Activities where use of robotics and system automation are more likely to be

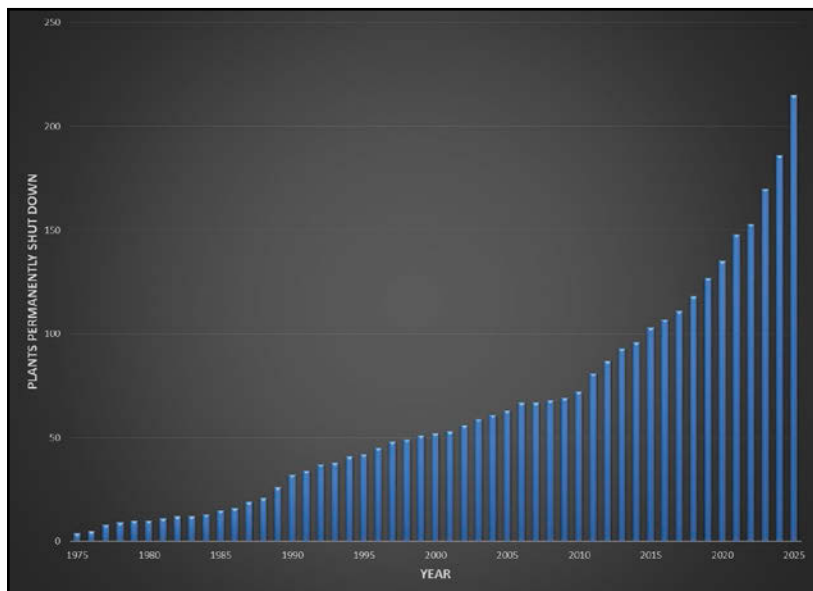


Fig. 1. Cumulative number of commercial nuclear power reactors shut down: Actual through June 2015 and anticipated through 2025.



Fig. 2. A Brokk 330 demolition robot with concrete crusher attachment. (Photo courtesy of Brokk)

most beneficial include dismantlement of large components and structures, radiological characterization of structures and site areas, radioactive waste management, and mechanical decontamination of large structures. Development of automated systems and robotics tailored to specific applications can play a key role in enhancing the efficiency of the process for decommissioning commercial power reactors.

Decontamination and characterization of large concrete structures

Contaminated concrete represents the largest quantity of radioactive waste generated from most decommissioning projects completed to date. The fraction managed as contaminated waste, however, is strongly influenced by the challenges associated with radiological characterization and remediation. It has typically been considered less risky and more cost effective in the U.S. to dispose of all potentially contaminated concrete than to attempt to fully characterize the material and remediate or segregate the contaminated fraction. The primary drivers for this approach in the U.S. are relatively low disposal costs, acceptability of large waste packages (or unpackaged material) for disposal, and ready access to disposal pathways. This situation, however, is not universally applicable. Outside of the U.S., higher waste costs, requirements to use smaller waste packages, and the ability to clear material containing radioactive contamination just above the detection limit make direct disposal of large quantities of concrete cost prohibitive. Thus, efforts must be applied to decontaminate surface-contaminated concrete and to survey and segregate large volumes of concrete waste to minimize the quantity disposed of as radioactive waste.

Techniques to decontaminate concrete rely heavily on the use of manually operated or semiautomated mechanical

methods such as drum shavers and scabblers, although prototype systems using liquid nitrogen and laser ablation are in development. The conventional mechanical techniques are reliable, simple, and effective. However, they are labor-intensive, time-consuming to apply, and produce substantial quantities of secondary waste.

Specific technology development is needed in the following areas:

- Bulk characterization of concrete, both in large structures prior to demolition and in rubblized material after demolition, including techniques to segregate contaminated material.
- Decontamination of concrete surfaces prior to structure demolition, including chemical and mechanical techniques, and deployment systems for application of these techniques.
- Treatment methods for contaminated rubblized material after demolition to remove contamination, allowing bulk release.

Segmentation methods for the reactor pressure vessel and internals

Management of the reactor internals and reactor pressure vessel during decommissioning is particularly challenging because much of the metal in these components is highly activated, with portions of the reactor internals exceeding the Class C waste limits (or roughly equivalent intermediate-level waste limits by IAEA standards). As a consequence, during most decommissioning projects, these components have been segmented to minimize the quantity of high-level waste generated and, for plants outside of the U.S., to comply with waste packaging requirements.

Challenges associated with reactor vessel and internals segmentation include:

- The solid and airborne debris generated during cutting of

Radiological characterization of large structures and land areas

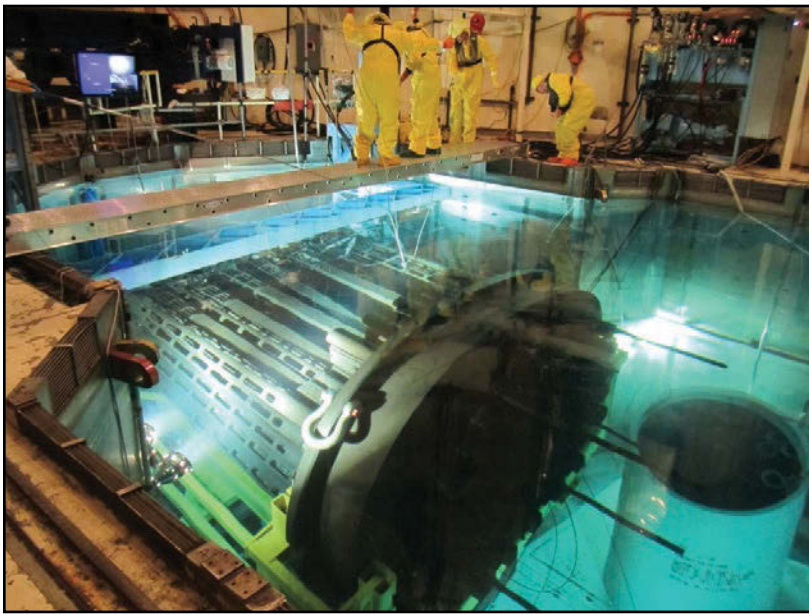


Fig. 3. Reactor internals segmentation at the Zion nuclear power plant in Illinois. (Photo courtesy of ZionSolutions)

highly activated metal requires the application of complex radiological control measures to ensure personnel safety.

- Due to the elevated dose rates, reactor internals segmentation must be performed underwater in all cases to provide shielding (see Fig. 3, above). Underwater cutting of the reactor pressure vessel may also be required, although segmentation in air has been successfully performed in some case (most recently at Zion). Underwater cutting introduces the additional challenge of maintaining water clarity by continuous high-flow filtration of fine cutting debris from the water.
- In either case, remote delivery and control of the cutting equipment is necessary due to the elevated dose rates on the components.

- To take fullest advantage of segmentation, the material should be cut such that the quantity of material in higher waste classifications is minimized. This requires that cuts are made as accurately as practicable, which is made more difficult using remotely operated equipment and cutting underwater.

A variety of standard cutting techniques have been used for reactor component segmentation, including thermal, abrasive, and mechanical methods. Each of these techniques has advantages and disadvantages. Thermal techniques provide fast cutting speeds, but control of airborne emissions is extremely challenging. Abrasive techniques provide good cutting speeds, but management of abrasive media and solid cutting debris is difficult, particularly when underwater segmentation is required. Mechanical techniques provide the slowest cutting speeds, but management of cutting debris is much simpler than with other cutting methods. For all techniques, remote delivery of the cutting head and the associated issue of achieving the desired cutting accuracy presents an additional technical challenge.

Development of advanced cutting techniques such as underwater laser cutting may offer some benefits in the future. However, near-term improvements in reactor internals and reactor pressure vessel segmentation will likely result from enhancements to the delivery and control systems, and system enhancements for more efficient and effective management of cutting debris. In short, improvements are desired to reduce the time required to: reconfigure and relocate the cutting equipment; establish and maintain the required water and air quality conditions; and manage secondary wastes so that more time may be spent actually cutting the components.

The ultimate goal of a nuclear power plant decommissioning project is to reduce the level of residual radioactivity on the site to below required regulatory limits. This requires extensive radiological characterization of the site systems, structures, and components (SSCs); surface and subsurface soils; surface waters and associated sediments; and subsurface waters. Characterization must be performed as an initial step in the decommissioning process, following remediation activities, and as the final step in the project to definitively demonstrate decommissioning is complete so that the license may be terminated.

Well-established and reliable techniques have been successfully used for radiological characterization during decommissioning. This includes standard dose rate measurement techniques, gamma scanning techniques for area and volumetric measurements, and radiochemical analyses for determining the concentrations

of the radionuclides of concern for site release. Likewise, largely manual methods have been used to obtain the samples required for characterization. While effective, these typical characterization techniques are labor-intensive and time-consuming.

Based solely on the extent of characterization required during decommissioning, development of techniques that simply decrease the time required for radiological characterization can provide an appreciable benefit to the overall project. Examples of potential enhancements include the increased use of automated systems for performing radiological surveys of large structures and land areas; the development of measurement techniques with reduced scanning times; and the development of automated systems for obtaining samples. Additionally, alternative approaches to characterization that can reduce the number of dose rate, survey, or radiochemical measurements required would be beneficial. In development of enhanced technologies or approaches, it is imperative that the sensitivity and accuracy of the radiological measurements be maintained.

Summary

As demonstrated by the experience at many shutdown commercial nuclear power plant sites, technologies currently exist to successfully decommission these facilities. Still, due to the cost and duration of a decommissioning project, combined with the number of plants likely to be entering decommissioning in the near future, there is a clear need for enhancements to these technologies to improve the efficiency of the decommissioning process. While technology enhancements are possible in many areas, the Electric Power Research Institute's evaluation of completed and nearly completed projects shows that improvements in several key areas are possible that will offer a more substantial benefit with respect to project costs and schedule.

Richard D. Reid, Ph.D., is the program manager for the Decommissioning Program at the Electric Power Research Institute. ■

Technical Aspects of the Segmentation and Packaging Process for the José Cabrera Nuclear Power Plant Reactor Vessel

By José Miguel Valdivieso Ramos, Rafael García Castro, Per Segerud, Nieves Martín, and Manuel Ondaro

In 1964, construction started on the Central Nuclear José Cabrera, or the José Cabrera nuclear power plant, located in Almonacid de Zorita, 43 miles east of Madrid, Spain. The José Cabrera nuclear power plant is a single-loop pressurized water reactor with 160 MWe of power installed. The main components, particularly the vessel and vessel internals, were manufactured and supplied by Westinghouse. The plant operated between 1968 and 2006. It is the first reactor to be dismantled in Spain.

In mid-2010, the Empresa Nacional de Residuos Radiactivos (ENRESA)—the Spanish Radioactive Waste Management Agency—within the works of the Plan de Desmantelamiento y Clausura (Dismantling and Closure Plan) for the José Cabrera nuclear power plant awarded Westinghouse a contract for the segmentation of the vessel internals at the reactor, a project that was finalized in fall 2013.

The underwater mechanical cutting technology used in the segmentation of the vessel internals demonstrated the safety and efficacy of cutting materials that are stronger and harder than those of the vessel, and with more complex geometries.

ENRESA awarded the segmentation work for the reactor vessel to Westinghouse in September 2013, and the work was completed in the beginning of April 2015. The underwater mechanical segmentation methods for cutting the vessel internals were used for the vessel as well.

Selection of segmentation method

For all of the dismantling and segmentation activities conducted to dismantle the José Cabrera plant reactor vessel, Westinghouse recommended the use of purely mechanical segmentation techniques. That is, band saws, disc saws, shearing tools, and perforation machines, among others. Westinghouse uses this technology extensively in segmentation projects in the Nordic countries, Spain, and others with largely satisfactory results.

The selection of this type of technology was based on several factors. Westinghouse long ago discontinued the use of any segmentation or cutting technology using thermal cutting methods, due to problems associated with generating radioactive gases and aerosols, and also water turbulence, which creates problems with visibility.

For this project, Westinghouse also rejected the use of other “cold” cutting technologies, such as abrasive water jet cutting, because such methods create a large volume of secondary waste. The secondary waste would be in the form of powdered grains contaminated with highly activated metal particles. Generating such waste would create an additional burden of increased expense to dispose of the resulting large number of containers that would be needed to house the waste prior to final disposal.

Choosing the mechanical cutting method used was much more reasonable as it creates only insoluble byproducts, such as chips and shavings. These byproducts can be easily recovered using collection equipment. A water jet was used to blow the scraps in the bottom of the pool to gather them.

A clamshell bucket then was used to collect the cuttings and then load them into shavings baskets. Each of these steps was completed entirely underwater. Afterward, the finest scraps were aspirated with filtration equipment and retained in the filters.

The Spanish waste containers that were used in this project for low- and intermediate-level radioactive waste (L/ILW) are called CE-2a and CE-2b containers. The containers for non-L/ILW are called multipurpose canisters. The filters were managed in CE-2b-type baskets, as was the scrap, which is gathered into stainless steel receptacles and placed into CE-2a- or CE-2b-type baskets along with the primary wastes.

Because there is an increase in water turbidity in the pool during cutting, mainly due to the initial large amount of sludge in the spent fuel pool and some dilution in the pool of removable contamination from the inside of the vessel, it is necessary to supplement water cleaning with filtration equipment specific to this purpose. Filtration allows the water to maintain the level of clarity needed to perform the segmentation work.

Selection of work area

All segmentation of the vessel and the vessel head was done underwater inside the spent fuel pool. The refueling cavity was used as a temporary storage area for the CE-2a/b metal baskets.

The José Cabrera power plant is unique in having the refueling cavity and spent fuel pool attachments inside the containment building. With a key decision made to perform all segmentation of the internals in the spent fuel pool, an access space was opened between the two cavities for transferring the internals. The access space was designed to be used for the transfer of the vessel, where appropriate.

The criteria for selecting the spent fuel pool as a work area were:

a) The maximum depth of water in the spent fuel pool is greater than in the refueling cavity, at approximately 6 meters. This additional depth of water allows acceptable dose rates on the surface of the water during local development and control of the segmentation activities.

b) To comply with as-low-as-reasonably achievable (ALARA) requirements, a minimum water depth of 2.20 m was to be maintained over the most activated elements at all times during all operations related to segmentation (movement of baskets, management of equipment, cutting, etc.).

The local development and control of the work were carried out from a platform bridge set up in the spent fuel pool. The platform bridge was equipped with an underwater camera system and monitor; cutting tool manipulation and handling system, underwater lighting system, and pneumatic and electrical connections.

Mock-up trials and preparatory activities

To ensure the feasibility of the project's execution, two specific tests were carried out. One tested the configuration of the vessel head as mounted in the spent fuel pool for cutting. The other tested the cutting of the nozzles with diamond wires in a 1:1 scale mock-up at a Westinghouse test facility in Västerås, Sweden, using the same configuration that was adopted at the plant.

Additionally, the use of equipment tested in the spent fuel pool during segmentation of the internals, under conditions identical to those expected during the vessel cutting, provided

the best evidence and experience for obtaining the best results during the vessel segmentation project.

Removal of the reactor vessel from its position in the reactor cavity, as well as its segmentation in the spent fuel pool, required performing a series of preparatory activities:

- Installing new heavy-load movement equipment to accommodate the combined weight of the vessel without its head, the lifting tool, shield cover, and the volume of water residing in it. This combined weight exceeded the capacity of the existing gantry crane.

- Preparing the floor of the spent fuel pool to level the available surface and install protection plates for the stainless steel liner.

- Installing a vessel support structure in the spent fuel pool to keep the vessel vertical and stable during the segmentation work.

- Sealing the spent fuel pool with resin and cutting intranuclear instrumentation openings.

- Removing the reactor cavity sealing ring.

- Removing the neutron shield ring.

- Removing the neutron shield supports as they interfere with some parts of the vessel (nozzles, vessel support, etc.) during lifting maneuvers.

- Cutting the vessel connection tubes.

- Cutting the main cold- and hot-leg nozzles with diamond wire cutting equipment.

- Cutting safety injection lines with diamond wire cutting equipment.

- Cutting leak-monitoring tubes using a cutting tool for shearing to cut as close as possible to the reflective insulation or the vessel wall.

- Transferring the vessel to the spent fuel pool.

- Mounting lifting elements in the vessel flange: Mounting accessories for lifting and moving the vessel over its flange.

- Transferring the vessel: Removing the reflective insulation from the vessel and lifting and transferring the vessel to its final position in the spent fuel pool.

- Securing the vessel on its support in the spent fuel pool: Lowering the vessel vertically into its final position on its support in the spent fuel pool and securing it with a series of hydraulic-jack thrusts.

- Sealing the reactor cavity: After transferring the vessel into its final position in the spent fuel pool, tightly sealing the reactor cavity by installing a cover designed for this purpose. Once the cover was installed, the entire surface area involved was waterproofed.

- Removing the lifting equipment: Once the vessel was placed on its support in the spent fuel pool, the lifting equipment was removed.

- Increasing the water level in the spent fuel pool: Before starting segmentation of the vessel, the water level in the spent fuel pool was raised.

Segmentation operations

Most of the segmentation work was performed remotely, with cutting done underwater in the spent fuel pool. The reactor vessel and the resulting waste were managed using specific lifting and manipulation equipment for this task. Some special structures also were used to facilitate proper positioning for cutting. The cut pieces were manipulated using specific lifting equipment with hydraulic pincers and were packaged in different baskets based on their activity level. Operators used subaquatic cameras to view the movements through monitors located on the work bridge, ensuring that all operations were carried out according to the planned sequence.

The segmentation was done using mechanical cutting tools that are easy to maneuver, rapid, and very flexible. Mechanical cutting techniques produce no aerosols and facilitate complete visibility in the water of the pool during all operations. The metal scraps produced from the cutting process fall to the floor through gravity and were easily collected with tools designed for this purpose.

Segmentation of the vessel head was done in the spent fuel pool. The vessel head was mounted on a turning table, which includes a support installed to secure and stabilize the head during segmentation.

For the cutting operation, a band saw on the floor support was used to segment the vessel head into pieces appropriately sized for packaging.

Once the vessel was installed in its cutting position, during the first pass, a series of operations were carried out to install the primary and auxiliary cutting tools:

● Cutting the instrumentation openings in the interior of the vessel: There were 20 instrumentation openings located on the bottom of the vessel that were cut with the disc saw and removed to make space for the vessel segmentation equipment.

● Installing the column for the band saw.

The reactor vessel was segmented in rows using horizontal cutting with the band saw supported on the central pillar. This way, most of the reactor vessel (upper and middle areas) was segmented by repeating the following three-step operation:

1. Vertical cuts on the wall of the vessel with the band saw (Fig. 1): The central column, affixed to the inside of the reactor vessel and configured to the appropriate height, supported the main swivel pillar and the band saw. The main swivel pillar has a rapid and simple hydraulic connection to the column so that maintenance and blade-change operations required little time. The main swivel pillar can rotate 360 degrees without limitation, allowing the band saw to make vertical cuts from any position.

2. Radial drilling on the vessel: Each time the band saw had to make a horizontal cut around the reactor vessel, a space was made to rotate the saw blade.

3. Horizontal cutting around the reactor vessel (Fig. 2): A cut was made horizontally by rotating the saw blade in the opening. The main pillar guided the saw around the reactor vessel until a complete 360-degree rotation was made. As the pieces were freed, they were removed using the appropriate lifting tool and placed in the specified containers. If necessary, before completing the cut, the user of the lifter was able to apply a lifting force to prevent the saw blade from becoming trapped under the weight of the piece.

These operations continued until only the lower part of the reactor vessel remained, delimited by the area where the spherical part begins.

The segmentation of the bottom of the vessel was done using a disc saw: The spherical bottom was divided in four pieces that were lifted and packaged into a CE-2a container.

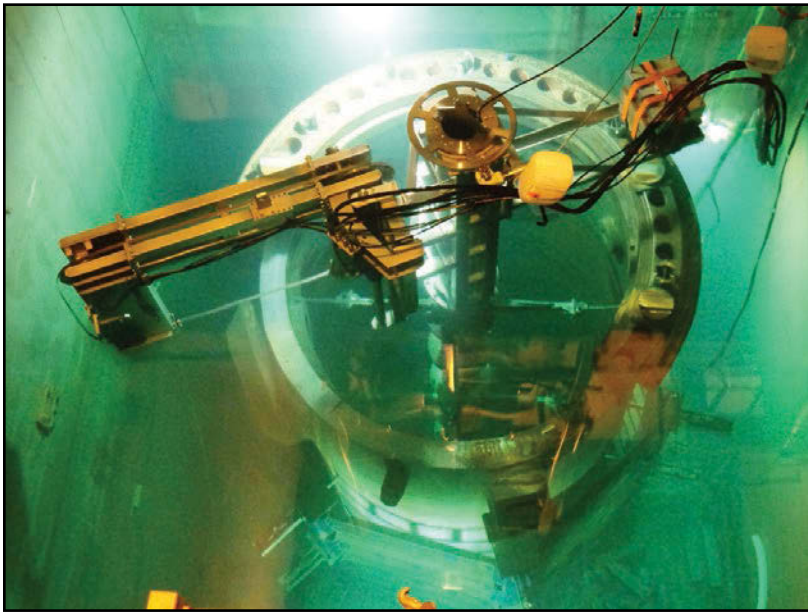


Fig. 1. Vertical cuts to the vessel wall with the band saw.

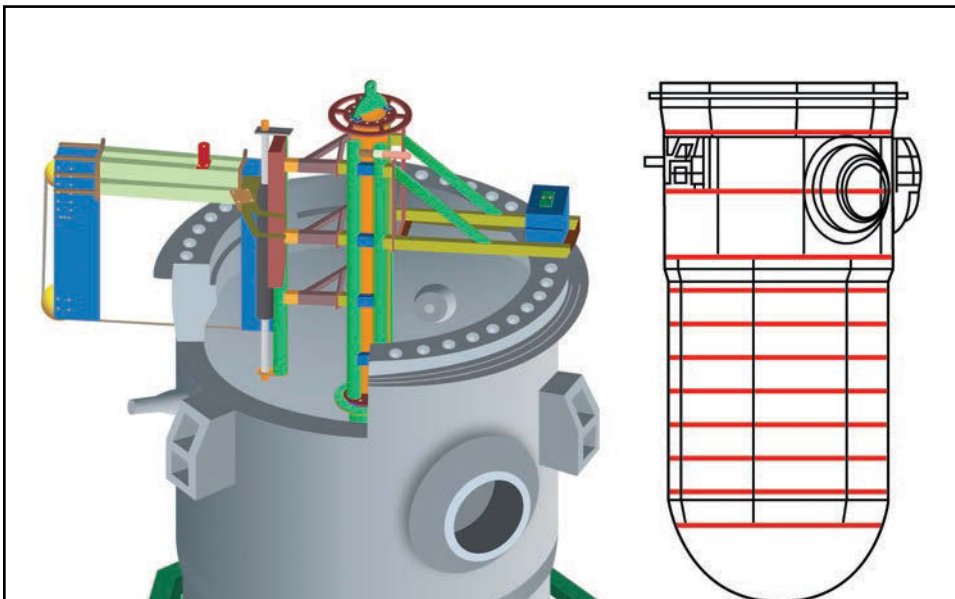


Fig. 2. Horizontal cuts.

Identification of primary wastes and packaging

To identify the primary wastes, an initial radiological inventory was carried out using neutron flux models and activation calculations that were based on the geometry of the activated components, materials, and operating history of the nuclear power plant.

During segmentation activities, the equipment and accessories used to perform in-situ identification were:

- Contamination monitor
- Dose rate monitor
- Two very-high-flow submersible probes
- Two high-flow telescopic probes
- Two high-flow submersible probes

All the segmented pieces that, according to the packaging plan, were disposed of in type CE-2a/b containers were subject to at least one underwater measurement using a submersible probe provided by the work control center. The data obtained in this manner was compared with the available

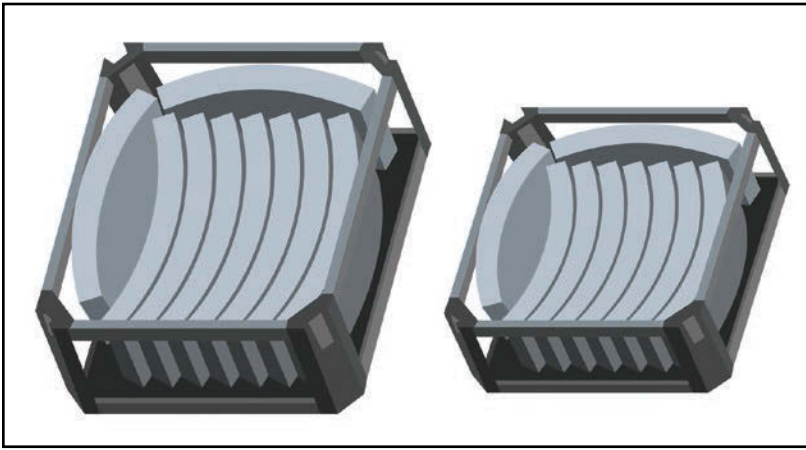


Fig. 3. Example of vessel packaging in type CE-2a/b containers.

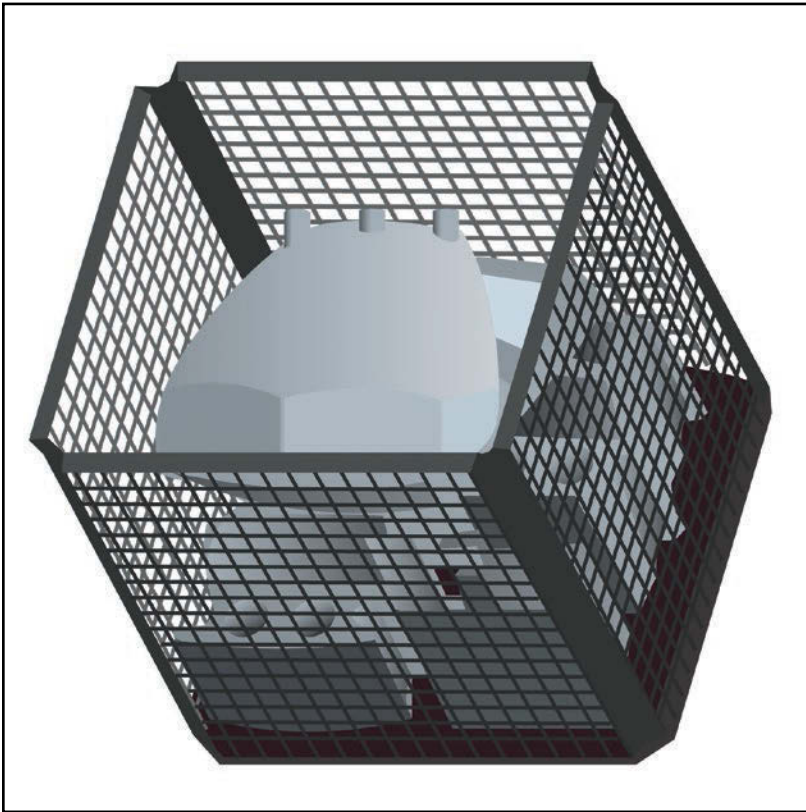


Fig. 4. Example of vessel head packaging in type CE-2a containers.

preliminary activation data. The measurements made in the field were combined with the specific shield models for pieces and baskets in order to estimate the corresponding radioactive inventories and confirm the requirements for these storage units.

The cut pieces of the vessel and the vessel head were packaged in accordance with the packaging plan. Westinghouse created a packaging plan that was as cost-efficient as possible by optimizing the cutting time versus the number of containers needed for packaging. The cut pieces were intermediately stored in the reactor cavity and the spent fuel pool.

If the packaging plan permitted, the cut pieces were immediately placed directly into the container, reducing operation time.

Fig. 3 shows an example of how to package the vessel. Different types of containers were used depending on the size, weight, and radiation level of the pieces: seven CE-2a baskets with a load of between 6,700 kilograms and 7,800 kg, and 10 CE-2b baskets with a load of between 4,500 kg and 7,600 kg.



Fig. 5. Location of vessel and basket.

Fig. 4 shows an example of cut pieces from the vessel head packaged in a CE-2a basket. Three CE-2a baskets with a load of between 5,500 kg and 6,900 kg were used. Fig. 5 shows the location of the vessel and a CE-2a basket for underwater packaging in the spent fuel pool.

Project conclusions

Thanks to the collaborative work between the ENRESA and Westinghouse teams during the whole project, from the preparation phase until execution on-site, the reactor vessel segmentation could be completed on time and in a safe and efficient manner. Special attention has been drawn at minimization of the collective dose and reduction of the waste volume via an optimum pattern cutting. The reuse of some of the equipment utilized previously for the segmentation of the reactor internals helped the vessel segmentation project also be cost-effective. The whole José Cabrera reactor vessel dismantling can be considered as a successful reference for future similar projects.

José Miguel Valdivieso Ramos is the engineering support, Dismantling and Decommissioning Project Central Nuclear José Cabrera, with Westinghouse Electric Spain; Rafael García Castro is project and site manager for reactor internals and vessel segmentation with Westinghouse Electric Spain; Per Segerud is the tooling and segmentation project manager for reactor internals and vessel segmentation with Westinghouse Electric Sweden; Nieves Martín is the project manager, Dismantling and Decommissioning Project Central Nuclear José Cabrera, with the Closure Projects Department at ENRESA; and Manuel Ondaro is the technical director, Dismantling and Decommissioning Project Central Nuclear José Cabrera, with the Site Department at ENRESA. ■



Employees of SRR, the liquid waste contractor at the DOE's Savannah River Site, monitor the grout-pour control room for the grouting of Tank 16, a radioactive liquid waste tank. (Photos courtesy of SRR)

Reducing the Risk

Closing radioactive waste tanks at the Savannah River Site is a multistep process involving federal and state regulators, along with other stakeholders.

By Colleen Welch

The federal nuclear reservation, Savannah River Site, located in South Carolina, is performing work in radioactive liquid waste disposition and tank closure that was almost unheard of six years ago. The U.S. Department of Energy began a new focus on the way to handle this waste by contracting a company to focus solely on that effort.

Enter Savannah River Remediation (SRR), which is currently filling its fifth waste tank with grout, the final stage of operational tank closure for a liquid waste tank. Making it to this point takes a number of steps—layers of complexity not easily seen.

Beginning with a tradition of safety, the liquid waste mission is a culmination of steps and examination from all entities—federal and state regulators, plus stakeholders—involved. Each layer builds off the next and the steps are sometimes serial, sometimes parallel, but always working together to craft a real-life story of success unheard of in many places in our nation or in the world. The liquid waste mission involves positive interaction with operational diligence, state regulatory agency compliance, and an overall value of safety.

As with most long-term missions, the SRS liquid waste mission has a rich history that began long before the first

SRR employees prepare the piping that is used to fill Tank 16 with grout. Tank 16 will be the fifth waste tank closed since 2012 by the contractor.





Cement trucks line up on June 2, 2015, to begin filling Tank 16 with specially formulated grout.

tank was ever closed. The history of SRS is the foundation of this mission. Beginning more than 60 years ago, the Savannah River Site set the stage for environmental cleanup of Cold War-era waste.

History of SRS

SRS, located near Aiken, S.C., was a product of the Cold War. Owned by the DOE, the 310-square-mile nuclear site was built in the early 1950s. President Harry Truman ordered the construction of what was then the Savannah River Plant—or just “the bomb plant,” as locals called it—to support national defense programs. SRS was built to produce basic material used in the fabrication of nuclear weapons, primarily tritium and plutonium-239. Five reactors and two chemical-separations facilities were built to meet the nuclear proliferation needs of the Cold War. The waste from the facilities needed to be managed, so underground carbon-steel waste storage tanks were built to hold the liquid radioactive material. Averaging around 1 million gallons each, the 45 tanks (down from the original 51 tanks) now hold about 37 million gallons of waste—almost five decades worth—from the Cold War era.

There are four different tank designs at SRS: Type I, Type II, Type III/IIIA, and Type IV (Type III/IIIA is considered one tank type). Built between 1954 and 1980, the tanks are designed to safely store radioactive waste. Lessons learned from early tank construction led to innovations in tank design and better means of containing the waste to provide human and environmental protection. Type IV tanks have no secondary

containment systems. Type I and II tanks, including Tank 16, each have a reinforced concrete vault with a 5-foot-high annular secondary pan, much like a cup and saucer arrangement. During its use, the annulus was designed to contain any leaks that may have developed in the primary tank wall. Types I and II, known as “old-style” tanks, are a top priority for operational closure. Constructed in 1956, Tank 16, the tank now being filled with grout, is the first closure of a Type II tank.

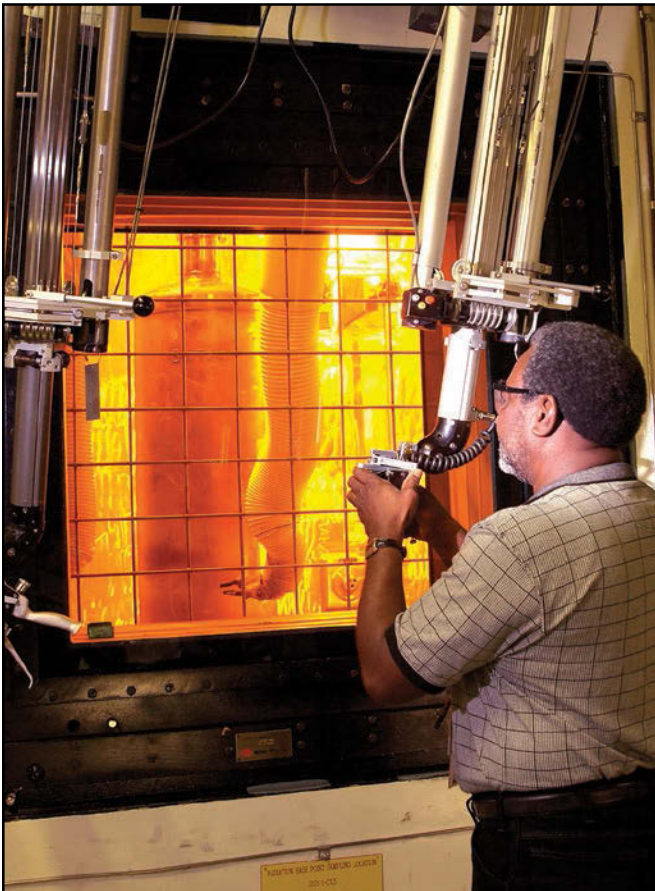
The old-style tank closure schedule and deadlines are outlined in a federal facility agreement (FFA) signed by the DOE, the South Carolina Department of Health and Environmental Control (SCDHEC), and the Environmental Protection Agency (EPA). The agreement is to remove old-style tanks from service, a significant step toward the country’s efforts to safely handle the Cold War legacy waste and to reduce the risk to employees, the public, and the environment. In 2009, the DOE contracted SRR to focus on this work. SRR is led by AECOM, with partners Bechtel, CH2M, and Babcock & Wilcox, with critical subcontractors Areva and URS Professional Services.

Tank closure process

The grouting of Tank 16 is a significant milestone for the liquid waste mission. Tank 16 is the first tank that will be closed in H Tank Farm, the seventh tank closed at SRS, and the fifth closure under the SRR contract. The first six tanks cleaned and closed were in F Tank Farm. The initial two (Tanks 17 and 20) were closed in 1997 under a legacy company of SRR and were the first two radioactive waste storage



A cement truck begins the initial pouring of grout into Tank 16 at the Savannah River Site on June 2.



A worker inspects a canister through a 4-foot-thick oiled glass at the SRS Defense Waste Processing Facility. The facility, operating since 1996, vitrifies high-level waste for safe storage.

tanks closed in the nation. Tanks 18 and 19 were filled in 2012 and were the first to be closed under the SRR contract. The more recent two tanks operationally closed under SRR's lead were Tanks 5 and 6 in 2013.

But tank closure does not happen overnight. Fieldwork (operational diligence) is the second layer of the tank-closure complexity. The fieldwork focuses on safely transferring the waste out of the tanks to other compliant tanks. The disposition of the liquid waste can be boiled down into two phases: waste removal and tank stabilization. While those are simple terms, the process is still a part of that detailed complex of methodology outlined in the FFA.

SRR's bottom line in tank closure is to safely and efficiently reduce risk through waste disposition, said Stuart MacVean, SRR president and project manager.

"While we have reached and continue to reach many other waste removal milestones during our mission, tank closure is one key way we document our success at Savannah River Remediation," MacVean said.

Waste removal

While in the tank, the radioactive liquid waste separates into two main constituents known as salt waste and sludge. The salt waste, with its lower levels of radioactivity, makes up about 90 percent of the volume in the tanks and contains approximately 50 percent of the tank's entire radioactivity. The sludge, which settles to the bottom of the tank, contains the other half of the radioactivity while filling only about 10 percent of the tank's volume. The sludge, which resembles peanut butter in texture, contains the heavy metals of the waste



High-activity liquid waste from the waste tanks at SRS goes to the DWPF, where it is vitrified, then stored in these 10-foot-tall stainless steel canisters. A forklift operator transports an empty canister.

and has the higher levels of radioactivity.

When removed from the tank, the sludge is sent to the Defense Waste Processing Facility (DWPF) where it is mixed with a borosilicate glass in order to be vitrified. The vitrified waste is poured into 10-foot-tall stainless steel canisters and is safely stored in an on-site interim facility until a federal repository is designated.

The salt waste, which contains small amounts of sludge, is treated at the interim salt processing facilities: the Actinide Removal Process (ARP) and the Modular Caustic Side Solvent Extraction Unit (MCU), both built in 2008. The ARP removes the radioactive contaminants and sends the particles to the DWPF. The MCU divides the salt solution into two waste streams: the high-activity waste is sent to the DWPF, and the decontaminated salt waste is sent to the Saltstone Production facilities. Here, the waste is mixed with dry cementitious materials to form a cement-like grout that is poured into on-site disposal cells. The waste will cure over time to form a long-lasting, nonhazardous waste form.

Once the bulk of the waste is removed, efforts turn to the residual waste leftover in the tank. Residual waste sticks to the sides and bottom of the tank over time and is referred to as the “heel.” Both mechanical and chemical techniques are used to remove the heel to the maximum extent possible. High-pressure hydro-spray from robots is used to remotely clean the inside of the tanks. Sometimes acid is used as well, depending on the tank type.

SRR robots are used in the high-level waste tanks for three reasons. One, the robots can traverse the tank bottoms where humans are unable to work safely. Two, robots are able to effectively help clean the residual waste in the tanks. And third, the robots collect samples of the residuals for analysis

to confirm that the tanks are ready to be closed.

Tank cleaning is not complete until the DOE and regulators are satisfied that the tanks are clean enough to grout.

Stabilization

Tank 16 has journeyed through the entire waste removal process, as well as decommissioning and isolation from the rest of the Tank Farm complex. The next step is stabilization, which begins when the specially formulated grout is ready to be poured into the tank. For this job, cement trucks began entering SRS on June 2, 2015. Up to six trucks per hour, eight hours a day, four days a week, have traversed H Tank Farm this past summer. More than 70 SRR workers, contractors, and construction employees are playing a part in Tank 16’s stabilization activities to ensure the residual waste is immobilized. The stabilized tank will reduce the risk to employees, the public, and the environment.

The final closure activities include grouting the tank’s equipment and riser openings at the top of the structure. The grouting of Tank 16 was slated to be completed by late August 2015.

Working with state regulators

Tank closure is a large and important mission and also one that is not free from legal compliance. The operational work of dispositioning waste and cleaning tanks is the first step of the overall two-step process. Alongside the fieldwork step,



Glass Waste Storage Building 1 at SRS is the interim storage facility for vitrified waste after being treated at the DWPF. The vehicle, called the shielded canister transporter, transports canisters one-by-one from DWPF to the Glass Waste Storage Buildings.

SRR is working with the customer (the DOE) and state regulators to ensure that every nuance of the work receives the right vetting, explanation, and understanding.

Developing partnerships with the outside agencies is another integral layer of the tank closure process. Tank closure at SRR would not see its first steps without approval from state regulatory agencies. The legal process of tank closure involves three primary parties—DOE, EPA, and SCDHEC—and implements federal and state requirements and agreements.

The FFA between the DOE, EPA, and SCDHEC requires that four tanks be closed before September 30, 2015. Tanks 5 and 6 met this mark in 2013; Tanks 16 and 12 received an extension to October 27, 2015, and May 30, 2016, respectively, with a recent dispute resolution agreement reached between the DOE, EPA, and SCDHEC. Both are on schedule to be closed by the extended deadline.

“Grouting Tank 16 says a great deal about the partnerships necessary to close SRS waste tanks,” said Jim Folk, DOE-Savannah River acting assistant manager for waste disposition.

“The filling of this tank with grout is the result of good communications and teamwork between the DOE, SRR, SCDHEC, and EPA.”

Regulatory agencies ensure that every step is carefully documented and is consistent with the governing laws and agreements in place. Therefore, it is imperative that SRR maintains an open, interactive partnership with its customer and state regulators.

Open relations with the customer have been proven to reap positive rewards. For example, the DOE has successfully negotiated extensions for Tank 16, and the next tank, Tank 12, which is slated for grouting next spring. According to Victor Franklin, SRR general counsel and waste determinations official, this agreement came because SCDHEC, the DOE, and SRR all agree on a closure vision and on milestones.

Safety culture

Safety has always been and continues to be at the forefront of any SRR mission. Boasting millions of hours of work without a lost-time injury during its first six years as the liquid waste contractor, SRR’s liquid waste mission is one of the safest projects in the DOE complex. In addition, SRR’s construction workforce has reached more than 27.2 million hours without a lost-time injury, a 16-year streak dating back to June 1998.

“Safety is the price of admission,” said President MacVean. “We know the real reason for safety is so we can go home in the same condition we arrived to work.”

The mission is far from finished at SRR, but the path forward is clear, and Tank 16 is a monumental step in this long-term environmental cleanup process. Lessons learned from Tank 16 and other past tank closures will aid in accelerating the pace in which future tanks can reach operational closure. According to MacVean, the SRR mission is successful because of the employees on the ground, ensuring liquid waste operations progress safely every single day.

SRR is using lessons learned from past tank closures, current operations, and partnering with outside agencies to improve future tank closure. One of these lessons is maintaining interactive, two-way communication with the regulators. Understanding the agreement between contractor and customer is imperative to moving forward in any project—no matter what the industry. Safety, transparency, and communication—and a healthy supply of grout—are the tools used to ensure the mission gets done and gets done well.

Ultimately, cleaning and closing these waste tanks reduces the risk to everyone, and that’s the right thing to do.

Colleen Welch is a public affairs employee with SRR. For more information, please contact Dean Campbell at dean.campbell@srs.gov.



D&RS 2016 - Decommissioning and Remote Systems

July 31-August 4, 2016 • Sheraton Station Square • Pittsburgh, PA

Sponsored by:

Decommissioning and Environmental Sciences Division

Robotics and Remote Systems Division

Co-sponsored by:



Conference Purpose

In 2016, the DES and RRS divisions will host a Decommissioning and Remote Systems (D&RS) Joint Topical Meeting. The D&RS 2016 topical meeting is anticipated to draw over 300 professionals from the decommissioning, environmental, and remote systems industries. The ANS Topical D&RS Meeting is a forum for the discussion of the social, regulatory, scientific, and technical aspects of decontamination, decommissioning, and reutilization, and waste management.

Program

The 2016 program will include commercial, government, and international project updates and technology developments in the areas of decommissioning, waste management, and site closure and legacy management. The meeting will also feature a Professional Development Workshop on EPA's Radiation Risk Assessment Training and an exciting technical tours program.

Business Opportunities

The broad spectrum of companies and government organizations participating in the D&RS topical meeting makes it an excellent setting to conduct business and teaming discussions.

Social Events

Meet up with your colleagues at the Sunday cocktail reception, Monday's Gateway Clipper Dinner Cruise, a Pittsburgh Brewpub, or possibly a Pittsburgh Pirates baseball game at PNC Park.

More information

For more information, please visit drs.ans.org or contact: James Byrne at jbyrne4424@comcast.net or 717-676-6600.

Meeting Officials

Technical Program Coordinator

James Byrne, Principal, Byrne & Assoc., LLC

DES Technical Program Chair

Sue Aggarwal, President, New Millennium Nuclear Technologies Int.

RRS Technical Program Chair and Division Chair

Mark Nokes, Oak Ridge National Laboratories

DES Division Chair

Jay Peters, Haley & Aldrich, Inc.

International Participation

International attendance at D&RS meetings and ANS meetings in general has always been significant as participation by various government and commercial organizations from other countries is highly encouraged.

Technology Transfer

Knowledge of experience gained in other countries on similar decommissioning projects is conveyed during sessions on topics such as waste management, stewardship, and decommissioning.

Technology Expo

A technical exhibit will be held in conjunction with the meeting, bringing together exhibitors from a wide range of companies in the D&D and Robotics industries. These exhibits will allow meeting participants to learn about cutting-edge products and technologies that are directly applicable to their current projects.

A report from the American Nuclear Society's 2015 Annual Meeting, held June 7-11 in San Antonio, Texas.

Waste management, environmental monitoring, and advanced reactors

The American Nuclear Society's Annual Meeting in June provided attendees a chance to see the latest work being done in the field of waste management. Among the sessions sponsored by the ANS Fuel Cycle and Waste Management Division at this year's meeting was the panel session "International Status of Used Fuel and HLW Management: A Review of the 2015 International High-Level Radioactive Waste Management Conference" (IHLRWM).

As well as providing an overview of the status of international progress toward the permanent disposal of used nuclear fuel and high-level radioactive waste, the session provided a recap of the IHLRWM conference, held April 12-16 in Charleston, S.C. The session, which was organized by Andrew Sowder, senior project manager for the Electric Power Research Institute (EPRI), covered the three themes of the IHLRWM conference: geologic disposal, waste storage, and transportation.

Michael Apted, principal geochemist with INTERA Inc., began the session by highlighting the various countries that have begun the process of siting and building deep geologic disposal facilities for used fuel and HLW, and how those programs are progressing. Apted noted that a number of countries are making "real, strong progress toward geological

disposal." Two countries at the top of that list are Finland and Sweden, he said, and other countries, including France, Switzerland, Canada, and China, also are making notable progress. Down near the bottom of the list, however, are countries such as the United Kingdom and Japan, where progress has considerably slowed down or stopped.

As for the United States, Apted said that if the Nuclear Regulatory Commission restarts the licensing process for the Yucca Mountain repository, the country will move toward the top tier of countries developing geologic disposal options. If, however, the U.S. decides to pursue a "generic, consent-based restart of a new repository," it will move closer to the bottom of that list, he said.

One aspect Apted noted that distinguishes the programs of the more successful countries from those that are progressing at a slower rate is the interplay between repository site selection and host community consent. For example, Finland has chosen a process whereby the country first

began studying siting and disposal concepts on a technical basis before reaching out to potential host communities. Less successful countries, he said, chose to seek out volunteer communities before studying the suitability of the site. "Eventually, yes, you need that consent," Apted said. "But which comes

first? Should we look for volunteer sites, or should we look for, on a technical basis, where we want to be?"

Turning from radioactive waste disposal to storage, John Kessler, manager of the used fuel and high-level waste program at EPRI, noted that the IHLRWM conference is seeing a "significant uptick" in the number of papers and panel sessions on waste storage, including both wet and dry used fuel storage. Kessler said that interest in is-

ssues related to storage has been growing since the suspension of the Yucca Mountain Project. Some of the papers presented at this year's conference dealt with the behavior of used nuclear fuel during storage, the degradation and monitoring of welded stainless-steel canisters,



Apted

regulatory issues, and the thermal modeling of fuel cladding, he said.

Long-term dry storage, in particular, presents many technical challenges. There are “new degradation mechanisms” associated with long-term storage, Kessler said, and they were the subject many of the conference papers. Examples include research into the integrity of stainless-steel canisters over long periods of time, which encompasses issues related to stress corrosion cracking. Other subjects of interest include the development of inspection capabilities and improved canister designs.

The loss of ductility in high-burnup fuel during extended storage was also addressed. In regard to high-burnup fuel, Kessler said, “The concern is that as you continue to burn the fuel in the reactor, you pick up more hydrogen due to the reaction with water, and some of that hydrogen finds its way into the cladding.” This can result in the formation of radial hydrides in the fuel cladding, which can cause it to be more brittle.

On the subject of chloride-induced stress corrosion cracking (CISCC), Kessler noted that there are around 1,700 welded stainless-steel canisters in use around the country, and the challenge is for the nuclear industry and the NRC to develop an aging-management plan that addresses CISCC issues. Kessler said that EPRI and a number of other organizations believe that CISCC will eventually lead to cask failure. “Eventually, though, is the big question,” Kessler said. “It could be a very long time, or maybe not so long.” This, he said, leads to the question of how to develop canister inspection schedules based on the type and location of the canister. Kessler added that EPRI is working on inspection technologies to better monitor used fuel canisters.

Radioactive waste transportation issues were also a topic of discussion at the IHLRWM conference, as noted by Ruth Weiner, principal member of the technical staff at Sandia National Laboratories.

While the transportation of waste and used fuel covers a wide variety of subjects, Weiner noted that transportation itself is the part of the nuclear fuel cycle that is most visible to the public. This has resulted in a number of “mythologies” regarding the risk of transporting waste that perpetuate despite continued analysis showing that transportation risks are minimal. “As a colleague of mine has said, ‘We keep calculating different values of zero,’” she stated, noting that new transportation modeling work done at Sandia has shown that the assumed risks of transportation are lower than expected.

Despite the verifiable low risk of transporting nuclear materials, the high-profile nature of transportation makes the planning of routes, whether by truck, train, or other means, a critical component of the enterprise. Weiner noted that two IHLRWM papers dealt with the formulation of transportation routes and the development of routing software. The Department of Energy, through Oak Ridge National Laboratory, has developed a routing software tool called webTRAGIS (Transportation Routing Analysis Geographic Information System). The system can be used to identify legally compliant transportation routes along rail lines, highways, and waterways, as well as to provide population information to assess risks.

On transportation in general, Weiner said that the number of transportation accidents involving hazardous materials that have resulted in damage to the cargo is minimal. “It is small enough for radioactive materials that they do not even show up in Department of Transportation data,” she said, adding that among utilities, there have been no recorded accidental releases of radioactive material.

Finally, Steve Nesbit, director of nuclear policy and support at Duke Energy, provided his observations on the IHLRWM conference as one who has attended the last three conferences. Nesbit noted that there was much discussion at the conference on the possibility of the Yucca Mountain program’s being restarted. In addition, he said, there was discussion regarding the prospects for the start of a consent-based process for siting a second repository. “That has a lot of appeal to a lot of people,” he said, “because it gives you more than one path to success. It also gives the consent-based people a chance to prove their point.” Proposing a second repository, however, could cause a political firestorm, he said.

On the question of progress in the high-level waste program in the U.S. and whether or not the country is moving forward, Nesbit compared it to riding



Nesbit

aboard a steam locomotive. They are powerful engines, he said, but they don’t have a lot of pickup and move very slowly at first, making it difficult to get a sense that the rider is moving. “There are signs of activity, and we might be going somewhere,” he said. “I’m an optimist, so I certainly hope that is the case.”

It was noted during the session that the next IHLRWM conference will be held April 9–12,

2017, in Charlotte, N.C.

ENVIRONMENTAL MONITORING

Environmental monitoring of nuclear sites was the subject of a panel session organized and moderated by Jean-Francois Lucchini, a radiochemist with Los Alamos National Laboratory’s Repository Science and Operations group and past technical program chair of the ANS Fuel Cycle and Waste Management Division. Panelists from Japan, France, and the U.S. provided overviews of environmental monitoring programs in their countries or at specific nuclear sites.

A report on the current status of waste monitoring and management activities at the Fukushima Daiichi nuclear power plant was delivered by the session’s first presenter, Akira Kirishima, an associate professor at the Institute of Multidisciplinary Research for

Advanced Materials at Tohoku University in Japan and a member of the Atomic Energy Society of Japan’s special committee on Fukushima radioactive waste management. He described the March 2011 accident at Fukushima in some detail, stating that it generated a huge amount of radioactive waste, both on-site and in the surrounding area, including contaminated water and secondary waste from water treatment, fuel

debris, and environmental waste, such as building debris, tiles, soil, and wood. Current decommissioning and dismantling efforts, he said, have been focused on the water—largely contaminated with cesium-134 and -137—and the secondary waste generated by the various



Kirishima

contaminated water treatment systems.

According to Kirishima, although radioactive waste monitoring is being conducted, monitoring capacity is extremely limited. As an example, he cited two 2013 analyses of the contaminated/treated water, one by the Japan Atomic Energy Agency involving 10 samples per year, the other by site operator Tokyo Electric Power Company involving one to two samples per month. He noted that two “hot laboratories” are now under construction at the site to increase decommissioning and monitoring activities, but he said that the real problem is a lack of sufficient human resources. “There is a shortage of well-trained radiochemists and technicians in the country,” Kirishima said, in part because nuclear engineering and radiochemistry programs are unpopular at Japanese universities.

Speaking on France’s environmental monitoring program was Guillaume Manificat, head of the Department of Environmental Radioactivity Studies and Monitoring at the Institut de Radioprotection et de Sûreté Nucléaire (IRSN). Manificat characterized IRSN as a public body that conducts industrial and commercial activities under the joint authority of France’s defense, environment, industry, research, and health ministries, with an annual budget of €305 million (about \$339 million), 40.2 percent of which is devoted to research. IRSN’s fields of activity, he said, include nuclear safety; the protection of workers, the public, and the environment against ionizing radiation risks; emergency preparedness and post-accident operational support; the protection and control of sensitive nuclear materials; the protection of nuclear facilities; and the transport of radioactive and fissile materials.

The objectives of the French monitoring program, according to Manificat, are to “verify, alert, and evaluate.” He noted three “geographical scales” to the program—national, regional, and local—and three “compartments”—atmospheric, aquatic, and terrestrial. In addition, he pointed out some of the challenges that environmental monitoring programs face, including determining the proper amount of detection equipment to be used, how low the results should go, and how quickly the data should be released.

“During the Fukushima event, IRSN put real-time gamma dose rate results online,” Manificat said, “and the website received 600,000 visitors in four hours, and despite the absence of FAQs or explanatory text, there were no complaints.” In the annual IRSN study of 2012, he added, the majority of French

people, 64 percent, declared that it is better to receive extensive real-time information in the event of a radiological emergency than to wait for slightly delayed but more thoroughly explained data. In order to accommodate this preference, Manificat said, IRSN has been working on a smartphone and website application called TELERAY, which would broadcast gamma dose rate levels measured by the IRSN probe network. The data would be nearly real time and uncensored, and would be tagged with the terms “under investigation,” “normal,” or “validated,” he said.

Robert Hayes, a certified health physicist and principal engineer at Nuclear Waste Partnership (NWP), the operating contractor for the Waste Isolation Pilot Plant (WIPP), discussed environmental monitoring improvements at WIPP. He recounted the much-publicized February 2014 radiological release at the New Mexico facility—the nation’s only deep geologic repository for defense-generated transuranic waste—which led to the plant’s closure. In April 2014, Hayes noted, the Environmental Protection Agency inspected the air sampling programs and the waste management and storage operations at the surface of the WIPP facility. In two separate reports issued in October, the EPA stated that the radiation release from the WIPP underground into the environment was low and localized and that potential doses to the public did not approach the standards set under 40 CFR Part 191, Subpart A, *Environmental Standards for Management and Storage*, or the limits set in 40 CFR Part 61, Subpart H, *National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities*.

The EPA identified actions to be taken to improve the monitoring program at WIPP, Hayes said, including the following: (1) update the ambient environmental monitoring network by improving the design, positioning, maintenance, and overall area coverage of the ambient environmental air monitoring network around WIPP, (2) strengthen the emergency response protocols by enhancing the integration of routine and incident procedures to improve preparedness of multiple organizations’ field and laboratory staffs to respond to releases, and (3) ensure the highest-quality laboratory

results by implementing stricter sample collection, sample tracking, and documentation procedures to provide the highest-quality, most defensible data possible at all times.

The session’s final speaker was Punam Thakur, principal radiochemist at New Mexico State University’s Carlsbad Environmental Monitoring and Research Center (CEMRC), which provides independent environmental monitoring of WIPP. Thakur gave some background on her organization and talked about the role it has played in maintaining community support following the radiological event at WIPP.

Independent monitoring began prior to WIPP’s opening, Thakur said, initially through the Environmental Evaluation Group and later through CEMRC. “CEMRC was born out of regional community demand for independent monitoring,” Thakur said. “Its purpose was to independently establish a baseline before operations began, and then to evaluate the radiological fingerprint of the facility in its environmental setting throughout its operational lifetime.”

CEMRC’s monitoring, Thakur noted, focuses on ambient air in the vicinity of WIPP, WIPP underground air, drinking water, surface water/sediments, soil, whole body counting, and research and development on monitoring methods and technologies. All results, she added, are made public through press releases and reports posted on the organization’s website (www.cemrc.org).

“Following the release event at WIPP, the timely dissemination, through local newspapers and town hall-type meetings, of information independently measured and interpreted by CEMRC provided the public a key element of trust and transparency,” Thakur said. “Public access to the monitoring data and the public’s ability to directly participate in CEMRC’s whole body counting, a state-of-the-art *in vivo* bioassay facility, helped to alleviate fears among concerned citizens after the event. The concentrations of plutonium and americium detected in the air were indeed very small, localized, and well below any level of public health or environmental concern.”

In concluding remarks, Thakur stated her belief that while the WIPP incident was certainly newsworthy, it proved



Hayes

not to be dangerous to members of the public. Once WIPP has completed its recovery process, she said, the facility can again be a safe, permanent disposal solution to America's Cold War legacy of transuranic nuclear waste.

Following the speakers' presentations and a question-and-answer period, session chair Lucchini enunciated a major point of agreement between the panelists and the audience. "A well-prepared and structured environmental monitoring program is crucial to confirming the credibility of the nuclear industry among the public and stakeholders, especially in the event of an emergency or a radiological release," he said. "The success of any nuclear facility is strongly tied to the degree of public participation, acceptance, and understanding that is established. Environmental monitoring around nuclear facilities can help in establishing that trust."

ADVANCED REACTORS

Advanced nuclear reactors such liquid-metal fast-breeder reactors, high-temperature gas-cooled reactors, and other proprietary fast reactor designs have the potential of reducing the volume of high-level radioactive waste by recycling and burning long-lived radionuclides. This makes them an attractive alternative for those who view the generation of used fuel and HLW from traditional light water reactors as a hurdle to new nuclear development. From a market perspective, however, the question remains: Are there customers willing to construct and operate such reactors? The answer is a resounding yes, at least according to the speakers in the panel session, "Are There Customers in the U.S. for Advanced Nuclear Reactors?"

The most passionate "yes" appeared to come from Nick Irvin, program manager for advanced energy systems at Southern Company. Noting that even people who are aware of the many benefits of nuclear power do not believe that there is a market for advanced reactors, Irvin said he has no doubt that a market can and does exist. Building new reactors will be critical, he said, for meeting the demand for clean, safe, reliable, and affordable energy as current aging nuclear and coal power plants are retired. Citing the Electric Power Research Institute, Irvin noted that 250 GWe of new nuclear capacity will be needed by 2050 to meet the country's energy needs. "It will take a lot of work," he said, "but if not us, then who? If not now, then when?"

While projections show increased demand for electric energy, Irvin said, there is also great uncertainty about the

future of energy supply and demand, including the role renewables and distributed energy will play in the market. The uncertainty created by nontraditional energy sources requires options that will include advanced reactors, he said. Irvin said that Southern Company would like to see the successful demonstration of multiple advanced reactor options that will lead to a robust nuclear market by the mid-2030s.

Everett Redmond, senior director of policy development at the Nuclear Energy Institute (NEI), echoed Irvin's timeline. Redmond said that NEI's priorities include having advanced reactors commercially available in the 2035–2040 timeframe, with a demonstration reactor running by 2025. "That is what we are targeting, and that is what we will be working toward," he said. Redmond added that NEI priorities also include maintaining the country's existing nuclear fleet and having small modular reactors operational by the 2020s.

Redmond said that he sees strong potential for the advanced reactor market as evidenced by the significant amount of private investment being put into the technology. This includes investments by high-profile companies, such as TerraPower, as well as many small, startup companies that are working on their own advanced reactor designs. Redmond also noted that there is growing interest from environmental organizations such as the Clean Air Task Force that recognize the potential of reactors to reduce greenhouse gases, as well as interest by the U.S. Congress, which he said is interested in finding ways to facilitate private investment in advanced reactor technology. Within the government, Redmond noted that the Department of Defense is interested in studying advanced reactors for a number of uses, including reducing dependency on fossil fuels in remote operations.

As for industry, Redmond said that NEI is reviewing licensing paths for both a demonstration advanced reactor and a commercial model. While Redmond admitted that licensing an advanced reactor through the Nuclear Regulatory Commission will be challenging, he said he is confident that, from a regulatory standpoint, reaching the goal of having a demonstration reactor running by 2025 is achievable.

With its Traveling Wave Reactor and the backing of Bill Gates and Nathan Myhrvold, TerraPower is one of the higher-profile suppliers of advanced reactor technology. Kevan Weaver, TerraPower's director of technology integration, said that while there is a market for advanced reactors in the U.S., the potential global market is even bigger. "There is a huge

market outside the U.S.," he said. The market, he said, will be strongest among the countries of Sub-Saharan Africa and Asia, where population growth and rising standards of living will spur demand for clean, reliable energy, which will include advanced nuclear reactors.

Weaver said that advanced reactor innovation is difficult but the reward is great. TerraPower is fabricating and testing fuel and components, he said, and the company is taking steps toward building a prototype. Getting a prototype reactor to market, however, will take significant private and public support. "We do need substantial government support, and I'm not talking about money," he said. "This is the support where the government backs you up and says they are willing to help us get through this process."

John Mahoney, principal consultant at High Expectations International, discussed the potential of high-temperature gas reactor (HTGR) technology to meet a number of industrial needs. He described his work with the NNGP Industry Alliance, a nonprofit consortium of companies that is promoting the development and commercialization of HTGRs.

Mahoney noted that HTGRs are a mature technology and the concept has been around for a long time. The U.S. industry has invested more than \$1 billion on HTGR development, he said, and the U.S. government has invested more than \$600 million in the development of tristructural-isotropic, or TRI-SO, fuel for use in the reactors. In addition to electric power production, Mahoney said, HTGRs are easily adaptable to a number of industry applications, including processing oil from deposits in shale and sand, converting coal to liquid fuels, hydrogen production, seawater desalination, and the production of process steam.

When discussing the hurdles to getting advanced reactors built, Mahoney said that the associated business and financial risks may be different for non-electric power companies, which may have a different "perspective" than an electric utility. "Sometimes a chemical company or a refinery may be able to make a better financial model in order to design and build [the reactors]," he said. Other hurdles facing advanced reactor development are shared with current light-water reactors, Mahoney said, including overcoming economic, commercialization, and regulation barriers. Mahoney, however, remains optimistic about the market for advanced reactors and nuclear power in general. "When we invest in research and technology and innovation, we have no other way to go but up," he said.—*Tim Gregoire and Michael McQueen* ■

Radwaste Solutions

THE MAGAZINE OF RADIOACTIVE WASTE MANAGEMENT AND FACILITY REMEDIATION



This specialty trade publication was created by the American Nuclear Society in 1994 to provide dedicated coverage of the fastest growing segments of the nuclear industry—the business of radioactive waste management, decommissioning, and the remediation of radiologically impacted sites. The magazine aligns with the activities and professional interests of the 3,100 members within the Decommissioning & Environmental Sciences and Fuel Cycle & Waste Management professional divisions of ANS.

There are more than 400 worldwide companies providing 168 products or services related to the generation, handling, transportation, treatment, cleanup, storage, and disposal of radioactive (including mixed) waste.



If your company is performing or seeking work within the following industry subsets—**ADVERTISE!**

- The Department of Energy's remediation of its weapons production and research facilities
- Civilian radioactive waste activities, including low-level waste disposal, the onsite storage of used nuclear fuel and high-level waste, and efforts to develop a deep geologic repository
- The management of waste from operating nuclear power plants and the decommissioning of plants no longer in operation
- Nonpower, non-DOE activities
- Decontamination and decommissioning projects/ services outside of the United States

WWW.ANS.ORG/ADVERTISE
ADVERTISING@ANS.ORG
1-800-682-6397

Index to Categories

A		C			
00300	Abrasives— <i>also see Cleaning Equipment</i> 43	08800	Cable, Electrical— <i>also see Connectors; Wire</i> 47	13050	Concrete Breaking, Drilling, Sawing & Scabbling..... 49
00400	Absorbers, Nuclear Radiation— <i>also see Neutron Absorbers; Sorbents</i> 43	09730	Calciners— <i>also see Radioactive Waste Handling & Treatment Equipment</i> . 47	13400	Connectors— <i>also see Feedthroughs</i> .. 49
	Access Control Systems, Personnel— <i>see Security Systems</i>	09750	Calibration Equipment & Systems.. 47	13600	Consoles, Control..... 49
03000	Air-Conditioning & Ventilation Equip.— <i>also see Dampers; Filter Housings; Filters; Training</i> 43	09800	Calibration Services— <i>also see Health Physics Services</i> 47	13700	Construction Materials..... 49
	Air Filters— <i>see Filters</i>	09950	Cars, Railroad..... 47	13850	Construction/Engineering Services— <i>also see Consultants; Maintenance Services</i> 49
	Air Purification Systems— <i>see Respiratory Protection Equipment</i>		Casks— <i>see Containers</i>	14000	Consultants— <i>also see Analysis; Training</i> 50
03180	Alarm Status Reporting & Control Systems..... 44		Chemicals, Decontamination— <i>see Decontamination</i>	14300	Containers— <i>also see Radioactive Waste Handling; Shielding Materials</i> 53
03200	Alarm Systems— <i>also see Emergency Warning Systems; Security Systems</i> .. 44		Chillers— <i>see Air Conditioning & Ventilation</i>		Containment Enclosures, Radiological— <i>see Health Phys. Equip.; Rad. Waste Handling Equip.</i>
03800	Analysis..... 44		Cleaning (Clothing)— <i>see Health Physics Equipment; Health Physics Services</i>		Containment Gas Analyzers— <i>see Analyzers</i>
04000	Analyzers 46	10780	Cleaning Equipment— <i>also see Decon. Chem. & Equip.; Health Phys. Equip.</i> 47		Contamination Control— <i>see Cleaning Equip.; Decontamination; Health Physics</i>
	Annunciators— <i>see Alarm Systems; Display Systems</i>		Cleaning Services— <i>see Decontamination</i>		Cooling Systems, Body— <i>see Health Physics Equipment</i>
06790	Asbestos Abatement/Removal Products & Services 46	10850	Clothing, Protective, Anti-Contamination— <i>also see Respiratory Protection Equipment</i> 47	17650	Corrosion Inhibitors..... 54
B		10900	Clothing, Protective, Other Than Anti-Contamination— <i>also see Respiratory Protection Equip.</i> 48	17950	Counters, Detectors, Radiation— <i>also see Monitors</i> 54
	Badge Services— <i>see Health Physics Services</i>		Cloths, Wiping— <i>see Wipers, Wiping Cloths</i>		Coveralls— <i>see Clothing, Protective</i>
	Bag Monitors— <i>see Monitors, Radiation, Area & Special-Purpose</i>		Cleaning— <i>see Decontamination Chemicals, Equip. & Services</i>	18590	Crane Safety Systems..... 55
	Bags— <i>see Health Physics Equipment & Supplies</i>	11400	Coatings— <i>also see Consultants; Corrosion Inhibitors; Testing Serv.</i> .. 48	18600	Cranes & Hoists..... 55
06950	Bar-Coding Devices & Supplies 47		Communications— <i>see Consultants; Information Services</i>		
	Barriers— <i>see Security Structures</i>	11650	Communication Systems— <i>also see Emergency Warning Systems; Security Systems</i> 48	D	
	Behavioral Observation— <i>see Consultants; Security Serv.; Training</i>	11680	Compactor Disks, for Drums 48	19450	Dampers 55
	Beta-Shielding Labwear, Sheeting— <i>see Clothing, Protective, Anti-C; Shielding Materials</i>	11700	Compactors— <i>also see Radioactive Waste Treatment Equipment; Solid Waste Reduction Equip.</i> 48	19700	Data Acquisition/Handling Systems— <i>also see Computers</i> 55
	Bibs— <i>see Clothing, Protective</i>		Compressed Air Pressure Vessels— <i>see Respiratory Protection Equipment; Vessels</i>	20000	Data Readout Devices, Terminals & Accessories— <i>also see Computers</i> 55
	Blankets, Lead Wool— <i>see Shielding Materials</i>		Computer Software— <i>also see Imaging, Digital; Records Management Sys.</i> ... 48	20300	Decommissioning Services 56
	Boots— <i>see Clothing, Protective</i>	12800	Computers & Accessories— <i>also see Data Acq. Sys.; Data Readout</i> 49		Decon Mats— <i>see Health Physics Equipment & Supplies</i>
	Borescopes— <i>see Remote-Viewing Instruments</i>	12900	Computers & Accessories— <i>also see Data Acq. Sys.; Data Readout</i> 49	20350	Decontamination Chemicals, Equip. & Services— <i>also see Cleaning Equip.; Health Physics Equip.</i> 58
	Bricks, Shielding— <i>see Shielding Materials</i>		Concentrators— <i>see Radioactive Waste Handling & Treatment Equipment</i>	20700	Demolition and Dismantlement 58
	Bubble Suits— <i>see Clothing, Protective, Anti-Contamination</i>			21270	Detector Heads, Sold Separately 58
				21370	Detectors, Explosives— <i>also see Equipment Rental</i> 59
				21400	Detectors, Leak— <i>also see Tape, Moisture-Sensitive</i> 59
					Detectors, Radiation— <i>see Counters, Detectors; Monitors</i>

22200 Detectors, Valve Position 59
 Detergents—see *Decontamination Chemicals, Equipment & Services*
 22410 Dewatering Systems & Supplies—also see *Waste Mgmt. Services*..... 59
 22430 Diaphragms, Storage Tank 59
 Disks, Compactor—see *Compactor Disks, for Drums*
 Disposal, Radwaste—see *Waste Management Services*
 22700 Diving Services 59
 Document Storage & Retrieval—see *Records Management Systems*
 Dosimeter Chargers—see *Health Physics Equipment*
 Dosimeters, High-Range—see *Health Physics Equipment*
 Dosimeters, Personnel—see *Health Physics Equipment; Monitors, Radiation, Personnel*
 Dosimetry Services—see *Health Physics Services*
 Dosimetry Systems, Computerized—see *Health Physics Equipment*
 Drum Breather Filters—see *Containers*
 Drum Capping Machines, Remote—see *Rad. Waste Handling Equip.*
 Drum Cutting Machines—see *Radioactive Waste Handling & Treatment Equipment*
 Drum Monitors—see *Monitors, Radiation, Area & Special-Purpose*
 Drum Washing Systems—see *Radioactive Waste Handling Equipment*
 Drums, Drum Inserts—see *Containers*
 Dry Cleaning—see *Health Physics Equipment; Health Physics Services*
 Dry Ice Blasting—see *Decontamination Chemicals, Equip. & Services*
 24170 Dryers, Wet Solids—also see *Radioactive Waste Handling & Treatment Equipment*..... 59

E

Education—see *Training*
 25000 Electronic Instrumentation & Supplies—also see *Analysis*..... 59
 Electropolishing—see *Decontamination Chemicals, Equipment*
 Element Analysis—see *Analysis*
 Emergency Lighting Systems—see *Lights, Lighting*
 Emergency Medical Equipment Services—see *Health Physics Equipment; Health Physics Services*
 Emergency Planning—see *Computer Software; Consultants; Training*
 25250 Emergency Response Equipment.... 59
 25300 Emergency Warning Systems (Public)—also see *Communications*... 59
 25350 Emergency Warning Systems (Worker)..... 59
 25400 Employment/Personnel Support Services—also see *Consultants* 59
 25600 Encapsulation, Radioactive Source.. 59

Enclosures, Radiological Containment—see *Health Physics Equipment*
 Environmental Analysis—see *Analysis; Consultants; Health Physics Services*
 Environmental Laws & Regulation—see *Training*
 26080 Environmental Monitoring Equipment—also see *Monitors, Radiation, Area* 59
 26100 Environmental Monitoring Services—also see *Health Physics Serv.; Rad. Monitoring Serv.*..... 59
 26230 Equipment Rental 60
 26240 Equipment Sales, Surplus 60
 Evaporators, Waste—see *Dryers, Wet Solids; Radioactive Waste Handling & Treatment Equipment*

F

Face Mask Communications—see *Communication Systems*
 26600 Fall Protection Equipment & Devices, Construction & Maintenance..... 60
 26900 Fasteners..... 60
 26910 Feedthroughs, Bulkhead—also see *Sleeves, Wall*..... 60
 Fiber Optic Cable—see *Cable*
 26970 Fiber Optic Components & Systems—also see *Cable; Connectors; Feedthroughs; Remote-Viewing*..... 60
 Film Badge Services—see *Health Physics Services*
 Film Badges—see *Monitors, Radiation, Personnel*
 27180 Filter Housings..... 60
 27450 Filters—also see *Containers*..... 60
 Fit-Testing, Respirator—see *Health Physics Services; Respiratory Protection Equipment*
 Fitness-for-Duty—see *Consultants; Security Serv.; Training*
 Floodlighting—see *Lighting*
 Friskers—see *Monitors, Radiation, Personnel*
 30040 Fuel Element Consolidation (Spent Fuel)..... 60
 30500 Fuel Handling Equipment & Systems..... 61
 Fuel Shipping Containers—see *Containers*
 Fuel Storage Services—see *Storage Services*
 Fuel Transfer Equipment—see *Fuel Handling Equipment*

G

Gas Analyzers—see *Analyzers*
 Gas Detectors, Monitors—see *Detectors; Monitors, Other Than Radiation*
 32250 Gas Handling Equipment—also see *Analyzers, Gas; Filters*..... 61
 Glass, Radiation-Shielding—see *Shielding Materials; Windows*

36000 Gloveboxes & Accessories—also see *Connectors, Electrical, Glovebox; Filters*..... 61
 Gloves—see *Clothing, Protective*
 Goggles—see *Clothing, Protective*
 36900 Grouts 61
 Guard Stations—see *Security Structures*
 Guards—see *Security Services*

H

Hats—see *Clothing, Protective*
 37130 Health Physics Equipment & Supplies—also see *Counters; Monitors, Rad.; Resp. Prot.; Samplers*..... 61
 37160 Health Physics Equipment & Supplies, Disposable/Soluble 62
 Health Physics Recordkeeping Systems—see *Records Mgmt. Systems*
 37200 Health Physics Services—also see *Decontamination; Rad. Monitoring Serv.; Waste Mgmt. Serv.* 62
 Health Testing, Employee—see *Health Physics Services*
 Hearing Protection Devices—see *Clothing, Protective; Monitors, Noise*
 37600 Heat Exchangers & Equipment—also see *Computer Software* 64
 Hoists—see *Cranes & Hoists*
 Homeland Security Products—see *Security Services; Security Structures; Security Systems & Devices*
 39650 Hydraulic Systems & Components—also see *Consultants; Pumps, Other* . 66
 Hydrogen Analyzers—see *Analyzers*
 Hygiene Services, Industrial—see *Health Physics Services*

I

Ice Blasting—see *Decontamination Chemicals, Equipment & Services*
 39960 Imaging, Digital..... 66
 Incineration—see *Radioactive Waste Handling; Waste Management Services*
 40050 Indicators 66
 Indicators, Radiation—see *Counters; Health Physics Equip.; Monitors*
 40700 Information Services 66
 Inserts, Drum—see *Containers*
 40900 Inspection Services—also see *NDT; Video Services* 66
 Inspection Systems, X-ray—see *Security Systems*
 41000 Instrument Services—also see *Calibration Services; Health Physics Services*..... 66
 Instrumentation, Electronic—see *Electronic Instrumentation & Supplies*
 41015 Instrumentation, Misc..... 66
 Instrumentation, Seismic—see *Seismic Instrumentation*
 Instruments, Particle-Measuring—see *Particle-Measuring Instruments*
 41200 Insulation, Thermal..... 66

Iodine Filters, Samplers—see
Filters (Carbon; HEPA); Gas
Handling Equip. (Absorb.)

41700 Ion-Exchange Systems, Materials &
Services 68

L

Lab Coats—see *Clothing, Protective*
Labels—see *Tags & Labels; Health
Physics Equipment & Supplies*

44000 Laboratories, Mobile..... 68

Laundry Services, Contaminated
Clothing—see *Health Physics Services*

Laundry Systems, Contaminated
Clothing—see *Health
Physics Equipment*

Lead Glass—see *Windows*

Leak Detectors, Monitors—see
Monitors, Other Than Radiation

45550 Lights, Lighting..... 68

Liners, Container, Drum—
see *Containers*

Liners, Hat—see *Clothing, Protective*

M

Maintenance Equip.—see
Decontamination; Cleaning Equip.

47400 Maintenance & Repair Services—also
see *Testing Services*..... 68

47600 Manipulators, Remote—also see
*Remote Control, Handling &
Positioning Devices*..... 68

47620 Mapping Services..... 68

47630 Markers, Identification 68

Masks—see *Respiratory
Protection Equipment*

Medical Equipment, Services,
Emergency—see *Health Physics
Equipment; Health Physics Services*

51730 Meteorological Equipment—also
see *Environmental Monitoring
Equipment*..... 68

53950 Mockup Design & Fabrication—also
see *Training Materials*..... 69

Monitoring Services, Radiation—
see *Health Physics Serv.;
Radiation Monitoring Serv.*

Monitors, Heat Stress—see
Health Physics Equipment

Monitors, Heat Stress—see
Health Physics Equipment

54750 Monitors, Other Than Radiation..... 69

55040 Monitors, Radiation, Area & Special-
Purpose—also see *Environmental;
Radiation Monitoring*..... 69

55060 Monitors, Radiation, Personnel—
also see *Health Physics Equipment;
Monitors, Microwave & RF*..... 69

Monitors, Waste—see *Monitors,
Radiation, Area & Special-Purpose*

Mops, Roll, Tacky—see *Health
Physics Equipment*

N

55490 Neutron Absorbers—also see *Filters,
Neutron; Shielding Design; Shielding
Materials*..... 69

Noise Monitors—see *Monitors,
Other Than Radiation*

56600 Nondestructive Testing..... 70

P

Panels, Shielding—see
Shielding Materials

Pants—see *Clothing, Protective*

58000 Particle-Measuring Instruments 70

Pens—see *Markers*

Periscopes—see *Remote-
Viewing Instruments*

Personnel Screening, Investigation—
see *Security Services*

Personnel Screening, Stress/Health—see
Consultants; Health Physics Services

59800 Pipe—also see *Cleaning Equip.*..... 70

Pipe Cleaning Services—see
Maintenance Services

59850 Pipe & Tube Machinery &
Equipment—also see *Cleaning Equip.
(Tube Cleaning)*..... 70

60100 Pipe Hangers and Supports..... 70

Pipeline Inspection—see
Inspection Services

61570 Plugs—also see *Decontamination
Chemicals, Equip. & Services*..... 70

Polishing Grits—see *Abrasives*

Portal Monitors—see *Monitors,
Radiation, Personnel (Doorway)*

63400 Power Supplies 70

Printers—see *Computers &
Accessories; Data Readout Devices*

Probes, Radiation—see
Counters, Detectors

Protective Clothing—see *Clothing*

64300 Protective Coverings & Tarpaulins . 71

64700 Pumps, Centrifugal 71

64750 Pumps, Other 71

R

66280 Racks, Fuel Storage—also see *Storage
Systems, Spent-Fuel*..... 71

Radiation Detection Films—see
Monitors, Radiation, Personnel

Radiation Detectors—see *Counters,
Detectors; Detector Heads;
Health Phys. Equip.; Monitors*

Radiation Dosimeters—see
*Health Physics Equip.; Monitors,
Radiation, Personnel*

Radiation Indicators—see
Counters; Monitors

Radiation Management—see
*Consultants; Health Physics Serv.;
Records Mgmt. Systems; Training*

67380 Radiation Monitoring Serv.—also
see *Envir. Monitoring; Health Phys.
Serv.*..... 71

Radiation Monitors—see *Monitors,
Radiation, Area; Monitors,
Radiation, Personnel*

Radiation Protection
Recordkeeping Systems—see
Records Management Systems

Radiation Protection Training—see
Health Physics Services; Training

Radiation-Shielded
Containers—see *Containers*

Radiation Shielding—see *Neutron
Absorbers; Shielding; Windows*

Radioactive Waste Disposal, Low-
Level—see *Waste Management Services*

Radioactive Waste Management
Services—see *Waste
Management Services*

68000 Radioactive Waste Handling &
Treatment Equip.—also see *Solid Waste
Reduction*..... 72

68950 Radioisotopes 73

Radiological Containment

Enclosures—see *Health
Physics Equipment*

Radiological Engineering—see
Consultants; Health Physics Services

Radios—see *Communication Systems;
Emergency Warning Systems*

Radon Detection—see
Monitors, Radiation, Area

Railroad Cars—see *Cars, Railroad*

Recording Charts, Pens—see *Data
Readout Devices & Accessories*

71190 Records Management Systems..... 73

71500 Refrigeration—also see *Cooling
Systems, Body*..... 73

Regulatory Compliance—see
*Consultants; Health Physics Services;
Maintenance & Repair Serv.*

72300 Remote Control, Handling &
Positioning Devices & Sys.—also see
Robotic Devices..... 73

73300 Remote-Viewing Instruments &
Systems..... 74

Rental, Equipment—see
Equipment Rental

Resin Regeneration—see *Waste
Management Services*

Respirator Tracking Systems—see
Health Physics Equipment

Respiratory Equipment
Cleaning, Repair & Testing—see
Health Physics Services

73550 Respiratory Protection Equip.—also see
Clothing, Prot.; Health Phys. Serv.... 74

73570 Rigging Specialists..... 74

73620 Robotic Devices, Systems—also see
Remote Control..... 74

S

Safety Belts—see *Fall Protection*

74150 Samplers & Sampling Systems 76

74320 Sampling Systems Services—also see
Radiation Monitoring Services..... 76

Scabbling, Concrete—see *Concrete
Breaking, Drilling; Decontamination
Chemicals & Equipment*

74350 Scaffolding—also see *Shoring; Training*..... 76

75190 Seals—also see *Decontamination Chemicals & Equipment; Plugs*..... 76

Secondary Containment Products—see *Rad. Waste Handling & Treatment Equip.*

75600 Security Services—also see *Consultants; Training*..... 77

75700 Security Structures..... 77

75850 Security Systems & Devices—also see *Consultants*..... 77

Seismic Analysis, Qualification—see *Analysis; Consultants; Testing Services; Training*

76400 Seismic Instrumentation & Testing..... 77

77600 Servomechanisms..... 77

Shears, Velocity Limiter—see *Solid Waste Reduction Equipment*

Sheeting, Plastic—see *Health Physics Equipment & Supplies*

77750 Shielding Design, Radiation—also see *Analysis; Consultants*..... 77

77800 Shielding Materials, Rad.—also see *Containers; Doors; Neut. Absorbers; Windows*..... 77

Shipping Containers—see *Containers*

Shirts—see *Clothing, Protective*

Shoes, Shoe Covers—see *Clothing, Protective*

77900 Shoring—also see *Scaffolding*..... 77

Signs, Warning, Radiation—see *Health Physics Equipment & Supplies*

Sirens—see *Emergency Warning Systems; Inspection Services*

78700 Sleeves, Wall (Pipe)..... 78

Sludge Analyzers—see *Analyzers*

79360 Solid Waste Reduction Equipment & Tools, Radioactive..... 78

79370 Sorbents..... 78

Source Encapsulation—see *Encapsulation; Radiation Monitoring Services*

Sorters, Sorting Tables, Radwaste—see *Radioactive Waste Handling*

79700 Sources, Radioactive—also see *Radioisotopes; Testing Services*..... 78

Spent-Fuel Storage—see *Racks; Storage Services; Storage Systems, Spent-Fuel*

Storage Facilities, Waste—see *Radioactive Waste Treatment Equipment*

Storage Racks, Fuel—see *Racks, Fuel Storage*

81680 Storage Services..... 78

81710 Storage Systems, Spent-Fuel—also see *Containers; Racks*..... 78

Storage Tanks—see *Tanks*

Surface-Conditioning Products (Cleaning, Touchup, Weld Prep, etc.)—see *Abrasives, Non-Woven*

Survey Meters—see *Monitors, Radiation, Area*

Swipes—see *Health Physics Equipment & Supplies*

T

Tables, Sorting—see *Radioactive Waste Handling & Treatment Equip.*

83110 Tags & Labels (Warning, Inventory, etc.)—also see *Health Phys.*..... 79

83120 Tags, Valve..... 79

83150 Tanks, Storage—also see *Diaphragms; Inspection Services*..... 79

83210 Tape..... 80

83600 Television Systems (CCTV)—also see *Security Systems; Video Services*..... 80

Temperature Monitors—see *Monitors*

84150 Test Equipment & Supplies—also see *Health Physics Equip.; Nondestructive Testing*..... 80

84600 Testing Services—also see *Analysis; Maintenance Serv.; Nondestructive Testing*..... 80

Thermoluminescent Dosimeter (TLD) Services—see *Health Physics Services*

Thermoluminescent Dosimeters—see *Monitors, Radiation, Personnel*

86130 Tools..... 80

Trailers, Mobile—see *Health Physics Equipment (Decon Trailers)*

86250 Trailers, Spent-Fuel Transport..... 80

86260 Trailers, Transport..... 82

86300 Training—also see *Consultants; Health Physics Services; Training Centers; Training Materials*..... 82

86400 Training Centers, Facilities—also see *Training; Training Materials*..... 83

86500 Training Materials, Courseware—also see *Mockup Design; Training; Training Centers*..... 83

Transfer Cars—see *Cars, Railroad*

86900 Translation Services..... 83

87000 Transport Services..... 83

87380 Tritium Handling Equipment..... 83

Tritium Monitors—see *Monitors, Radiation, Area*

87395 Tritium Recycle & Extraction Equipment..... 83

87400 Tritium Removal Equipment..... 83

Turnstiles—see *Security Structures*

U

Underwater—see *Diving; Maint. & Repair; NDT; Solid Waste Red.; Video Serv.*

Uranium Mill Tailings Reclamation—see *Waste Management Services*

V

Vacuum Blasting—see *Cleaning Equipment*

90100 Vacuum Equipment & Accessories—also see *Cleaning Equip.; Filters*..... 83

Valve & Actuator Repair—see *Maintenance & Repair Services*

Valve Grinders (In-Place)—see *Valve-Re seating Equipment*

90250 Valve Operators (Actuators)..... 83

Valve Position Detectors—see *Detectors*

90330 Valve Stem Gland Packing Systems, Live-Loaded..... 83

Valve Tags—see *Tags*

Valve Testing—see *Maintenance Services; Test Equipment*

Valves, Backwater—see *Valves, Other*

Valves, Ball—see *Valves, Other*

Valves, Butterfly—see *Valves, Other*

90600 Valves, Check, Stop Check..... 84

90800 Valves, Control..... 84

Valves, Controlled-Closure—see *Valves, Check; Valves, Other (Line-Blind)*

Valves, Diaphragm—see *Valves, Other*

Valves, Excess-Flow—see *Valves, Other*

Valves, Fail-Safe—see *Valves, Other*

Valves, Feedwater Isolation—see *Valves, Other*

Valves, Filter, In-Line—see *Valves, Other*

Valves, Fire Deluge—see *Valves, Other*

Valves, Flow Monitoring/Alarm System—see *Valves, Other*

Valves, Flush Bottom Tank—see *Valves, Other*

91000 Valves, Gate..... 84

Valves, Globe—see *Valves, Other*

Valves, Globe, Bellows—see *Valves, Other*

Valves, Instrumentation Manifold—see *Valves, Other*

Valves, Isolation Shutoff—see *Valves, Other*

Valves, Line-Blind—see *Valves, Other*

Valves, Main Steam Isolation—see *Valves, Other*

Valves, Miniature—see *Valves, Other*

91260 Valves, Other..... 84

Valves, Needle—see *Valves, Other*

Valves, Packless—see *Valves, Other*

Valves, Plastic-Lined—see *Valves, Other*

Valves, Plug—see *Valves, Other*

91380 Valves, Pressure Seal..... 84

Valves, Pump Recirculation—see *Valves, Other*

Valves, Quick-Opening & -Closing—see *Valves, Other*

Valves, Ram-Type—see *Valves, Other*

Valves, Relief, Safety—see *Valves, Other*

Valves, Slurry—see *Valves, Other*

Valves, Solenoid—see *Valves, Other*

Valves, Vacuum—see *Valves, Other*

92300 Vessels—also see *Respiratory Protection Equipment*..... 84

Vests, Bullet-Resistant—see *Security Systems & Devices*

Video Displays—see *Computers; Data Readout Devices; Security Systems; Television Systems*

92800 Video Services..... 84

W

	Walk-Off Mats— <i>see Health Physics Equipment & Supplies</i>	
	Warning Signs, Signals— <i>see Health Physics Equipment; Lights</i>	
	Warning Systems— <i>see Alarm Systems; Emergency Warning Systems</i>	
	Warning Tape, Luminescent— <i>see Health Physics Equipment & Supplies; Tape</i>	
	Waste Evaporators— <i>see Radioactive Waste Treatment Equipment</i>	
	Waste Management Consultants— <i>see Consultants</i>	
93040	Waste Management Services— <i>also see Analysis; Health Physics Services</i> 84	
	Waste Monitors— <i>see Monitors, Radiation, Area & Special-Purpose</i>	
	Waste Tracking & Accountability System— <i>see Radioactive Waste Handling Systems</i>	
	Waste Treatment Equipment— <i>see Radioactive Waste Handling & Treatment Equipment</i>	
	Waste Storage Facilities, Radioactive, On-Site— <i>see Rad. Waste Handling & Treatment Equip.</i>	
	Water Analyzers— <i>see Analyzers</i>	
93900	Welding Services— <i>also see Diving Services</i> 88	
	Wet-Blasting— <i>see Cleaning Equipment; Decontamination Chemicals & Equipment</i>	
	Whole-Body Counting Services— <i>see Health Physics Services</i>	
	Whole-Body Monitors— <i>see Equipment Rental; Monitors, Radiation, Personnel</i>	
	Wind Monitoring— <i>see Environmental Monitoring Serv.</i>	
	Window Reducers— <i>see Solid Waste Reduction Equipment</i>	
95750	Windows, Radiation-Shielding— <i>also see Maintenance & Repair Services; Shielding Materials</i> 88	
	Wipe Test Counters— <i>see Counters, Detectors, Radiation</i>	
95850	Wipers, Wiping Cloths— <i>also see Health Physics Equipment & Supplies</i> 88	
95900	Wire— <i>also see Cable</i> 88	
	Wood Decontamination— <i>see Waste Management Services</i>	
96200	Work Platforms 88	



Engineered HVAC & Specialty Metal Fabrication Products, Systems and Site Services for Critical or Safety Related Applications.

Complete Seismic & Environmental Qualifications

1E Qualified

Complete 10 CFR 50 Appendix B NQA-1 Q/A Program

• HVAC SYSTEM COMPONENTS

- ☑ Access Doors
- ☑ Actuators: Electric & Pneumatic
- ☑ Air Handling Units
- ☑ Charcoal Adsorber Units
- ☑ Dampers:
 - ☑ Backdraft
 - ☑ Balancing
 - ☑ Bubble-Tight
 - ☑ Control: Manual, Electric & Pneumatic
 - ☑ Diverter
 - ☑ Fire & Smoke
 - ☑ Guillotine
 - ☑ HELB
 - ☑ Isolation
 - ☑ Tornado
- ☑ Variable Frequency Drives
- ☑ Ductwork & Supports
- ☑ Fans: Axial & Centrifugal
- ☑ Filters & Filtration Units (incl. HEPA)
- ☑ Flexible Connections
- ☑ Grilles, Registers & Diffusers
- ☑ Housings
- ☑ Heat Exchangers
- ☑ Cooling Coils
- ☑ Louvers
- ☑ Plenums
- ☑ Sleeves

• RADIATION SHIELDING

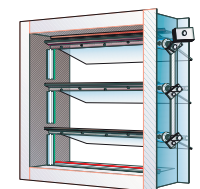
- ☑ Doors & Barriers
- ☑ Penetration Seals

• MATERIAL PROCESSING

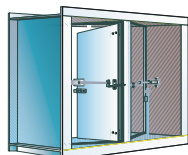
- ☑ Material Bins, Tanks & Chutes
- ☑ Ladders & Sorting Platforms

➤ SERVICES ◀

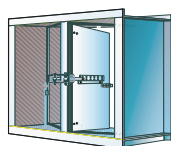
- ☑ Field System Walk downs
- ☑ Engineering Support
- ☑ Installation Supervision & Craft
- ☑ Component and Total System Testing, Adjusting & Balancing
- ☑ Commercial Dedication of client selected Equipment or Components as well as Stock Materials & Supplies
- ☑ Duct Layout and Design



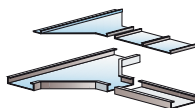
RELIEF / BACKDRAFT DAMPER



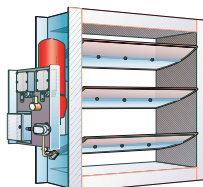
TORNADO DAMPER



HELB DAMPER



CABLE TRAYS AND COVERS

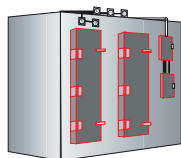


ISOLATION DAMPER

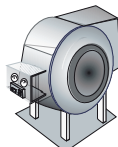


FLEX CONNECTION

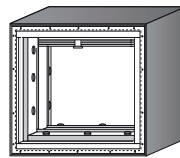
Grilles, Registers & Diffusers



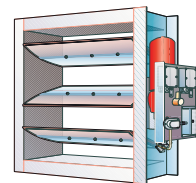
COMPLETE HEPA & ADSORBER UNITS
(To ASME N-509, 510 & AG-1)



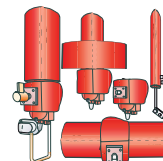
COMPLETE FAN ASSEMBLIES
(To ASME N-509, 510 & AG-1)



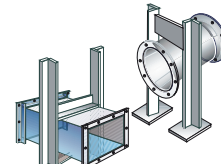
INTERNAL EXPANSION AIRFLOW RATED 3hr FIRE DAMPER



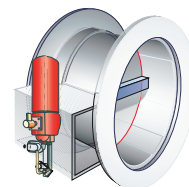
CONTROL DAMPER



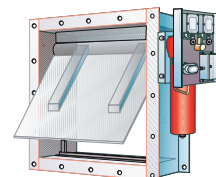
Actuators Pneumatic, Electric, & Electrohydraulic ("fail safe")



DUCTWORK & SUPPORTS



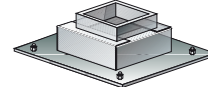
BUTTERFLY DAMPER



BUBBLE - TIGHT DAMPERS
(Class 0, ASME AG-1)



HIGH PRESSURE ACCESS or PLENUM DOOR



REMOVABLE FIRE RATED BARRIER



SSM INDUSTRIES Inc.

3401 Grand Ave. - Pittsburgh, PA 15225-1507
Tel: (412) 777-5101 - Fax: (412) 771-5382

www.ssmi.biz

SSM-PL.14

Product Listings

00300 Abrasives—also see *Cleaning*

Equipment

- B Bonded
- C Coated
- LP Lapping & Polishing Grits
- NW Non-Woven Fiber

United States Products Co., Pittsburgh, PA (LP)

00400 Absorbers, Nuclear Radiation—

also see *Neutron Absorbers; Sorbents*

BOHLER Bleche GmbH & Co. KG, (Affl. of voestalpine Edelstahl GmbH), Murzzuschlag, Austria

Ceradyne, Inc. a 3M company, Quapaw, OK

Ellis & Watts Global Industries, Inc., Batavia, OH

Hopewell Designs, Inc., Alpharetta, GA

Roberts Engineering Services, Inc., Stuart, FL

UOP, A Honeywell Co., Des Plaines, IL

WestinghouseAZZ Electric Co., Nivelles, Belgium

♦ Westinghouse Electric Co. LLC, Cranberry Township, PA

03000 Air-Conditioning & Ventilation Equip.—also see *Dampers; Filter Housings; Filters; Training*

- AC Air-Conditioning
- AN Air Distribution Nozzles
- AD Air Dryers
- AF Air Filtration Units
- AH Air Handling
- C Chillers
- CO Condensing Units
- DH Dehumidifiers
- D Ductwork
- EC Evaporative Coolers
- F Fans & Blowers
- L Louvers
- V Ventilation
- VP Ventilation, Portable
- VT Ventilation, Test Equipment

AAF International, Louisville, KY (AC, AD, AF, AH, C, CO)

American Warming & Ventilating, Holland, OH (L)

AZZ Nuclear | NLI, Fort Worth, TX (AC, AF, C, EC, F, V)

♦ BHI Energy, Plymouth, MA (V, VP)
Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (C, CO, F, L)

♦ DNS - Dedicated Nuclear Solutions, Aiken, SC (AC, AF, C, EC, F, V)

ECU Corporation, Cincinnati, OH (AC, AD, AF, AH, C, CO, DH, F, L, V, VP)

Ellis & Watts Global Industries, Inc., Batavia, OH (AD, AF, AH, C, CO, DH, D, F, L, V)

Frham Safety Products, Inc., Nashville, TN (AD, AF)

New York Blower Co., Willowbrook, IL (AH, D, F, V)

Nuthern International, Inc., Mount Vernon, IL (AC, AF, AH, C, CO, F)

♦ Radiation Protection Systems, Inc., Groton, CT (AF, F, VP)

Radiation Protection Systems, Inc. is a Product-Based, Custom Engineered Solutions Company

Providing **Ventilation,**



RPS produces a high quality line of portable High Efficiency Particulate Air (HEPA) purification and filtration units.

Shielding,



Broad experience has made RPS the leader in custom designed shielding through the application of lead, steel, water, borated poly, and ceramic (non-metal) based technology.

and **Containment** Products



RPS manufactures customized products which may be used to contain nuclear, biological, or hazardous materials during work processes.

"Protecting Workers and the Environment Since 1978"

RPS

RADIATION PROTECTION SYSTEMS, INC.

Please visit our website www.radprosys.com for a more comprehensive listing of our products and services.

TEL 860.445.0334 • support@radprosys.com • FAX 860.446.1876

River Technologies, LLC, Forest, VA (AF, D, F, V, VP)
 The Spencer Turbine Co., Windsor, CT (F)
 ♦SSM Industries, Inc., Pittsburgh, PA (AC, AD, AF, AH, C, CO, DH, D, EC, F, L, V)
See advertisement on page 40
 Vigor (formerly Oregon Iron Works), Clackamas, OR (EC)

03180 Alarm Status Reporting & Control Systems

Radiation Safety & Control Services, Inc., Stratham, NH
 Southwest Microwave, Inc., (Security Systems Div.), Tempe, AZ
 Westinghouse Electric Co., Nivelles, Belgium
 ♦Westinghouse Electric Co. LLC, Cranberry Township, PA

03200 Alarm Systems—also see Emergency Warning Systems; Security Systems

AI Anti-Intrusion
 AS Audible Signal
 C Criticality
 F Fire
 FR Flow Rate
 LE Level
 LI Limit
 P Pressure
 R Radiation
 RT Reactivity Transient
 RV Recorded Voice, Digital (Multiple Messages)
 V Visual Signal

Arrow-Tech, Inc., Rolla, ND (R)
 ♦Canberra Industries, Meriden, CT (AS, C, FR, LE, LI, R, RT, V)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (LE, LI)
 Doosan HF Controls Corp., (Sub. of Doosan Heavy Industries & Construction Co., Ltd.), Carrollton, TX (FR, LE, LI, P, R, RT)
 FCI-Fluid Components International LLC, San Marcos, CA (FR, LE)
 Fuji Electric Corp. of America, Edison, NJ (R)
 Intek, Inc., Westerville, OH (FR)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (C, R)
 LabLogic Systems, Inc., Brandon, FL (R)
 Magnetrol International, Aurora, IL (LE)
 ORTEC, Oak Ridge, TN (R)
 OTEK Corp., Tucson, AZ (FR, LE, P)
 Premium Analyse, Norroy Le Veneur, France (R)
 Pylon Electronics Inc., (Div. of Autrex) (Instrumentation Dept.), Ottawa, Ontario, Canada (R)
 Radex, Inc., Winterville, GA (R)
 Radiation Safety & Control Services, Inc., Stratham, NH (R)
 Rockwell Automation, Inc., Milwaukee, WI (FR, LE, LI, P)
 Rosemount Nuclear Instruments, Inc., Chanhassen, MN (FR, LE, P)
 ♦R.O.V. Technologies, Inc., Brattleboro, VT (R)
 Saphymo, Saint-Aubin, France (R)
 Siemens Process Industries and Drives, (Industry Automation Div.), (Process Instrumentation & Analytics), Hauppauge, NY (FR)
 Southwest Microwave, Inc., (Security Systems Div.), Tempe, AZ (AI)
 Timesoft, Long Beach, CA (AS)
 Westinghouse Electric Co., Nivelles, Belgium (C, LE, P, R, RT, V)
 ♦Westinghouse Electric Co. LLC, Cranberry Township, PA (C, FR, LE, P, R, RT, V)
 Whelen Engineering Co., Inc., (Mass Notification Products), Chester, CT (AS, RV, V)

03800 Analysis
 C Chemical
 DE Design Basis
 DD Due Diligence
 EL Elemental, Isotopic
 E Environmental
 EQ Equipment Qualification

FE Failure, Electrical/Electronic
 FM Failure, Metallurgical
 FI Finite Element
 FP Fuel Cycle & Fuel Performance
 G Geotechnical
 GM Groundwater Modeling
 HE Helium
 H Hydrological
 LA Laser-Based
 LP Loose Parts
 L Lubrication
 M Materials
 RS Risk
 SE Seismic
 SH Shielding
 SC Site Characterization
 SI Siting
 ST Stress
 SS Sump/Strainer Blockage (Reg. Guide 1.82)
 T Thermal
 V Vibration
 W Waste

Advanced Consulting Group, Inc., Chicago, IL (ST)
 AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (EL, M, SC, W)
 American Beryllia, Inc., Haskell, NJ (M)
 Anamet Inc., Hayward, CA (DE, ST)
 Applied Analysis Corp., Reading, PA (DE, EQ, SH, T)
 Applied Health Physics, LLC, Bethel Park, PA (E, RS)
 Applied Science Professionals, (ASP-LLC), Salt Lake City, UT (SC)
 ARES Corp., (Energy Services Div.), Richland, WA (DE, EQ, FE, FM, FI, G, H, M, RS, SE, SH, ST, T, V, W)
 AREVA Inc., (North American Headquarters), Charlotte, NC (C, DE, EL, EQ, FE, FM, FI, FP, LP, L, M, RS, SE, SH, ST, T, V, W)
 ♦AREVA TN, Columbia, MD (ST, T)
 ♦AttentionIT, Inc., Knoxville, TN (E)
 Attenuation Environmental Co., Seattle, WA (E, W)
 AZZ Nuclear | NLI, Fort Worth, TX (SE)
 G.D. Barri & Associates, Inc., Peoria, AZ (DE, E, FE, G, H, M, SE, SH, SC, ST)
 BCP Engineers & Consultants, Gretna, LA (EQ, RS, ST, V)
 Burns & McDonnell Engineering Company, Inc., (Aviation & Federal Global Practice), Kansas City, MO (C, DE, E, G, H, SE, SC, SI)
 ♦BWX Technologies, Inc., Lynchburg, VA (EL, E, FE, FM, M, ST, V)
 Cabrera Services Inc., East Hartford, CT (EL, E, H, M, RS)
 ♦Canberra Industries, Meriden, CT (EL, E, EQ, W)
 Chemchek Instruments, Inc. (TM), Richland, WA (EL, E)
 COH, Inc., Boisbriand, Quebec, Canada (SE)
 ComRent International, LLC, Upper Marlboro, MD (FE)
 Crane Nuclear, Inc., Kennesaw, GA (EQ, FE, L)
 CS-2 Inc., Grand Island, NY (E, RS, SC, T, W)
 CTR Technical Services, Inc., Manitou Springs, CO (DE, FP, RS, SH)
 Curtiss-Wright Nuclear Division, Brea, CA (DE, RS, SE)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (EQ)
 Dade Moeller & Assoc., Richland, WA (SH, SI)
 DCS Systems, Inc., Simsbury, CT (FP)
 The Delphi Groupe, Inc., Austin, TX (E, RS)
 Design Engineering Analysis Corp., Canonsburg, PA (DE, EQ, SE, ST, T, V)
 ♦DNS - Dedicated Nuclear Solutions, Aiken, SC (SE)
 ECC, Burlingame, CA (E, G, SC)
 ECU Corporation, Cincinnati, OH (FI, SE)
 Elcometer Inc., Rochester Hills, MI (E)
 ♦EnergySolutions LLC, Salt Lake City, UT (C, DE, EL, FM, M, RS, SE, SH, SC, SI, ST, T, V, W)
 Enusa Industrias Avanzadas, S.A., Juzbado (Salamanca), Spain (FP)
 EXCEL Services Corporation, Rockville, MD (DE, DD, E, FP, RS, SE)

♦ Denotes Advertiser

Fauske & Associates, LLC, (A sub. of Westinghouse Electric Company, LLC), Burr Ridge, IL (C, DE, E, EQ, FE, FI, FP, SE, SC, SI, ST, SS, T, V)
 Fuel Tank Maintenance Co., LLC, Cookeville, TN (FP)
 The GEL Group, Inc., (GEL Engineering, LLC), (GEL Laboratories, LLC), (GEL Geophysics, LLC), (Cape Fear Analytical, Inc.), Charleston, SC (E)
 ♦The GEL Group, Inc., (General Engineering Laboratories, LLC), Charleston, SC (C, E, SC)
 Geovariances, Avon cedex, France (RS, SC)
 GoldSim Technology Group, Issaquah, WA (RS)
 Grove Engineering, Inc., (Grove Software), Lynchburg, VA (RS, SE, SH, T, W)
 Hawks, Giffels & Pullin (HGP), Inc., Greenville, SC (DD, RS)
 ♦Holtec International, Marlton, NJ (EQ, SE, SH, ST, T, V)
 HukariAscendant Inc., Wheat Ridge, CO (DE)
 ILD, Inc., Baton Rouge, LA (SE, T, V)
 Interdevelopment, Inc., Arlington, VA (RS)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (EL, E, SH, SC, W)
 ♦Joseph Oat Corp., Camden, NJ (H, M, ST, T, V)
 Kurion, Inc., Richland, WA (DE, DD, E, EQ, FE, FI, G, SE, SH, SC, SI, ST, W)
 LabLogic Systems, Inc., Brandon, FL (SH)
 Leidos, Reston, VA (E, G, RS)
 Materials & Chemistry Laboratory, Inc., Oak Ridge, TN (C, EL, E, FM, M, SC, ST, W)
 Mega-Tech Services, LLC, Mechanicsville, VA (RS)
 Merrick & Company, Greenwood Village, CO (DE, DD, EQ, FI, G, H, LA, RS, SE, SH, SC, SI, W)
 M4 Services LLC, Glenwood, MD (SC, W)
 MPR Associates, Inc., Alexandria, VA (EQ, FM, M, SE, ST, T, V)
 NAC International, Norcross, GA (FP, SH, ST, T)
 ♦National Nuclear Laboratory (UK), Warrington, United Kingdom (C, E, FP, M, SH, SC, W)
 Neptune and Company, Inc., Lakewood, CO (GM, H)
 Nextteq LLC, Tampa, FL (C)
 NPTS, Inc., Buffalo, NY (RS)
 NRG, Petten, The Netherlands (C, EL, E, FI, FP, M, RS, SH, ST)
 NUKEM Technologies GmbH, Alzenau, Germany (RS, W)
 Nutherm International, Inc., Mount Vernon, IL (EQ, FE, M, SE, T)
 NWT Corp., San Jose, CA (C)
 PaR Systems, Inc., Shoreview, MN (SE)
 Partners Environmental Consulting, Inc., Solon, OH (E, G, H, RS, SC)
 PECOS Management Systems, Inc., (PECOS), Albuquerque, NM (DD, E, RS)
 Portage Inc., Idaho Falls, ID (E)
 Precision Custom Components, LLC, York, PA (FM, ST, T, V)
 Predictive Maintenance Inspection, Inc., Madison, AL (L, T, V)
 Preferred Engineering Corp., (Sub. of Preferred Utilities Mfg. Corp.), Danbury, CT (C, FI, M, SE)
 Project Assistance Corp. (PAC), Walnut Creek, CA (DE, E, EQ, FE, FM, FI, FP, G, H, M, RS, SE, SI, ST, T)
 Proxtronic Dosimetry, LLC, (Proxdose), Alexandria, VA (E)
 Qal-Tek Associates, LLC, Idaho Falls, ID (SC)
 Radiation Safety & Control Services, Inc., Stratham, NH (EL, E, G, W)
 ♦REI Nuclear, LLC, Columbia, SC (E, EQ, RS, SH, SC, W)
 R&G Laboratories, Inc., Tampa, FL (C, L)
 Sargent & Lundy LLC, Chicago, IL (C, DE, DD, E, EQ, FE, FM, FI, G, H, LP, L, M, RS, SE, SH, SC, SI, ST, SS, T, V, W)
 SGS Herguth Laboratories, Inc., Vallejo, CA (C, FM, L, M)
 Siempelkamp Nuclear Services, Inc., West Columbia, SC (DE, FI, FP, W)
 Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (DE, FI, FP, W)
 Simon Carves Engineering Ltd., Manchester, United Kingdom (FI)
 SKODA JS a.s., Plzen, Czech Republic (SE, SH, ST)
 ♦SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (EQ, FE, FM, FI, FP, M, SE, SH, ST, SS, T, V, W)
 Howard L. Sobel, P.E., Oceanside, NY (FP, W)



SNC • LAVALIN

To minimize exposure, maximize expertise

If you deploy robotics to minimize risk in nuclear environments, why wouldn't you partner with a recognized leader in nuclear technology?

For decades, we have deployed advanced remote tooling and robotics solutions in the maintenance and inspection of our own technologies. We've become experts at getting into small, tight spaces and hard to reach locations and we understand the effects of radiation on materials.

As a designer and builder of nuclear power plants, we bring all of our experience to bear in designing custom state-of-the-art remote robotics solutions for a range of technologies and environments.

Ask us how we can make a difference to your business.

Candu[®]

An SNC-Lavalin Technology



www.snclavalin.com/nuclear



- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (DE, EL, EQ, FE, FI, FP, HE, M, RS, SH, SC, T, V, W)
Southwest Research Institute, San Antonio, TX (EL, E, EQ, FE, FM, FI, G, H, RS, SE, SH, SC, SI, ST, SS, T, V, W)
- ◆SSM Industries, Inc., Pittsburgh, PA (SE)
Stoller Newport News Nuclear (SN3), (A sub. of Huntington Ingalls Industries), Broomfield, CO (E, G, H, RS, SC, W)
Sundance Consulting, Inc., Pocatello, ID (E, SC)
TestAmerica Inc., Richland, WA (EL)
TLG Services, Inc., (Affl. of Entergy Corp.), Bridgewater, CT (SC)
TransWare Enterprises Inc., Sycamore, IL (FP, ST, T)
Wastren Advantage, Inc., Piketon, OH (DE, DD, EL, EQ, FE, FM, FI, FP, G, HE, H, LA, LP, L, M, RS, SE, SH, SC, SI, ST, SS, T, V)
WD Associates, Inc., Whiteford, MD (DE, DD)
Weir Valves and Controls USA, Inc., Ipswich, MA (SE)
Westinghouse Electric Co., Nivelles, Belgium (EL, EQ, FM, FP, LP, L, M, RS, SE, SH, ST, T, V, W)
Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (EQ, FI)
- ◆Westinghouse Electric Co. LLC, Cranberry Township, PA (EL, EQ, FM, FP, LP, L, M, RS, SE, SH, ST, T, V, W)
Whiting Corp., Monee, IL (DE, EQ, FI, SE)
- ◆WMG, Inc., Peekskill, NY (EL, SH, SC, W)
WorleyParsons, Reading, PA (DE, E, EQ, FI, FP, GM, H, M, RS, SE, SC, SI, ST, T)
WorleyParsons, Markham, Ontario, Canada (DE, E, EQ, FI, FP, GM, H, M, RS, SE, SC, SI, ST, T)
- ◆Worthington Industries, Columbus, OH (M)
Zachry Nuclear Engineering, (Numerical Applications Div.), Cary, NC (C, EL, FI, GM, SS)
Zachry Nuclear Engineering, Inc., Stonington, CT (DE, EQ, FE, FI, SE, ST, T)
- 04000 **Analyzers**
A Air
CA Coincidence & Anti-Coincidence
D Density
DH Dissolved Hydrogen
DO Dissolved Oxygen
E Effluent
G Gas
CG Gas, Containment
H Hydrazine
MP Multi-Parameter
OG Off-Gas Hydrogen
OX Oxygen
PO Portable Multichannel
PA Post-Accident Sampling (O2 & H2)
PM Pulse-Height, Multi-Channel
PH Phosphorescence
PS Pulse-Height, Single-Channel
SI Silica
SL Sludge
SO Sodium
ST Steam
TF Time-of-Flight
TO Total Organic Carbon
V Viscosity
WG Waste-Gas, Oxygen & Hydrogen
W Water
- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (PO, SL)
AREVA Inc., (North American Headquarters), Charlotte, NC (SL, W)
Automation Products, Inc., (Dynatrol® Div.), Houston, TX (D, V, W)
- ◆Canberra Industries, Meriden, CT (A, CA, PO, PM, PS)
COH, Inc., Boisbriand, Quebec, Canada (G)
Crane Nuclear, Inc., Kennesaw, GA (PO)
Elcometer Inc., Rochester Hills, MI (V)
◆EnergySolutions LLC, Salt Lake City, UT (SL, W)
ENMET, Ann Arbor, MI (A, G, OG, OX, PO, PA, WG)
- ◆Denotes Advertiser
- ◆The GEL Group, Inc., (GEL Engineering, LLC), (GEL Laboratories, LLC), (GEL Geophysics, LLC), (Cape Fear Analytical, Inc.), Charleston, SC (A, DO, E, G, CG, W)
The GEL Group, Inc., (General Engineering Laboratories, LLC), Charleston, SC (A, DO, E, G, CG, W)
Health Physics Instruments, Goleta, CA (PO, PM)
HI-Q Environmental Products Co., Inc., San Diego, CA (A)
ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (PO, PM, PS)
LabLogic Systems, Inc., Brandon, FL (W)
Ludlum Measurements, Inc., Sweetwater, TX (PS)
Nexteq LLC, Tampa, FL (A, G, CG, H, OG, OX, W)
NUCON International, Inc., Columbus, OH (G)
ORDELA, Inc., Oak Ridge, TN (E, MP, W)
ORTEC, Oak Ridge, TN (CA, E, MP, PO, PM, PS, TF)
Radiation Safety & Control Services, Inc., Stratham, NH (PO, PM)
Radiological Solutions, Inc., Rockdale, IL (W)
Saphymo, Saint-Aubin, France (G, OX)
Sentry Equipment Corp., Oconomowoc, WI (DO, H, OX, PA, SI, SO, ST, W)
Waters Equipment, Oconomowoc, WI (ST, W)
Westinghouse Electric Co., Nivelles, Belgium (G, CG, SL, ST, W)
- ◆Westinghouse Electric Co. LLC, Cranberry Township, PA (G, CG, SL, ST, W)
- 06790 **Asbestos Abatement/Removal Products & Services**
American DND Inc., Grand Island, NY
APCO Extruders Inc., Edison, NJ
Burns & McDonnell Engineering Company, Inc., (Aviation & Federal Global Practice), Kansas City, MO
CS-2 Inc., Grand Island, NY
Fuel Tank Maintenance Co., LLC, Cookeville, TN
Grayling Industries, Inc., Alpharetta, GA
NorthStar Group Services, Inc., Richland, WA

GEL

Laboratories LLC

Chemistry | Radiochemistry | Radiobioassay | Specialty Analytics

Serving the DOE, DoD, Commercial Nuclear Utilities, and Waste Processors

- Experienced provider of analytical services supporting D&D, mixed waste, and environmental monitoring projects
- Full compliance and accreditation with numerous quality programs including DOECAP, DoD ELAP, NELAP, TNI, ISO 17025:2005, MARLAP, QSM V4.2, and NQA-1
- Customized data packages, electronic deliverables, and on-line 24-hour data access
- Certified by 38 states and federal agencies
- Single site laboratory with over 30 years of proven experience and over 200 dedicated staff

For additional information, contact GEL at info@gel.com or 843.556.8171gel.com

Williams Industrial Services Group, LLC, (Williams Plant Services, LLC), Tucker, GA

06950 Bar-Coding Devices & Supplies

- Alphasource, Inc., Philadelphia, PA
- ♦ AttentionIT, Inc., Knoxville, TN
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL

08800 Cable, Electrical—also see

Connectors; Wire

- CO Coaxial
 - C Control
 - DC Data Communications
 - FI Fiber Optic
 - FR Flame-Resistant
 - HT High-Temperature
 - I Instrumentation
 - MI Mineral-Insulated, Metal-Jacketed
 - P Power
 - PA Prefabricated Assemblies
 - RR Radiation-Resistant
 - R Repair, In-Site
 - UC Umbilical Cord, Nuclear Grade (Robotic)
 - U Underwater
- ComRent International, LLC, Upper Marlboro, MD (P)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (RR)
- General Cable Co., (ULTROL® 60+), Willimantic, CT (CO, C, DC, FI, FR, I, P, RR)
- K&S Associates, Inc., Nashville, TN (C)
- Lights Camera Action, LLC, Gilbert, AZ (RR, U)
- Mirion Technologies (IST) Corp., (Sensing Systems Div.), Horseheads, NY (MI, PA, RR)
- Nutherm International, Inc., Mount Vernon, IL (RR)
- ♦ Reef Industries, Inc., Houston, TX (FR, PA)
- Remote Ocean Systems (ROS), San Diego, CA (U)
- Sidus Solutions LLC, San Diego, CA (UC, U)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (CO, C, DC, FI, I)

09730 Calciners—also see Radioactive Waste Handling & Treatment Equipment

- AREVA Inc., (North American Headquarters), Charlotte, NC
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA
- ♦ Petersen Inc., Ogden, UT
- Vigor (formerly Oregon Iron Works), Clackamas, OR
- Whiting Corp., Monee, IL
- Wyssmont Co., Fort Lee, NJ

09750 Calibration Equipment & Systems

- D Dose, Nuclear Medicine
 - E Electrical Test Equipment
 - ET Electrical Test Equipment
 - IC Instrumentation and Control
 - LF Laminar Flow
 - P Pressure
 - R Radiation Measuring
- Arrow-Tech, Inc., Rolla, ND (R)
- Beamex, Inc., Marietta, GA (E, ET, IC, P)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (R)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (IC)

09800 Calibration Services—also see

Health Physics Services

- E Electrical Test Equipment
- ET Electronic Test Equipment
- F Flow
- IC Instrumentation & Control
- PT Pressure, Temperature, Humidity
- R Radiation Measuring
- T Tools, Physical/Dimensional/Mechanical

- Applied Health Physics, LLC, Bethel Park, PA (R)
- AREVA Inc., (North American Headquarters), Charlotte, NC (ET, R)
- Arrow-Tech, Inc., Rolla, ND (R)
- BCP Engineers & Consultants, Gretna, LA (E, F, IC)
- ♦ Berkeley Nucleonics Corp., San Rafael, CA (ET, R)
- Cabrera Services Inc., East Hartford, CT (R)
- ♦ Canberra Industries, Meriden, CT (R)
- Crane Nuclear, Inc., Kennesaw, GA (ET)
- Curtiss-Wright Nuclear Division, Brea, CA (F, IC, PT)
- Dade Moeller & Assoc., Richland, WA (R)
- ♦ EnergySolutions LLC, Salt Lake City, UT (IC, R)
- Environmental Restoration Group, Inc., Albuquerque, NM (R)
- EXCEL Services Corporation, Rockville, MD (IC)
- FCI-Fluid Components International LLC, San Marcos, CA (F)
- F&J Specialty Products, Inc., Ocala, FL (F)
- Foss Therapy Services, Inc., North Hollywood, CA (IC, R)
- Fuji Electric Corp. of America, Edison, NJ (R)
- Health Physics Instruments, Goleta, CA (R)
- HI-Q Environmental Products Co., Inc., San Diego, CA (F)
- Hopewell Designs, Inc., Alpharetta, GA (R, T)
- Stan A. Huber Consultants, Inc., New Lenox, IL (R)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (R)
- K&S Associates, Inc., Nashville, TN (E, ET, PT, R)
- NRG, Petten, The Netherlands (R)
- Nuclear Technology Services, Inc., Roswell, GA (R)
- NUCON International, Inc., Columbus, OH (E, ET, F, IC, PT, R, T)
- NWT Corp., San Jose, CA (F)
- Perma-Fix Environmental Services, Inc., Knoxville, TN (PT, R)
- Precision Custom Components, LLC, York, PA (T)
- Proxtronics Dosimetry, LLC, (Proxdose), Alexandria, VA (IC, R)
- RADeCO, Inc., Plainfield, CT (F)
- Radiation Safety Assoc., Inc., Hebron, CT (R)
- RdF Corp., Hudson, NH (IC, PT)
- RSO, Inc./Radiation Service Organization, Laurel, MD (R)
- Saphymo, Saint-Aubin, France (R)
- Sentry Equipment Corp., Oconomowoc, WI (F, IC, PT, R)
- Siemens Process Industries and Drives, (Industry Automation Div.), (Process Instrumentation & Analytics), Hauppauge, NY (F, IC)
- System One, Pittsburgh, PA (E, ET, F, IC, PT, R, T)
- Westinghouse Electric Co., Nivelles, Belgium (E, ET, F, IC, R)
- ♦ Westinghouse Electric Co. LLC, Cranberry Township, PA (E, ET, F, IC, R)

09950 Cars, Railroad

- CH Cask-Handling
 - L Liners
- Avantech, Inc., Columbia, SC (L)
- COH, Inc., Boisbriand, Quebec, Canada (CH)
- ♦ EnergySolutions LLC, Salt Lake City, UT (L)
- ♦ Joseph Oat Corp., Camden, NJ (L)
- Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (CH)
- M4 Services LLC, Glenwood, MD (CH, L)
- MHF Services, (An EnergySolutions Company), Wexford, PA (CH, L)
- ♦ PacTec, Inc., Clinton, LA (L)
- Vigor (formerly Oregon Iron Works), Clackamas, OR (CH, L)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (CH)

10780 Cleaning Equipment—also see

- Decon. Chem. & Equip.; Health Phys. Equip.*
- A Abrasive
- CP Cavity Pool
- CS Chemical Services
- P Parts Washers

♦ Denotes Advertiser

- PC Pipe Cleaning
- PW Pressure Washing
- R Robotic
- S Steam
- TC Tube Cleaning
- U Ultrasonic
- UW Underwater
- V Vacuum
- VB Vacuum Blasting, Abrasive
- WJ Water Jetting, High-Pressure
- WA Water Jetting, High-Pressure, Abrasive

- Alphasource, Inc., Philadelphia, PA (PC)
- American Airworks, Sophia, WV (U)
- AREVA Inc., (North American Headquarters), Charlotte, NC (CS, PW, R, TC, U, VB, WJ, WA)
- Avantech, Inc., Columbia, SC (UW)
- Babcock Services, Inc., Kennewick, WA (A, CP)
- ♦ BHI Energy, Plymouth, MA (A, PW, V, WJ)
- Blue Lake Products, Irvine, CA (V)
- Bowtech Products Ltd., Aberdeen, United Kingdom (R, UW)
- Brokk AB, Skelleftea, Sweden (R)
- Container Products Corp., Wilmington, NC (PW)
- ♦ Container Technologies Industries, LLC, Helenwood, TN (A)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (TC)
- ♦ EnergySolutions LLC, Salt Lake City, UT (CP, V)
- Fram Safety Products, Inc., Nashville, TN (V, VB)
- Gardner Denver Water Jetting Systems, Inc., (Sub. of Gardner Denver), Houston, TX (PC, TC, WJ)
- Hennigan Engineering Co., Inc., Hingham, MA (PW)
- ICM-International Climbing Machines, Ithaca, NY (R, VB)
- Inuktun Services Ltd., Nanaimo, BC, Canada (R)
- Inuktun US, LLC, Rio Rancho, NM (R, UW)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (R)
- ♦ Mohawk Safety, Manchester, CT (V)
- NLB Corp., Wixom, MI (A, PC, PW, TC, WJ, WA)
- PaR Systems, Inc., Shoreview, MN (R, WJ, WA)
- Precision Custom Components, LLC, York, PA (A)
- Preferred Engineering Corp., (Sub. of Preferred Utilities Mfg. Corp.), Danbury, CT (A)
- ♦ Radiation Protection Systems, Inc., Groton, CT (V)
- Remote Ocean Systems (ROS), San Diego, CA (R)
- River Technologies, LLC, Forest, VA (A, CP, P, PC, R, TC, V, VB, WJ)
- ♦ R.O.V. Technologies, Inc., Brattleboro, VT (R, V, WJ)
- ♦ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (TC)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (R)
- The Spencer Turbine Co., Windsor, CT (V)
- Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (UW)
- ♦ Westinghouse Electric Co. LLC, Cranberry Township, PA (U, V)
- Wälischmiller Engineering GmbH, Markdorf, Baden-Württemberg, Germany (R)

10850 Clothing, Protective, Anti-Contamination—also see Respiratory Protection Equipment

- BS Bubble Suits
- C Coveralls
- CL Coveralls, Lightweight, Breathable
- D Disposable
- DS Dissolvable
- G Gloves
- H Head Coverings
- L Lab Coats
- MG Modesty Garments, Lightweight, Breathable
- SP Scrub Shirts & Pants
- SC Shoe Covers

- Alphasource, Inc., Philadelphia, PA (C, CL, D, G, H, L, MG, SP, SC)
- APCO Extruders Inc., Edison, NJ (G, SC)
- Coastal Network, Inc., Charlottesville, VA (C, CL, D, G, L, SP, SC)
- Eastern Technologies, Inc., (OREX), Ashford, AL (C, CL, D, DS, G, H, L, MG, SP, SC)
- ♦ EnergySolutions LLC, Salt Lake City, UT (D)
- Euclid Vidaro Mfg. Co., Kent, OH (C, CL, H, L, MG, SP, SC)

Frham Safety Products, Inc., Nashville, TN (BS, C, CL, D, G, H, L, MG, SP, SC)
 Getinge-La Calhene, (Sub. of Getinge Group), Rush City, MN (L)
 Getinge-La Calhène, (Sub. of Getinge Group), Vendome, France (L)
 JSM Protective, Inc., Wilmington, NC (C, D, G, H, L, SC)
 Lancs Industries, Kirkland, WA (BS, D, G, SC)
 ♦ Mohawk Safety, Manchester, CT (C, D, G, H, L, SC)
 Radiation Safety & Control Services, Inc., Stratham, NH (C, D, G, H, SC)
 Rich Industries Inc., New Philadelphia, OH (BS, C, CL, D, G, H, L, MG, SP, SC)
 RSO, Inc./Radiation Service Organization, Laurel, MD (D)
 Steele Body Cooling Vests, Kingston, WA (SC)
 ♦ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (BS, C, CL, D, DS, G, H, L, MG, SP, SC)

10900 **Clothing, Protective, Other****Than Anti-Contamination—also see Respiratory Protection Equip.**

B Bibs & Aprons
 C Coveralls
 CL Coveralls, Lightweight, Breathable
 FS Face Shields
 F Footwear
 GG Gloves, Grinding
 GW Gloves, Welding
 GS Goggles/Spectacles
 HH Hard Hats
 HL Hat Liners
 HP Hearing Protection Devices
 HF Helmets, Fire
 LC Lab Coats
 MG Modesty Garments, Lightweight, Breathable
 RW Rainwear
 RF RF Shielding
 SC Scrub Suits
 SS Splash Sleeves
 V Vests, Cool

Alphasource, Inc., Philadelphia, PA (B, C, CL, FS, F, GG, GW, GS, HH, HL, HP, LC, MG, RW, RF, SC, SS, V)
 American Airworks, Sophia, WV (FS, GG, GW, HH, V)
 Coastal Network, Inc., Charlottesville, VA (FS, GS, HH, MG, RW, V)
 Eastern Technologies, Inc., (OREX), Ashford, AL (B, C, CL, F, GG, GW, LC, MG, RW, SC, SS, V)
 Euclid Vidaro Mfg. Co., Kent, OH (C, CL, FS, F, LC, MG, SC)
 Frham Safety Products, Inc., Nashville, TN (B, C, CL, FS, F, GG, GW, GS, HH, HL, HP, LC, MG, RW, SC, SS, V)
 JSM Protective, Inc., Wilmington, NC (C, FS, F, GW, GS, RW, SS, V)
 Lancs Industries, Kirkland, WA (RW)
 ♦ Mohawk Safety, Manchester, CT (B, C, CL, FS, GW, GS, HH, HL, HP, LC, RW, SC, SS, V)
 Rich Industries Inc., New Philadelphia, OH (B, C, CL, F, HL, LC, MG, RW, SC, SS)
 Steele Body Cooling Vests, Kingston, WA (V)
 ♦ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (B, C, CL, FS, F, GG, GW, GS, HH, HL, HP, HF, LC, MG, RW, RF, SC, SS, V)

11400 **Coatings—also see Consultants; Corrosion Inhibitors; Testing Serv.**

C Cable
 CS Concrete Sealing/Restoration/Contamination Control
 CR Corrosion-Resistant
 FT Floor Toppings
 IR Insulation-Related
 LC Low-Chloride
 S Strippable

Alphasource, Inc., Philadelphia, PA (CS, CR, FT, LC, S)
 AZZ | WSI LLC, Norcross, GA (CR)
 ♦ BHI Energy, Plymouth, MA (CS, S)

CBI Polymers, Inc., (DBA Metis Scientific), Richardson, TX (CS, LC, S)
 Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (C, CR)
 ♦ DNS - Dedicated Nuclear Solutions, Aiken, SC (CR, LC)
 ENECOR Corp., Medford, NY (CS, CR, FT)
 Frham Safety Products, Inc., Nashville, TN (S)
 Fuel Tank Maintenance Co., LLC, Cookeville, TN (CS, CR, FT)
 ♦ Reef Industries, Inc., Houston, TX (FT)
 Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (CS)

11650 **Communication Systems—also see****Emergency Warning Systems; Security Systems**

F Face Mask Accessories
 H Headsets
 P Paging
 RM Repeated Message Tape/Speaker Boxes
 T Telephone Conferencing (Audio)
 TV Telephone Conferencing (Video)
 T Telephonic (Computerized Calling/Answering)
 TW Two-Way Radio

American Airworks, Sophia, WV (F)
 Frham Safety Products, Inc., Nashville, TN (F, H)
 Ocenco Inc., Pleasant Prairie, WI (F)
 Whelen Engineering Co., Inc., (Mass Notification Products), Chester, CT (RM)

11680 **Compactor Disks, for Drums**

S&G Enterprises, Inc., Germantown, WI

11700 **Compactors—also see Radioactive Waste Treatment Equipment; Solid Waste Reduction Equip.**

AREVA Inc., (North American Headquarters), Charlotte, NC
 Babcock Noell GmbH, (Dept. BEV), Wuerzburg, Germany
 BIG Entsorgungstechnologien GmbH, Bad Toelz, Germany
 Container Products Corp., Wilmington, NC
 Equipos Nucleares, S.A., Madrid, Spain
 S&G Enterprises, Inc., Germantown, WI
 Siempelkamp Nuclear Services, Inc., West Columbia, SC
 Siempelkamp Nukleartechnik GmbH, Krefeld, Germany
 Waste Control Systems, Inc., Phoenix, MD

12800 **Computer Software—also see****Imaging, Digital; Records Management Sys.**

AI Artificial Intelligence
 CB Cable Management
 CF Configuration Management/Control
 CA Contract Administration
 CP Critical Path Scheduling
 CD Custom Development
 DB Data Base Management
 DM Decontamination Management
 D Dosimetry
 DD Drawing & Document Control
 EC Economic Analysis
 ET Education/Training
 E Electrical Analysis
 EP Emergency Planning
 ER Emergency Response (In-Plant)
 EA Engineering Analysis
 EM Environmental Monitoring
 EQ Equipment Status/Tagout Tracking
 ES Expert Systems
 FT Fault-Tolerant Automatic Control
 FR Failure/Root Cause Trending
 FS Fire/Safety
 IN Instrument Calibration

♦ Denotes Advertiser

IC Inventory Control (Equipment, Supplies, etc.)
 MC Maintenance Control
 OS Operator Scheduling
 P Piping System Design & Analysis
 PD Plant Design
 PS Procedure Status/Tracking
 PM Project Management
 QA Quality Assurance/Quality Control
 RC Radiological Control/Health Physics
 R Reliability Analysis
 RE Reportability Evaluation
 RI Risk Analysis
 SE Security
 SI Simulation
 SM Software Maintenance/Control
 SP Software Packages
 SN Special Nuclear Material Tracking
 S Spectroscopy
 TS Technical Specification Systems
 TE Telerobotics
 TR Trending
 WM Waste Management
 WC Water Chemistry Management

Alphasource, Inc., Philadelphia, PA (EQ, MC, SN)
 AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (S)
 ARES Corp., (Energy Services Div.), Richland, WA (CP, DD, EA, FS, P, PD, PM, QA, R, RI)
 AREVA Inc., (North American Headquarters), Charlotte, NC (CP, SI, WC)

♦ AttentionIT, Inc., Knoxville, TN (CF, DB)

BCP Engineers & Consultants, Gretna, LA (DB, DD, ET, EP, FS, IN, MC, P, PD, PS, PM, QA, RI, SM, SP, TS)
 Beamex, Inc., Marietta, GA (IN)
 Burns & McDonnell Engineering Company, Inc., (Aviation & Federal Global Practice), Kansas City, MO (EC, EA, P, PD, PM, QA, RI, SE, WM)
 Chesapeake Nuclear Services, Inc., Annapolis, MD (EM, RC)
 Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (PS, PM, SN)
 Crane Nuclear, Inc., Kennesaw, GA (TR)
 Diakont, San Diego, CA (CD)
 EXCEL Services Corporation, Rockville, MD (EP, ER, EA, IN, PM, RI, SE, SN)
 ♦ ExchangeMonitor Publications & Forums, Rockville, MD (WM)
 Fuji Electric Corp. of America, Edison, NJ (RC)
 Geovariances, Avon cedex, France (DM, RI, WM)
 Grove Engineering, Inc., (Grove Software), Lynchburg, VA (CD, ET, EA, RC, RI, SP)
 GSE Systems Inc., Sykesville, MD (ET, SI)
 Hawks, Giffels & Pullin (HGP), Inc., Greenville, SC (PM)
 I.C.E. Service Group, Inc., Ambridge, PA (WM)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (DM, EM, RC, SN, S)
 Newport News Nuclear, Inc., Newport News, VA (CB, CF, D, ET, EP, ER, OS, RC, SI)
 NRG, Petten, The Netherlands (CF, WM)
 NUKEM Technologies GmbH, Alzenau, Germany (DM, D, RC, WM)
 Prevision Systems LLC, Hackettstown, NJ (TE)
 Purolite Corp., Bala Cynwyd, PA (WC)
 Qal-Tek Associates, LLC, Idaho Falls, ID (RC, WM)
 Radiation Safety & Control Services, Inc., Stratham, NH (CP, DB, D, EM, WM, WC)
 Rockwell Automation, Inc., Milwaukee, WI (EM, PD, SP, WM)
 Saphymo, Saint-Aubin, France (D)
 Siempelkamp Nuclear Services, Inc., West Columbia, SC (DB, D)
 Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (DB, D)
 Southwest Research Institute, San Antonio, TX (ET, RC, RI, SI, WM)
 ♦ SSM Industries, Inc., Pittsburgh, PA (EA)
 Timesoft, Long Beach, CA (CD, R)
 TransWare Enterprises Inc., Sycamore, IL (CD, EA)
 Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (CF, CD, ES, FT, SI, SM, SP, WM)
 Walischmiller Engineering GmbH, Markdorf, Baden-Württemberg, Germany (TE)
 ♦ WMG, Inc., Peekskill, NY (SN, WM)

Zachry Nuclear Engineering, (Numerical Applications Div.), Cary, NC (CF, CD, DB, FS, PD, QA, RC, SI, SM, SN, WC)
Zachry Nuclear Engineering, Inc., Stonington, CT (EA)

12900 Computers & Accessories—also see Data Acq. Sys.; Data Readout

- A Analog
 - AI Artificial Intelligence Systems
 - CG Color Graphics
 - C Converters
 - D Digital
 - DD Disk Drives
 - ES Expert Systems
 - HH Hand-Held
 - H Hybrid
 - IO Input/Output Interface Units
 - MF Main Frame
 - MS Mass Storage Units
 - M Memory Units
 - MC Micro
 - MP Microprocessor Circuit Boards
 - MN Mini
 - PR Printers
 - TD Tape Drives
 - VD Video Display Units
- Ahlberg Cameras, Wilmington, NC (VD)
Alphasource, Inc., Philadelphia, PA (HH)
AREVA Inc., (North American Headquarters), Charlotte, NC (CG, IO, MP, VD)
BCP Engineers & Consultants, Gretna, LA (D)
♦Cannera Industries, Meriden, CT (D, MC, MN)
ORTEC, Oak Ridge, TN (IO)
Rockwell Automation, Inc., Milwaukee, WI (IO)
Terahertz Technologies, Inc., Oriskany, NY (A, C, D)
Timesoft, Long Beach, CA (ES)
Westinghouse Electric Co., Nivelles, Belgium (A, AI, D, ES, H, IO, MF, MC, MP, MN)
♦Westinghouse Electric Co. LLC, Cranberry Township, PA (A, AI, D, ES, H, IO, MF, MC, MP, MN)

13050 Concrete Breaking, Drilling, Sawing & Scabbling

- C Contractors
 - E Equipment
 - R Equipment Rental
- American DND Inc., Grand Island, NY (C, E, R)
♦BHI Energy, Plymouth, MA (C, E, R)
Brokk AB, Skelleftea, Sweden (E)
♦Brokk Inc., Santa Fe, NM (E, R)
Cutting Edge Services Corp., Batavia, OH (C, E)
Cutting Technologies (CTI), Gloucester City, NJ (C, E, R)
Fuel Tank Maintenance Co., LLC, Cookeville, TN (C)
Graycor Industrial Constructors, Oakbrook Terrace, IL (C)
Mega-Tech Services, LLC, Mechanicsville, VA (C)
New Millennium Nuclear Technologies International, Lakewood, CO (C)
NLB Corp., Wixom, MI (E, R)
Siempelkamp Nuclear Services, Inc., West Columbia, SC (C)

13400 Connectors—also see Feedthroughs

- DC Data Communications
 - E Electrical
 - EG Electrical, Glovebox
 - EQ Electrical, Quick Disconnect
 - FO Fiber Optic
 - T Thermocouple
- Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (EQ, T)
Remote Ocean Systems (ROS), San Diego, CA (E)
Timesoft, Long Beach, CA (DC)

13600 Consoles, Control

- Konecranes Nuclear Equipment & Services LLC, New Berlin, WI
- Remote Ocean Systems (ROS), San Diego, CA
- ♦R.O.V. Technologies, Inc., Brattleboro, VT

♦ Denotes Advertiser

Westinghouse Electric Co., Nivelles, Belgium
♦Westinghouse Electric Co. LLC, Cranberry Township, PA

13700 Construction Materials

- AE Anchors, Chemical (Epoxy)
 - A Anchors, Concrete
 - AF Asbestos-Free Fiber Cement
 - C Concrete
 - RB Concrete Reinforcement, Bar (Rebar)
 - RM Concrete Reinforcement, Mesh
 - LF Lumber, Fire-Retardant-Treated
 - R Refractory
 - SP Splices, Rebar
 - SS Steel, Structural—also see Metals, Steel
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (A, RB, RM, SP, SS)
♦DNS - Dedicated Nuclear Solutions, Aiken, SC (RB, SP, SS)
Dubose National Energy Services, Clinton, NC (A, RB, SS)
♦Joseph Oat Corp., Camden, NJ (SS)

13850 Construction/Engineering Services—also see Consultants;

- Maintenance Services**
- AE Architect-Engineers
 - CE Civil Engineers
 - CS Construction Services
 - EC Engineer-Constructors
 - ES Erection Services
- ARES Corp., (Energy Services Div.), Richland, WA (AE)
BCP Engineers & Consultants, Gretna, LA (CE)
Burns & McDonnell Engineering Company, Inc., (Aviation & Federal Global Practice), Kansas City, MO (AE, CE, CS, EC)
Graycor Industrial Constructors, Oakbrook Terrace, IL (CS)
HukariAscendent Inc., Wheat Ridge, CO (AE, EC)
Kiewit Power Nuclear Co., Lenexa, KS (CS, EC, ES)

Attention it

Focusing our Attention on your Environmental Compliance

eMwaste® G2 Suites

Kurion, Inc., Richland, WA (AE, CE, EC)
 Portage Inc., Idaho Falls, ID (CE)
 Sarens USA, Inc., San Ramon, CA (CS, EC, ES)
 Sargent & Lundy LLC, Chicago, IL (AE, EC)
 ◆ SNC Lavalin Nuclear Inc., (Head Office),
 Mississauga, Ontario, Canada (AE, CE, CS, EC,
 ES)
 Wastren Advantage, Inc., Piketon, OH (AE, CE,
 CS, EC, ES)
 WorleyParsons, Reading, PA (AE, CE, CS, EC)
 WorleyParsons, Markham, Ontario, Canada (AE,
 CE, CS, EC)
 Zachry Nuclear Engineering, Inc., Stonington, CT
 (AE, CS, EC)

14000 Consultants—also see Analysis;

Training

AC Air Cleaning, Filtration
 AU Auditing
 C Chemical Process Design
 CO Coatings/Corrosion
 CM Communications, Management-
 Employee
 CD Component/System Design & Analysis
 CS Computer Systems & Software
 CC Configuration Control
 CA Contract Administration
 CH Cranes & Hoists
 CE Criticality Hazard Evaluation
 DC Decontamination
 DE Decommissioning
 ES Earth Science Services
 EA Economic Analysis, Trade-off Studies
 EP Emergency Planning & Response
 E Environmental
 EC Equipment Condition Monitoring
 FP Fire Protection
 FT Fuel Transport/Storage
 LP Lightning Protection
 MN Maintenance
 MA Management Audit
 MI Management Information & Control
 Systems
 M Meteorology
 N Noise Abatement
 OD Organization Development
 PE Performance Measurement
 PH Personnel Stress/Health
 P Piping
 PS Procurement Support
 PP Project Planning & Management
 QA Quality Assurance/Quality Control
 RD Radiation Management
 RE Radiological Engineering
 RM Records Management Systems
 RO Reengineering, Organization
 RC Regulatory Compliance
 RA Risk Analysis
 S Security
 SE Seismic
 SH Shielding
 SS Simulation Services
 SI Siting
 SY System Engineering—Requirements
 Analysis
 ST Systems Testing
 TE Training Evaluation, Management
 TA Trend Analysis & Corrective Action
 Programs
 WM Waste Management
 WT Water Treatment

Advanced Consulting Group, Inc., Chicago, IL
 (DE, MN, PP)
 Alaron Nuclear Services, Wampum, PA (CO, DC,
 DE, WM, WT)
 Alphasource, Inc., Philadelphia, PA (CO, CA, P, PS,
 SH)
 AMEASOL - American Measurement Solutions
 LLC, Santa Fe, NM (DE)
 AMEC Environment & Infrastructure Inc., Grand
 Junction, CO (DC, DE, RD, RE, WM)
 American Crane & Equipment Corp.,
 Douglassville, PA (CH)
 American DND Inc., Grand Island, NY (CA, CH,
 DC, DE, E, PP, WM)
 Ameriphysics, LLC, Knoxville, TN (DC, DE, PP,
 RD, WM)
 ANDRA, (International Div.), Chatenay Malabry,
 France (WM)

Applied Analysis Corp., Reading, PA (QA, RE, SS)
 Applied Health Physics, LLC, Bethel Park, PA
 (DC, DE, EP, E, MA, RD, RE, RC, TE, WM)
 Applied Science Professionals, (ASP-LLC), Salt
 Lake City, UT (DE)
 AREVA Corp., (Energy Services Div.), Richland, WA
 (C, CO, CD, CC, CE, DE, EA, EP, E, EC, FP,
 MN, MA, PE, P, PP, QA, RC, RA, S, SE, SH, SY,
 ST, WM, WT)
 AREVA Inc., (North American Headquarters),
 Charlotte, NC (C, CD, CS, CC, CE, DC, DE,
 FP, FT, MN, M, P, PS, PP, QA, RD, RE, RM, RC,
 SE, SH, SS, ST, TE, WM, WT)
 ◆ AREVA TN, Columbia, MD (CE, FT, SH)
 ◆ AttentionIT, Inc., Knoxville, TN (MI, WM)
 Attenuation Environmental Co., Seattle, WA (DE,
 E, RE, RC, WM)
 Norman N. Axelrod Assoc., (Optical Sensing &
 Control System Development Div.), New York,
 NY (OD, PP, QA, RO, SY)
 AZZ | WSI LLC, Norcross, GA (CO, CD, MN)
 Babcock Services, Inc., Kennewick, WA (AU, CM,
 CA, DC, DE, PS, PP, QA, RD, RE, WM)
 BCP Engineers & Consultants, Gretna, LA (CS,
 CC, FP, MN, OD, PE, P, PP, QA, RD, RC, RA,
 SS, SY, ST, TE)
 ◆ BES Technologies, Oak Ridge, TN (WT)
 ◆ BHI Energy, Plymouth, MA (AC, CO, CD, CC,
 DC, DE, EP, E, MN, MA, PP, QA, RD, RE, RC,
 RA, SH, TE, TA)
 Bigge Power Constructors, (Div. of Bigge Crane
 and Rigging Co.), San Leandro, CA (CH, DE,
 FT)
 Burns & McDonnell Engineering Company, Inc.,
 (Aviation & Federal Global Practice), Kansas
 City, MO (DC, DE, E, FP, LP, PP, QA, RE, RC,
 RA, S, SE, SH, SI, SY, ST, WM)
 Cabrera Services Inc., East Hartford, CT (CE, DC,
 DE, ES, EP, E, QA, RD, RE, RC, RA, WM, WT)
 ◆ Canberra Industries, Meriden, CT (CE, DC, DE,
 EP, E, MI, PP, RD, RE, RM, SI, WM)
 Chesapeake Nuclear Services, Inc., Annapolis, MD
 (DE, EP, E, RD, RE, SH, WM)
 CH2M HILL, Inc., (CH2M HILL Nuclear
 Business Group), (CH2M HILL International
 Nuclear Services, Ltd.), (CH2M HILL
 Constructors, Inc.), Englewood, CO (CM, CA,
 CE, DC, DE, E, MN, PS, PP, QA, RD, RE, RO,
 RC, RA, S, SE, SI, WM, WT)
 Comex Nucleaire, (Sub. of Onet Technologies),
 Marseille, France (DE, WM)
 Conestoga-Rovers & Assoc., Niagara Falls, NY
 (DE, ES, E, N, WM)
 Consolidated Power Supply, (Div. of Consolidated
 Pipe & Supply Co., Inc.), Birmingham, AL (CO,
 CD, CA, MI, PP, QA, RM, RC, RA, SY)
 Container Products Corp., Wilmington, NC (DC)
 Cox Nuclear Consulting Services LLC, Seabrook,
 NH (C, DC, DE, EP, E, RD, RE, SH, WM, WT)
 Crane Nuclear, Inc., Kennesaw, GA (MN, ST)
 CS-2 Inc., Grand Island, NY (CA, DC, DE, E, PS,
 PP, QA, WM)
 CTR Technical Services, Inc., Manitou Springs, CO
 (CS, CE, QA, RA, SH)
 Curtiss-Wright Nuclear Division, Brea, CA (AC,
 CD, CA, EC, MN, P, PS, QA, RC, RA, SE, TE)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright
 Anatec), Irvine, CA (CO, MN, MA, QA)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright
 QualTech NP), Cincinnati, OH (CD, SE)
 Cutting Edge Services Corp., Batavia, OH (DE)
 Dade Moeller & Assoc., Richland, WA (DC, DE,
 EP, E, RD, RE, SH, TE)
 DCS Systems, Inc., Simsbury, CT (CS, MA, QA, TA)
 The Delphi Groupe, Inc., Austin, TX (CM, CS,
 CC, CA, DC, DE, EP, E, FP, MA, PP, RD, RE,
 RM, RC, SH, SI, TE, WM)
 Design Engineering Analysis Corp., Canonsburg,
 PA (CD, P, SE)
 DLE Technical Services, LLC, Palm City, FL (DE,
 E, MA, MI, OD, PE, PP, QA, RM, RO, RC, RA,
 TE, TA)
 ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (C,
 CD, CC, CA, CE, DC, DE, EA, E, FP, MN, MA,
 P, PS, PP, QA, RD, RE, RC, RA, SE, SH, SS, SY,
 ST)

See advertisement on page 7

◆ Denotes Advertiser

Dufrane Nuclear Shielding, Inc., Winsted, CT (CD,
 RD, SH, WM)
 DW James Consulting, North Oaks, MN (WM)
 ECC, Burlingame, CA (DE, E, PP, RD, RE, WM)
 ECU Corporation, Cincinnati, OH (AC)
 Ellis & Watts Global Industries, Inc., Batavia, OH
 (AC, C)
 ENECON Corp., Medford, NY (CO, MN, P)
 Environmental Restoration Group, Inc.,
 Albuquerque, NM (DE, E, RA)
 Epicor, Inc., Linden, NJ (WT)
 Equipos Nucleares, S.A., Madrid, Spain (P)
 EXCEL Services Corporation, Rockville, MD (CS,
 CC, CE, DE, EP, E, FP, MN, MA, MI, OD, PE,
 PP, QA, RO, RC, RA, S, SE, SY, ST, TE, TA,
 WM)
 ◆ ExchangeMonitor Publications & Forums,
 Rockville, MD (DC, DE, RD, WM)
 Fauske & Associates, LLC, (A sub. of Westinghouse
 Electric Company, LLC), Burr Ridge, IL (CD,
 CE, S, SE, SS, TA)
 Foss Therapy Services, Inc., North Hollywood, CA
 (MN, RE)
 Fuel Tank Maintenance Co., LLC, Cookeville, TN
 (CO, DC, DE, FP, FT, P, WT)
 ◆ The GEL Group, Inc., (GEL Engineering, LLC),
 (GEL Laboratories, LLC), (GEL Geophysics,
 LLC), (Cape Fear Analytical, Inc.), Charleston,
 SC (EP, E)
 The GEL Group, Inc., (General Engineering
 Laboratories, LLC), Charleston, SC (EP, E)
 Geovariances, Avon cedex, France (DE, RA)
 GoldSim Technology Group, Issaquah, WA (E, RC,
 RA, WM)
 Graycor Industrial Constructors, Oakbrook
 Terrace, IL (DE)
 Grove Engineering, Inc., (Grove Software),
 Lynchburg, VA (RE, RA, SE, SH)
 GSE Systems Inc., Sykesville, MD (SS)
 Hawks, Giffels & Pullin (HGP), Inc., Greenville,
 SC (DE, EA, MA, OD, PE, PP, RA, SY)
 ◆ Holtec International, Marlton, NJ (CE, DE, FT, P,
 QA, RC, SE)
 Stan A. Huber Consultants, Inc., New Lenox, IL
 (DC, DE, EP, E, MN, MA, QA, RD, RM, WM)
 HukariAscendant Inc., Wheat Ridge, CO (CC, CE,
 DC, DE, EP, FP, MA, PS, QA, RD, RE, RM, RC,
 RA, SE, SH, SY, TE, TA, WM)
 I.C.E. Service Group, Inc., Ambridge, PA (DE, E,
 WM)
 ILD, Inc., Baton Rouge, LA (P, ST)
 Interdevelopment, Inc., Arlington, VA (EA, PS, PP)
 ISO-PACIFIC Nuclear Assay Systems, Inc.,
 Richland, WA (CS, CE, DC, DE, E, RD, RE, SH)
 ◆ Joseph Oat Corp., Camden, NJ (E, P, PS, QA)
 Kiewit Power Nuclear Co., Lenexa, KS (DC, DE,
 MN, P)
 Konecranes Nuclear Equipment & Services LLC,
 New Berlin, WI (CH)
 Kurion, Inc., Richland, WA (AC, C, CD, CE, DC,
 DE, E, LP, P, QA, SE, SH, SS, SI, SY, ST)
 Laser Safety Solutions, Maricopa, AZ (MA, TE)
 LeBlond and Associates, LLC, Libertyville, IL (CC,
 RC)
 Leidos, Reston, VA (CM, DC, DE, ES, E, RM, RC,
 RA)
 L-3 MAPPS, (Power Systems and Simulation),
 Montreal, Quebec, Canada (CS, SS)
 Materials & Chemistry Laboratory, Inc., Oak
 Ridge, TN (C, CO, DC, E, WM, WT)
 Mega-Tech Services, LLC, Mechanicsville, VA (DC,
 MN)
 Merrick & Company, Greenwood Village, CO (AC,
 C, CD, CC, CA, CE, DC, DE, EA, E, FP, FT, P,
 PS, PP, RD, RE, RA, S, SE, SH, SI, SY, ST, WM,
 WT)
 M4 Services LLC, Glenwood, MD (DC, DE, EA,
 E, RD, SI, WM, WT)
 MHF Services, (An EnergySolutions Company),
 Wexford, PA (DC, DE, FT, WM)
 MPR Associates, Inc., Alexandria, VA (CO, CD,
 CS, CC, DC, DE, E, EC, FP, FT, MN, P, PP, QA,
 RE, RM, SE, ST, WM)
 NAC International, Norcross, GA (CD, CE, EA,
 FT, RM, WM)
 National Inspection & Consultants, Fort Myers, FL
 (CA, MN, MA, PS, PP, QA, RM, TE)
 ◆ National Nuclear Laboratory (UK), Warrington,
 United Kingdom (CO, CE, DC, DE, EA, E, RD,
 RE, RA, S, SE, SH, SI, WM)

Neptune and Company, Inc., Lakewood, CO (RM)
 NEWEX-SSG, LLC, Folsom, CA (DE, PS, PP, RD, RE, RC, WM)
 Newport News Nuclear, Inc., Newport News, VA (CC, CH, DE, MI, PP, RA, SS, ST, TE)
 NPTS, Inc., Buffalo, NY (E, FP, MN, MA, MI, P, PS, PP, QA, RE, RC, ST, WM)
 NRG, Petten, The Netherlands (CD, CE, DC, DE, EP, E, QA, RD, RA, WM)
 Nuclear Shielding Supplies & Service, Tucson, AZ (SH)
 Nuclear Systems Associates, Inc., Brea, CA (CD, MN, SY, ST, WM)
 Nuclear Technology Services, Inc., Roswell, GA (RE)
 NUCON International, Inc., Columbus, OH (AC, C, CD, WM, WT)
 NUKEM Technologies GmbH, Alzenau, Germany (CD, CE, E, PS, PP, QA, RD, RE, RM, SH, WM, WT)
 Nutherm International, Inc., Mount Vernon, IL (PS, PP, QA)
 NWT Corp., San Jose, CA (CO, ST, WT)
 Pacific Radiation Corp., Altadena, CA (RE)
 PaR Systems, Inc., Shoreview, MN (CD, CH, SE, SY, WM)
 Partners Environmental Consulting, Inc., Solon, OH (DC, DE, ES, E, RA, SI, WM)
 PECOS Management Systems, Inc., (PECOS), Albuquerque, NM (E, MA, PP, QA, RA, WM)
 Perma-Fix Environmental Services, Inc., Knoxville, TN (E, RE)
 Philotechnics, Ltd., Oak Ridge, TN (DC, DE, RD, SH, WM)
 Plastruct Polyzone, Vineland, Ontario, Canada (SH)
 Portage Inc., Idaho Falls, ID (E, QA, RC, WM)
 Precision Custom Components, LLC, York, PA (CD, P, SE)
 Preferred Engineering Corp., (Sub. of Preferred Utilities Mfg. Corp.), Danbury, CT (CC, CH, FT, MN, SH)

PricewaterhouseCoopers LLP, (Capital Projects & Infrastructure), Washington, DC (DE, EA, MA, MI, OD, PE, PP, RO, RC, RA, TA, WM)
 Project Assistance Corp. (PAC), Walnut Creek, CA (CD, CC, CA, CE, EA, E, MN, MA, MI, P, PS, PP, QA, RD, RE, RM, RC, RA, SE, SI, SY, ST, TA, WM)
 Proxtrionics Dosimetry, LLC, (Proxdose), Alexandria, VA (CA, DC, DE, EP, E, QA, RE, RM)
 PTP Spent Fuel Services, LLC, Grand Island, NY (DE, FT, PP, WM)
 Purolite Corp., Bala Cynwyd, PA (DC)
 Qal-Tek Associates, LLC, Idaho Falls, ID (RD, RM)
 Radiac Research Corp., Brooklyn, NY (RD)
 ♦Radiation Protection Systems, Inc., Groton, CT (DC, DE, PP, RD, TE)
 Radiation Safety Assoc., Inc., Hebron, CT (DC, DE, EP, RD, RE, RC, SH, TE, WM)
 Radiological Solutions, Inc., Rockdale, IL (E, RE, TA, WM, WT)
 ♦REI Nuclear, LLC, Columbia, SC (CD, DC, DE, E, PP, RD, RE, WM, WT)
 Robatel Technologies LLC, Roanoke, VA (FT, WM)
 Rockwell Automation, Inc., Milwaukee, WI (CS)
 ♦R.O.V. Technologies, Inc., Brattleboro, VT (MN)
 RSO, Inc./Radiation Service Organization, Laurel, MD (DC, DE, E, RD, WM)
 Sarens USA, Inc., San Ramon, CA (CH)
 Sargent & Lundy LLC, Chicago, IL (AC, C, CO, CD, CS, CC, CA, CH, CE, DC, DE, ES, EA, EP, E, EC, FP, FT, LP, MN, MA, MI, M, N, PE, P, PS, PP, QA, RD, RE, RM, RC, RA, S, SE, SH, SS, SI, SY, ST, TE, TA, WM, WT)
 SGS Herguth Laboratories, Inc., Vallejo, CA (MN)
 J. L. Shepherd & Assoc., San Fernando, CA (SH)
 Sidus Solutions LLC, San Diego, CA (CH, S, TE, WM)
 Siemens Power Generation Services, Orlando, FL (RD)

♦ Denotes Advertiser

Siempelkamp Nuclear Services, Inc., West Columbia, SC (CH, DE, QA, SS)
 Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (CH, DE, QA, SS)
 Simon Carves Engineering Ltd., Manchester, United Kingdom (C, DE, PS, PP, WM)
 ♦SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (CD, CE, DC, DE, EP, E, EC, FT, P, PP, QA, RD, RE, RC, RA, SE, SH, SS, SY, WM)
 Howard L. Sobel, P.E., Oceanside, NY (CA, MA, OD, PP, QA, RO, RC, WM)
 Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (CD, CE, DC, DE, EP, FT, PP, RD, RE, RC, RA, SH, SY, ST, WM)
 Southwest Microwave, Inc., (Security Systems Div.), Tempe, AZ (S)
 Southwest Research Institute, San Antonio, TX (CO, CD, CE, ES, E, FP, N, RC, RA, SE, SH, TE, WM)
 SSI Shredding Systems, Inc., Wilsonville, OR (WM)
 Stoller Newport News Nuclear (SN3), (A sub. of Huntington Ingalls Industries), Broomfield, CO (CD, CH, DC, DE, ES, EA, E, FT, MN, MA, MI, PE, PP, QA, RD, RE, RM, RC, RA, SS, SI, TE, TA, WM, WT)
 Sundance Consulting, Inc., Pocatello, ID (DC, ES, E, RM)
 System One, Pittsburgh, PA (CM, CD, CA, EC, FP, FT, MA, MI, PS, PP, QA, RO, RC, SY, ST, TE)
 Timesoft, Long Beach, CA (CM, PE, PP, SY)
 TLG Services, Inc., (Affl. of Entergy Corp.), Bridgewater, CT (DC, DE, EA, RE)
 TransWare Enterprises Inc., Sycamore, IL (CS, CC, CE, FT, PP, QA, RD, SH)
 Tri Tool Inc., Rancho Cordova, CA (MN, PP)
 Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (DE, MN)
 Visionary Solutions, LLC, Knoxville, TN (DC, DE, EP, E, MN, MI, PP, RC, SS, WM)
 Wastren Advantage, Inc., Picketon, OH (AC, C, CO, CM, CD, CA, DC, DE, ES, E, EC, MN, PP, QA, RD, RE, RM, RA, S, WM)



Radwaste Solutions

Ad Design Services

- Create new ads
- Update existing ads
- Develop web banners

Our professional designer can build a dynamic ad that will demand attention. You provide copy and images, or we can source stock images, to create a distinctive ad that readers will really notice!

For information contact the Advertising Department:
708-579-8264
addesign@ans.org



ANS

WD Associates, Inc., Whiteford, MD (MA, OD, PE, RC, TE, TA)
 Westinghouse Electric Co., Nivelles, Belgium (CO, CD, CS, CC, CA, CH, CE, DC, DE, EP, E, FP, FT, MN, MI, P, PS, PP, QA, RD, RE, RM, RC, SE, SH, SS, SI, ST, TE)
 Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (CH, DC, DE, MN, SE, WM)
 ♦ Westinghouse Electric Co. LLC, Cranberry Township, PA (CO, CD, CS, CC, CA, CE, DC, DE, EP, E, FP, FT, MN, MI, P, PS, PP, QA, RD, RE, RM, RC, SE, SH, SS, SI, ST, WT)
 Williams Industrial Services Group, LLC, (Williams Plant Services, LLC), Tucker, GA (MN, PS, QA)
 ♦ WMG, Inc., Peekskill, NY (CS, DC, DE, E, FT, RD, RE, RC, SH, WM, WT)
 WorleyParsons, Reading, PA (CO, CD, CC, DC, DE, EA, FP, LP, P, PS, PP, QA, RE, RC, RA, S, SE, SI, WM)
 WorleyParsons, Markham, Ontario, Canada (CO, CD, CC, DC, DE, EA, FP, LP, P, PS, PP, QA, RE, RC, RA, S, SE, SI, WM)
 Zachry Nuclear Engineering, (Numerical Applications Div.), Cary, NC (M, RD, RA, SS)
 Zachry Nuclear Engineering, Inc., Stonington, CT (CD, CS, CC, DE, EA, EC, FP, MN, P, PS, PP, QA, RC, S, SE, ST)

HI High-Integrity (HIC)
 LI Liners/Inserts, LSA Containers
 IA LSA Containers, IAEA
 LS LSA Containers, Strong-Tight
 OH On-Site Storage Containers, High-Level
 OL On-Site Storage Containers, Low-Level
 O Overpacks
 SS Soft-Sided/Flexible
 S Soil
 TA Type A Containers
 TB Type B Containers
 Alphasource, Inc., Philadelphia, PA (DL, O, SS)
 American Fabrication, Inc., Idaho Falls, ID (B, CR, OL, O, TB)
 APCO Extruders Inc., Edison, NJ (DL)
 Applied Health Physics, LLC, Bethel Park, PA (TA)
 ARES Corp., (Energy Services Div.), Richland, WA (OH)
 AREVA Inc., (North American Headquarters), Charlotte, NC (SF, CS, OH)
 ♦ AREVA TN, Columbia, MD (CR, SF, CS, O, TB)
 AZZ | WSI LLC, Norcross, GA (CS)
 Babcock Noell GmbH, (Dept. BEV), Wuerzburg, Germany (D)
 Babcock Services, Inc., Kennewick, WA (CR, CS, O)
 Böhler Edelstahl GmbH & Co. KG, (Business Unit Open Die Forge), Kapfenberg, Austria (CR, SF, CS, CO)
 Coastal Network, Inc., Charlottesville, VA (D, LS)
 Columbiana Hi Tech, Kernersville, NC (B, CR, SF, CS, CO, G, HI, LI, IA, LS, OH, OL, O, TA, TB)
 Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (LI)
 Container Products Corp., Wilmington, NC (B, IA, LS, OL, O, S, TA)
 ♦ Container Technologies Industries, LLC, Helenwood, TN (OL)
 Dufrane Nuclear Shielding, Inc., Winsted, CT (CR, LI, LS, OL)

Eastern Technologies, Inc., (OREX), Ashford, AL (LS)
 ♦ EnergySolutions LLC, Salt Lake City, UT (CR, SF, CS, CO, D, HI, LI, OH, OL, SS, TA, TB)
 Equipos Nucleares, S.A., Madrid, Spain (SF, CS, TA, TB)
 Foss Therapy Services, Inc., North Hollywood, CA (OH, OL, TB)
 ♦ Holtec International, Marlton, NJ (CR, SF, CS, OH, OL, O, TA)
 I.C.E. Service Group, Inc., Ambridge, PA (B, LS, SS, S, TA)
 International Plastics, Inc., Greenville, SC (DL)
 ♦ Joseph Oat Corp., Camden, NJ (CR, SF, DL, D, GA, GS, G, LI, IA, LS, OH, OL, O, TA, TB)

See advertisement on page 9

Lancs Industries, Kirkland, WA (DL, SS)
 ♦ Major Tool & Machine, Inc., Indianapolis, IN (B, CR, SF, CS, CO, OH, OL, O, TA, TB)
 Mayco Industries, Birmingham, AL (CR, SF, CS)
 MHF Services, (An EnergySolutions Company), Wexford, PA (B, CO, DL, D, G, LI, IA, LS, OL, O, SS, S, TA, TB)
 ♦ Mohawk Safety, Manchester, CT (DL, D)
 NAC International, Norcross, GA (CR, SF, CS, OH, O, TB)
 NEWEX-SSG, LLC, Folsom, CA (B, D, IA, LS, TA)
 Newport News Nuclear, Inc., Newport News, VA (CS, OH, OL)
 NFI, Golden, CO (O)
 ♦ PacTec, Inc., Clinton, LA (B, CO, DL, LI, IA, LS, OL, O, SS, S)
 Parker Hannifin Corp., (Instrumentation Products Div.), Huntsville, AL (SS)
 ♦ Petersen Inc., Ogden, UT (B, CR, SF, CS, LS, OH, OL, O, TA, TB)

See advertisement on Cover 2

Philotechnics, Ltd., Oak Ridge, TN (GA, GS)
 Precision Custom Components, LLC, York, PA (CR, SF, CS, OH, OL)
 Premier Technology, Inc., Blackfoot, ID (CR, SF, CS)
 PTP Spent Fuel Services, LLC, Grand Island, NY (CR, SF, CS, OH, OL)
 Putnam Technology, Inc., Smyrna, GA (GS)

14300 Containers—also see Radioactive

Waste Handling; Shielding Materials

- B Bulk
- CR Casks, Radwaste
- SF Casks, Spent-Fuel Shipping
- CS Casks, Spent-Fuel Storage
- CO Component
- DB Drum Breather Filters
- DL Drum Liners/Inserts
- D Drums
- GA Gamma Source Shipping
- GS Gamma Source Storage
- G Groups 1, 2 and 3 Containers (per IAEA)

♦ Denotes Advertiser

CTI



Container Technologies Industries, LLC

Qualifications and Experience

- 16 Years Experience in Metal Fabrication
- AWS – Certified Weld Inspector (CWI) on staff
- NQA-1 Nuclear Quality Program
- Certified Hub Zone Small Business
- Proven Track Record with DOE, DOD, Utilities, Labs, and Commercial Customers
- Engineer (PE), using SolidWorks engineering software with 3-D Visual
- Innovative Design Solutions and Customer Responsive Manufacturing within 2 day transit of eastern U.S.
- Modern Manufacturing Facility with 64,000 sq. ft. located in East Tennessee (near Knoxville, TN)

Container Technologies Industries, LLC

375 Marcum Parkway, P.O. Box 129
 Helenwood, TN 37755

Phone: 423-569-2800 x24
 Fax: 423-569-2806

Web: www.containertechologies.com
 Sales: sales@ctifab.com

Products

- IP-1, IP-2, 7AF Containers built to satisfy Customer Requirements and Specifications
- ISO refurbished 20 and 40 ft. containers
- Pallets, Racks, Ballasts, Cradles, Cylinders
- 7AF 55 & 85 gallon drums
- New Facility Construction and Equipment Supply
- Ability to fabricate large components

Certification and Testing

- Meet all DOT 49 CFR Testing Requirements
- Finite Element Analysis Computer Simulation (FEA) using LS DYNA software
- Physical Drop, Leak-test, Stack, Vibration, Compression, Load, MPT
- Material Certification and Traceability

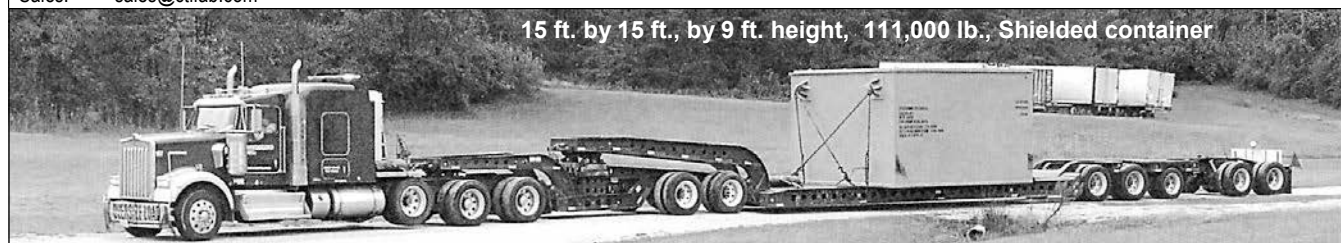
Customer List (partial)

- CNS Y-12, Hanford, Savannah River (SRR, SRNS), Fluor, UCOR, CH2MHill, Candu, USEC, Bechtel, Ultra Tech, LATA, Energy Solutions, Merrick
- Labs: Sandia, Lawrence Berkeley, Los Alamos, PPL, PPPL, ORNL
- DOD: Nuclear Navy (NAVICP), NAVSUP
- Utilities: Exelon, TVA, PG&E

Corporate Data

CAGE: 1NXM7
 NAICS Codes: 332312 Steel Plate
 332313 Fabricated Structure
 DUNS: 107656014
 332439 Other Metal Containers
 332420 Metal Tanks Heavy Gauge

15 ft. by 15 ft., by 9 ft. height, 111,000 lb., Shielded container



Radiation Safety & Control Services, Inc., Stratham, NH (GA, TA)
 ◆ Reef Industries, Inc., Houston, TX (B, DL, LI, LS, OL, O, SS, TA)
 ◆ REI Nuclear, LLC, Columbia, SC (B, SS)
 Reviss Services Inc., (Sub. of Reviss Services (UK) Ltd.), Vernon Hills, IL (GA, TB)
 Rich Industries Inc., New Philadelphia, OH (DL)
 Robatel Technologies LLC, Roanoke, VA (CR, CO, GA, GS, G, IA, LS, OL, TA, TB)
 RSO, Inc./Radiation Service Organization, Laurel, MD (DL, D, LS, TA)
 SALVI Safety, Loyettes, France (TA)
 Sarens USA, Inc., San Ramon, CA (SF, CS)
 Seafab Metals Co., (Div. of The Doe Run Co.), Casa Grande, AZ (CR, SF, CS, D, OH, OL, O)
 J. L. Shepherd & Assoc., San Fernando, CA (GA, GS, O, TA)
 Siempelkamp Nuclear Services, Inc., West Columbia, SC (CR, TA)
 Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (CR, CS, TA, TB)
 SKODA JS a.s., Plzen, Czech Republic (SF, CS, OH, TB)
 ◆ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (OH)
 Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (CR, SF, CS, OH, O, TA, TB)
 Stoller Newport News Nuclear (SN3), (A sub. of Huntington Ingalls Industries), Broomfield, CO (IA, TA)
 Studsvik, Inc., Atlanta, GA (CR, LI, LS, S)
 TAG Technical Solutions, LLC, Knoxville, TN (CR, LI, IA, LS, OL, S, TA, TB)
 Transport Planning & Services Int'l. Inc., Gloucester City, NJ (G, IA, LS, OH, OL, TA)
 ◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (IA, LS, OL)
 Vigor (formerly Oregon Iron Works), Clackamas, OR (CR, SF, CS, G, OH, OL, O, TA, TB)
 Visionary Solutions, LLC, Knoxville, TN (CR, TA)

◆ Wagstaff Applied Technologies, Spokane, WA (B, CR, SF, CS, CO, DL, GA, GS, HI, LI, OH, OL, O)
 Waste Control Systems, Inc., Phoenix, MD (DL, D, HI, IA, LS, O, TA)
 Wastren Advantage, Inc., Piketon, OH (B, CR, SF, CS, CO, DB, DL, D, GA, GS, G, HI, LI, IA, LS, OH, OL, O, SS, S, TA, TB)
 Westinghouse Electric Co., Nivelles, Belgium (CS)
 Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (CR, SF, CS)
 ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (CS)
 ◆ WMG, Inc., Peekskill, NY (CO, LI, IA, LS, OH, OL, TA, TB)
 ◆ Worthington Industries, Columbus, OH (B, CR, CS, CO, G, HI, OH, OL, O, TA, TB)

17650 Corrosion Inhibitors

Ceradyne, Inc. a 3M company, Quapaw, OK
 ENECON Corp., Medford, NY
 Fuel Tank Maintenance Co., LLC, Cookeville, TN
 Lights Camera Action, LLC, Gilbert, AZ
 Sentry Equipment Corp., Oconomowoc, WI

17950 Counters, Detectors, Radiation-

also see Monitors

- A Alpha
- B Beta
- G Gamma
- N Neutron
- C Combinations of Above
- DT Desk-Top
- ER Dose Rate, Emergency Range
- FS Floor-Standing
- FL Flow
- GM Geiger-Mueller Type
- G Germanium Detectors
- IC Ion Chamber Type

◆ Denotes Advertiser

- IS Ion-Implanted Silicon Detectors
- LB Low-Background Alpha/Beta
- M Modular
- P Portable
- PC Proportional Counters
- SL Scintillation Counters, Liquid
- SR Scintillation Counters, Radioimmunoassay
- ST Scintillation Counters, Solid-State
- SS Solid-State Semiconductor Type
- WT Wipe Test Counters
- X X-ray

Alpha Spectra, Inc., Grand Junction, CO (G)
 AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (C)
 Applied Health Physics, LLC, Bethel Park, PA (A, B, G, N, C, GM, IC)
 AREVA Inc., (North American Headquarters), Charlotte, NC (N)
 Arrow-Tech, Inc., Rolla, ND (G, C, ER, GM, P)
 ◆ Berkeley Neucleonics Corp., San Rafael, CA (A, B, G, N, ER, G)
 Bubble Technology Industries Inc., Chalk River, Ontario, Canada (B, G, N, C, P, PC, X)
 ◆ Canberra Industries, Meriden, CT (A, B, G, N, C, DT, ER, FS, FL, GM, G, IC, IS, LB, M, P, PC, ST, SS, WT, X)
 ◆ EnergySolutions LLC, Salt Lake City, UT (A, B, G, N, ER, GM, G, IC, P, SL, SR)
 Environmental Restoration Group, Inc., Albuquerque, NM (A, B, G, C, DT, ER, FS, GM, IC, P, PC, WT)
 FCI-Fluid Components International LLC, San Marcos, CA (FL)
 Fuji Electric Corp. of America, Edison, NJ (A, B, G, N, C, DT, ER, FS, IC, IS, LB, M, P, PC, ST, SS, X)
 Gamma Products, Inc., Palos Hills, IL (LB, PC, WT)
 Health Physics Instruments, Goleta, CA (A, B, G, N, C, ER, GM, IC, M, P, PC, ST, X)
 Intek, Inc., Westerville, OH (FL)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (A, B, G, N, C, ST)

Over 600,000 square feet of world-class nuclear capabilities.

At MTM, we provide manufacturing solutions to nuclear fuel cycle challenges.

- Uranium enrichment
- Fuel fabrication
- Commercial nuclear power
- Naval nuclear power
- Next generation fission and fusion systems
- Nuclear materials transport and storage
- Reprocessing, reuse, and remediation

How can we help you?



We know nuclear ... front to back.

MajorTool.com
 sales@majortool.com
 317.636.6433



MTM's Quality Assurance Program is compliant to NQA-1, 10CFR50 Appendix B, 10CFR71 Subpart H, 10CFR72 Subpart G

K&S Associates, Inc., Nashville, TN (WT)
 LabLogic Systems, Inc., Brandon, FL (A, B, G, ER, GM, SL)
 Mazur Instruments, Castle Rock, CO (A, B, G, GM, P, X)
 Mirion Technologies (IST) Corp., (Sensing Systems Div.), Horseheads, NY (G, N, C, IC, PC)
 NUKEM Technologies GmbH, Alzenau, Germany (G, N, G)
 ORDELA, Inc., Oak Ridge, TN (A, B, N, C, DT, IC, M, P, PC, SL)
 ORTEC, Oak Ridge, TN (A, B, G, N, C, DT, ER, FS, GM, G, IC, IS, LB, M, P, PC, SL, ST, SS, WT, X)
 OTEK Corp., Tucson, AZ (FL)
 Perma-Fix Environmental Services, Inc., Knoxville, TN (A, B, G, C, GM, LB, P, WT)
 PHDS Co., Knoxville, TN (G, G, M, P, SS)
 Photonis, Brive la Gaillarde, France (G, N)
 Premium Analyse, Norroy Le Veneur, France (B, IC)
 Pylon Electronics Inc., (Div. of Autrex) (Instrumentation Dept.), Ottawa, Ontario, Canada (A, P, WT)
 Radiation Safety Assoc., Inc., Hebron, CT (A, B, G, C, GM, ST, X)
 Radiation Safety & Control Services, Inc., Stratham, NH (A, B, G, N, ER, GM, IC, LB, PC, SL, SS, WT)
 Rexon Components, Inc., Beachwood, OH (A, B, G, N, C, ER, GM, IC, LB, P, PC, SR, ST, SS, WT, X)
 RSO, Inc./Radiation Service Organization, Laurel, MD (A, B, G, C, GM, IC, P, PC)
 Saphymo, Saint-Aubin, France (A, B, G, N, C, ER, GM, LB, P, PC, ST, SS)
 S.E. International, Inc., Summertown, TN (A, B, G, C, DT, ER, GM, P, ST, WT, X)
 Siemens Process Industries and Drives, (Industry Automation Div.), (Process Instrumentation & Analytics), Hauppauge, NY (FL)
 ♦SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (A, B, G, N, C, P, SS)
 Technical Associates, (Overhoff Technology Corp. Sub.), (US Nuclear Corp. Div.), Canoga Park, CA (A, B, G, N, C, DT, ER, FS, GM, G, IC, M, P, PC, SL, SR, SS, WT, X)
 Westinghouse Electric Co., Nivelles, Belgium (ER)
 ♦Westinghouse Electric Co. LLC, Cranberry Township, PA (ER)

18590 Crane Safety Systems
 AT Anti-Two-Blocking (Conversion)
 SF Single-Failure-Proof
 American Crane & Equipment Corp., Douglassville, PA (AT, SF)
 Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (AT, SF)
 Siempelkamp Nuclear Services, Inc., West Columbia, SC (SF)
 Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (SF)

18600 Cranes & Hoists
 CS Control System Upgrade/Replacement
 CO Controls, Radio
 CC Cranes, Conventional, to 300-Ton Cap.
 CR Cranes, Conventional, to 500-Ton Cap.
 CH Cranes, Heavy-Lift, to 1000-Ton Cap.
 CX Cranes, Heavy-Lift, to 2500-Ton Cap.
 DG Double-Girder, Top-Riding
 E Electric
 FB Fuel Building Cranes (Cask Handling)
 G Gantry
 H Hand Chain-Operated
 LM Lug-Mounted Hoists
 MH Monorail Hoists
 RS Radwaste Storage Facility
 SG Semi-Gantry
 SF Single-Failure-Proof
 ST Single-Girder, Top-Riding
 SU Single-Girder, Under-Riding
 SP Spent Fuel Pool Cranes
 American Crane & Equipment Corp., Douglassville, PA (CS, CO, CC, CR, DG, E, FB, G, H, LM, MH, RS, SG, SF, ST, SU, SP)
 American DND Inc., Grand Island, NY (CR, CX, RS)

Bigge Power Constructors, (Div. of Bigge Crane and Rigging Co.), San Leandro, CA (CC, CR, CH, CX, G, SF)
 COH, Inc., Boisbriand, Quebec, Canada (SP)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (CO)
 Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (CS, CO, CC, CR, CH, CX, DG, E, FB, G, H, LM, MH, RS, SG, SF, ST, SU, SP)
 PaR Systems, Inc., Shoreview, MN (CH, CX, DG, FB, G, RS, SG, SF, ST, SU, SP)
 PTP Spent Fuel Services, LLC, Grand Island, NY (SP)
 Sarens USA, Inc., San Ramon, CA (CR, CX, G, SG)
 Siempelkamp Nuclear Services, Inc., West Columbia, SC (CS, CO, CC, CR, CH, CX, DG, E, FB, G, H, LM, MH, RS, SG, SF, ST, SU, SP)
 Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (CS, CO, CC, CR, CH, CX, DG, E, FB, G, H, LM, MH, RS, SG, SF, ST, SU, SP)
 Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (FB, RS, SP)
 Wallace Cranes, Malvern, PA (E, G, H, LM)
 Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (CS, CO, CC, CR, CH, CX, DG, E, FB, G, H, MH, RS, SF, ST, SU, SP)

19450 Dampers
 AF Air-Flow Control
 B Backdraft
 F Fire
 HE High-Energy Line Break
 I Isolation
 IA Isolation, Bubble-tight
 T Tornado Protection
 V Volume
 American Warming & Ventilating, Holland, OH (AF, B, F, HE, I, IA, T, V)

♦ Denotes Advertiser

Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (AF, B, F, I, IA, T, V)
 ECU Corporation, Cincinnati, OH (AF, B, HE, I, IA, T, V)
 Ellis & Watts Global Industries, Inc., Batavia, OH (AF, B, F, HE, I, IA, T, V)
 Nuthern International, Inc., Mount Vernon, IL (AF, HE)
 ♦SSM Industries, Inc., Pittsburgh, PA (AF, B, F, HE, I, IA, T, V)

19700 Data Acquisition/Handling Systems—also see Computers
 A Analog
 D Digital
 Alphasource, Inc., Philadelphia, PA (D)
 AREVA Inc., (North American Headquarters), Charlotte, NC (A, D)
 Norman N. Axelrod Assoc., (Optical Sensing & Control System Development), New York, NY (A, D)
 ♦Canberra Industries, Meriden, CT (A, D)
 Crane Nuclear, Inc., Kennesaw, GA (D)
 Fauske & Associates, LLC, (A sub. of Westinghouse Electric Company, LLC), Burr Ridge, IL (A, D)
 Fuji Electric Corp. of America, Edison, NJ (A, D)
 ORTEC, Oak Ridge, TN (D)
 Rockwell Automation, Inc., Milwaukee, WI (A, D)
 Siemens Power Generation Services, Orlando, FL (A, D)
 Terahertz Technologies, Inc., Oriskany, NY (A, D)
 Timesoft, Long Beach, CA (D)
 Westinghouse Electric Co., Nivelles, Belgium (A, D)
 ♦Westinghouse Electric Co. LLC, Cranberry Township, PA (A, D)

20000 Data Readout Devices, Terminals & Accessories—also see Computers
 O Oscillographic



PUT A CHERRY ON TOP ...

... of your **Radwaste Solutions** magazine ads. Advertise on ANS.org!

A great way to top off your print ad is with online advertising that reaches ANS members and site visitors. For the last 12 months, the ANS Web site has generated 736,770 unique visits, corresponding to 4.6 million page/banner views. Electronic media options include: Leaderboard banners, Blog ads, and banner ads within *Notes & Deadlines* (a monthly e-mail broadcast to ANS members).

For more information contact the Advertising Department:
 1-800-682-6397 or visit ANS.ORG/ADVERTISING



- PD Plotters, Digital
- PX Plotters, X-Y
- P Printers
- RC Recording Charts
- RP Recording Pens, Disposable
- SC Strip Chart Recorders
- V Video Display

- ◆ Canberra Industries, Meriden, CT (PD, P, V)
- Westinghouse Electric Co., Nivelles, Belgium (V)
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (V)

20300 **Decommissioning Services**

- DC Decontamination
- DM Demolition
- DS Dismantling
- E Engineering Support Services
- RS Radiological Surveys
- SS SAFSTOR
- TI Transportation, Intermodal
- TR Transportation, Rail

- Advanced Consulting Group, Inc., Chicago, IL (DS, E)
- Alaron Nuclear Services, Wampum, PA (DC)
- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (DM, DS, RS)
- AMEC Environment & Infrastructure Inc., Grand Junction, CO (DC, DM, DS, E, RS)
- American DND Inc., Grand Island, NY (DC, DM, DS, E, TI, TR)
- Ameriphysics, LLC, Knoxville, TN (DC, DM, DS, E, RS, TI, TR)
- Applied Health Physics, LLC, Bethel Park, PA (DC, DS)
- ARES Corp., (Energy Services Div.), Richland, WA (E)
- AREVA Inc., (North American Headquarters), Charlotte, NC (DC, DS)
- ◆ AREVA TN, Columbia, MD (E)
- ◆ Argonne National Laboratory, (Decommissioning Training), (NE Div.), Argonne, IL (E)
- Babcock Services, Inc., Kennewick, WA (DC, DM, DS, E, RS, SS)

- BCP Engineers & Consultants, Gretna, LA (E)
- ◆ BHI Energy, Plymouth, MA (DC, DM, DS, E, RS)
- Bigge Power Constructors, (Div. of Bigge Crane and Rigging Co.), San Leandro, CA (DS, E)
- Bluegrass Concrete Cutting, Inc., Greenville, AL (DC, DM, DS)
- ◆ Brokk Inc., Santa Fe, NM (DS)
- Burns & McDonnell Engineering Company, Inc., (Aviation & Federal Global Practice), Kansas City, MO (DC, DM, DS, E)
- ◆ BWX Technologies, Inc., Lynchburg, VA (DC, DM, DS)
- Cabrera Services Inc., East Hartford, CT (DC, DM, DS, E, RS, SS, TI, TR)
- ◆ Canberra Industries, Meriden, CT (DC)
- Chesapeake Nuclear Services, Inc., Annapolis, MD (RS)
- CH2M HILL, Inc., (CH2M HILL Nuclear Business Group), (CH2M HILL International Nuclear Services, Ltd.), (CH2M HILL Constructors, Inc.), Englewood, CO (DC, DM, DS, E, RS, SS)
- Comex Nucleaire, (Sub. of Onet Technologies), Marseille, France (DC, DS, E)
- Cox Nuclear Consulting Services LLC, Seabrook, NH (E, RS)
- CS-2 Inc., Grand Island, NY (E)
- Cutting Edge Services Corp., Batavia, OH (DS)
- Cutting Technologies (CTI), Gloucester City, NJ (DS)
- Dade Moeller & Assoc., Richland, WA (RS)
- The Delphi Groupe, Inc., Austin, TX (DC)
- DW James Consulting, North Oaks, MN (E)
- ECC, Burlingame, CA (DM, DS, E, RS, TI)
- ◆ EnergySolutions LLC, Salt Lake City, UT (DC, DM, DS, E, RS, SS, TI, TR)
- Environmental Restoration Group, Inc., Albuquerque, NM (RS)
- Equipos Nucleares, S.A., Madrid, Spain (DC, DS, E)
- EXCEL Services Corporation, Rockville, MD (E)
- ◆ ExchangeMonitor Publications & Forums, Rockville, MD (DC, DS)

◆ Denotes Advertiser

- Fuel Tank Maintenance Co., LLC, Cookeville, TN (DC, DM, DS, E)
- Graycor Industrial Constructors, Oakbrook Terrace, IL (DM, DS)
- I.C.E. Service Group, Inc., Ambridge, PA (E, TI, TR)
- ICM-International Climbing Machines, Ithaca, NY (DC, RS)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (DC, RS)
- Leidos, Reston, VA (DC, E)
- Mega-Tech Services, LLC, Mechanicsville, VA (E)
- MHF Services, (An EnergySolutions Company), Wexford, PA (DC, E, RS, TI, TR)
- ◆ National Nuclear Laboratory (UK), Warrington, United Kingdom (DC, DM, DS, RS)
- NEWEX-SSG, LLC, Folsom, CA (RS, TI)
- Newport News Nuclear, Inc., Newport News, VA (E)
- NorthStar Group Services, Inc., Richland, WA (DM, DS)
- NRG, Petten, The Netherlands (DC, RS)
- Partners Environmental Consulting, Inc., Solon, OH (DC)
- Philotechnics, Ltd., Oak Ridge, TN (DC, DM, DS, E, RS, SS, TI, TR)
- Plant Decommissioning, Lake Villa, IL (DS, E)
- Project Assistance Corp. (PAC), Walnut Creek, CA (E)
- Proxtronics Dosimetry, LLC, (Proxdose), Alexandria, VA (RS)
- PTP Spent Fuel Services, LLC, Grand Island, NY (DC, E, TI, TR)
- Qal-Tek Associates, LLC, Idaho Falls, ID (DC, RS)
- Radex, Inc., Winterville, GA (DC, RS)
- Radiation Safety Assoc., Inc., Hebron, CT (DC, DS, RS)
- ◆ REI Nuclear, LLC, Columbia, SC (DC, DM, DS, E, RS, SS)
- Robatel Technologies LLC, Roanoke, VA (E)
- RSO, Inc./Radiation Service Organization, Laurel, MD (DC, RS)
- Sarens USA, Inc., San Ramon, CA (DS, TI, TR)
- Sargent & Lundy LLC, Chicago, IL (DC, DS, E)

reinuclear.com





REI Nuclear LLC (REIN) delivers results through its principal strengths of experience and commitment. Each member of REIN's key management staff has over 20 years of experience providing D&D and waste management services. Contact us to discuss REIN's experience-based approach to meeting today's Nuclear Industry challenges in the areas of:

- Decommissioning Services
- Comprehensive Project Planning and Integration
- Decommissioning Project Execution
- Mechanical Segmentation and Dismantlement
- Robotics/Automation
- Material Handling Systems
- Technical Support
- Waste Management Services

Contact:
 Rob Trimble
 President
 rtrimble@reinuclear.com

Steve Garner
 VP, Business Development
 sgarner@reinuclear.com



A Training Course on

Facility Decommissioning

- October 6-8, 2015 – Virginia Beach, VA
- November 16-19, 2015 – Las Vegas, NV

Updated information on all sessions routinely updated and posted to our website.

Information:
 Lawrence E. Boing
 Facility Decommissioning TC Director
 Phone 630-252-6729
 Fax 630-252-7577
 e-mail: lboing@anl.gov

Argonne National Laboratory
 Nuclear Engineering Division – Special Projects
 9700 South Cass Avenue
 Argonne, IL 60439

Details at our TC website: www.dd.anl.gov/ddtraining/



Put our experience to work on your project.

Over 30 years of delivering quality services nationwide.

Integrated D&D Solutions

- **Project Management**
- **Environmental & Radiological Remediation**
- **Decommissioning Plan Development**
- **License Termination Plan Development**
- **Buried & Embedded Piping Release Criteria & Survey**
- **Infrastructure/Mechanical Maintenance**
- **Cross Contamination Prevention Planning & Methods**
- **Historical Site Assessments/Characterization/FSS**
- **RESRAD Modeling (DCGL Development)**
- **EP Program Management Training**
- **Document Control**





Tool/Metal Decontamination & Recycling

RE-USE tools & equipment rather than re-purchasing.

RECYCLE obsolete equipment and metals rather than disposing as radwaste.

REDUCE staffing with UniTech's offsite labor & RP.



Our nationwide licensed processing and warehouse facilities maximize your asset management and recovery. We are your ideal contaminated materials solution for:

- Scaffolding
- Tools & Equipment
- FRAC Tanks
- Lead Blankets
- HEPA & Vacuum Units
- Metal Scrap

GREEN • CLEAN • SUSTAINABLE

ISO 9001

ISO 14001



USA • Canada • Germany • UK • The Netherlands
(800) 344-3824 • www.UniTechUS.com

- Sevenson Environmental Services, Inc., Niagara Falls, NY (DC, DM, DS)
Siempelkamp Nuclear Services, Inc., West Columbia, SC (DM, DS, E, RS)
Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (DC, DS, E, RS)
◆ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (DC, DS, E, RS)
Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (DC, DS, E, RS, TI, TR)
Stoller Newport News Nuclear (SN3), (A sub. of Huntington Ingalls Industries), Broomfield, CO (DC, E, RS, TI, TR)
Studsvik, Inc., Atlanta, GA (DC)
Sundance Consulting, Inc., Pocatello, ID (RS)
Tecnubel, Dessel, Belgium (DC, DS)
TLG Services, Inc., (Affl. of Entergy Corp.), Bridgewater, CT (DC, DM, DS, E, RS, SS)
TransWare Enterprises Inc., Sycamore, IL (E)
Underwater Construction Corp., Essex, CT (DC, DS)
Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (DC, DM, DS, E, RS)
◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (DC, DS)
UOP, A Honeywell Co., Des Plaines, IL (DC)
E. H. Wachs, Lincolnshire, IL (DS, E)
Wastren Advantage, Inc., Piketon, OH (DC, DM, DS, E, RS, SS, TI, TR)
Westinghouse Electric Co., Nivelles, Belgium (DC, DS)
◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (DC, DS)
See advertisement on page Cover 4
◆ WMG, Inc., Peekskill, NY (DC, DS, E, RS)
WorleyParsons, Reading, PA (E)
WorleyParsons, Markham, Ontario, Canada (E)
Zachry Nuclear Engineering, (Numerical Applications Div.), Cary, NC (E)
Zachry Nuclear Engineering, Inc., Stonington, CT (E)

20350 Decontamination Chemicals, Equip. & Services—also see *Cleaning Equip.; Health Physics Equip.*

- AC Abrasive Cleaning
- CD Chemical Decontamination
- C Chemicals
- CS Concrete Scabbling
- CR Cryogenic Cleaning (CO₂)
- D Drainline
- EP Electropolishing
- E Equipment
- HS Hand Scrubbing
- HF High-Pressure Freon
- HW High-Pressure Water
- IB Ice Blasting (Wet Ice)
- LD Laser Decontamination
- PS Plugs & Seals
- S Services
- SW Soil Washing
- SC Strippable Coatings
- UW Ultra-High-Pressure Water
- U Ultrasonics
- VB Vacuum Blasting, Abrasive
- VF Vibratory Finishing

- Aaron Nuclear Services, Wampum, PA (CD, E, S)
Alphasource, Inc., Philadelphia, PA (PS)
American Airworks, Sophia, WV (U)
American DND Inc., Grand Island, NY (CS, HS, S, UW)
Ameriphysics, LLC, Knoxville, TN (AC, CD, CS, S)
Applied Health Physics, LLC, Bethel Park, PA (S)
AREVA Inc., (North American Headquarters), Charlotte, NC (AC, CD, HS, HW, S, SC, VB)
Arkema Inc., (formerly ATOFINA Chemicals, Inc.), King of Prussia, PA (C)
Babcock Noell GmbH, (Dept. BEV), Wuerzburg, Germany (CD, EP)
Babcock Services, Inc., Kennewick, WA (AC, CD, C, CS, CR, E, HS, HW, IB, LD, S, UW)
◆ BHI Energy, Plymouth, MA (AC, CS, D, E, HS, HW, S, SC, UW)

◆ Denotes Advertiser

- Bluegrass Concrete Cutting, Inc., Greenville, AL (CS, E, S)
◆ Brokk Inc., Santa Fe, NM (CS)
Burns & McDonnell Engineering Company, Inc., (Aviation & Federal Global Practice), Kansas City, MO (CD)
◆ Canbera Industries, Meriden, CT (S)
CBI Polymers, Inc., (DBA Metis Scientific), Richardson, TX (CD, SC)
Coastal Network, Inc., Charlottesville, VA (C, SC)
Container Products Corp., Wilmington, NC (E)
Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (E, PS)
The Delphi Group, Inc., Austin, TX (S)
◆ EnergySolutions LLC, Salt Lake City, UT (CS, S, SW)
Equipos Nucleares, S.A., Madrid, Spain (AC, CD, C, CS, EP, E, HW, S)
Fuel Tank Maintenance Co., LLC, Cookeville, TN (AC, CD, C, CS, CR, HS, HW, S, SC, UW)
Geovariations, Avon cedex, France (S)
ICM-International Climbing Machines, Ithaca, NY (AC, S, VB)
ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (LD, SW)
Marshallton Research Laboratories, Inc., King, NC (C)
Materials & Chemistry Laboratory, Inc., Oak Ridge, TN (CD)
Mega-Tech Services, LLC, Mechanicsville, VA (E)
◆ Mohawk Safety, Manchester, CT (E)
M2 Polymer Technologies, Inc., West Dundee, IL (C)
◆ National Nuclear Laboratory (UK), Warrington, United Kingdom (AC, CD, CS, LD, SC)
New Millennium Nuclear Technologies International, Lakewood, CO (CS)
NLB Corp., Wixom, MI (AC, CS, HW, UW)
NRG, Petten, The Netherlands (CD, HS, HW, S, UW)
Preferred Engineering Corp., (Sub. of Preferred Utilities Mfg. Corp.), Danbury, CT (PS)
Radiation Safety Assoc., Inc., Hebron, CT (AC, CS, D, HS, S)
Radiological Solutions, Inc., Rockdale, IL (EP)
◆ REI Nuclear, LLC, Columbia, SC (CS, E)
RSO, Inc./Radiation Service Organization, Laurel, MD (S)
Sevenson Environmental Services, Inc., Niagara Falls, NY (SW)
Siempelkamp Nuclear Services, Inc., West Columbia, SC (AC, CS)
◆ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (CD)
Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (E)
Tecnubel, Dessel, Belgium (AC, CD, C, CS, CR, HW, S, UW, U, VB)
Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (E, HW)
◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (AC, CD, CR, E, HS, HW, S, VB)
Wastren Advantage, Inc., Piketon, OH (AC, CD, C, CS, CR, D, EP, E, HS, HF, HW, IB, LD, PS, S, SW, SC, UW, U, VB, VF)
Westinghouse Electric Co., Nivelles, Belgium (AC, CD, C, E, S, UW, U)
◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (AC, CD, C, E, S, UW, U)
(See advertisement on Cover 4)
◆ WMG, Inc., Peekskill, NY (S)

20700 Demolition and Dismantlement

Babcock Services, Inc., Kennewick, WA

21270 Detector Heads, Sold Separately

- BF BF₃ Neutron Counters
- GM Geiger-Mueller Tubes/Probes
- HN He₃ Neutron Counters
- IC Ionization Chambers
- PM Photomultiplier Tubes
- PC Proportional Counters
- SP Self-Powered Type
- SL Scintillation Counters, Liquid
- ST Scintillation Counters, Solid-State
- SS Solid-State Semiconductor Type

Arrow-Tech, Inc., Rolla, ND (GM)

Health Physics Instruments, Goleta, CA (BF, GM, HN, IC, PM, PC)
PHDS Co., Knoxville, TN (SS)

Elan Technical Corp., Eden Prairie, MN
Proxtronic Dosimetry, LLC, (Proxdose), Alexandria, VA
Rockwell Automation, Inc., Milwaukee, WI

Siempelkamp Nuclear Services, Inc., West Columbia, SC (C)
System One, Pittsburgh, PA (A, C, E, FT, TS)
Wastren Advantage, Inc., Piketon, OH (A, C, E, FT, TS)
Westinghouse Electric Co., Nivelles, Belgium (TS)
◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (TS)
Williams Industrial Services Group, LLC, (Williams Plant Services, LLC), Tucker, GA (C, TS)
Zachry Nuclear Engineering, Inc., Stonington, CT (TS)

21370 **Detectors, Explosives—also see**

Equipment Rental
H Hand-Held
W Walk-Through

ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (H)

21400 **Detectors, Leak—also see Tape,**

Moisture-Sensitive

A Acoustic
B Bubble Test
EC Electron Capture (SF/6)
G Gas
HE HEPA Filter
IL Integrated Leak Rate Testing
MS Mass Spectrometer (He)
PC Pressure Change

Premier Technology, Inc., Blackfoot, ID (MS, PC)

22200 **Detectors, Valve Position**

AZZ Nuclear | NLI, Fort Worth, TX
◆ DNS - Dedicated Nuclear Solutions, Aiken, SC

22410 **Dewatering Systems & Supplies—**

also see Waste Mgmt. Services

AREVA Inc., (North American Headquarters), Charlotte, NC
AVANTech, Inc, Knoxville, TN
Babcock Services, Inc., Kennewick, WA
◆ PacTec, Inc., Clinton, LA

22430 **Diaphragms, Storage Tank**

Corrosion Control Services, Inc., (CCSI Engineered Diaphragm Div.), Davenport, IA
Vigor (formerly Oregon Iron Works), Clackamas, OR

22700 **Diving Services**

CB Cutting/Burning
D Decontamination
EI Equipment Installation/Realignment
G Grouting
I Inspection
M Maintenance
MJ Metals Joining (Other Than Welding)
WD Welding, Dry Box
WW Welding, Wet

Cutting Technologies (CTI), Gloucester City, NJ (CB, G)
ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (D)
◆ REI Nuclear, LLC, Columbia, SC (CB, D, EI, M, MJ)
Underwater Construction Corp., Essex, CT (CB, D, EI, G, I, M, MJ, WD, WW)
Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (CB, D, EI, G, I, M, MJ, WD, WW)
E. H. Wachs, Lincolnshire, IL (CB)

24170 **Dryers, Wet Solids—also see**

Radioactive Waste Handling & Treatment Equipment

AVANTech, Inc, Knoxville, TN
BIG Entsorgungstechnologien GmbH, Bad Toelz, Germany
Equipos Nucleares, S.A., Madrid, Spain
Linn High Therm GmbH, Eschenfelden, Germany
Vigor (formerly Oregon Iron Works), Clackamas, OR
Wyssmont Co., Fort Lee, NJ

25000 **Electronic Instrumentation & Supplies—also see Analysis**

Automation Products, Inc., (Dynatrol® Div.), Houston, TX

25250 **Emergency Response Equipment**

RD Radiation Detection/Survey Meters

AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (RD)

◆ BHI Energy, Plymouth, MA (RD)
Bubble Technology Industries Inc., Chalk River, Ontario, Canada (RD)
Chesapeake Nuclear Services, Inc., Annapolis, MD (RD)
Environmental Restoration Group, Inc., Albuquerque, NM (RD)
Frham Safety Products, Inc., Nashville, TN (RD)
Fuji Electric Corp. of America, Edison, NJ (RD)
Health Physics Instruments, Goleta, CA (RD)
LabLogic Systems, Inc., Brandon, FL (RD)
Mirion Technologies (RADOS) GmbH, Hamburg, Germany (RD)
Saphymo, Saint-Aubin, France (RD)

25300 **Emergency Warning Systems**

(Public)—also see Communications

SE Sirens, Electronic
SM Sirens, Mechanical
SR System Readiness Reporting Systems
TC Telephonic, Computerized
TA Tone Alerting Radios
V Voice Alert (Public Address)

BCP Engineers & Consultants, Gretna, LA (SE, SM)
◆ BHI Energy, Plymouth, MA (SE, TC)
Genave Electronics, Rosemount, MN (SE, SM, SR, TA, V)
Radiation Safety & Control Services, Inc., Stratham, NH (SE)
Westinghouse Electric Co., Nivelles, Belgium (SR)
◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (SR)
Whelen Engineering Co., Inc., (Mass Notification Products), Chester, CT (SE, SR, V)

25350 **Emergency Warning Systems**

(Worker)

BCP Engineers & Consultants, Gretna, LA
Whelen Engineering Co., Inc., (Mass Notification Products), Chester, CT

25400 **Employment/Personnel Support**

Services—also see Consultants

A Agencies
C Craft Labor Support, Temporary
E Executive Recruitment
FT Full-Time Permanent Personnel
TS Technical, Professional Support, Temporary

American DND Inc., Grand Island, NY (C)
Babcock Services, Inc., Kennewick, WA (C, E, FT, TS)
G.D. Barri & Associates, Inc., Peoria, AZ (C, FT, TS)
◆ BHI Energy, Plymouth, MA (C, FT, TS)
CS-2 Inc., Grand Island, NY (A, E, FT, TS)
Curtiss-Wright Nuclear Division, Brea, CA (TS)
DCS Systems, Inc., Simsbury, CT (TS)
The Delphi Groupe, Inc., Austin, TX (A, E, FT, TS)
Design Engineering Analysis Corp., Canonsburg, PA (TS)
Excel Modular Scaffold and Leasing Corp., Plymouth, MA (C, TS)
EXCEL Services Corporation, Rockville, MD (E, FT, TS)
Fuel Tank Maintenance Co., LLC, Cookeville, TN (C)
HukariAscendent Inc., Wheat Ridge, CO (TS)
M4 Services LLC, Glenwood, MD (TS)
NPTS, Inc., Buffalo, NY (C, E, FT, TS)
Project Assistance Corp. (PAC), Walnut Creek, CA (A, C, E, FT, TS)

◆ Denotes Advertiser

25600 **Encapsulation, Radioactive**

Source

Alaron Nuclear Services, Wampum, PA
ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA
New Millennium Nuclear Technologies International, Lakewood, CO
NUKEM Technologies GmbH, Alzenau, Germany
Sosny Research and Development Co., Dimitrograd, Ulyanovsk region, Russia
Wastren Advantage, Inc., Piketon, OH

26080 **Environmental Monitoring**

Equipment—also see Monitors,

Radiation, Area

Air Monitor Corp., Santa Rosa, CA
Alpha Spectra, Inc., Grand Junction, CO
AMEASOL - American Measurement Solutions LLC, Santa Fe, NM
◆ Berkeley Nuclonics Corp., San Rafael, CA
Bubble Technology Industries Inc., Chalk River, Ontario, Canada
Cabrera Services Inc., East Hartford, CT
◆ Canberra Industries, Meriden, CT
Elcometer Inc., Rochester Hills, MI
Environmental Restoration Group, Inc., Albuquerque, NM
Frham Safety Products, Inc., Nashville, TN
Fuji Electric Corp. of America, Edison, NJ
HI-Q Environmental Products Co., Inc., San Diego, CA
JSM Protective, Inc., Wilmington, NC
Munro Instruments Ltd., Woodford Green, Essex, United Kingdom
NUKEM Technologies GmbH, Alzenau, Germany
ORDELA, Inc., Oak Ridge, TN
ORTEC, Oak Ridge, TN
Perma-Fix Environmental Services, Inc., Knoxville, TN
Proxtronic Dosimetry, LLC, (Proxdose), Alexandria, VA
RADeCO, Inc., Plainfield, CT
Radiological Solutions, Inc., Rockdale, IL
Research Products International Corp., Mt. Prospect, IL
Rockwell Automation, Inc., Milwaukee, WI
Saphymo, Saint-Aubin, France
Technical Associates, (Overhoff Technology Corp. Sub.), (US Nuclear Corp. Div.), Canoga Park, CA
Wastren Advantage, Inc., Piketon, OH
Westinghouse Electric Co., Nivelles, Belgium
◆ Westinghouse Electric Co. LLC, Cranberry Township, PA

26100 **Environmental Monitoring**

Services—also see Health Physics Serv.;
Rad. Monitoring Serv.

Applied Health Physics, LLC, Bethel Park, PA
AREVA Inc., (North American Headquarters), Charlotte, NC
ARS International, LLC, Port Allen, LA
G.D. Barri & Associates, Inc., Peoria, AZ
◆ BHI Energy, Plymouth, MA
Bubble Technology Industries Inc., Chalk River, Ontario, Canada
Cabrera Services Inc., East Hartford, CT
◆ Canberra Industries, Meriden, CT
ECC, Burlingame, CA
Environmental Restoration Group, Inc., Albuquerque, NM
Frham Safety Products, Inc., Nashville, TN

- ◆ The GEL Group, Inc., (GEL Engineering, LLC), (GEL Laboratories, LLC), (GEL Geophysics, LLC), (Cape Fear Analytical, Inc.), Charleston, SC
- The GEL Group, Inc., (General Engineering Laboratories, LLC), Charleston, SC
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA
- Leidos, Reston, VA
- New Millennium Nuclear Technologies International, Lakewood, CO
- NRG, Petten, The Netherlands
- NUKEM Technologies GmbH, Alzenau, Germany
- Partners Environmental Consulting, Inc., Solon, OH
- Perma-Fix Environmental Services, Inc., Knoxville, TN
- Proxtronics Dosimetry, LLC, (Prodose), Alexandria, VA
- RSO, Inc./Radiation Service Organization, Laurel, MD
- Sargent & Lundy LLC, Chicago, IL
- Siemens Power Generation Services, Orlando, FL
- Stoller Newport News Nuclear (SN3), (A sub. of Huntington Ingalls Industries), Broomfield, CO
- Wastren Advantage, Inc., Piketon, OH
- Westinghouse Electric Co., Nivelles, Belgium
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA

26230 Equipment Rental

- AC Air Conditioning
- C Chillers
- CN Containers
- CT Cooling Towers
- DE Detectors, Explosives
- DW Detectors, Weapons
- H Hydraulic Systems
- IR Instruments, Radiation Detection
- RL Radiochemistry Labs, Mobile
- RV Remote-Operated Vehicles
- S Scaffolding
- SC Spot-Coolers
- UC Underwater Cameras
- VA Vacuum Systems (HEPA Filtered)
- VT Valve Testers (Off-Line)
- VS Ventilation Systems, HEPA Filtered
- VI Video Inspection Systems
- WB Whole-Body Counting Units
- Ahlberg Cameras, Wilmington, NC (UC)
- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (DE, IR, RV)
- American Airworks, Sophia, WV (C, VT)
- American DND Inc., Grand Island, NY (S)
- Applied Health Physics, LLC, Bethel Park, PA (IR, VS)
- AREVA Inc., (North American Headquarters), Charlotte, NC (AC, VT)
- ◆ BHI Energy, Plymouth, MA (S)
- Bowtech Products Ltd., Aberdeen, United Kingdom (UC, VI)
- ◆ Brokk Inc., Santa Fe, NM (RV)
- Cabrera Services Inc., East Hartford, CT (IR, RL, RV)
- ◆ Canberra Industries, Meriden, CT (IR, RL, WB)
- Curtiss-Wright Nuclear Division, Brea, CA (H)
- Curtiss-Wright Nuclear Division, Middleburg Heights, OH (H)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (H)
- ◆ EnergySolutions LLC, Salt Lake City, UT (IR, RL)
- Environmental Restoration Group, Inc., Albuquerque, NM (IR)
- I.C.E. Service Group, Inc., Ambridge, PA (CN)
- ICM-International Climbing Machines, Ithaca, NY (IR, RV, VI)
- InterTest, Inc., Columbia, NJ (UC, VI)
- Inuktun Services Ltd., Nanaimo, BC, Canada (IR, RV, UC, VI)
- Inuktun US, LLC, Rio Rancho, NM (RV, UC)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (DE, DW, IR)
- Kodex, Inc., Nutley, NJ (DE, DW)
- Lenox Instrument Co., Inc., Treviso, PA (VI)
- Lights Camera Action, LLC, Gilbert, AZ (UC)
- MHF Services, (An EnergySolutions Company), Wexford, PA (CN)
- NRG, Petten, The Netherlands (IR)
- NUCON International, Inc., Columbus, OH (VS)

- ORTEC, Oak Ridge, TN (IR)
- Perma-Fix Environmental Services, Inc., Knoxville, TN (IR)
- Radiation Safety Assoc., Inc., Hebron, CT (IR, VS)
- ◆ R.O.V. Technologies, Inc., Brattleboro, VT (RV, UC)
- RSO, Inc./Radiation Service Organization, Laurel, MD (IR)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (CN)
- Technical Associates, (Overhoff Technology Corp. Sub.), (US Nuclear Corp. Div.), Canoga Park, CA (RL)
- sa TRANSRAD nv, Fleurus, Belgium (CN)
- Tri Tool Inc., Rancho Cordova, CA (H)
- Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (RV, VI)
- ◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (IR)

26240 Equipment Sales, Surplus

- Inuktun US, LLC, Rio Rancho, NM
- Plant Decommissioning, Lake Villa, IL
- Tri Tool Inc., Rancho Cordova, CA
- Westinghouse Electric Co., Nivelles, Belgium
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA

26600 Fall Protection Equipment & Devices, Construction & Maintenance

- Alphasource, Inc., Philadelphia, PA
- American Airworks, Sophia, WV
- Frham Safety Products, Inc., Nashville, TN
- ◆ Mohawk Safety, Manchester, CT
- ◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA

26900 Fasteners

- B Bolts
- N Nuts
- QT Quick Throw
- S Studs
- TR Threaded Rod
- W Washers
- Curtiss-Wright Nuclear Division, Middleburg Heights, OH (B, N, QT, S, TR, W)
- ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (B, N, QT, S, TR, W)
- Dubose National Energy Services, Clinton, NC (B, N, S, TR, W)
- Preferred Engineering Corp., (Sub. of Preferred Utilities Mfg. Corp.), Danbury, CT (B, N, QT, S, TR, W)
- Tioga Pipe Supply Co., Inc., Philadelphia, PA (B, N, S, TR, W)

26910 Feedthroughs, Bulkhead—also see Sleeves, Wall

- E Electrical
- F Fiber Optic
- Mirion Technologies (IST) Corp., (Sensing Systems Div.), Horseheads, NY (E, F)

26970 Fiber Optic Components & Systems—also see Cable; Connectors; Feedthroughs; Remote-Viewing

- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN

27180 Filter Housings

- B Bag In/Bag Out
- M Manual Changeout
- R Remote Changeout
- SA Side Access
- W Walk-In
- ECU Corporation, Cincinnati, OH (B, M, SA, W)

◆ Denotes Advertiser

- Ellis & Watts Global Industries, Inc., Batavia, OH (B, M, SA, W)
- Parker Hannifin Corp., (Instrumentation Products Div.), Huntsville, AL (M, R)
- ◆ Radiation Protection Systems, Inc., Groton, CT (B, M, SA)
- ◆ SSM Industries, Inc., Pittsburgh, PA (B, M, SA, W)

27450 Filters—also see Containers

- A Air
- C Carbon
- CL Cloth, Straining
- DE Debris
- D Disposable
- HE HEPA
- HY Hydraulic
- LO Lubricating Oil
- SB Stainless Steel, Porous, Backwash
- SU Stainless Steel, Porous, Backwash, Ultrasonic
- SP Stainless Steel, Porous, Blowback
- SS Stainless Steel, Sintered
- TF Thin-Film
- U Ultrafiltration
- V Vacuum (HEPA)
- W Water (Conventional)
- WP Water Purification
- WS Water/Steam, High-Pressure
- X X-ray
- AAF International, Louisville, KY (A, C, D, HE)
- Alphasource, Inc., Philadelphia, PA (CL, DE, D, HE)
- AREVA Inc., (North American Headquarters), Charlotte, NC (A, D, W, WP, WS)
- Arkema Inc., (formerly ATOFINA Chemicals, Inc.), King of Prussia, PA (C)
- AZZ Nuclear | NLL, Fort Worth, TX (A, W)
- ◆ BES Technologies, Oak Ridge, TN (WP)
- ◆ BHI Energy, Plymouth, MA (A, C, HE)
- Blue Lake Products, Irvine, CA (HE, V)
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (SB, WS)
- Croll-Reynolds Engineering Co., Inc., Monroe, CT (SB, W, WP, WS)
- ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (A, W)
- Ellis & Watts Global Industries, Inc., Batavia, OH (A, C, HE)
- ◆ EnergySolutions LLC, Salt Lake City, UT (DE, D, U, W, WP)
- Epicor, Inc., Linden, NJ (W)
- F&J Specialty Products, Inc., Ocala, FL (A)
- Frham Safety Products, Inc., Nashville, TN (A, C, D, HE, V)
- HI-Q Environmental Products Co., Inc., San Diego, CA (A, C)
- IONEX Research Corp., Lafayette, CO (A, C, HE)
- ◆ Joseph Oat Corp., Camden, NJ (LO, W, WP, WS)
- Lanes Industries, Kirkland, WA (A, D, HE)
- ◆ Mohawk Safety, Manchester, CT (HE, V)
- Mott Corp., Farmington, CT (SB, SP, SS, WS)
- NFT, Golden, CO (A, C, D, HE, SS, U, WP)
- NUCON International, Inc., Columbus, OH (A, C, D, HE, WP)
- Nutherm International, Inc., Mount Vernon, IL (HE)
- ◆ PacTec, Inc., Clinton, LA (CL)
- Pall Corp., Port Washington, NY (D, HY, LO, SP, SS, W, WP, WS)
- Purolite Corp., Bala Cynwyd, PA (WP)
- RADeCO, Inc., Plainfield, CT (C, HE, V)
- Radiation Safety & Control Services, Inc., Stratham, NH (A, C)
- Radiological Solutions, Inc., Rockdale, IL (WP)
- Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (D, W)
- 30040 Fuel Element Consolidation (Spent Fuel)
- SE Services
- SY Systems
- AREVA Inc., (North American Headquarters), Charlotte, NC (SE, SY)
- Babcock Services, Inc., Kennewick, WA (SE, SY)
- ◆ EnergySolutions LLC, Salt Lake City, UT (SE, SY)
- Fuji Electric Corp. of America, Edison, NJ (SY)
- NAC International, Norcross, GA (SE, SY)

Sosny Research and Development Co.,
Dimitrovgrad, Ulyanovsk region, Russia (SE, SY)

30500 **Fuel Handling Equipment & Systems**

- CC Computer Control Systems
- FT Fuel Transfer Equipment
- IP In-Pile Inspection & Manipulation
- QC Quick Closures, Fuel Transfer Tube
- R Refueling Equipment
- RS Refueling Shielding
- SP Service Platform Modification/Upgrade
- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (IP)
- AREVA Inc., (North American Headquarters), Charlotte, NC (CC, FT, IP, R, SP)
- ♦AREVA TN, Columbia, MD (FT)
- Bowtech Products Ltd., Aberdeen, United Kingdom (IP)
- COH, Inc., Boisbriand, Quebec, Canada (CC, FT, QC, R)
- Diakont, San Diego, CA (CC, FT, IP, R, SP)
- ♦EnergySolutions LLC, Salt Lake City, UT (FT)
- Fuel Tank Maintenance Co., LLC, Cookeville, TN (FT)
- Fuji Electric Corp. of America, Edison, NJ (CC, FT, IP, QC, R, RS, SP)
- ♦Holtec International, Marlton, NJ (FT, R, SP)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (SP)
- Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (CC, FT, R, RS, SP)
- ♦Major Tool & Machine, Inc., Indianapolis, IN (R)
- NAC International, Norcross, GA (FT)
- Newport News Nuclear, Inc., Newport News, VA (FT, R)
- Nuclear Systems Associates, Inc., Brea, CA (FT, IP)
- Precision Custom Components, LLC, York, PA (R)
- Preferred Engineering Corp., (Sub. of Preferred Utilities Mfg. Corp.), Danbury, CT (FT, QC, RS, SP)
- PTP Spent Fuel Services, LLC, Grand Island, NY (FT)
- Siempelkamp Nuclear Services, Inc., West Columbia, SC (FT, R)
- Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (FT, R)
- SKODA JS a.s., Plzen, Czech Republic (FT)
- ♦SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (CC, FT)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (CC, FT, IP, QC, R, RS, SP)
- Vigor (formerly Oregon Iron Works), Clackamas, OR (FT, R, RS, SP)
- Weir Valves and Controls USA, Inc., Ipswich, MA (FT, R)
- Westinghouse Electric Co., Nivelles, Belgium (FT, QC, R, RS)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (CC, FT, QC, R, RS, SP)
- ♦Westinghouse Electric Co. LLC, Cranberry Township, PA (FT, QC, R, RS)

32250 **Gas Handling Equipment—also see Analyzers, Gas; Filters**

- A Adsorbents
- C Circulators
- G Gas Generators
- HC Hydrogen Combiners
- MP Mixers, Proportioners
- OG Off-Gas Treatment Systems
- P Purifiers
- AAF International, Louisville, KY (A, OG)
- American Fabrication, Inc., Idaho Falls, ID (A)
- ECU Corporation, Cincinnati, OH (A, OG)
- Ellis & Watts Global Industries, Inc., Batavia, OH (OG)
- FCI-Fluid Components International LLC, San Marcos, CA (MP)
- IONEX Research Corp., Lafayette, CO (A, OG)
- Nextteq LLC, Tampa, FL (G)
- NUCON International, Inc., Columbus, OH (A, G, OG, P)

♦ Denotes Advertiser

Pall Corp., Port Washington, NY (OG)
♦SSM Industries, Inc., Pittsburgh, PA (A)
UOP, A Honeywell Co., Des Plaines, IL (A)

36000 **Gloveboxes & Accessories—also see Connectors, Electrical, Glovebox; Filters**

- B Base Units
- C Containers
- D Drain Assemblies
- GB Glovebag Containments
- GR Glovebag Rings
- G Gloves
- P Ports
- AECOM, Aiken, SC (B, C)
- American Fabrication, Inc., Idaho Falls, ID (B)
- BIG Entsorgungstechnologien GmbH, Bad Toelz, Germany (B, D, GB, GR)
- ♦Joseph Oat Corp., Camden, NJ (B, C)
- ♦Major Tool & Machine, Inc., Indianapolis, IN (B, C)
- Premier Technology, Inc., Blackfoot, ID (P)
- Robatel Technologies LLC, Roanoke, VA (B, C, D, GB, GR, P)
- Vigor (formerly Oregon Iron Works), Clackamas, OR (B, C)
- ♦Wagstaff Applied Technologies, Spokane, WA (B, C, D, GR, G)

36900 **Grouts**

BIG Entsorgungstechnologien GmbH, Bad Toelz, Germany
Cutting Technologies (CTI), Gloucester City, NJ

37130 **Health Physics Equipment & Supplies—also see Counters; Monitors, Rad.; Resp. Prot.; Samplers**

- B Bags
- BM Biomedical Radiation-Counting Systems

- BC Body Cooling Systems
- DM Decon Mats
- DT Decon Trailers, Mobile
- DC Dosimeter Chargers
- DV Dosimeter Vests, Caps, Arm & Leg Bands
- DH Dosimeters, High-Range (Mega R)
- DP Dosimeters, Personnel
- DO Dosimetry Systems, Computerized
- DR Dosimetry Systems, Real-Time Remote
- DS Drain Socks
- EM Emergency Medical Equipment & Supplies
- E Enclosures, Radiological Containment (Temporary)
- FT Filter Test Equipment
- HS Heat Stress Monitors
- L Labels, Warning
- MS Metalized Sheetting
- MT Mops, Roll, Tacky
- PR Phantoms, Radiation-Dosimetry
- PC Planchet Chargers, Automatic
- P Planchets, Counting
- RT Respirator Tracking Systems
- SI Scanners, Isotope Distribution
- S Sheetting, Plastic
- SW Signs, Warning, Radiation
- SS Smears, Swipes
- SF Stretch Wrap Film
- TW Tapes, Warning
- T Tubing, Plastic
- WC Wheel Covers
- WT Wipers, Tacky

Alphasource, Inc., Philadelphia, PA (B, DM, DT, DS, EM, L, MT, S, SW, SS, SF, TW, T, WC, WT)
APCO Extruders Inc., Edison, NJ (B, S, T)
Applied Health Physics, LLC, Bethel Park, PA (DP, SS)
AREVA Inc., (North American Headquarters), Charlotte, NC (BC, DP, DO)
Arrow-Tech, Inc., Rolla, ND (DC, DH, DP)
♦BES Technologies, Oak Ridge, TN (RT)
♦BHI Energy, Plymouth, MA (DT, DO, DR, E, T)

ENGINEERING ■ MANUFACTURING ■ AUTOMATION



**You Have an Idea...
Wagstaff Applied Technologies
Can Make It Real.**

Wagstaff Applied Technologies is your single source for world-class engineering and manufacturing capabilities with proven abilities to meet critical deadlines. In business since 1946, we have the experience, personnel and facilities to get your job done on time and done right.

IMPLEMENTED NUCLEAR QUALITY ASSURANCE PROGRAMS

ASME NQA-1 2008/2009
10 CFR 50 Appendix B
10 CFR 71 Subpart H

MACHINING and FABRICATION WELDING to ASME& AWS CODES

CNC MILLING to 290" x 162" x 144"
HORIZONTAL TURNING to 32" Ø x 68"
CNC VERTICAL TURNING to 79" Ø x 60"



WAGSTAFF
APPLIED TECHNOLOGIES

Contact: Dan Payne • dan.payne@wagstaff.com
509-321-3184 • www.WagstaffAT.com • Spokane Valley, WA

- **ASME Pressure Vessels**
- **Gloveboxes**
- **Mechanical Modules**
- **ASME B30.20 Lifting Devices**
- **Container Transfer Vehicles/Rail Systems**
- **Material Handling Equipment**
- **Fresh Fuel Shipping Containers**
- **Automated Control Systems**
- **UL 508A Control Panels**
- **Nuclear Shielding**
- **Containers/Casks/Overpacks**

Bubble Technology Industries Inc., Chalk River, Ontario, Canada (DP)
 ◆ **Canberra Industries, Meriden, CT (BM, DO, PR, PC, P, SI)**
 Coastal Network, Inc., Charlottesville, VA (B, DM, DC, DV, DP, E, L, MT, P, S, SW, SS, TW, T, WT)
 Dufrane Nuclear Shielding, Inc., Winsted, CT (E)
 Eastern Technologies, Inc., (OREX), Ashford, AL (B, DM, DV, MT, S, WT)
 Environmental Restoration Group, Inc., Albuquerque, NM (P, SS)
 Frham Safety Products, Inc., Nashville, TN (B, BC, DM, DV, DS, E, MT, P, S, SW, SS, TW, WC, WT)
 Fuji Electric Corp. of America, Edison, NJ (DC, DH, DP, DO, DR)
 Health Physics Instruments, Goleta, CA (DP)
 Herculte Products, Inc., Emigsville, PA (B, DM, S)
 HI-Q Environmental Products Co., Inc., San Diego, CA (P)
 Hopewell Designs, Inc., Alpharetta, GA (DC, PR)
 International Plastics, Inc., Greenville, SC (B, S)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (DR, SI)
 JSM Protective, Inc., Wilmington, NC (B, DM, S, TW, T, WT)
 Lancs Industries, Kirkland, WA (B, E, L, S, SW, T)
 Mirion Technologies Dosimetry Services, Irvine, CA (DH, DP)
 ◆ **Mohawk Safety, Manchester, CT (B, DM, DS, E, L, MT, P, S, SW, SS, SF, TW, T, WT)**
 NewAge Industries, Inc., Southampton, PA (T)
 Nextteq LLC, Tampa, FL (DP)
 Nuclear Technology Services, Inc., Roswell, GA (PR, P)
 Ocenco Inc., Pleasant Prairie, WI (EM)
 ORTEC, Oak Ridge, TN (BM, DP, DO, P, SI)
 ◆ **PacTec, Inc., Clinton, LA (B, DM, DS, E, S, T)**
 RADeCO, Inc., Plainfield, CT (DP)
 ◆ **Reef Industries, Inc., Houston, TX (B, DM, DS, E, S, SW, TW, T)**
 Rexon Components, Inc., Beachwood, OH (DP, DO, PR, P)
 Rich Industries Inc., New Philadelphia, OH (B, S, SW, SS, TW, T)

RSO, Inc./Radiation Service Organization, Laurel, MD (B, DM, DC, L, P, SW, SS, TW)
 Saphymo, Saint-Aubin, France (DC, DH, DP, DO, DR)
 S.E. International, Inc., Summertown, TN (DP)
 J. L. Shepherd & Assoc., San Fernando, CA (E)
 Siemens Power Generation Services, Orlando, FL (DH, DP, DO, DR)
 Steele Body Cooling Vests, Kingston, WA (BC)
 Tech Products, Inc., Staten Island, NY (SW)
 ◆ **UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (B, BC, DM, DT, DV, DS, EM, E, L, MT, S, SW, SS, TW, T, WT)**
 Westinghouse Electric Co., Nivelles, Belgium (DT)
 ◆ **Westinghouse Electric Co. LLC, Cranberry Township, PA (DT)**


37160 Health Physics Equipment & Supplies, Disposable/Soluble

EF Equipment & Floor Covers
 MW Mops, Wet
 W Wipers
 Alphasource, Inc., Philadelphia, PA (EF, MW, W)
 Eastern Technologies, Inc., (OREX), Ashford, AL (EF, MW, W)
 Frham Safety Products, Inc., Nashville, TN (EF, MW, W)
 Hopewell Designs, Inc., Alpharetta, GA (EF)
 ◆ **Mohawk Safety, Manchester, CT (EF, MW, W)**
 ◆ **PacTec, Inc., Clinton, LA (EF)**
 Radiation Safety & Control Services, Inc., Stratham, NH (EF)
 ◆ **UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (EF, MW, W)**

37200 Health Physics Services—also see Decontamination; Rad. Monitoring

Serv.; Waste Mgmt. Serv.
 BF Badge Services, Film
 ◆ **Denotes Advertiser**

BT Badge Services, TLD
 BI Bioassay
 BA Breathing Air Quality Analysis
 C Calibration
 D Dosimetry Services
 EI Environmental Impact Analysis
 HC Hazard Communication (Employee)
 IH Industrial Hygiene Services
 IR Industrial Radiology
 IT Industrial Toxicology
 I In-Plant
 L Laboratory Services
 LD Laundry Services, Dry Cleaning
 LE Laundry Services, Extraction
 LW Laundry Services, Wet Wash
 MR Medical Review Officer Services
 PW Procedures Writing
 Q Quality Assurance, Quality Control
 RS Radiochemistry Services
 RE Radiological Engineering
 RI Radioimmunoassay Services
 RC Regulatory Compliance Support
 RF Respirator Fit Testing
 RT Respiratory Equipment Cleaning, Repair & Testing
 S Surveys
 TH Training, Health Physics
 TM Training, Maintenance Support
 U Urinalysis
 WB Whole-Body Counting Services
 AMEC Environment & Infrastructure Inc., Grand Junction, CO (EI, RE, S)
 American Airworks, Sophia, WV (RF, RT)
 Ameriphysics, LLC, Knoxville, TN (RE, RC, RF, S, TH)
 Applied Analysis Corp., Reading, PA (Q, RE)
 Applied Health Physics, LLC, Bethel Park, PA (C, EI, I, L, PW, RE, RC, S, TH)
 Applied Science Professionals, (ASP-LLC), Salt Lake City, UT (TH)
 AREVA Inc., (North American Headquarters), Charlotte, NC (D, EI, I, L)
 ARS International, LLC, Port Allen, LA (D, EI, L, Q, RS, S, TH)



Your On-Line Nuclear Safety Checklist!

- ☑ Health Physics & Decon Supplies
- ☑ Test Wipe Smears
- ☑ Anti-C Gloves & Boots
- ☑ Lead Shielding
- ☑ Bags, Tubing & Sleeving
- ☑ Signs, Labels & Tapes
- ☑ Containment Chambers & Tents
- ☑ Anti-C Clothing

Free Catalog Upon Request!

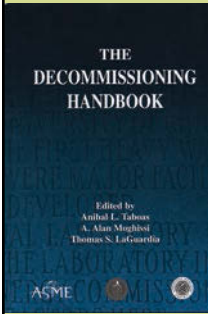
Call 800-394-6853 or Order On-line!

5 Glen Road, Manchester, CT

MohawkSafety.com

The Decommissioning Handbook

Anibal L. Taboas, A. Alan Moghissi, and Thomas S. LaGuardia, Editors




2004
 hardcover . 500 pages
 ISSN: 0-89448-041-3
 ANS Order No.: 300031
 \$100.00

Sponsored by the American Nuclear Society (ANS), the American Society of Mechanical Engineers (ASME), and the U.S. Dept. of Energy, this reference in nuclear decommissioning is a comprehensive effort combining policy, engineering, and science. *The Decommissioning Handbook* provides both a full introduction for those new to the field and a current desk reference on regulations, resources, and experience.

Printed text is supplemented with a compact disk and provides updates via Internet access.

For more information contact:

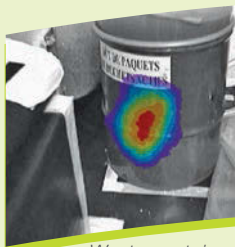
American Nuclear Society
 555 N. Kensington Avenue
 LaGrange Park, IL 60526 USA
 email: scook@ans.org

 **ANS**

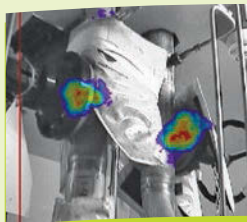
T: (708) 579-8210 • F: (708) 579-8314 • <http://www.ans.org>

All orders must be prepaid. American Express, Visa, MasterCard, and Diners Club accepted.

iPIX™: The New Standard for Gamma Imaging



Waste container monitoring



Checking shielding effectiveness



Hot spot detection while surveying piping



Glove box monitoring



Optional remote-controlled pan/tilt kit



Lightweight unit can be deployed and transported in the field.

Locate hot spots quickly and accurately

Benefits:

- Estimates dose rate of hot spots
- Real-time acquisition and display
- Small size and weight for ultra portability
- Simple and intuitive user interface
- Improved worker safety while reducing dose/time budget
- Sensitive for energies down to 30 keV
- Rugged industrial design for harsh environments - IP65

Applications for operational and decommissioning nuclear facilities:

- Source localization prior to decontamination
- Waste management solution
- D&D scenario definition
- Monitoring of maintenance operation
- Dimensioning of protective shielding



Ultra portable

To learn more, go to www.canberra.com/iPIX



Attenuation Environmental Co., Seattle, WA (EI, PW, RE, RC)
 BCP Engineers & Consultants, Gretna, LA (IH, I, PW, Q, RE, RC, TH, TM)
 Beamex, Inc., Marietta, GA (C)
 ◆ **Berkeley Nucleonics Corp., San Rafael, CA (C)**
 ◆ BES Technologies, Oak Ridge, TN (LE, LW, RF, RT)
 ◆ BHI Energy, Plymouth, MA (D, EI, IH, I, PW, Q, RS, RE, RC, RT, S, TH, TM)
 Bubble Technology Industries Inc., Chalk River, Ontario, Canada (D)
 Cabrera Services Inc., East Hartford, CT (BI, BA, C, D, EI, IH, Q, RS, RE, S, TH, TM)
 ◆ Canberra Industries, Meriden, CT (C, EI, I, L, RS, RE, TH, WB)
 Chesapeake Nuclear Services, Inc., Annapolis, MD (EI, I, PW, Q, RS, RE, RC, S, TH)
 Cox Nuclear Consulting Services LLC, Seabrook, NH (RE)
 Dade Moeller & Assoc., Richland, WA (BT, C, IH, PW, RE, RC, S, TH)
 The Delphi Groupe, Inc., Austin, TX (HC, IH, I, PW, Q, RS, RE, RC, TH, TM)
 Eastern Technologies, Inc., (OREX), Ashford, AL (LW, RT)
 ECC, Burlingame, CA (RE)
 ◆ EnergySolutions LLC, Salt Lake City, UT (RE, S) Environmental Restoration Group, Inc., Albuquerque, NM (S, TH)
 Foss Therapy Services, Inc., North Hollywood, CA (C)
 ◆ The GEL Group, Inc., (GEL Engineering, LLC), (GEL Laboratories, LLC), (GEL Geophysics, LLC), (Cape Fear Analytical, Inc.), Charleston, SC (IH, L, RF)
 The GEL Group, Inc., (General Engineering Laboratories, LLC), Charleston, SC (IH, L, RF, S)
 Grove Engineering, Inc., (Grove Software), Lynchburg, VA (RE)
 Health Physics Instruments, Goleta, CA (C)
 HI-Q Environmental Products Co., Inc., San Diego, CA (BA, C)

Hopewell Designs, Inc., Alpharetta, GA (C)
 Stan A. Huber Consultants, Inc., New Lenox, IL (C, D, IH, PW, Q, RC, S, TH)
 ICM-International Climbing Machines, Ithaca, NY (S)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (IR, RE)
 K&S Associates, Inc., Nashville, TN (BT, C)
 Leidos, Reston, VA (EI, HC, IH, PW, Q, RE)
 Materials & Chemistry Laboratory, Inc., Oak Ridge, TN (IH, L)
 MHF Services, (An EnergySolutions Company), Wexford, PA (PW, Q)
 Mirion Technologies Dosimetry Services, Irvine, CA (BF, BT, D)
 NEWEX-SSG, LLC, Folsom, CA (I, PW, RE, RC, S, TH)
 NPTS, Inc., Buffalo, NY (I, RE, TH)
 NRG, Petten, The Netherlands (BT, D, EI, I, L, LW, PW, Q, RS, RC, S, TH, U, WB)
 Nuclear Technology Services, Inc., Roswell, GA (BI, C, L, RS, RE, TH, U)
 Pacific Radiation Corp., Altadena, CA (TH)
 Partners Environmental Consulting, Inc., Solon, OH (EI, IH)
 PECOS Management Systems, Inc., (PECOS), Albuquerque, NM (EI, HC, PW, Q)
 Perma-Fix Environmental Services, Inc., Knoxville, TN (C)
 Philotechnics, Ltd., Oak Ridge, TN (RE)
 Portage Inc., Idaho Falls, ID (IH)
 Proxtronics Dosimetry, LLC, (Proxdoze), Alexandria, VA (C, L, Q, RE, TH)
 RADECO, Inc., Plainfield, CT (C)
 ◆ Radiation Protection Systems, Inc., Groton, CT (RE, TH, TM)
 Radiation Safety Assoc., Inc., Hebron, CT (C, I, L, PW, RS, RE, RC, RE, RT, S, TH)
 Radiological Solutions, Inc., Rockdale, IL (PW, RC)
 RSO, Inc./Radiation Service Organization, Laurel, MD (BI, C, D, I, L, RI, S, TH, U)
 Saphymo, Saint-Aubin, France (C)

◆ Denotes Advertiser

Sargent & Lundy LLC, Chicago, IL (EI, I, PW, Q, RE, RC, TH, TM)
 Siemens Power Generation Services, Orlando, FL (TH)
 Siempelkamp Nuclear Services, Inc., West Columbia, SC (I, RE, S)
 Howard L. Sobel, P.E., Oceanside, NY (Q, RC)
 Standish Technologies International, Deerfield Beach, FL (RC)
 Stoller Newport News Nuclear (SN3), (A sub. of Huntington Ingalls Industries), Broomfield, CO (EI, PW, Q, RE, RC, S)
 Technical Management Services, Inc., New Hartford, CT (TH)
 TLG Services, Inc., (Affl. of Energy Corp.), Bridgewater, CT (RE)
 ◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (HC, LE, LW, RC, RF, RT, S)
 Westinghouse Electric Co., Nivelles, Belgium (C, D, EI, I, L, Q, RS, RE, RC, RF, S, TH)
 ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (C, D, EI, I, L, Q, RS, RE, RC, RF, S, TH)
 ◆ WMG, Inc., Peekskill, NY (PW, RC)
 WorleyParsons, Reading, PA (EI, RE, RC)
 WorleyParsons, Markham, Ontario, Canada (EI, RE, RC)

37600 Heat Exchangers & Equipment-

also see Computer Software

- C Coil
- HP Heat Pipe
- P Plate/Tube
- RF Refacing Equipment (On-Site)
- S Shell/Tube
- SA Sodium/Air
- SS Sodium/Sodium
- SW Sodium/Water
- W Wet Surface Air Coolers

American Fabrication, Inc., Idaho Falls, ID (S)
 AZZ Nuclear | NLI, Fort Worth, TX (P, S)



BNC SAM III - ISOTOPE IDENTIFIER



- Handheld or Backpack Options
- Auto Cal / Auto Background Adjustments
- Meet ALARA with Stand-Off
- Algorithm Replay Tool
- PeakAbout App Included
- #1-Rated Sensitivity
- ANSI+ Library, N42-Compliant
- Append Alarms/Events with Notes, Picture, & Videos
- IP65 Packaging with Built In Flashlight, Process Controller
- Cambio, Peak Easy or SAM-Viewer Compatible



Model RD-120 SAMpack

See the SAM III Product Video @ www.BerkeleyNucleonics.com or call for a 2-week demo - 800-234-7858.

Berkeley Nucleonics Corp. 2955 Kerner Blvd., San Rafael, CA 94901 USA



Check out our new look!

The Advertising segment of the ANS website has been redesigned to highlight our numerous print and online advertising offerings.

Since the American Nuclear Society accepted its first advertisement in 1960, more than 1000 worldwide companies and organizations have used our magazines and website as part of their annual business development strategy.

For ideas on how to help keep the nuclear industry informed about the products and services, conferences and events, employment opportunities, or academic courses you offer visit www.ans.org/advertising



- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (C, HP, P, RF, S)
- Curtiss-Wright Nuclear Division, Brea, CA (P)
- ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (C, HP, P, S)
- Ellis & Watts Global Industries, Inc., Batavia, OH (C, HP, P, S)
- Equipos Nucleares, S.A., Madrid, Spain (HP, P, S, W)
- ◆Joseph Oat Corp., Camden, NJ (C, S)
- Vigor (formerly Oregon Iron Works), Clackamas, OR (P, S)
- ◆Wagstaff Applied Technologies, Spokane, WA (C, HP, P, S)

39650 Hydraulic Systems & Components—also see Consultants; Pumps, Other

- Curtiss-Wright Nuclear Division, Brea, CA
- Fauske & Associates, LLC, (A sub. of Westinghouse Electric Company, LLC), Burr Ridge, IL
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia

39960 Imaging, Digital

- CS Consulting Services
- H Hardware
- RS Radiographic Scanning
- RT Real-Time
- S Software
- BCP Engineers & Consultants, Gretna, LA (CS, RS, RT, S)
- Cutting Technologies (CTI), Gloucester City, NJ (RS)
- Diakont, San Diego, CA (CS, H, RT, S)
- General Plastics MFG. Co., Tacoma, WA (CS)
- InterTest, Inc., Columbia, NJ (RT)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (RT, S)
- NRG, Petten, The Netherlands (RS)
- Remote Ocean Systems (ROS), San Diego, CA (H)

40050 Indicators

- F Flow
- LF Laminar Flow
- LE LEDs
- L Level
- P Pressure
- T Temperature
- V Vibration
- Air Monitor Corp., Santa Rosa, CA (F, P)
- Automation Products, Inc., (Dynatrol® Div.), Houston, TX (L)
- AZZ Nuclear | NLI, Fort Worth, TX (F, L, P, T)
- C.J. Enterprises, (Div. of C.J. Instruments, Inc.), Tarzana, CA (L, P, T, V)
- Curtiss-Wright Nuclear Division, Brea, CA (F, LF, L, P, T)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (F, L, P, T)
- ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (F, L, P, T)
- Doosan HF Controls Corp., (Sub. of Doosan Heavy Industries & Construction Co., Ltd.), Carrollton, TX (F, LF, L, P, T, V)
- Elan Technical Corp., Eden Prairie, MN (P, T)
- FCI-Fluid Components International LLC, San Marcos, CA (F, L, T)
- Intek, Inc., Westerville, OH (F)
- Magnetrol International, Aurora, IL (L)
- Nutherm International, Inc., Mount Vernon, IL (F, L, P, T)
- OTEK Corp., Tucson, AZ (F, L, P, T, V)
- RADeCO, Inc., Plainfield, CT (F)
- Rockwell Automation, Inc., Milwaukee, WI (F, L, P, T)
- Rosemount Nuclear Instruments, Inc., Chanhassen, MN (F, L, P)
- Siemens Process Industries and Drives, (Industry Automation Div.), (Process Instrumentation & Analytics), Hauppauge, NY (F)
- Westinghouse Electric Co., Nivelles, Belgium (F, L, P, T, V)
- ◆Westinghouse Electric Co. LLC, Cranberry Township, PA (F, L, P, T, V)

40700 Information Services

- ◆ExchangeMonitor Publications & Forums, Rockville, MD
- International Atomic Energy Agency, Vienna, Austria
- Nuclear News Magazine, La Grange Park, IL
- Nuclear Waste News, Potomac, MD
- OECD Nuclear Energy Agency (NEA), Issy-les-Moulineaux, France
- Radwaste Solutions Magazine, La Grange Park, IL
- RussTech Language Services, Inc., Tallahassee, FL
- Stoller Newport News Nuclear (SN3), (A sub. of Huntington Ingalls Industries), Broomfield, CO
- Westinghouse Electric Co., Nivelles, Belgium
- ◆Westinghouse Electric Co. LLC, Cranberry Township, PA

40900 Inspection Services—also see NDT;

- Video Services*
- CR Control Rods & Drives
- C Cranes & Hoists
- D Dimensional
- DS Diaphragms, Storage Tank
- EM Electric Motors
- EE Electrical, Electromechanical Equipment
- FI Fuel, Irradiated
- IS In-Service
- IA Inspection Agency, ASME Code
- MS Microscopy, Scanning
- ND Nondestructive Examination
- P Pipeline
- PS Pipe Supports
- Q QA/QC
- SI Safety, Industrial
- S Siren Systems
- SO Solenoids
- ST Structures
- TP Tanks & Pools
- VR Visual, Remote
- W Welding
- U Underwater, Remote, In-Service
- Ahlberg Cameras, Wilmington, NC (VR, U)
- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (IS, ND, VR, U)
- American Crane & Equipment Corp., Douglassville, PA (C)
- Anamet Inc., Hayward, CA (ND, Q)
- AREVA Inc., (North American Headquarters), Charlotte, NC (CR, C, D, EM, EE, FI, IS, ND, Q, SO, VR, W, U)
- ◆AREVA TN, Columbia, MD (FI, ND, Q, TP, W, U)
- AZZ | WSI LLC, Norcross, GA (W)
- G.D. Barri & Associates, Inc., Peoria, AZ (Q)
- BCP Engineers & Consultants, Gretna, LA (IS, ND, Q, VR)
- Bowtech Products Ltd., Aberdeen, United Kingdom (P, VR, U)

- ◆BWx Technologies, Inc., Lynchburg, VA (D, FI, MS, ND, PS)

See advertisement on Cover 3

- ◆Canberra Industries, Meriden, CT (ND)
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (Q)
- Corrosion Control Services, Inc., (CCSI Engineered Diaphragm Div.), Davenport, IA (DS, TP)
- CS-2 Inc., Grand Island, NY (SI)
- Curtiss-Wright Nuclear Division, Brea, CA (IS, ND, PS, Q)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright Anatec), Irvine, CA (IS, IA, ND, P, Q, VR, W)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (IS, ND, P, VR, W)
- DCS Systems, Inc., Simsbury, CT (Q)
- The Delphi Groupe, Inc., Austin, TX (Q, SI)
- Fuel Tank Maintenance Co., LLC, Cookeville, TN (IS, ND, P, TP, W)
- Genave Electronics, Rosemount, MN (S)
- ICM-International Climbing Machines, Ithaca, NY (ND, VR)
- Inuktun US, LLC, Rio Rancho, NM (P, TP, VR, U)
- ◆iRobot Corp., Bedford, MA (VR)
- ◆Joseph Oat Corp., Camden, NJ (ND, PS, Q, TP, W)
- Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (C)

◆ Denotes Advertiser

- Kurion, Inc., Richland, WA (TP, VR, U)
- Lenox Instrument Co., Inc., Treveose, PA (ND, VR)
- Materials & Chemistry Laboratory, Inc., Oak Ridge, TN (MS, ND)
- National Inspection & Consultants, Fort Myers, FL (IS, ND, Q)
- NPTS, Inc., Buffalo, NY (IS, Q)
- NRG, Petten, The Netherlands (FI, IS, ND, Q)
- NUCON International, Inc., Columbus, OH (IS)
- Precision Custom Components, LLC, York, PA (D, ND, Q, W)
- Project Assistance Corp. (PAC), Walnut Creek, CA (IS, Q)
- Rockwell Automation, Inc., Milwaukee, WI (EM)
- ◆R.O.V. Technologies, Inc., Brattleboro, VT (IS, ND, Q, TP, VR, U)
- Sargent & Lundy LLC, Chicago, IL (D, IS, PS, Q, TP, VR)
- SKODA JS a.s., Plzen, Czech Republic (CR, IS, ND, W)
- ◆SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (FI, IS, ND, PS, VR, W)
- Howard L. Sobel, P.E., Oceanside, NY (Q)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (FI, U)
- System One, Pittsburgh, PA (C, IS, ND, P, PS, Q, SI, ST, TP, VR, W)
- ◆Thermo Scientific - CIDTEC Cameras & Imagers, (Part of Thermo Fisher Scientific), Liverpool, NY (VR)
- Underwater Construction Corp., Essex, CT (ND, Q, TP)
- Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (IS, ND, Q, ST, TP, VR, U)
- Westinghouse Electric Co., Nivelles, Belgium (CR, FI, IS, IA, ND, Q, VR)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (C)
- ◆Westinghouse Electric Co. LLC, Cranberry Township, PA (CR, FI, IS, IA, ND, Q, VR)
- ◆Worthington Industries, Columbus, OH (ND, W)
- Zachry Nuclear Engineering, Inc., Stonington, CT (P, PS)

41000 Instrument Services—also see Calibration Services; Health Physics Services

- Applied Health Physics, LLC, Bethel Park, PA
- AREVA Inc., (North American Headquarters), Charlotte, NC
- ◆Berkeley Nucleonics Corp., San Rafael, CA
- ◆Canberra Industries, Meriden, CT
- Curtiss-Wright Nuclear Division, Brea, CA
- Doosan HF Controls Corp., (Sub. of Doosan Heavy Industries & Construction Co., Ltd.), Carrollton, TX
- ◆EnergySolutions LLC, Salt Lake City, UT
- Equipos Nucleares, S.A., Madrid, Spain
- EXCEL Services Corporation, Rockville, MD
- HI-Q Environmental Products Co., Inc., San Diego, CA
- NUCON International, Inc., Columbus, OH
- Rockwell Automation, Inc., Milwaukee, WI
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia
- Westinghouse Electric Co., Nivelles, Belgium
- ◆Westinghouse Electric Co. LLC, Cranberry Township, PA

41015 Instrumentation, Misc.

- A Analyzer, Total Uranium (Water, Soils, Bioassay)
- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (A)
- Cabrera Services Inc., East Hartford, CT (A)

41200 Insulation, Thermal

- B Blanket
- C Cable
- CT Cable Tray
- HT High-Temperature
- MR Metal Reflective
- N Nuclear Quality (Q Materials)
- PT Pipe and Tube

Join us for two upcoming events on radioactive waste management and the cleanup of U.S. nuclear weapons complex and similar efforts worldwide.

THE RADWASTE SUMMIT

SEPTEMBER 8 - 11, 2015 - JW MARRIOTT - SUMMERLIN, NEVADA

WWW.RADWASTESUMMIT.COM

Register now to communicate and discuss emerging issues and developments in the radioactive waste industry. New topics to be covered in 2015 include:

- Industry Perspectives on DOE's New Approaches for Nuclear Waste Management
- Storage and Transportation of Nuclear Spent Fuel and Nuclear Waste
- DOE Defense Waste Opportunities and Challenges
- Status of Domestic Decommissioning Market Today
- Domestic Moly-99 Production

Register now at www.radwastesummit.com.

WEAPONS COMPLEX MONITOR DECISIONMAKER'S FORUM

OCTOBER 19 - 22, 2015 - OMNI AMELIA ISLAND PLANTATION - AMELIA ISLAND, FL

WWW.DECISIONMAKERSFORUM.COM

Join key leaders from government and industry to discuss critical policy and regulatory changes that have occurred in the past year regarding cleanup efforts, procurement updates and safety performance. Sessions include:

- New Contracting and Procurement Approaches
- WIPP Reopening
- Waste Cleanup Alternatives Being Developed Internationally
- A panel on new ideas on advancing nuclear waste cleanup
- And more!

Register now at www.decisionmakersforum.com.

Alphasource, Inc., Philadelphia, PA (B, C, HT, PT)
 AREVA Inc., (North American Headquarters),
 Charlotte, NC (N)
 Consolidated Power Supply, (Div. of Consolidated
 Pipe & Supply Co., Inc.), Birmingham, AL (N,
 PT)
 ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (N,
 PT)
 EXCEL Services Corporation, Rockville, MD (N)

41700 Ion-Exchange Systems, Materials & Services

Epicor, Inc., Linden, NJ
 Kurion, Inc., Richland, WA
 Purolite Corp., Bala Cynwyd, PA
 UOP, A Honeywell Co., Des Plaines, IL

44000 Laboratories, Mobile

A Analytical Services, On-Site
 E Environmental Analysis
 AMEASOL - American Measurement Solutions
 LLC, Santa Fe, NM (A)
 AREVA Inc., (North American Headquarters),
 Charlotte, NC (A, E)
 ◆BES Technologies, Oak Ridge, TN (E)
 Cabrera Services Inc., East Hartford, CT (A, E)
 ◆EnergySolutions LLC, Salt Lake City, UT (A)
 Radiation Safety Assoc., Inc., Hebron, CT (A)
 Sosny Research and Development Co.,
 Dimitrovgrad, Ulyanovsk region, Russia (A)
 System One, Pittsburgh, PA (A)
 Wastren Advantage, Inc., Piketon, OH (A, E)

45550 Lights, Lighting

C Construction
 E Emergency
 HC Hot Cell
 P Pool, Nuclear
 PB Portable, Battery-Powered
 RF Reactor Floor
 U Underwater
 AREVA Inc., (North American Headquarters),
 Charlotte, NC (U)
 BIRNS, Inc., Oxnard, CA (E, HC, P, RF, U)
 Bowtech Products Ltd., Aberdeen, United
 Kingdom (E, HC, P, RF)
 Diakont, San Diego, CA (HC, P, U)
 Inuktun Services Ltd., Nanaimo, BC, Canada (U)
 Lights Camera Action, LLC, Gilbert, AZ (C, P, RF,
 U)
 Mirion Technologies (IST) Corp., (Sensing Systems
 Div.), Horseheads, NY (P, U)
 Nuclear Systems Associates, Inc., Brea, CA (E, HC)
 Premier Technology, Inc., Blackfoot, ID (HC)
 Remote Ocean Systems (ROS), San Diego, CA
 (HC, P, U)
 ◆R.O.V. Technologies, Inc., Brattleboro, VT (P, U)
 Sidus Solutions LLC, San Diego, CA (U)
 ◆UniTech Services Group, Inc., (Sub. of UniFirst
 Corp.), Springfield, MA (E)

47400 Maintenance & Repair Services-

also see Testing Services

BM Bolt-Maintenance
 BB Bus Bar Insulating (Epoxy Coating)
 C Concrete
 CO Condenser
 CN Construction
 CR Control Rod Drives
 CT Cooling Towers
 CH Cranes & Hoists
 DG Diesel Generators
 E Electrical Equipment
 EJ Expansion Joints
 FP Freeze Plugging/Sealing (Pipe)
 F Fuel Assemblies
 FT Fuel Transfer Equipment
 G General
 HX Heat Exchangers
 HV HVAC Equipment
 H Hydraulic Equipment
 LC Leak Repair, Concrete
 LP Loose Parts Retrieval
 MS Mechanical Seals
 MO Motors, Electric

OM Outage Management Services
 PS Penetration Seals
 PI Pipe Cleaning, Internal (Bio-Fouling)
 PR Pipe Repair & Replacement
 PL Pool Liner Inspection & Repair
 PT Post-Tensioning System Surveillance
 PA Power Apparatus
 PC Protective Coatings
 PM Pump & Motor, Main Coolant
 PU Pump Inspection & Repair
 RM Radiation Measuring Devices &
 Systems
 RS Radiation Shielding
 RW Radiation-Shielding Windows
 RI Reactor Internals
 RF Refueling Equipment
 RE Remote Inspection/Repair
 RA Rotating Machinery Alignment
 RO Rotating Machinery, Vibration
 Monitoring (Predictive)
 SC Screens, Traveling
 ST Seal Table/Flux Thimbles
 SS Security Systems, Anti-Intrusion
 S Snubbers
 SF Spent-Fuel Racks
 SN Stud/Nut Removal
 TC Tank Cleaning, Fuel Storage
 TR Trash Racks
 TS Tubesheet, Epoxy Cladding
 U Underwater Repairs
 VA Valve Actuators
 VR Valve Repair, Recertification
 VO Valve Testing, Off-Line
 VT Valve Testing, On-Line
 WI Water Intake Cavity Cleaning (Bio-
 Fouling)

Alaron Nuclear Services, Wampum, PA (MO, PM,
 PU, RO, SF, TC)
 Alphasource, Inc., Philadelphia, PA (OM, PI, PR,
 RS)
 American Airworks, Sophia, WV (VO)
 American Ceramic Technology, Inc., (Silflex
 Shielding), Escondido, CA (RS)
 AREVA Inc., (North American Headquarters),
 Charlotte, NC (BM, CO, CR, CT, CH, DG, E,
 F, FT, G, HX, LP, MS, MO, OM, PI, PR, PL, PT,
 PA, PM, PU, RM, RI, RF, RE, RA, RO, ST, SS,
 SF, SN, U, VA, VR, VO, VT, WI)
 ◆AREVA TN, Columbia, MD (FT, SF, TC)
 AT&F, Cleveland, OH (RI, SF)
 AZZ Nuclear | NLI, Fort Worth, TX (CO, E, HX,
 HV, PM, PU)
 AZZ | WSI LLC, Norcross, GA (PR, RI, VR)
 ◆Berkeley Nucleonics Corp., San Rafael, CA (RM)
 ◆BHI Energy, Plymouth, MA (BM, E, G, H, OM,
 PR, PM, PU, RF, RE, RA, VR, VO, VT)
 Bigge Power Constructors, (Div. of Bigge Crane
 and Rigging Co.), San Leandro, CA (CH)
 COH, Inc., Boisbriand, Quebec, Canada (CH, FT)
 ComRent International, LLC, Upper Marlboro,
 MD (DG, E, G, MO, OM)
 Cox Nuclear Consulting Services LLC, Seabrook,
 NH (RM)
 Crane Nuclear, Inc., Kennesaw, GA (VA, VO, VT)
 Curtiss-Wright Nuclear Division, Brea, CA (VR)
 Curtiss-Wright Nuclear Division, Brea, CA (EJ,
 HX, HV, H, MS, PU, S)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright
 Anatec), Irvine, CA (CO, HX, RE)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright
 QualTech NP), Cincinnati, OH (PS)
 Diakont, San Diego, CA (CH, DG, FT, RF, RE,
 VA)
 ◆DNS - Dedicated Nuclear Solutions, Aiken, SC
 (CO, E, HX, HV, PM, PU)
 ECU Corporation, Cincinnati, OH (HV)
 ENECON Corp., Medford, NY (BB, C, CO, CN,
 CT, EJ, FP, HX, HV, LC, MS, OM, PR, PL, PC,
 PU, TS)
 Equipos Nucleares, S.A., Madrid, Spain (BM, CO,
 HX, HV, MS, MO, PR, PL, PT, PM, PU, RI, U,
 VA, VR, VO, VT)
 EXCEL Services Corporation, Rockville, MD (S)
 Foss Therapy Services, Inc., North Hollywood, CA
 (RM)
 Fuel Tank Maintenance Co., LLC, Cookeville, TN
 (C, CN, CT, EJ, G, HV, LC, PI, PR, PL, PC, TC)

◆ Denotes Advertiser

Graycor Industrial Constructors, Oakbrook
 Terrace, IL (C, CN, CT, G, LC, PR)
 Health Physics Instruments, Goleta, CA (RM)
 Hopewell Designs, Inc., Alpharetta, GA (RS, SC)
 ISO-PACIFIC Nuclear Assay Systems, Inc.,
 Richland, WA (RM)
 Konecranes Nuclear Equipment & Services LLC,
 New Berlin, WI (CH, FT)
 K&S Associates, Inc., Nashville, TN (RM)
 Kurion, Inc., Richland, WA (RE)
 Newport News Nuclear, Inc., Newport News, VA
 (OM, RF)
 PaR Systems, Inc., Shoreview, MN (CH, RE, TC)
 Plastruct Polyzone, Vineland, Ontario, Canada (RS)
 Preferred Engineering Corp., (Sub. of Preferred
 Utilities Mfg. Corp.), Danbury, CT (RS, RF)
 Premier Technology, Inc., Blackfoot, ID (HX)
 Prevision Systems LLC, Hackettstown, NJ (LP,
 RE)
 Robatel Technologies LLC, Roanoke, VA (RS)
 Sarens USA, Inc., San Ramon, CA (CN, CH, HX,
 RI, SF)
 Schutte and Koerting, Trevose, PA (VA, VR, VO)
 Siempelkamp Nuclear Services, Inc., West
 Columbia, SC (BM, CH, FT, RF, SN)
 Siempelkamp Nukleartechnik GmbH, Krefeld,
 Germany (BM, CH, FT, RF, SN)
 Sosny Research and Development Co.,
 Dimitrovgrad, Ulyanovsk region, Russia (F, FT,
 RF, TC)
 Tranter, Inc., Wichita Falls, TX (HX, HV)
 Tri Tool Inc., Rancho Cordova, CA (HX, OM, PR,
 RE)
 Underwater Engineering Services, Inc., (Nuclear
 Services Div.), Fort Pierce, FL (CO, G, PI, PA,
 PC, RF, RE, S, SF, SN, TC, TR, TS, WI)
 Valcor Engineering Corp., (Valcor Nuclear)(Valcor),
 Springfield, NJ (VA)
 Westinghouse Electric Co., (Fuel Handling
 Equipment & Crane Manufacturing), Shoreview,
 MN (CH, F, FT, OM, RF, SF)
 ◆Worthington Industries, Columbus, OH (PR, SF)

47600 Manipulators, Remote-also see Remote Control, Handling & Positioning Devices

Fuji Electric Corp. of America, Edison, NJ
 Inuktun Services Ltd., Nanaimo, BC, Canada
 Inuktun US, LLC, Rio Rancho, NM
 PaR Systems, Inc., Shoreview, MN
 Plant Decommissioning, Lake Villa, IL
 Prevision Systems LLC, Hackettstown, NJ
 Robatel Technologies LLC, Roanoke, VA
 Sosny Research and Development Co.,
 Dimitrovgrad, Ulyanovsk region, Russia
 Westinghouse Electric Co., (Fuel Handling
 Equipment & Crane Manufacturing), Shoreview,
 MN
 Wälischmiller Engineering GmbH, Markdorf,
 Baden-Württemberg, Germany

47620 Mapping Services

A Automated
 C Conventional
 Rockwell Automation, Inc., Milwaukee, WI (A)
 Stoller Newport News Nuclear (SN3), (A sub. of
 Huntington Ingalls Industries), Broomfield, CO
 (A, C)
 Sundance Consulting, Inc., Pocatello, ID (A)
 Westinghouse Electric Co., (Fuel Handling
 Equipment & Crane Manufacturing), Shoreview,
 MN (A, C)

47630 Markers, Identification

Coastal Network, Inc., Charlottesville, VA
 Tech Products, Inc., Staten Island, NY
 ◆UniTech Services Group, Inc., (Sub. of UniFirst
 Corp.), Springfield, MA
 Williams Industrial Services Group, LLC, (Williams
 Plant Services, LLC), Tucker, GA

51730 Meteorological Equipment-also see Environmental Monitoring Equipment

A Anemometers

- B Barometers
- H Humidity Sensors
- P Precipitation Sensors
- SR Solar Radiation Sensors
- T Temperature Sensors

Elan Technical Corp., Eden Prairie, MN (H, T)
RdF Corp., Hudson, NH (T)

53950 Mockup Design & Fabrication—

also see Training Materials

- CR Control Room
- E Equipment
- LR Local & Remote Control Panels

AREVA Inc., (North American Headquarters),
Charlotte, NC (CR)
ISO-PACIFIC Nuclear Assay Systems, Inc.,
Richland, WA (LR)
Kurion, Inc., Richland, WA (CR, LR)
Plant Decommissioning, Lake Villa, IL (E)
Precision Custom Components, LLC, York, PA (E)
Premier Technology, Inc., Blackfoot, ID (E)
♦REI Nuclear, LLC, Columbia, SC (E, LR)
Sosny Research and Development Co.,
Dimitrovgrad, Ulyanovsk region, Russia (CR, E,
LR)
♦Wagstaff Applied Technologies, Spokane, WA (CR,
E, LR)
Westinghouse Electric Co., Nivelles, Belgium (CR,
E, LR)
♦Westinghouse Electric Co. LLC, Cranberry
Township, PA (CR, E, LR)

54750 Monitors, Other Than Radiation

- AI Air In-Leak
- CC Cable Condition
- CV Check Valve
- C Chlorine
- CW Cooling Water System
- CO Corrosion
- FE Filter Efficiency
- F Fuel Element (Ex-Reactor)
- G Gas
- HL Humidity, Integrated Leak Rate Test
- IL In-Line Process
- LP Loose Parts
- MC Machinery Condition
- N Noise
- SW Service Water System
- T Temperature
- V Vibration
- WC Water Chemistry
- W Weld

Alber Corp., Sunrise, FL (MC)
AREVA Inc., (North American Headquarters),
Charlotte, NC (CV, C, F, IL, LP, MC, T, V, WC)
Automation Products, Inc., (Dynatrol® Div.),
Houston, TX (IL)
C.J. Enterprises, (Div. of C.J. Instruments, Inc.),
Tarzana, CA (V)
Curtiss-Wright Nuclear Division, Brea, CA (AI,
CV, T, V)
Doosan HF Controls Corp., (Sub. of Doosan
Heavy Industries & Construction Co., Ltd.),
Carrollton, TX (AI, CC, CV, C, CW, CO, FE, F,
G, HL, IL, LP, MC, N, SW, T, V, WC)
Elan Technical Corp., Eden Prairie, MN (HL, IL,
T)
ENMET, Ann Arbor, MI (C, G)
FCI-Fluid Components International LLC, San
Marcos, CA (AI, G)
Gassew Associates, Inc., Darby, PA (CC, T)
Intek, Inc., Westerville, OH (AI)
JSM Protective, Inc., Wilmington, NC (T)
Mirion Technologies (IST) Corp., (Sensing Systems
Div.), Horseheads, NY (F, LP, N, T)
MPR Associates, Inc., Alexandria, VA (MC, SW)
Munro Instruments Ltd., Woodford Green, Essex,
United Kingdom (G)
Newport News Nuclear, Inc., Newport News, VA
(W)
Nextteq LLC, Tampa, FL (C, G)
NUCON International, Inc., Columbus, OH (FE)
NWT Corp., San Jose, CA (WC)
Predictive Maintenance Inspection, Inc., Madison,
AL (T, V)
Radiological Solutions, Inc., Rockdale, IL (CO,
WC)
RdF Corp., Hudson, NH (T)

Saphymo, Saint-Aubin, France (G)
Sidus Solutions LLC, San Diego, CA (CW, SW)
Sosny Research and Development Co.,
Dimitrovgrad, Ulyanovsk region, Russia (F)
Waters Equipment, Oconomowoc, WI (WC)
Westinghouse Electric Co., Nivelles, Belgium (F, IL,
LP, T, V)
♦Westinghouse Electric Co. LLC, Cranberry
Township, PA (F, IL, LP, T, V)

55040 Monitors, Radiation, Area

**& Special-Purpose—also see
Environmental; Radiation Monitoring**

- AA Air, Alpha, Continuous
- AP Air, Particulate
- AF Automated Floor Survey System
- B Bag
- CW ConveyORIZED Waste
- DB Drum/Barrel
- FA Fixed-Area
- F Floor Contamination
- FC Food Contamination
- GE Gas Effluent
- G Gate
- LE Liquid Effluent
- M Microwave & RF Radiation
- MA Mobile (Aircraft)
- MV Mobile (Vehicular)
- OS Outstations
- P Perimeter
- PL Pipe/Lumber
- PS Portable Survey Meters
- R Radon
- S Scrap, Radioactive
- T Tool
- TR Tritium
- TP Tritium, Portable
- U Underwater

Air Monitor Corp., Santa Rosa, CA (AP)
Applied Health Physics, LLC, Bethel Park, PA (F,
PS, S)
Arrow-Tech, Inc., Rolla, ND (PS)
♦Berkeley Nuclonics Corp., San Rafael, CA (PS)
Bubble Technology Industries Inc., Chalk River,
Ontario, Canada (MA, MV, PS, R, S)
♦Canberra Industries, Meriden, CT (AA, AP, CW,
DB, FC, GE, LE, R, S, T)
Chesapeake Nuclear Services, Inc., Annapolis, MD
(CW, DB, MV)
Coastal Network, Inc., Charlottesville, VA (AP, PS)
Cutting Technologies (CTI), Gloucester City, NJ
(F)
Environmental Restoration Group, Inc.,
Albuquerque, NM (AF, F, R)
FCI-Fluid Components International LLC, San
Marcos, CA (AP, GE, LE)
Femto-Tech, Inc., Carlisle, OH (AA, R, TR, TP)
F&J Specialty Products, Inc., Ocala, FL (AP, R)
Fuji Electric Corp. of America, Edison, NJ (FA, PS)
Health Physics Instruments, Goleta, CA (PS)
HI-Q Environmental Products Co., Inc., San
Diego, CA (AA, AP, TR, TP)
ISO-PACIFIC Nuclear Assay Systems, Inc.,
Richland, WA (S)
JSM Protective, Inc., Wilmington, NC (PS)
LabLogic Systems, Inc., Brandon, FL (PS)
Mazur Instruments, Castle Rock, CO (PS)
Mirion Technologies (RADOS) GmbH, Hamburg,
Germany (B, CW, DB, F, PS, S)
Munro Instruments Ltd., Woodford Green, Essex,
United Kingdom (AA, AP, PS)
ORDELA, Inc., Oak Ridge, TN (LE)
ORTEC, Oak Ridge, TN (AP, B, CW, DB, FA, F,
FC, GE, G, LE, MV, P, PL, PS, R, T, TR)
Premium Analyse, Norroy Le Veneur, France (TR,
TP)
Pylon Electronics Inc., (Div. of Autrex)
(Instrumentation Dept.), Ottawa, Ontario,
Canada (AA, AP, F, PS, R)
Qal-Tek Associates, LLC, Idaho Falls, ID (S)
RADeCO, Inc., Plainfield, CT (AA, AP)
Radiation Safety Assoc., Inc., Hebron, CT (PS, TP)
Radiological Solutions, Inc., Rockdale, IL (PL, PS)
Rexon Components, Inc., Beachwood, OH (AA,
AP, FA, F, GE, P, R, S, TR, TP, U)
♦R.O.V. Technologies, Inc., Brattleboro, VT (U)

♦ Denotes Advertiser

RSO, Inc./Radiation Service Organization, Laurel,
MD (FA, PS, R)
RTCA-Radon Testing Corp. of America, Inc.,
Elmsford, NY (R)
Saphymo, Saint-Aubin, France (AA, AP, AF, CW,
DB, F, GE, G, LE, PS, R, S, T, TR, TP, U)
S.E. International, Inc., Summertown, TN (PS)
Staplex - Air Sampler Div., Brooklynn, NY (AP)
Technical Associates, (Overhoff Technology Corp.
Sub.), (US Nuclear Corp. Div.), Canoga Park, CA
(AA, AP, B, CW, DB, FA, F, FC, GE, G, LE, MA,
MV, P, PS, R, S, T, TR, TP, U)
♦UniTech Services Group, Inc., (Sub. of UniFirst
Corp.), Springfield, MA (M, S)
Westinghouse Electric Co., Nivelles, Belgium (FA,
GE)
♦Westinghouse Electric Co. LLC, Cranberry
Township, PA (FA, GE)

55060 Monitors, Radiation, Personnel—

*also see Health Physics Equipment;
Monitors, Microwave & RF*

- AL Audible Alarm (Electronic)
- D Doorway
- FB Film Badges, Films
- HF Hand-and-Foot
- PI Pocket Ion Chambers
- TL Thermoluminescent Dosimeters (TLD)
- WB Whole-Body
- WM Whole-Body, Mobile

Applied Health Physics, LLC, Bethel Park, PA (PI)
Arrow-Tech, Inc., Rolla, ND (PI)
♦Canberra Industries, Meriden, CT (AL, WB)
Coastal Network, Inc., Charlottesville, VA (PI)
Fuji Electric Corp. of America, Edison, NJ (TL)
Ludlum Measurements, Inc., Sweetwater, TX (D,
HF)
Mirion Technologies Dosimetry Services, Irvine,
CA (FB, TL)
Mirion Technologies (RADOS) GmbH, Hamburg,
Germany (AL, D, HF, WB, WM)
ORTEC, Oak Ridge, TN (D, HF, WB)
Qal-Tek Associates, LLC, Idaho Falls, ID (AL, D,
FB, HF, PI, TL)
Rexon Components, Inc., Beachwood, OH (D, HF,
TL)
RSO, Inc./Radiation Service Organization, Laurel,
MD (PI, TL)
Saphymo, Saint-Aubin, France (D, HF, WB)
S.E. International, Inc., Summertown, TN (PI)
Siemens Power Generation Services, Orlando, FL
(AL)
Technical Associates, (Overhoff Technology Corp.
Sub.), (US Nuclear Corp. Div.), Canoga Park, CA
(AL, D, HF, PI, WB)
♦UniTech Services Group, Inc., (Sub. of UniFirst
Corp.), Springfield, MA (AL)

55490 Neutron Absorbers—also see

*Filters, Neutron; Shielding Design;
Shielding Materials*

- BA Boric Acid
- BC Boron Carbides
- CE Boron Carbides, Enriched (B-10)
- BN Boron, Natural
- BE Boron, Enriched (B-10, B-11)
- OB Other Boron Compounds
- BP Burnable Poisons
- C Cadmium
- CS Cadmium Sulfide
- E Encapsulated
- GD Gadolinium
- G Grain
- IM In Matrixes
- MM Metal Matrix Composites
- MS Molded Shapes
- P Pellets
- PL Plates

AREVA Inc., (North American Headquarters),
Charlotte, NC (BP, GD)
BOHLER Bleche GmbH & Co. KG, (Affl. of
voestalpine Edelmetall GmbH), Murzzuschlag,
Austria (MM, PL)
Ceradyne, Inc. a 3M company, Quapaw, OK (BA,
BC, BN, BE, OB, BP, G, IM, MS, P, PL)
♦Holtec International, Marlton, NJ (E)
Hopewell Designs, Inc., Alpharetta, GA (IM, MS)

- Plastruct Polyzone, Vineland, Ontario, Canada (OB)
 Robatel Technologies LLC, Roanoke, VA (E, IM, MS, PL)
 Roberts Engineering Services, Inc., Stuart, FL (C, PL)
 Westinghouse Electric Co., Nivelles, Belgium (BP)
 ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (BP)

56600 **Nondestructive Testing**

- AC Acoustic Emission
 EC Eddy Current
 E Equipment Sales
 DP Dye Penetrant
 FP Fluorescent Penetrant
 FL Flux Leakage
 GP Ground Penetrating Radar
 I Infrared
 MP Magnetic Particle
 R Radiographic
 RT Radiographic, Real-Time Imaging
 RS Residual Stress
 S Services
 U Ultrasonic
 UW Underwater
- AREVA Inc., (North American Headquarters), Charlotte, NC (AC, EC, E, DP, FP, MP, R, RT, RS, S, U, UW)
 BCP Engineers & Consultants, Gretna, LA (EC, DP, I, MP, R, S, U)
 ◆ BWX Technologies, Inc., Lynchburg, VA (AC, EC, R, RT, RS, S, U)
 Cameco Fuel Manufacturing Inc., Port Hope, Ontario, Canada (E, U)
 Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (DP, FP, MP, R, S, U)
 Crane Nuclear, Inc., Kennesaw, GA (EC, E, S, U)
 Curtiss-Wright Nuclear Division, Brea, CA (E, S)
 Curtiss-Wright Nuclear Division, Middleburg Heights, OH (FP, MP, S, U)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright Anatec), Irvine, CA (EC, DP, MP, U)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (EC, E, S, U)
 Cutting Technologies (CTI), Gloucester City, NJ (GP)
 Design Engineering Analysis Corp., Canonsburg, PA (S)
 ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (AC, EC, DP, FP, FL, GP, I, MP, R, RT, RS, S, U, UW)
 Dubose National Energy Services, Clinton, NC (DP, FP, MP, R, U)
 Elcometer Inc., Rochester Hills, MI (EC, U)
 Fauske & Associates, LLC, (A sub. of Westinghouse Electric Company, LLC), Burr Ridge, IL (AC, E, R, RS, S)
 Fuel Tank Maintenance Co., LLC, Cookeville, TN (EC, DP, FP, FL, I, MP, R, RT, RS, S, U)
 ICM-International Climbing Machines, Ithaca, NY (S)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (R, RT)
 ◆ Joseph Oat Corp., Camden, NJ (EC, DP)
 Lenape Forged Products Corp., West Chester, PA (DP, MP, S, U)
 ◆ Major Tool & Machine, Inc., Indianapolis, IN (DP, FP, MP, R, U)
 Newport News Nuclear, Inc., Newport News, VA (EC, DP, R)
 NRG, Petten, The Netherlands (EC, S, U)
 NUCON International, Inc., Columbus, OH (S)
 PaR Systems, Inc., Shoreview, MN (EC, I, R, U)
 Precision Custom Components, LLC, York, PA (AC, EC, DP, FP, MP, R, S, U)
 Predictive Maintenance Inspection, Inc., Madison, AL (I)
 Project Assistance Corp. (PAC), Walnut Creek, CA (EC, DP, MP, R, S, U)
 Proxtronics Dosimetry, LLC, (Prodose), Alexandria, VA (R)
 Sargent & Lundy LLC, Chicago, IL (S)
 Sidus Solutions LLC, San Diego, CA (UW)
 SKODA JS a.s., Plzen, Czech Republic (EC, DP, MP, R, U)
 ◆ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (EC, DP, S, U)

- Southwest Research Institute, San Antonio, TX (AC, EC, DP, GP, MP, R, U)
 System One, Pittsburgh, PA (EC, DP, FP, GP, I, MP, R, RT, RS, S, U)
 Underwater Construction Corp., Essex, CT (U)
 Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (AC, E, S, U, UW)
 Westinghouse Electric Co., Nivelles, Belgium (EC, E, DP, FP, FL, I, MP, R, S, U)
 ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (EC, E, DP, FP, FL, I, MP, R, S, U)
 ◆ Worthington Industries, Columbus, OH (DP, MP, R, U)

58000 **Particle-Measuring Instruments**

- AREVA Inc., (North American Headquarters), Charlotte, NC
 HI-Q Environmental Products Co., Inc., San Diego, CA
 Munro Instruments Ltd., Woodford Green, Essex, United Kingdom
 ORTEC, Oak Ridge, TN
 RADeCO, Inc., Plainfield, CT

59800 **Pipe—also see Cleaning Equip.**

- CS Carbon Steel, Seamless
 CM Chrome Moly
 CO Copper
 L Lead
 NC Nickel-Cobalt, Seamless
 PL Plastic-Lined
 SL Seamless
 S Stainless
 SS Stainless, Seamless
 T Titanium
 TS Titanium, Seamless
 Z Zirconium
 ZS Zirconium, Seamless
- Alphasource, Inc., Philadelphia, PA (SL, S, SS, T, TS)
 AREVA Inc., (North American Headquarters), Charlotte, NC (L, SL, S, SS)
 AZZ | WSI LLC, Norcross, GA (S)
 Cameco Fuel Manufacturing Inc., Port Hope, Ontario, Canada (Z, ZS)
 Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (CS, CM, CO, L, NC, PL, SL, S, SS, T, TS, Z, ZS)
 ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (CS, CM, CO, L, NC, PL, SL, S, SS, T, TS, Z, ZS)
 Dubose National Energy Services, Clinton, NC (CS, CM, NC, SL, S, SS)
 ◆ Joseph Oat Corp., Camden, NJ (SL, S, SS)
 Seafab Metals Co., (Div. of The Doe Run Co.), Casa Grande, AZ (L)
 Tioga Pipe Supply Co., Inc., Philadelphia, PA (CS, CM, CO, NC, PL, SL, S, SS, T, TS, Z, ZS)
 Westinghouse Electric Co., Nivelles, Belgium (CS)

59850 **Pipe & Tube Machinery & Equipment—also see Cleaning Equip. (Tube Cleaning)**

- B Bending, Pipe
 BT Bending, Tube
 BP Beveling, Pipe
 BV Beveling, Tube
 CR Crimpers, Tube
 CP Cutting, Pipe
 CT Cutting, Tube
 CI Cutting, In-Place
 EH Expanders, Tube, Hydraulic
 EM Expanders, Tube, Mechanical
 IT Instrumentation Tubing, Orbital Welding
 PO Primary, Orbital TIG Welding
 RS Rounding & Sizing
 T Threading, Pipe
 W Weld End Preparation
- Arc Machines, Inc., Pacoima, CA (IT, PO)
 AREVA Inc., (North American Headquarters), Charlotte, NC (CT, CI, EH, EM, PO, W)
 AZZ | WSI LLC, Norcross, GA (CP, CI, IT, PO, W)
 ◆ Brokk Inc., Santa Fe, NM (CP, CT, CI)

◆ Denotes Advertiser

- Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (EH)
 ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (B, BT, BP, BV, CR, CP, CT, T)
 Gardner Denver Water Jetting Systems, Inc., (Sub. of Gardner Denver), Houston, TX (CT)
 Tioga Pipe Supply Co., Inc., Philadelphia, PA (B, BT, BP, BV, CP, T, W)
 Tri Tool Inc., Rancho Cordova, CA (BP, BV, CP, CT, PO, W)
 E. H. Wachs, Lincolnshire, IL (BP, BV, CP, CT, CI, W)
 Westinghouse Electric Co., Nivelles, Belgium (CT, EH)
 ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (CT, EH)
 ◆ Worthington Industries, Columbus, OH (W)

60100 **Pipe Hangers and Supports**

- ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC
 Dubose National Energy Services, Clinton, NC

61570 **Plugs—also see Decontamination**

- Chemicals, Equip. & Services*
- CT Condenser Tube
 CR Control Rod Drive Housing
 FH Feedwater Heater
 F Freeze Plugs
 HL Hot & Cold Leg (Remotely Installed)
 I Isolation
 MS Main Steam Line
 MR Moisture Separator Reheater
 P Pipeline
 RP Reactor Pressure Vessel Drain Line
 RV Reactor Vessel Nozzle
 RO Recirculation Outlet Nozzle
 SL Steamline (Remotely Installed)
 SH Stud Hole
 ST System Test
- Alphasource, Inc., Philadelphia, PA (CT, F, I, P)
 AREVA Inc., (North American Headquarters), Charlotte, NC (CT, FH, HL, RV, SH)
 Böhler Edelstahl GmbH & Co. KG, (Business Unit Open Die Forge), Kapfenberg, Austria (CR)
 Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (CT, CR, FH, I, RO, SH)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright Anatec), Irvine, CA (RV)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (CT, CR, FH, HL, I, MS, MR, P, RP, RV, RO, SH, ST)
 Diakont, San Diego, CA (P)
 ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (CT, CR, FH, F, I, MS, MR, P, RP, RV, RO)
 Dubose National Energy Services, Clinton, NC (RV)
 Equipos Nucleares, S.A., Madrid, Spain (CT, FH, RP, RV)
 Preferred Engineering Corp., (Sub. of Preferred Utilities Mfg. Corp.), Danbury, CT (HL, I, MS, P, RP, RV, RO, SL, SH, ST)
 Westinghouse Electric Co., Nivelles, Belgium (CR, MS)
 ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (CR, MS)

63400 **Power Supplies**

- AC AC
 DC DC
 HF High-Frequency
 HV High-Voltage
 I Instrument
 PL Power Line Conditioner
 S Stand-by
 U Uninterruptible (AC-DC-AC)
- AZZ Nuclear | NLI, Fort Worth, TX (AC, DC, I, PL, S, U)
 ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (AC, DC, I, PL, S, U)
 GUTOR Electronic LLC, (Sub. of Schneider Electric), Wettingen, Switzerland (AC, DC, I, PL, U)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (U)
 Rockwell Automation, Inc., Milwaukee, WI (AC, DC, I, U)

64300 Protective Coverings & Tarpaulins

- Alphasource, Inc., Philadelphia, PA
- ◆PacTec, Inc., Clinton, LA
- ◆Reef Industries, Inc., Houston, TX
- Rich Industries Inc., New Philadelphia, OH

64700 Pumps, Centrifugal

- CW Condensate & Circulating Water
- E3 Engineered Class III
- HD Heater Drain
- NR Non-Code Radwaste
- N2 Nuclear Class II
- PC Primary Coolant
- RF Reactor Feed
- SW Service Water, Non-Code
- SN Service Water, Nuclear Class III
- SC Small Class III Including Radwaste
- AREVA Inc., (North American Headquarters), Charlotte, NC (CW, E3, N2, PC, RF, SW, SN, SC)
- AZZ Nuclear | NLI, Fort Worth, TX (CW, E3, HD, NR, N2, PC, RF, SW, SN, SC)
- Böhler Edelstahl GmbH & Co. KG, (Business Unit Open Die Forge), Kapfenberg, Austria (PC)
- ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (CW, E3, HD, NR, N2, PC, RF, SW, SN, SC)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (NR)

64750 Pumps, Other

- A Air-Operated
- CL Cleanup
- CA Containment Air/Gas Sampling
- DH Diaphragm, Hydraulically Actuated
- HO Hand-Operated
- HP High-Pressure
- HY Hydraulic
- J Jet
- MP Metering & Proportioning
- PD Positive-Displacement
- SR Sealless Reciprocating

- SL Slurry
- SO Sodium
- SP Special-Purpose
- V Vacuum

- American Airworks, Sophia, WV (A, HP)
- Fauske & Associates, LLC, (A sub. of Westinghouse Electric Company, LLC), Burr Ridge, IL (HP)
- Oerlikon Leybold Vacuum, Export, PA (V)
- Schutte and Koerting, Treviso, PA (HP, J, SL, V)
- Senior Operations, LLC, Sharon, MA (CA, PD, SP, V)

66280 Racks, Fuel Storage—also see

Storage Systems, Spent-Fuel

- C Conventional
- HD High-Density
- AREVA Inc., (North American Headquarters), Charlotte, NC (C, HD)
- ◆AREVA TN, Columbia, MD (C, HD)
- AT&F, Cleveland, OH (C, HD)
- Equipos Nucleares, S.A., Madrid, Spain (C, HD)
- ◆Holtec International, Marlton, NJ (C, HD)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (HD)
- ◆Major Tool & Machine, Inc., Indianapolis, IN (C, HD)
- Precision Custom Components, LLC, York, PA (C, HD)
- SKODA JS a.s., Plzen, Czech Republic (HD)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (C, HD)
- Underwater Construction Corp., Essex, CT (HD)
- Vigor (formerly Oregon Iron Works), Clackamas, OR (C, HD)
- ◆Wagstaff Applied Technologies, Spokane, WA (C)
- Westinghouse Electric Co., Nivelles, Belgium (C, HD)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (C, HD)

◆ Denotes Advertiser

- ◆Westinghouse Electric Co. LLC, Cranberry Township, PA (C, HD)

67380 Radiation Monitoring Serv.—also see *Envir. Monitoring; Health Phys.*

Serv.

- A Analog Systems
- DR Design, Retrofit
- D Digital Systems
- M Maintenance
- MO Mobile (Vehicular)
- SE Sample Encapsulation
- SS Smear Sampling, Area/Environmental
- TC Testing & Calibration
- AMEC Environment & Infrastructure Inc., Grand Junction, CO (MO)
- Applied Health Physics, LLC, Bethel Park, PA (SS, TC)
- Applied Science Professionals, (ASP-LLC), Salt Lake City, UT (TC)
- ARS International, LLC, Port Allen, LA (SS, TC)
- Beamex, Inc., Marietta, GA (TC)
- ◆BHI Energy, Plymouth, MA (A, DR, D, M, MO, SS, TC)
- Bubble Technology Industries Inc., Chalk River, Ontario, Canada (SS)
- Cabrera Services Inc., East Hartford, CT (SS, TC)
- ◆Cannera Industries, Meriden, CT (A, DR, D, MO, SS, TC)
- Cox Nuclear Consulting Services LLC, Seabrook, NH (DR, M)
- Dade Moeller & Assoc., Richland, WA (SS)
- Doosan HF Controls Corp., (Sub. of Doosan Heavy Industries & Construction Co., Ltd.), Carrollton, TX (DR)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (TC)
- Mirion Technologies (RADOS) GmbH, Hamburg, Germany (A, DR, MO)
- ◆National Nuclear Laboratory (UK), Warrington, United Kingdom (D, TC)
- NRG, Petten, The Netherlands (SS, TC)



DECEMBER 8-10, 2015 / ORLANDO, FLORIDA / ORANGE COUNTY CONVENTION CENTER

BOOTH #2316

**STOP BY OUR BOOTH
FOR A CHANCE TO WIN A FREE
SHRINKFAST® HEAT GUN**






WWW.GRIFFOLYN.COM
TOLLFREE 1.800.231.6074

LARGE SELECTION OF ROLL SIZES
AVAILABLE FOR IMMEDIATE SHIPMENT

- Shipping Covers
- Equipment Covers
- Dust Partitions
- Plant Dividers
- Custom bags & tubing
- Protection for FME areas



- UV Stabilized
- High tear strength
- Available in Fire Retardant
- Long outdoor life
- Griff-Shrink™ Conforms to any shape




- Nuclear Technology Services, Inc., Roswell, GA (TC)
 Radiation Safety Assoc., Inc., Hebron, CT (DR, D, TC)
 Radiological Solutions, Inc., Rockdale, IL (TC)
 RSO, Inc./Radiation Service Organization, Laurel, MD (SS)
 Saphymo, Saint-Aubin, France (M, TC)
 Sargent & Lundy LLC, Chicago, IL (A, DR, D)
 Siempelkamp Nuclear Services, Inc., West Columbia, SC (DR, D)
 Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (DR, D)
 ◆ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (D)
 Stoller Newport News Nuclear (SN3), (A sub. of Huntington Ingalls Industries), Broomfield, CO (MO)
 Technical Associates, (Overhoff Technology Corp. Sub.), (US Nuclear Corp. Div.), Canoga Park, CA (A, D, MO, TC)
 Westinghouse Electric Co., Nivelles, Belgium (TC)
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (TC)
 Zachry Nuclear Engineering, Inc., Stonington, CT (DR)
- 68000 **Radioactive Waste Handling & Treatment Equip.—also see Solid Waste Reduction**
- CA Calciners
 CO Compactors
 CN Concentrators (Cross-Flow Filter)
 CS Crushers, Scintillation Vials
 DC Drum Capping Machines, Remote
 DR Drum Cutting Machines
 DW Drum Washing Systems, Automatic
 E Evaporators
 F Furnaces for Glass Melting
 GC Gas Compressors
 I Incinerators
 L Liners

- LV Liquid Volume Reduction
 P Packaging
 R Robotic
 SC Secondary Containment Products
 SH Shredders (Volume Reduction)
 S Solidification
 SS Sorters, Sorting Tables
 ST Storage Systems, On-Site, High-Level
 SF Storage Systems, On-Site, Low-Level
 WT Waste Tracking & Accountability Systems (Computerized)

- AeroGo, Inc., Seattle, WA (CA, CO, CN, CS, DC, DR, DW, E, F, I, SC, SH, ST, SF)
 Alaron Nuclear Services, Wampum, PA (CO, DR, E, LV, P, SH, S, WT)
 AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (DR, R)
 AMEC Environment & Infrastructure Inc., Grand Junction, CO (SS)
 American Crane & Equipment Corp., Douglassville, PA (R, ST, SF, WT)
 AREVA Inc., (North American Headquarters), Charlotte, NC (CN, E, S, ST)
 Artisan Industries Inc., Stoughton, MA (E, LV)
 Avantech, Inc., Columbia, SC (CN)
 Babcock Noell GmbH, (Dept. BEV), Wuerzburg, Germany (CO, DC, L, P, S, SF)
 Babcock Services, Inc., Kennewick, WA (CO)
 BIG Entsorgungstechnologien GmbH, Bad Toelz, Germany (CO, DC, E, P, SH, SS)
 Bowtech Products Ltd., Aberdeen, United Kingdom (R)
 Brokk AB, Skelleftea, Sweden (R)
 ◆ Brokk Inc., Santa Fe, NM (R)
 ◆ Canberra Industries, Meriden, CT (WT)
 Container Products Corp., Wilmington, NC (CO, SS, SF)
 ◆ Container Technologies Industries, LLC, Helenwood, TN (SF)
 Diakont, San Diego, CA (R)
 Dufrane Nuclear Shielding, Inc., Winsted, CT (SF)
 ◆ EnergySolutions LLC, Salt Lake City, UT (I, S)
 Equipos Nucleares, S.A., Madrid, Spain (CO, CN, DC, DR, DW, E, I, S)
 Fuji Electric Corp. of America, Edison, NJ (LV)
 ◆ Holtec International, Marlton, NJ (ST, SF)
 Hopewell Designs, Inc., Alpharetta, GA (P)
 Inuktun Services Ltd., Nanaimo, BC, Canada (R)
 Inuktun US, LLC, Rio Rancho, NM (R)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (R, WT)
 ◆ Joseph Oat Corp., Camden, NJ (E, L)
 Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (R, ST, SF, WT)
 Kurion, Inc., Richland, WA (DC, F, R)
 Lancs Industries, Kirkland, WA (L)
 Lenape Forged Products Corp., West Chester, PA (ST, SF)
 Linn High Therm GmbH, Eschenfelden, Germany (E, F, LV, S)
 ◆ Major Tool & Machine, Inc., Indianapolis, IN (CA)
 M4 Services LLC, Glenwood, MD (LV, S)
 MHF Services, (An EnergySolutions Company), Wexford, PA (CO, L, P, SF)
 Mott Corp., Farmington, CT (CN)
 M2 Polymer Technologies, Inc., West Dundee, IL (P, S)
 NAC International, Norcross, GA (ST)
 ◆ National Nuclear Laboratory (UK), Warrington, United Kingdom (P)
 NEWEX-SSG, LLC, Folsom, CA (P, WT)
 NRG, Petten, The Netherlands (WT)
 Nuclear Systems Associates, Inc., Brea, CA (DC, DW, R, SH, ST)
 ◆ PacTec, Inc., Clinton, LA (L, P, SC, SF)
 PaR Systems, Inc., Shoreview, MN (R)
 ◆ Petersen Inc., Ogden, UT (CA, CS, F, SC, SH)
 PTP Spent Fuel Services, LLC, Grand Island, NY (ST, SF)
 Qal-Tek Associates, LLC, Idaho Falls, ID (WT)
 Radiological Solutions, Inc., Rockdale, IL (S)
 ◆ Reef Industries, Inc., Houston, TX (L, P, SC, SF)
 ◆ REI Nuclear, LLC, Columbia, SC (CO, R)
 Robatel Technologies LLC, Roanoke, VA (CA, P, R, S, SS, SF)
 Sargent & Lundy LLC, Chicago, IL (ST, SF)
 S&G Enterprises, Inc., Germantown, WI (CO, CS, SH)

◆ Denotes Advertiser

PACTEC MacroBag

Macroencapsulation for Low Level Mixed Waste & Radioactive Lead Solids

Simple to Use
&
Cost Efficient



RailPac



Railcar liners for contaminated soils and construction debris meet the requirements for IP-1 containment.

LiftPac



IP-1 and IP-2 certified flexible containers for contaminated soils and construction debris.

NucPac



Custom overpacks that meet IP-1 and IP-2 requirements for safely transporting LSA and SCO.

Connect with Us!

▶ (877) 554-2541



▶ pactecinc.com

- Siempelkamp Nuclear Services, Inc., West Columbia, SC (CO, DC)
- Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (CO, DC)
- ◆ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (R, ST, SF)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (P, R, ST)
- The Spencer Turbine Co., Windsor, CT (GC)
- SSI Shredding Systems, Inc., Wilsonville, OR (SH)
- TAG Technical Solutions, LLC, Knoxville, TN (L, P)
- Tri Tool Inc., Rancho Cordova, CA (DR)
- ◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (SC, SS)
- Veolia Water Technologies, Plainfield, IL (E)
- Vigor (formerly Oregon Iron Works), Clackamas, OR (CA, E, I, L, P, SC, SH, ST, SF)
- Visionary Solutions, LLC, Knoxville, TN (WT)
- ◆ Wagstaff Applied Technologies, Spokane, WA (CO, DC, DR, DW, E, L, LV, P, R, SC, SH, SS, ST, SF)
- Waste Control Systems, Inc., Phoenix, MD (CO, CS, SC, SH, SS)
- Westinghouse Electric Co., Nivelles, Belgium (CO, E, I, SH, ST, SF)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (R)
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (CO, E, I, SH, ST, SF)
- Whiting Corp., Monee, IL (CA)
- Wälischmiller Engineering GmbH, Markdorf, Baden-Württemberg, Germany (R)
- ◆ WMG, Inc., Peekskill, NY (L, P, SH, S, WT)
- ◆ Worthington Industries, Columbus, OH (ST, SF)

- RS Radiation Standards
- RC Radiochemicals
- RM Radioisotopes, Medical
- RP Radiopharmaceuticals
- RE Recycling
- SS Sealed Sources
- Beamex, Inc., Marietta, GA (CS)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (RS)
- Nuclear Technology Services, Inc., Roswell, GA (CS, RS)
- Pylon Electronics Inc., (Div. of Autrex) (Instrumentation Dept.), Ottawa, Ontario, Canada (SS)
- Radiation Safety & Control Services, Inc., Stratham, NH (RS)
- Siempelkamp Nuclear Services, Inc., West Columbia, SC (RE)
- Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (RE)

- Stan A. Huber Consultants, Inc., New Lenox, IL (HP)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (HP)
- Leidos, Reston, VA (HP, T)
- NRG, Petten, The Netherlands (HP)
- Project Assistance Corp. (PAC), Walnut Creek, CA (CM, DC)
- Qal-Tek Associates, LLC, Idaho Falls, ID (DS, O)
- Sargent & Lundy LLC, Chicago, IL (CM, DC, HP, O, S, T)
- Sundance Consulting, Inc., Pocatello, ID (DS)
- Wastren Advantage, Inc., Piketon, OH (CM, DS, DC, HP, O, S, T)
- Westinghouse Electric Co., Nivelles, Belgium (CM, DS, DC, HP, O)
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (CM, DS, DC, HP, O)
- ◆ WMG, Inc., Peekskill, NY (T)

71190 **Records Management Systems**

- CM Configuration Management
- DS Document Storage & Retrieval
- DC Drawing Control
- HP Health Physics
- O Operations Recording
- S Spare Parts
- T Training
- Alphasource, Inc., Philadelphia, PA (HP, O)
- Applied Health Physics, LLC, Bethel Park, PA (HP)
- AREVA Inc., (North American Headquarters), Charlotte, NC (CM)
- ◆ Canberra Industries, Meriden, CT (HP)
- The Delphi Groupe, Inc., Austin, TX (CM, HP, T)
- EXCEL Services Corporation, Rockville, MD (CM, DS, T)
- Hawks, Giffels & Pullin (HGP), Inc., Greenville, SC (CM)

71500 **Refrigeration—also see Cooling Systems, Body**

- ECU Corporation, Cincinnati, OH
- Ellis & Watts Global Industries, Inc., Batavia, OH
- Tranter, Inc., Wichita Falls, TX

72300 **Remote Control, Handling & Positioning Devices & Sys.—also see Robotic Devices**

- AI Artificial Intelligence/Expert Systems
- EE End Effectors, Grippers, & Wrists
- RC Remote Control
- RH Remote Handling
- RP Remote Positioning
- RO Robotics
- Advanced Consulting Group, Inc., Chicago, IL (EE, RC, RO)
- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (EE, RC, RH, RP, RO)
- American Crane & Equipment Corp., Douglassville, PA (EE, RC, RH, RP, RO)

68950 **Radioisotopes**

- CS Calibration Standards
- F Foils
- G Gases, Calibration
- LC Labeled Compounds
- PP Primary & Processed

◆ Denotes Advertiser



WORTHINGTON INDUSTRIES

- Nuclear Subassemblies
- Radwaste Containers
- Material Certifications
- Reactor Components
- Pressure Vessels
- Heat Exchangers



NA, N, N3, NS
NPT, PP, U

ISO 9001:2008, NQA-1
10 CFR 50 APPENDIX B
ASME SECTION III & VIII



All nuclear certifications are currently held with Westerman Inc.

PHONE 800-338-8265 WEB www.worthingtonindustries.com



Save Dose

Send our robots in first to reduce safety risk and collective radiological exposures.

- Zero dose (human) inspections
- "Hands-off" waste handling
- Remote sample collection



Email Kim Monti at
kmonti@irobot.com
 for more information.

irobot.com/defense

iRobot®

©2015 iRobot Corporation. All rights reserved. iRobot and PackBot are registered trademarks of iRobot Corporation.

- AREVA Inc., (North American Headquarters), Charlotte, NC (RP, RO)
- Norman N. Axelrod Assoc., (Optical Sensing & Control System Development Div.), New York, NY (RP)
- Babcock Noell GmbH, (Dept. BEV), Wuerzburg, Germany (RH)
- BIG Entsorgungstechnologien GmbH, Bad Toelz, Germany (RC, RH, RP, RO)
- Brokk AB, Skelleftea, Sweden (EE, RC, RH, RP, RO)
- ◆ Brokk Inc., Santa Fe, NM (RC, RH, RP, RO)
- Diakont, San Diego, CA (AI, EE, RC, RH, RP)
- Equipos Nucleares, S.A., Madrid, Spain (RH)
- Fuji Electric Corp. of America, Edison, NJ (AI, EE, RC, RH, RP, RO)
- Getinge-La Calhene, (Sub. of Getinge Group), Rush City, MN (RC)
- Getinge-La Calhène, (Sub. of Getinge Group), Vendome, France (RC)
- ◆ Holtec International, Marlton, NJ (RC, RH, RP)
- ICM-International Climbing Machines, Ithaca, NY (RC, RO)
- Inuktun US, LLC, Rio Rancho, NM (RC, RH, RP, RO)
- ◆ iRobot Corp., Bedford, MA (RO)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (AI, RC)
- Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (RH, RP, RO)
- Kurion, Inc., Richland, WA (EE, RC, RH, RP, RO)
- Nuclear Systems Associates, Inc., Brea, CA (EE, RC, RH, RP, RO)
- NUKEM Technologies GmbH, Alzenau, Germany (RH, RO)
- PaR Systems, Inc., Shoreview, MN (EE, RC, RH, RP, RO)
- Prevision Systems LLC, Hackettstown, NJ (EE)
- ◆ REI Nuclear, LLC, Columbia, SC (EE, RC, RH, RP, RO)
- Robatel Technologies LLC, Roanoke, VA (RC, RH, RP)
- Rockwell Automation, Inc., Milwaukee, WI (RC, RP, RO)
- ◆ R.O.V. Technologies, Inc., Brattleboro, VT (RC, RH, RP, RO)
- Sidus Solutions LLC, San Diego, CA (RP)
- Siempelkamp Nuclear Services, Inc., West Columbia, SC (RH)
- Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (RH)
- ◆ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (RC, RH, RP, RO)
- Sosny Research and Development Co., Dimitrograd, Ulyanovsk region, Russia (EE, RC, RH, RP, RO)
- Southwest Research Institute, San Antonio, TX (RP)
- Tri Tool Inc., Rancho Cordova, CA (RP)
- Underwater Construction Corp., Essex, CT (RC, RH, RP, RO)
- Westinghouse Electric Co., Nivelles, Belgium (RH, RP, RO)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (EE, RC, RH, RP)
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (AI, RC, RH, RP, RO)
- Wältschmiller Engineering GmbH, Markdorf, Baden-Württemberg, Germany (EE, RC, RH, RO)
- Bowtech Products Ltd., Aberdeen, United Kingdom (RR, S)
- Coastal Network, Inc., Charlottesville, VA (M)
- Hopewell Designs, Inc., Alpharetta, GA (BF, BR)
- Inuktun Services Ltd., Nanaimo, BC, Canada (S)
- Inuktun US, LLC, Rio Rancho, NM (S)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (S)
- Lights Camera Action, LLC, Gilbert, AZ (RR, S)
- Mirion Technologies (IST) Corp., (Sensing Systems Div.), Horseheads, NY (RR, S)
- Prevision Systems LLC, Hackettstown, NJ (S)
- Remote Ocean Systems (ROS), San Diego, CA (RR, S)
- ◆ R.O.V. Technologies, Inc., Brattleboro, VT (RR, S)
- Sidus Solutions LLC, San Diego, CA (I, S)
- ◆ Thermo Scientific - CIDTEC Cameras & Imagers, (Part of Thermo Fisher Scientific), Liverpool, NY (RR)
- Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (S)
- Westinghouse Electric Co., Nivelles, Belgium (BF, BR, P, S)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (RR)
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (BF, BR, P, S)

73550 Respiratory Protection Equip.—also see Clothing, Prot.; Health Phys.

Serv.

- AP Air Purification Systems
- C Compressors
- FT Fit-Testing Systems
- RC Respirator Cleaning Systems
- RD Respirator Drying Systems
- RL Respirators, Air-Line
- R Respirators, Air-Purifying
- RX Respirators, Combination Type
- RP Respirators, Powered Air-Purifying
- RE Resuscitators
- SC Self-Contained Breathing Apparatus
- SB SCBA Boost Pumps
- SE SCBA (Escape)
- SF SCBA Filling Stations
- ST SCBA Flow Testing & Services
- SW SCBA Software
- SS Storage Systems (Cleaned Equipment)
- V Vessels, High-Pressure, Air

- American Airworks, Sophia, WV (AP, C, FT, RC, RD, RL, R, RP, SC, SB, SE, SF, ST, SW, V)
- AREVA Inc., (North American Headquarters), Charlotte, NC (AP, C)
- ◆ BES Technologies, Oak Ridge, TN (RC, RD, RL, R, RX, RP, SC)
- Ellis & Watts Global Industries, Inc., Batavia, OH (AP, V)
- ENMET, Ann Arbor, MI (AP, RL)
- Fram Safety Products, Inc., Nashville, TN (AP, C, RL, R, RX, SC)
- JSM Protective, Inc., Wilmington, NC (R, RX, RP)
- Lancs Industries, Kirkland, WA (RL)
- Nexteq LLC, Tampa, FL (FT)
- NUCON International, Inc., Columbus, OH (AP, FT)
- Ocenco Inc., Pleasant Prairie, WI (RL, RE, SC, SE)
- ◆ Radiation Protection Systems, Inc., Groton, CT (AP, RD)
- RSO, Inc./Radiation Service Organization, Laurel, MD (RL)
- ◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (C, RC, RD, RL, R, RX, SC, SS)

73570 Rigging Specialists

- Sarens USA, Inc., San Ramon, CA
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN

73620 Robotic Devices, Systems—also

see Remote Control

- CA CAD-Driven
- C Condenser, In-Service Inspection
- FT Force/Torque Sensors

73300 Remote-Viewing Instruments & Systems

- BI Binoculars
- BF Borescopes, Flexible
- BR Borescopes, Rigid
- I Infrared
- M Monocular Scopes, Viewing/ALARA
- P Periscopes
- RR Radiation-Resistant
- S Submersible
- T Telescopes

Alphasource, Inc., Philadelphia, PA (BF, BR)

◆ BES Technologies, Oak Ridge, TN (T)

◆ Denotes Advertiser

TUNNELING

CONSTRUCTION

MINING

NUCLEAR

PROCESS

CEMENT



Extraordinary power and reliability for extraordinary jobs.

Some projects require a special solution. Brokk offers a unique and well proven combination of equipment, design, engineering and technical support for the most challenging projects at nuclear facilities.

Brokk is the industry leader for safe, rugged, reliable, heavy-duty, remotely operated equipment and with 8 available base machine options, there is a Brokk machine size available to suit each application without compromise.

Brokk machines are available with many standard options including vision systems, radiation hardening, auto tool change, auto recovery capabilities and more. They can also be customized and fitted with additional special options as needed for specific customer projects.

Brokk also offers hundreds of standard and custom designed tools and attachments for our machines. With our standard quick change attachment interface or our optional fully remote tool change interface, a single Brokk machine can perform multiple tasks in hazardous environments with the operator always working in complete safety.

Now add to that over 30 years of Brokk deployment experience, our in-house engineering and technical support staff, on-site training and after sales support and you can see that Brokk provides comprehensive support to our customers who are working on very challenging projects.

For more information Contact Tony Marlow Tel: (505) 699 8923, email: tony@brokkinc.com

Original Demolition Power™

BROKK®

- N Nuclear
- RV Reactor Vessel Head, ISI
- S Submersible

- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (N)
- AREVA Inc., (North American Headquarters), Charlotte, NC (N, RV, S)
- Brokk AB, Skelleftea, Sweden (RV)
- ◆ Brokk Inc., Santa Fe, NM (CA)
- Inuktun Services Ltd., Nanaimo, BC, Canada (N, RV, S)
- Inuktun US, LLC, Rio Rancho, NM (N, RV, S)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (N)
- Kurion, Inc., Richland, WA (N, S)
- PaR Systems, Inc., Shoreview, MN (N, S)
- ◆ REI Nuclear, LLC, Columbia, SC (N, S)
- ◆ R.O.V. Technologies, Inc., Brattleboro, VT (S)
- Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (N, RV, S)
- Westinghouse Electric Co., Nivelles, Belgium (RV, S)
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (RV, S)
- Wältschmiller Engineering GmbH, Markdorf, Baden-Württemberg, Germany (CA, C, FT, N, S)

74150 Samplers & Sampling Systems

- A Air (Carried by Personnel)
- AP Air Particulate
- AS Automatic Systems
- EC Evaporator Concentrate
- G Gas
- I Iodine
- L Liquid
- M Metallurgical
- RT Real-Time Remote
- SS Stack Sampling
- W Waste

ENMET, Ann Arbor, MI (A)
 F&J Specialty Products, Inc., Ocala, FL (A, AP, I)

- ◆ The GEL Group, Inc., (GEL Engineering, LLC), (GEL Laboratories, LLC), (GEL Geophysics, LLC), (Cape Fear Analytical, Inc.), Charleston, SC (SS)
- The GEL Group, Inc., (General Engineering Laboratories, LLC), Charleston, SC (AP, AS, SS)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (M)
- Radiological Solutions, Inc., Rockdale, IL (L)
- Staplex - Air Sampler Div., Brooklyn, NY (A, AP)
- Waters Equipment, Oconomowoc, WI (AS, L, W)

74320 Sampling Systems Services—also see Radiation Monitoring Services

- ◆ The GEL Group, Inc., (GEL Engineering, LLC), (GEL Laboratories, LLC), (GEL Geophysics, LLC), (Cape Fear Analytical, Inc.), Charleston, SC
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA
- Sentry Equipment Corp., Oconomowoc, WI

74350 Scaffolding—also see Shoring;

- Training*
- C Conventional
 - M Modular
 - SP Scaffold Plank
 - S Suspended Type
 - T Tube & Clamp Type

- ◆ BHI Energy, Plymouth, MA (C, M, SP)
 Excel Modular Scaffold and Leasing Corp., Plymouth, MA (C, M, SP, S, T)
- ◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (C, M, SP, S, T)

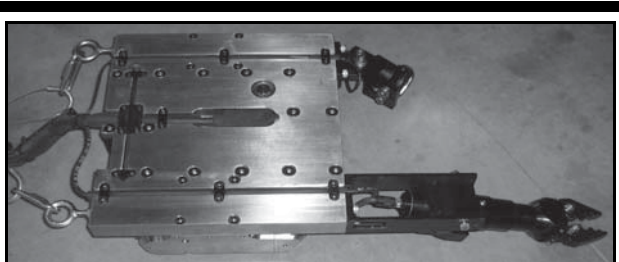
75190 Seals—also see Decontamination

- Chemicals & Equipment; Plugs*
- CM Ceramic-Metal Assemblies

◆ Denotes Advertiser

- CS Conduit Seal
- ES Equipment Storage Pool
- FG Flat Gasketing
- GR Flat Gasketing, Radiation-Resistant
- FT Flux Thimble Seal
- H Hydraulic
- I Inflatable
- IP Inspection Port
- MS Mechanical, Shaft
- MP Mechanical, Shaft, Reactor Circulating Pump
- M Metal (O-Rings, C-Rings, etc.)
- NI Nuclear Instrumentation Cover
- P Penetration
- RC Reactor Cavity Pool
- SR Sealing Systems, Compressed Rubber
- SS Sealing Systems, Fluid

- Alphasource, Inc., Philadelphia, PA (I)
- AREVA Inc., (North American Headquarters), Charlotte, NC (I, MS, MP, M)
- AZZ Nuclear | NLI, Fort Worth, TX (MS)
- Böhler Edelstahl GmbH & Co. KG, (Business Unit Open Die Forge), Kapfenberg, Austria (MS, MP)
- Cross Manufacturing Company (1938) Ltd., Bath, United Kingdom (MS, M, SS)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (H, I, P)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (CS, FG, H, I, MS)
- ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (FG, GR, MS)
- Mirion Technologies (IST) Corp., (Sensing Systems Div.), Horseheads, NY (CM, P)
- Parker Hannifin Corp., (Nuclear Portal - IPD), Huntsville, AL (FG, H, M, SS)
- Pave Technology Co., Dayton, OH (P)
- Preferred Engineering Corp., (Sub. of Preferred Utilities Mfg. Corp.), Danbury, CT (ES, GR, I, IP, NI, P, RC)
- ◆ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (I, MS, MP)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (ES)



Don't Go Near There...

There are places you would rather your people not go. Take for example, locked high rad equipment and waste storage areas. R.O.V.'s remotely operated crawlers are fully equipped with radiation tolerant camera systems and retrieval tooling. The crawlers are available in several sizes and configurations to accommodate space requirements, environmental conditions, as well as potential obstacle navigation and clearance. Our highly trained technicians operate the crawlers from a safe, low to no dose area, thus keeping with industry safety and ALARA goals.

We also offer standard PWR and BWR Outage Services Packages designed to reduce critical path time and achieve industry ALARA goals.



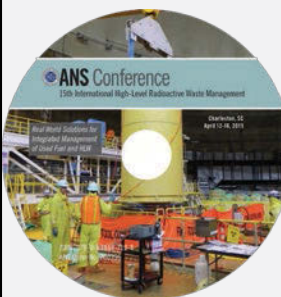
www.rovtech.com mail@rovtech.com Phone 802 254-9353
 49 Bennett Drive Brattleboro, VT 05301

Proudly Serving the Nuclear Power Industry for 20 Years

15th International High-Level Radioactive Waste Management Conference (IHLRWM 2015)

New Proceedings Available!

**\$220,
 \$198 Member price
 CD-Rom
 Item ID: 700396-CD**



The 15th International High-Level Radioactive Waste Management Conference (IHLRWM 2015) contains over 130 papers. The conference theme, "Real World Solutions for Integrated Management of Used Fuel and HLW," reflects the progress and activities under way around the world that collectively demonstrate that technical solutions exist and are being implemented for the safe storage, transportation, and disposal of long-lived, high-activity products and wastes from commercial nuclear power as well as legacy defense-related activities. This narrative addresses and counters the commonly held belief that there is no solution to the nuclear waste problem.

Some topics of interest are Repository Licensing; Borehole Disposal: General; Regulatory and Institutional Topics—Managing Unique Inventories of Used Fuel and HLW; Regulatory Safety Assessment; Regulatory and Institutional Topics—Managing Unique Inventories of Used Fuel and HLW, etc.



American Nuclear Society
 Scientific Publications

Order
 Web: ans.org/store/
 Phone: (708) 579-8210
 Email: scook@ans.org

Valcor Engineering Corp., (Valcor Nuclear)(Valcor),
Springfield, NJ (M)
Westinghouse Electric Co., Nivelles, Belgium (ES, I,
MS, MP, RC)
♦ Westinghouse Electric Co. LLC, Cranberry
Township, PA (ES, I, MS, MP, RC)

75600 Security Services—also see

Consultants; Training

- A Analysis
- D Drug Testing
- E Engineering
- G Guards
- SI Screening & Investigation

ARES Corp., (Energy Services Div.), Richland, WA
(A, E)
♦ BHI Energy, Plymouth, MA (SI)
♦ National Nuclear Laboratory (UK), Warrington,
United Kingdom (A)
Private Professional Services, Inc., (PPS Access
Screening), Arden, NC (SI)
Sargent & Lundy LLC, Chicago, IL (A, E)
Williams Industrial Services Group, LLC, (Williams
Plant Services, LLC), Tucker, GA (SI)
Zachry Nuclear Engineering, Inc., Stonington, CT
(E)

75700 Security Structures

- BW Barbed Wire, Tape
- BG Barrier-Gates
- F Fences
- GO Gate Operators
- G Gates
- GS Guard Stations
- GB Gunports, Bullet-Resistant
- L Lockers, Weapon Storage
- SB Security Booths (Man-Trap)
- T Turnstiles
- WP Wall Panels, Bullet-Resistant
- WB Windows, Bullet-Resistant

AT&F, Cleveland, OH (G, GB, SB)
♦ Container Technologies Industries, LLC,
Helenwood, TN (BG, GS, GB, WP, WB)
Dufrane Nuclear Shielding, Inc., Winsted, CT (GB)
Fuel Tank Maintenance Co., LLC, Cookeville, TN
(BW, BG, F, GO, G, GS, GB, L, SB, T, WP, WB)

75850 Security Systems & Devices—also

see Consultants

- AI Anti-Intrusion, Indoor
- AO Anti-Intrusion, Outdoor
- AP Asset Protection (Anti-Removal),
Electronic
- AS Automated Security Patrol Robot
- C Computerized
- FI Fully Integrated
- HS Homeland Security Devices
- ID Intruder Detection (Laser, Microwave/
Infrared)
- ET Explosives Trace Detection
- MD Metal (Weapon) Detectors
- NV Night Vision Scopes & Devices
- P Personal Alarm
- PA Personnel Access Control
- RT Railcar, Remote Tracking and Cargo
Monitoring
- TW Thermal Weapon Sights
- VA Vehicle Access Control
- VS Video Surveillance Systems (CCTV)
- VT Video Transmission Systems
- WI Water Intake, Anti-Intrusion
- X X-ray Inspection Systems

AMEASOL - American Measurement Solutions
LLC, Santa Fe, NM (HS)
Diakont, San Diego, CA (FI, VS, VT)
Fuel Tank Maintenance Co., LLC, Cookeville, TN
(AI, AO, C, FI, HS, VS)
Inuktun US, LLC, Rio Rancho, NM (AS, C, HS,
VS)
Kodex, Inc., Nutley, NJ (PA, VA, X)
Mirion Technologies (RADOS) GmbH, Hamburg,
Germany (HS)
♦ National Nuclear Laboratory (UK), Warrington,
United Kingdom (FI)
♦ R.O.V. Technologies, Inc., Brattleboro, VT (VT)
Saphymo, Saint-Aubin, France (PA, VA)

Sidus Solutions LLC, San Diego, CA (AI, AO, FI,
HS, ID, NV, VS, VT, WI)
Southwest Microwave, Inc., (Security Systems Div.),
Tempe, AZ (AO, AP, C, FI, HS, ID)
Terahertz Technologies, Inc., Oriskany, NY (VT)
♦ Thermo Scientific - CIDTEC Cameras & Imagers,
(Part of Thermo Fisher Scientific), Liverpool, NY
(NV, VS)
Uticom Systems, Inc., Coatesville, PA (AO)

76400 Seismic Instrumentation & Testing

AZZ Nuclear | NLI, Fort Worth, TX
C.J. Enterprises, (Div. of C.J. Instruments, Inc.),
Tarzana, CA
Curtiss-Wright Nuclear Division, (Curtiss-Wright
QualTech NP), Cincinnati, OH
♦ DNS - Dedicated Nuclear Solutions, Aiken, SC
EXCEL Services Corporation, Rockville, MD
Fauske & Associates, LLC, (A sub. of Westinghouse
Electric Company, LLC), Burr Ridge, IL
Nutherm International, Inc., Mount Vernon, IL
Pylon Electronics Inc., (Div. of Autrex)
(Instrumentation Dept.), Ottawa, Ontario,
Canada
♦ Westinghouse Electric Co. LLC, Cranberry
Township, PA

77600 Servomechanisms

AREVA Inc., (North American Headquarters),
Charlotte, NC

77750 Shielding Design, Radiation—also
see Analysis; Consultants

American Ceramic Technology, Inc., (Silflex
Shielding), Escondido, CA
AREVA Inc., (North American Headquarters),
Charlotte, NC
♦ AREVA TN, Columbia, MD
♦ BHI Energy, Plymouth, MA
♦ Canberra Industries, Meriden, CT
Cox Nuclear Consulting Services LLC, Seabrook,
NH
Dufrane Nuclear Shielding, Inc., Winsted, CT
Foss Therapy Services, Inc., North Hollywood, CA
Grove Engineering, Inc., (Grove Software),
Lynchburg, VA
Hopewell Designs, Inc., Alpharetta, GA
Hot Cell Services Corp., Kent, WA
ISO-PACIFIC Nuclear Assay Systems, Inc.,
Richland, WA
♦ Joseph Oat Corp., Camden, NJ
Kurion, Inc., Richland, WA
MarShield, (Div. of Mars Metal Co.), Burlington,
Ontario, Canada
NRG, Petten, The Netherlands
Nuclear Shielding Supplies & Service, Tucson, AZ
NUKEM Technologies GmbH, Alzenau, Germany
Putnam Technology, Inc., Smyrna, GA
Radiation Safety Assoc., Inc., Hebron, CT
Sargent & Lundy LLC, Chicago, IL
J. L. Shepherd & Assoc., San Fernando, CA
Sosny Research and Development Co.,
Dimitrovgrad, Ulyanovsk region, Russia
TransWare Enterprises Inc., Sycamore, IL
Westinghouse Electric Co., Nivelles, Belgium
♦ Westinghouse Electric Co. LLC, Cranberry
Township, PA
♦ WMG, Inc., Peekskill, NY

77800 Shielding Materials, Rad.—also
see Containers; Doors; Neut. Absorbers;
Windows

- AS Acrylic Sheeting Products, Beta-
Shielding
- A Aggregates, High-Density Concrete
- B Blankets
- CB Blocks, Concrete, Lead-Core
- BH Blocks, Concrete, High-Density
- BM Blocks, Modular
- BC Boron Carbide Grain & Shapes
- BR Bricks, Composite
- BL Bricks, Lead

♦ Denotes Advertiser

- CM Castable Shielding Materials
- CC Castings, Composite
- CL Castings, Lead
- CA Castles, Lead
- CS Collars, Streaming
- CW Container Wraps
- CR Criticality Control
- CU Curtain Shields
- FS Frisker Shields
- GN Gamma/Neutron Composite
- G Glass, X-ray
- IV In-Vessel Shields
- LF Lead Free
- LP Lead Plastic
- LL Low-Level Shields, Lead/Steel
- PW Pipe Wraps/Sleeves
- PC Plugs, Closures
- P Polyethylene
- PB Polyethylene, Borated
- RF Refueling Shields
- TN Thermal Neutron Materials
- TA Tungsten Alloys
- WP Wall Panels
- WS Water Shields, Modular (Gamma/
Neutron)

Alphasource, Inc., Philadelphia, PA (B, CW, CU,
FS)
American Ceramic Technology, Inc., (Silflex
Shielding), Escondido, CA (B, BM, BR, CM, CC,
CW, CU, GN, LF, PW, TN, TA, WP)
F.N. Anderson & Assoc., Forest, VA (CR)
♦ AREVA TN, Columbia, MD (BH, CR, GN, LL)
AVANTech, Inc, Knoxville, TN (WP)
Ceradyne, Inc. a 3M company, Quapaw, OK (TN)
Dufrane Nuclear Shielding, Inc., Winsted, CT (A,
CB, BM, CM, CU, FS, GN, LL, PW, PC, RF,
TN, WP, WS)
♦ EnergySolutions LLC, Salt Lake City, UT (CL, LL,
WP)
Gamma Products, Inc., Palos Hills, IL (LL)
Lancs Industries, Kirkland, WA (B, BR, BL, CU,
FS, PW, TA, WS)
Mayco Industries, Birmingham, AL (AS, A, B, CB,
BM, BR, CM, CC, CS, CW, CR, CU, FS, GN, G,
IV, LP, PW, PC, P, PB, RE, TN, TA, WP, WS)
M&I Materials Ltd., Manchester, United Kingdom
(TA)
♦ Mohawk Safety, Manchester, CT (B, BL, P)
NAC International, Norcross, GA (BM, BR, CM,
CC, CS, GN, IV, TN)
Newport News Nuclear, Inc., Newport News, VA
(LF)
NFT, Golden, CO (LL)
Nuclear Shielding Supplies & Service, Tucson, AZ
(A, BH, CM, LF)
ORTEC, Oak Ridge, TN (LL)
Plastruc Polyzone, Vineland, Ontario, Canada (P,
PB)
Preferred Engineering Corp., (Sub. of Preferred
Utilities Mfg. Corp.), Danbury, CT (RF)
Premier Technology, Inc., Blackfoot, ID (BL)
Putnam Technology, Inc., Smyrna, GA (CL, FS, LL,
TA)
♦ Radiation Protection Systems, Inc., Groton, CT
(LF, LL, PW, WS)
♦ Reef Industries, Inc., Houston, TX (CW, P, RF)
Rich Industries Inc., New Philadelphia, OH (AS,
CW, CU, P)
Robatel Technologies LLC, Roanoke, VA (A, BM,
BR, BL, CM, CL, GN, IV, TN)
Roberts Engineering Services, Inc., Stuart, FL (CR,
TN)
RSO, Inc./Radiation Service Organization, Laurel,
MD (BL, LL)
Siempelpkamp Nukleartechnik GmbH, Krefeld,
Germany (CM)
Sosny Research and Development Co.,
Dimitrovgrad, Ulyanovsk region, Russia (CW,
CR, IV, RF)
♦ Wagstaff Applied Technologies, Spokane, WA (BL,
CM, CL, CW, CR, CU, IV, PW)
♦ Worthington Industries, Columbus, OH (LL)

77900 Shoring—also see Scaffolding
Excel Modular Scaffold and Leasing Corp.,
Plymouth, MA

78700 **Sleeves, Wall (Pipe)**

- ◆ Joseph Oat Corp., Camden, NJ
- Rich Industries Inc., New Philadelphia, OH
- Vigor (formerly Oregon Iron Works), Clackamas, OR

79360 **Solid Waste Reduction Equipment & Tools, Radioactive**

- C Containment
 - CR Control Rod Crushers, Reducers
 - NW Neutron Window Reducers
 - P Packaging
 - SB Stellite Ball Punches
 - U Underwater Reduction Tools
 - VL Velocity Limiter Shears
- Advanced Consulting Group, Inc., Chicago, IL (U)
Alaron Nuclear Services, Wampum, PA (C, P)
AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (U)
American DND Inc., Grand Island, NY (C, P)
Babcock Services, Inc., Kennewick, WA (C, CR, P, U)
BIG Entsorgungstechnologien GmbH, Bad Toelz, Germany (CR, P, U)
◆ EnergySolutions LLC, Salt Lake City, UT (U, VL)
Getinge-La Calhene, (Sub. of Getinge Group), Rush City, MN (C, P)
Getinge-La Calhene, (Sub. of Getinge Group), Vendome, France (C, P)
◆ Holtec International, Marlton, NJ (U)
Inuktun US, LLC, Rio Rancho, NM (U)
◆ Major Tool & Machine, Inc., Indianapolis, IN (C)
M2 Polymer Technologies, Inc., West Dundee, IL (P)
◆ PacTec, Inc., Clinton, LA (C, P)
PaR Systems, Inc., Shoreview, MN (U)
Plant Decommissioning, Lake Villa, IL (U)
◆ Radiation Protection Systems, Inc., Groton, CT (C)
◆ REI Nuclear, LLC, Columbia, SC (C, P, SB, U, VL)
Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (C, P, U)
SSI Shredding Systems, Inc., Wilsonville, OR (CR)

- Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (C, U)
UOP, A Honeywell Co., Des Plaines, IL (C)
◆ Wagstaff Applied Technologies, Spokane, WA (C, CR)
Westinghouse Electric Co., Nivelles, Belgium (CR, U)
◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (CR, U)
◆ WMG, Inc., Peekskill, NY (P)

79370 **Sorbents**

- ES Environmental Spill
 - LR Liquid Radwaste
- Alphasource, Inc., Philadelphia, PA (ES, LR)
Avantech, Inc., Columbia, SC (LR)
Babcock Services, Inc., Kennewick, WA (LR)
Frham Safety Products, Inc., Nashville, TN (ES)
JRM Chemical Inc., Cleveland, OH (ES, LR)
M2 Polymer Technologies, Inc., West Dundee, IL (ES, LR)
Nochar, Inc., Indianapolis, IN (LR)
NUCON International, Inc., Columbus, OH (LR)
Philotechnics, Ltd., Oak Ridge, TN (ES, LR)
RSO, Inc./Radiation Service Organization, Laurel, MD (ES)
◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (ES, LR)
UOP, A Honeywell Co., Des Plaines, IL (ES, LR)

79700 **Sources, Radioactive—also see**

- Radioisotopes; Testing Services*
General Plastics MFG. Co., Tacoma, WA
ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA

81680 **Storage Services**

- E Equipment
- SF Spent Fuel

◆ Denotes Advertiser

- Alaron Nuclear Services, Wampum, PA (E)
AREVA Inc., (North American Headquarters), Charlotte, NC (E, SF)
◆ AREVA TN, Columbia, MD (E, SF)
Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (E)
◆ Petersen Inc., Ogden, UT (E)
PTP Spent Fuel Services, LLC, Grand Island, NY (E, SF)
Sarens USA, Inc., San Ramon, CA (SF)
Sargent & Lundy LLC, Chicago, IL (SF)
Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (E, SF)
TransWare Enterprises Inc., Sycamore, IL (SF)
◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (E)
Westinghouse Electric Co., Nivelles, Belgium (E, SF)
Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (E)
◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (E, SF)

81710 **Storage Systems, Spent-Fuel—also**

- see Containers; Racks*
D Dry
W Wet
AREVA Inc., (North American Headquarters), Charlotte, NC (D, W)
◆ AREVA TN, Columbia, MD (D)
See advertisement on page 5
Equipos Nucleares, S.A., Madrid, Spain (D, W)
◆ Holtec International, Marlton, NJ (D, W)
Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (D, W)
Lenape Forged Products Corp., West Chester, PA (D, W)
◆ Major Tool & Machine, Inc., Indianapolis, IN (D, W)
Mega-Tech Services, LLC, Mechanicsville, VA (D)
NAC International, Norcross, GA (D)
Paragon D&E, Grand Rapids, MI (D, W)



HOLTEC
INTERNATIONAL

Holtec International Achieves Professional Excellence in:

A Global Turnkey Supplier to the Nuclear, Solar, Geothermal, and Fossil Fuel Sectors of the Energy Industry

Core Competencies Include:

- Dry & Wet Spent Nuclear Fuel Storage Equipment
- Heat Transfer Equipment
- Engineering & Consulting Services
- Custom Fabrication



Engineering

Analysis

Design

Manufacturing

Implementation

Fabrication

WWW.HOLTEC.COM • 1.856.797.0900

- Precision Custom Components, LLC, York, PA (D, W)
- PTP Spent Fuel Services, LLC, Grand Island, NY (D, W)
- ◆ Reef Industries, Inc., Houston, TX (D)
- Robatel Technologies LLC, Roanoke, VA (D)
- Sargent & Lundy LLC, Chicago, IL (D, W)
- SKODA JS a.s., Plzen, Czech Republic (D, W)
- ◆ SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada (D)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (D, W)
- Vigor (formerly Oregon Iron Works), Clackamas, OR (D, W)
- ◆ Wagstaff Applied Technologies, Spokane, WA (D, W)
- Westinghouse Electric Co., Nivelles, Belgium (W)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (D, W)
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA (W)

83110 Tags & Labels (Warning, Inventory, etc.)—also see Health Phys

- Coastal Network, Inc., Charlottesville, VA
- JSM Protective, Inc., Wilmington, NC
- ◆ Mohawk Safety, Manchester, CT
- RSO, Inc./Radiation Service Organization, Laurel, MD
- Westinghouse Electric Co., Nivelles, Belgium
- ◆ Westinghouse Electric Co. LLC, Cranberry Township, PA
- Williams Industrial Services Group, LLC, (Williams Plant Services, LLC), Tucker, GA

83120 Tags, Valve

- ◆ Mohawk Safety, Manchester, CT

83150 Tanks, Storage—also see

Diaphragms; Inspection Services

- AL Aluminum
- GF Glass Fiber
- P Plastic
- RC Rubber, Collapsible
- S Steel
- SS Steel, Stainless

- American Fabrication, Inc., Idaho Falls, ID (AL, S, SS)
- AREVA Inc., (North American Headquarters), Charlotte, NC (S, SS)
- AZZ Nuclear | NLI, Fort Worth, TX (S, SS)
- Babcock Noell GmbH, (Dept. BEV), Wuerzburg, Germany (S, SS)
- ◆ Container Technologies Industries, LLC, Helenwood, TN (S)
- Corrosion Control Services, Inc., (CCSI Engineered Diaphragm Div.), Davenport, IA (RC)
- ◆ DNS - Dedicated Nuclear Solutions, Aiken, SC (AL, S, SS)
- Fuel Tank Maintenance Co., LLC, Cookeville, TN (S, SS)
- ◆ Holtec International, Marlton, NJ (S, SS)
- ◆ Joseph Oat Corp., Camden, NJ (S, SS)
- ◆ Major Tool & Machine, Inc., Indianapolis, IN (AL, S, SS)
- ◆ PacTec, Inc., Clinton, LA (P, RC)
- ◆ Petersen Inc., Ogden, UT (AL)
- Precision Custom Components, LLC, York, PA (S, SS)
- Premier Technology, Inc., Blackfoot, ID (AL, S, SS)
- Robatel Technologies LLC, Roanoke, VA (SS)
- SKODA JS a.s., Plzen, Czech Republic (SS)
- ◆ SSM Industries, Inc., Pittsburgh, PA (AL, S, SS)
- Vigor (formerly Oregon Iron Works), Clackamas, OR (S, SS)
- ◆ Wagstaff Applied Technologies, Spokane, WA (AL, S, SS)
- Westinghouse Electric Co., Nivelles, Belgium (AL, S)
- ◆ Worthington Industries, Columbus, OH (AL, S, SS)

◆ Denotes Advertiser

2015/2016 Wall Maps of Commercial Nuclear Power Plants

NOW AVAILABLE!

Updated **Nuclear News** wall maps show the location of each commercial power reactor that is operable, under construction, or ordered as of February 28, 2015. Tabular information includes each reactor's generating capacity (in Net MWe), design type, date of commercial operation (actual or expected), and reactor supplier.

Green stars on the **United States** map indicate the locations of two new reactor projects that are under construction. Red stars indicate six sites where applications for combined construction and operating licenses have been submitted to the Nuclear Regulatory Commission, and are actively pursued. Blue stars indicate eight sites where license applications have been suspended. For each of the 16 projects, boxed information provides the plant name, the city and state of the site, the reactor model (if known), and the owner.

Also, updated versions of the two worldwide maps are now available: **Europe and Russia**, and **The Americas, Africa, and Asia** (which includes Canada, Mexico, South America, Africa, and Asia).



Order Information

Phone: 708-579-8210

Online: www.ans.org/store/c_7

• Individual Maps: \$35.00 per map*

• 3-Map Combo #1: \$90.00 (one of each)*

• 2-Map Worldwide Combo #2: \$60.00*

Europe and Russia map & The Americas, Africa, and Asia map

All maps are rolled (unfolded) and delivered in shipping tubes.

*Plus shipping and handling.

Actual map dimensions: 39.25" x 26.75", the data in these maps is valid as of 2/28/15. Note: U.S. nuclear power plants are shown on the U.S. map only, not on either of the worldwide maps.

83210 **Tape**

- C Cloth, Nuclear
 - E Electrical Splicing Tape
 - F Foam
 - MS Moisture-Sensitive
 - RS Reinforced Strapping, Nuclear
 - WL Warning, Luminescent
- APCO Extruders Inc., Edison, NJ (C)
 Coastal Network, Inc., Charlottesville, VA (C, WL)
 Frhm Safety Products, Inc., Nashville, TN (C, MS, RS, WL)
 General Plastics MFG. Co., Tacoma, WA (F)
 International Plastics, Inc., Greenville, SC (C, F, RS)
 JSM Protective, Inc., Wilmington, NC (C, MS, RS, WL)
 Lancs Industries, Kirkland, WA (C, MS, RS, WL)
 ◆Mohawk Safety, Manchester, CT (C, RS, WL)
 ◆Reef Industries, Inc., Houston, TX (WL)
 Rich Industries Inc., New Philadelphia, OH (C, RS)
 RSO, Inc./Radiation Service Organization, Laurel, MD (C, WL)
 ◆UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (C, WL)
 Uticom Systems, Inc., Coatesville, PA (F)

83600 **Television Systems (CCTV)—also**

see *Security Systems; Video Services*

- C Conventional
 - HT High-Temperature
 - M Miniature (Remote Viewing)
 - PI Pipe Inspection
 - U Underwater, Color, High-Radiation
 - W Welding Arc Viewing (Color)
- Arc Machines, Inc., Pacoima, CA (W)
 AREVA Inc., (North American Headquarters), Charlotte, NC (C)
 AZZ | WSI LLC, Norcross, GA (W)
 Bowtech Products Ltd., Aberdeen, United Kingdom (C, HT, M, W)
 Inuktun Services Ltd., Nanaimo, BC, Canada (C, M, PI, U)
 Inuktun US, LLC, Rio Rancho, NM (PI)
 Lights Camera Action, LLC, Gilbert, AZ (C, M, PI, U)
 Mirion Technologies (IST) Corp., (Sensing Systems Div.), Horseheads, NY (C, HT, M, PI, U, W)
 Prevision Systems LLC, Hackettstown, NJ (C, HT, M, PI, U)
 Remote Ocean Systems (ROS), San Diego, CA (M, PI, U)
 ◆R.O.V. Technologies, Inc., Brattleboro, VT (HT, M, U)
 Sidus Solutions LLC, San Diego, CA (C, HT, M, PI, U)
 ◆Thermo Scientific - CIDTEC Cameras & Imagers, (Part of Thermo Fisher Scientific), Liverpool, NY (C, M, PI, U, W)
 Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (U)

84150 **Test Equipment & Supplies—**

also see *Health Physics Equip.;*

Nondestructive Testing

- A Automated
- CS Capacitance Strain Gauging
- CP Coating Porosity Detection
- CT Coating Thickness Gauging
- C Concrete Inspection
- EC Eddy Current
- EM Electric Motors
- ES Electrical Systems & Components
- E Environmental
- FO Fiber Optic
- HE HEPA Filter
- II Infrared Imaging
- IC Instrumentation & Control
- LR Leak-Rate, Local
- M Manual
- MT Materials
- ND Nondestructive
- PH pH Measurement
- P Portable
- PA Power Apparatus
- RT Resistance Temperature Detectors
- S Stationary
- SC Structures/Components
- U Ultrasonic

- UC Ultrasonic Couplant
- VL Vacuum Leak Testers, Tube
- V Valve
- VM Valve, Motor-Operated, Diagnostic
- VS Valve, Solenoid Operated, Diagnostic
- V Vibration

- Alber Corp., Sunrise, FL (ES, PA)
 AREVA Inc., (North American Headquarters), Charlotte, NC (EC, EM, IC, ND, U, V)
 ◆Berkeley Nucleonics Corp., San Rafael, CA (E, IC)
 ComRent International, LLC, Upper Marlboro, MD (EM, ES, PA)
 Crane Nuclear, Inc., Kennesaw, GA (EC, EM, ND, U, V, VM, VS)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright Anatec), Irvine, CA (CT, EC, ND, U)
 Elan Technical Corp., Eden Prairie, MN (RT)
 Elcometer Inc., Rochester Hills, MI (CP, CT, C, EC)
 InterTest, Inc., Columbia, NJ (A, CT, EC, II, ND, P, U, UC)
 Inuktun Services Ltd., Nanaimo, BC, Canada (CT, C, EC, II, ND, U)
 Inuktun US, LLC, Rio Rancho, NM (C, E, ND, P, U)
 ◆Mohawk Safety, Manchester, CT (HE)
 Oerlikon Leybold Vacuum, Export, PA (LR, VL)
 PaR Systems, Inc., Shoreview, MN (A, ND, U)
 Prevision Systems LLC, Hackettstown, NJ (ND)
 Rockwell Automation, Inc., Milwaukee, WI (A, EM, ES, E)
 Siemens Process Industries and Drives, (Industry Automation Div.), (Process Instrumentation & Analytics), Hauppauge, NY (IC, P, U)
 System One, Pittsburgh, PA (EC, II, IC, ND, U)
 Terahertz Technologies, Inc., Oriskany, NY (FO)
 Valcor Engineering Corp., (Valcor Nuclear)(Valcor), Springfield, NJ (V, VS)

84600 **Testing Services—also see Analysis;**

Maintenance Serv.; Nondestructive

Testing

- AI Alloy Identification (On-Site)
 - C Coatings
 - CD Corrosion Detection
 - EM Electric Motors
 - ES Electrical Systems & Components
 - EQ Environmental Qualification
 - FR Fire Resistance/Flammability
 - FL Flow
 - FM Fracture Mechanics
 - I Infrared
 - IC Instrumentation & Control
 - LF Laminar Flow Facilities
 - LD Leak Detection, Tube
 - LN Leak, Nuclear Gauge
 - LS Leak, Radioactive Sealed Source
 - LR Leak-Rate, Integrated
 - LL Leak-Rate, Local
 - M Materials
 - ND Nondestructive
 - PH Photometric Testing
 - PL Plastics/Polymers
 - P Pumps
 - QS Quality Services
 - SP Sealed Sources (Pressure, Temperature)
 - S Seismic
 - SI Siren Systems
 - ST Structures
 - TC Transport Containers
 - U Ultrasonic
 - V Vibration
 - WT Wall Thinning Detection, Tube
- Alaron Nuclear Services, Wampum, PA (C, EM, P, V)
 AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (AI, M, ND)
 AREVA Inc., (North American Headquarters), Charlotte, NC (EM, FM, IC, ND, P, QS, U, V, WT)
 ARS International, LLC, Port Allen, LA (EQ, LS, TC)
 BCP Engineers & Consultants, Greta, LA (FL, IC, P)
 ◆BWX Technologies, Inc., Lynchburg, VA (C, EQ, FM, LD, LS, M, ND, SP, U)

◆ Denotes Advertiser

- ◆Container Technologies Industries, LLC, Helenwood, TN (TC, V)
- Crane Nuclear, Inc., Kennesaw, GA (IC, ND, U)
- Curtiss-Wright Nuclear Division, Middleburg Heights, OH (ND)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright Anatec), Irvine, CA (C, CD, IC, LD, ND, QS, U, WT)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (EQ, S)
- Diakont, San Diego, CA (CD, WT)
- ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (M, ND, U)
- Fauske & Associates, LLC, (A sub. of Westinghouse Electric Company, LLC), Burr Ridge, IL (ES, IC, S, V)
- Fuel Tank Maintenance Co., LLC, Cookeville, TN (C, CD, ND, U)
- General Plastics MFG. Co., Tacoma, WA (FR, PL)
- Intek, Inc., Westerville, OH (FL)
- InterTest, Inc., Columbia, NJ (C, I, ND, U)
- ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (LS)
- Materials & Chemistry Laboratory, Inc., Oak Ridge, TN (C, CD, EQ, FM, M, PL, QS)
- Nutherm International, Inc., Mount Vernon, IL (EQ, S)
- PaR Systems, Inc., Shoreview, MN (I, ND, U)
- Project Assistance Corp. (PAC), Walnut Creek, CA (QS)
- Radiation Safety Assoc., Inc., Hebron, CT (LS)
- Rockwell Automation, Inc., Milwaukee, WI (FL, IC)
- RSO, Inc./Radiation Service Organization, Laurel, MD (LS)
- Siemens Process Industries and Drives, (Industry Automation Div.), (Process Instrumentation & Analytics), Hauppauge, NY (FL, IC, LD, U)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (TC)
- Southwest Research Institute, San Antonio, TX (C, CD, ES, FR, FM, M, ND, S)
- Sundance Consulting, Inc., Pocatello, ID (EQ)
- System One, Pittsburgh, PA (CD, IC, M, ND, P, QS, U)
- Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (C, CD, ND, QS, U)

86130 **Tools**

- C Custom-Made
 - E Electric
 - H Hydraulic
 - P Pneumatic
 - VA Vacuum-Assisted
- AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (C)
 Babcock Services, Inc., Kennewick, WA (C, H)
 Curtiss-Wright Nuclear Division, Middleburg Heights, OH (H)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (C)
 Diakont, San Diego, CA (C)
 General Plastics MFG. Co., Tacoma, WA (C)
 Inuktun US, LLC, Rio Rancho, NM (C)
 Lights Camera Action, LLC, Gilbert, AZ (E)
 ◆Petersen Inc., Ogden, UT (C)
 Plant Decommissioning, Lake Villa, IL (C, E, H, P)
 Prevision Systems LLC, Hackettstown, NJ (C)
 Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (C, E, H, P, VA)

86250 **Trailers, Spent-Fuel Transport**

- AREVA Inc., (North American Headquarters), Charlotte, NC
 ◆AREVA TN, Columbia, MD
 Bigge Power Constructors, (Div. of Bigge Crane and Rigging Co.), San Leandro, CA
 Perkins Specialized Transportation Contracting (Perkins STC), Northfield, MN
 Savage Logistics, LLC, Richland, WA
 Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia
 Tri-State Motor Transit Co., Joplin, MO

got radiation?

Imaging in radiation environments just got easier with our MegaRAD line of radiation hardened cameras. With superior capabilities for operating in radiation environments, they provide excellent image quality well beyond dose limitations of conventional cameras. MegaRAD cameras provide excellent signal-to-noise and sensitivity with wide spectral response, making the MegaRAD series of cameras well suited for radiation hardened imaging applications.

see what you've been missing

- Learn more at thermoscientific.com/cidtec



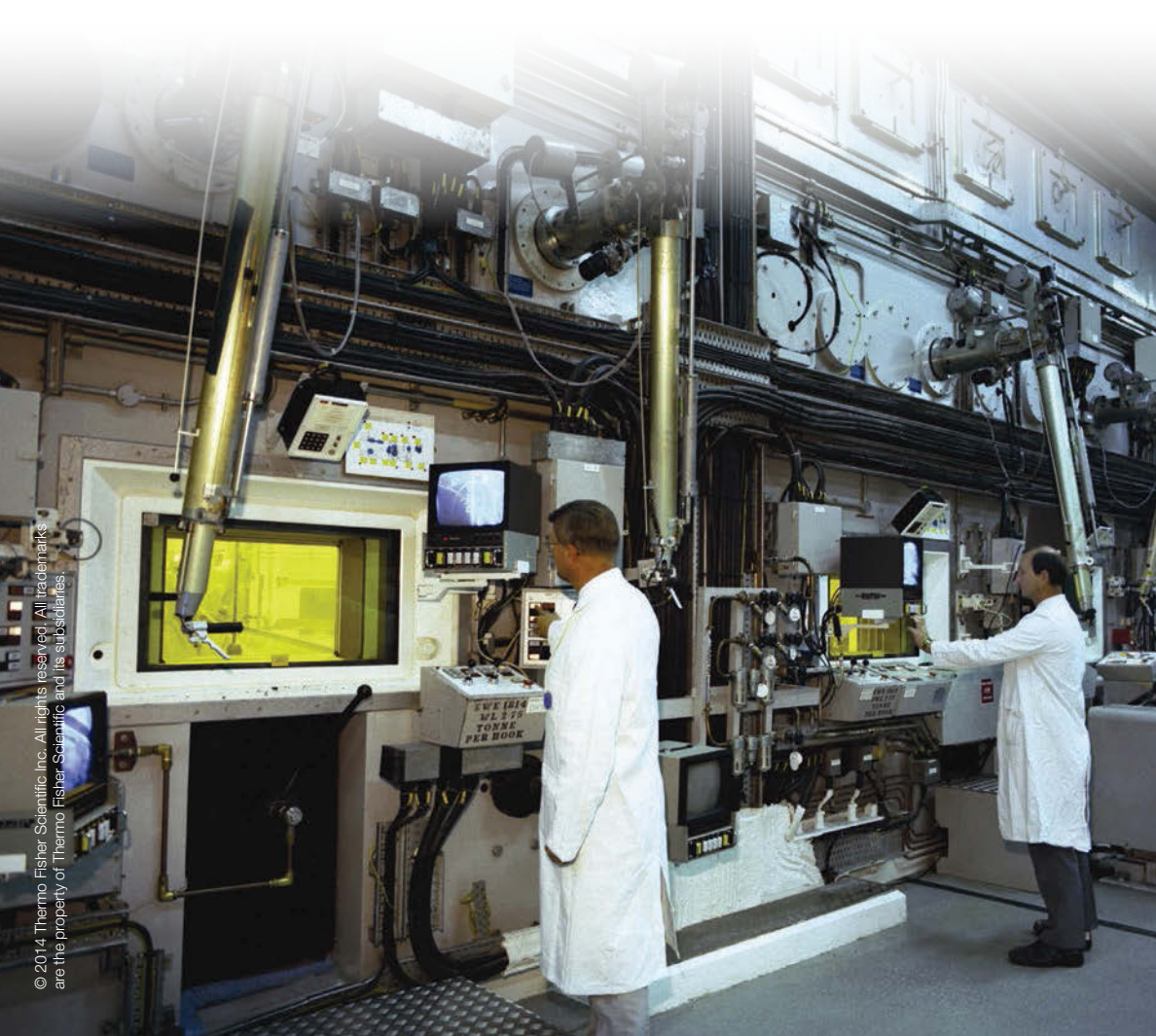
MegaRAD3 cameras produce color or monochrome video up to 3×10^6 rads total dose



MegaRAD1 cameras produce monochrome video up to 1×10^6 rads total dose



KiloRAD PTZ radiation resistant camera with integrated Pan/Tilt/Zoom



86260 Trailers, Transport

- AREVA Inc., (North American Headquarters), Charlotte, NC
 Bigge Power Constructors, (Div. of Bigge Crane and Rigging Co.), San Leandro, CA
 Perkins Specialized Transportation Contracting (Perkins STC), Northfield, MN
 Savage Logistics, LLC, Richland, WA
 Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia
 sa TRANSRAD nv, Fleurus, Belgium
 Tri-State Motor Transit Co., Joplin, MO
 ◆ UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA

86300 Training—also see Consultants;

Health Physics Services; Training Centers; Training Materials

- AT Air Treatment
 AC Auditing, Codes & Standards
 AE Auditing, Environmental
 CH Chemistry
 C Communications
 CP Computer Users/Computer Personnel
 CM Construction Management Personnel
 CS Crane & Rigging Safety
 D Decommissioning
 EP Emergency Planning & Response
 EM Engineering Management
 EE Engineers, Electrical
 ME Engineers, Mechanical
 ES Engineers, Structural
 EL Environmental Laws & Regulation
 EQ Equipment Qualification
 FP Fire Protection
 FD Fitness-for-Duty, Behavioral Observation
 FC Fuel Cycle/Performance Analysis
 FT Fuel Transport/Storage
 HV HVAC Maintenance
 I Instructors, Classroom & Simulator
 LD Leadership Development

- L Licensing
 M Maintenance
 MN Management
 NT Nondestructive Testing
 OE Organizational Effectiveness
 OS OSHA Compliance
 PC Process Control Statistical
 PM Project Management
 QA Quality Assurance/Quality Control
 RM Radiation Management (ALARA)
 RP Radiation Protection
 RC Radiochemistry
 RA Reliability Analysis
 RS Respiratory Protection
 RT Root Cause Analysis
 SE Safety Evaluation
 S Scaffolding
 SP Security Personnel
 SQ Seismic Qualification
 SR Simulators, Radiation
 TB Team Building
 TE Technicians, Electrical
 TI Technicians, Instrumentation and Control
 TL Technicians, Laboratory
 TM Technicians, Mechanical
 TS Technicians, Security
 WM Waste Management
 WP Waste Packaging Transportation & Disposal
 WC Water Chemistry
 Advanced Consulting Group, Inc., Chicago, IL (EM, ES, MN, PM)
 Alber Corp., Sunrise, FL (M)
 AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (EQ)
 American Crane & Equipment Corp., Douglassville, PA (CS)
 Applied Health Physics, LLC, Bethel Park, PA (AC, AE, EP, L, RM, RP, RT, SE, WM)
 Applied Science Professionals, (ASP-LLC), Salt Lake City, UT (QA, RM, RP, RT)

◆ Denotes Advertiser

- ARES Corp., (Energy Services Div.), Richland, WA (PM, QA)
 AREVA Inc., (North American Headquarters), Charlotte, NC (CH, EM, FC, FT, I, M, NT, PM, QA, RM, RP, RC, TE, TI, TL, TM)
 ◆ AREVA TN, Columbia, MD (FT)
 ◆ Argonne National Laboratory, (Decommissioning Training), (NE Div.), Argonne, IL (MN)
 BCP Engineers & Consultants, Gretna, LA (CH, CM, EP, EM, EQ, I, M, NT, PM, QA, RM, RP, RC, TE, TI, TL, TM, WM)
 ◆ BES Technologies, Oak Ridge, TN (RS)
 ◆ BHI Energy, Plymouth, MA (CH, CM, CS, EP, EM, EE, ME, ES, EQ, HV, I, M, PM, QA, RM, RP, RC, RS, SE, S, TE, TI, TL, TM, WM, WC)
 Bigge Power Constructors, (Div. of Bigge Crane and Rigging Co.), San Leandro, CA (CS)
 Cabrera Services Inc., East Hartford, CT (D, EP, EM, OS, PM, QA, RM, RP, RC, WM, WP, WC)
 ◆ Canberra Industries, Meriden, CT (NT, QA, RM, RP, RC, WM)
 Chesapeake Nuclear Services, Inc., Annapolis, MD (RP, RC)
 Conestoga-Rovers & Assoc., Niagara Falls, NY (OS)
 Cox Nuclear Consulting Services LLC, Seabrook, NH (D, EP, EL, RM, RP, RC, WP)
 Crane Nuclear, Inc., Kennesaw, GA (EQ, M, NT, TI)
 CTR Technical Services, Inc., Manitou Springs, CO (SE)
 Curtiss-Wright Nuclear Division, Brea, CA (EQ, I, M, QA, TM)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright Anatec), Irvine, CA (AC, NT, QA)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (EQ, SQ)
 Dade Moeller & Assoc., Richland, WA (D, EP, OS, RM, RP, WP)
 DCS Systems, Inc., Simsbury, CT (AC, FC, QA, RT)
 The Delphi Groupe, Inc., Austin, TX (AC, AE, CH, EP, EL, FP, PM, QA, RM, RP, RC, RS, TL, WM, WC)

EDUCATION & OPPORTUNITY IN WASTE MANAGEMENT

WWM 2016
Symposia

MARCH 6-10, 2016
PHOENIX CONVENTION CENTER
ARIZONA, USA

WM2016 IS THE PLACE TO BE

- #1 International Conference for Waste Management
- A Worldwide Audience
- 2,000+ Attendees from Over 30 Countries
- 800 Different Companies
- Featured International Sessions
- Over 175 Exhibitors from Around the World
- Featured US DOE Sessions

wmsym.org
A NON-PROFIT ORGANIZATION

DLE Technical Services, LLC, Palm City, FL (AC, AE, LD, MN, OE, PM, QA, RT, TB)
 Donley Technology, Colonial Beach, VA (AE, EL, OS)
 DW James Consulting, North Oaks, MN (WM)
 ♦EnergySolutions LLC, Salt Lake City, UT (FT)
 Excel Modular Scaffold and Leasing Corp., Plymouth, MA (S)
 EXCEL Services Corporation, Rockville, MD (AE, EM, EE, ES, EL, FP, FC, I, M, MN, RA, RT, SE, TB)
 Fauske & Associates, LLC, (A sub. of Westinghouse Electric Company, LLC), Burr Ridge, IL (EQ)
 ♦The GEL Group, Inc., (GEL Engineering, LLC), (GEL Laboratories, LLC), (GEL Geophysics, LLC), (Cape Fear Analytical, Inc.), Charleston, SC (RC)
 The GEL Group, Inc., (General Engineering Laboratories, LLC), Charleston, SC (RC)
 GSE Systems Inc., Sykesville, MD (I)
 Stan A. Huber Consultants, Inc., New Lenox, IL (QA, RM, RP)
 HukariAscendent Inc., Wheat Ridge, CO (EP, EM, EE, ME, ES, FP, I, L, M, PM, QA, RM, RP, WM)
 Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (CS, FT, I)
 LeBlond and Associates, LLC, Libertyville, IL (I, L, QA, SE)
 MPR Associates, Inc., Alexandria, VA (EM, ME, FP, RT, SQ)
 NAC International, Norcross, GA (FC, FT)
 National Inspection & Consultants, Fort Myers, FL (NT)
 NEWEX-SSG, LLC, Folsom, CA (RP, WM, WP)
 NPTS, Inc., Buffalo, NY (AC, I)
 NRG, Petten, The Netherlands (D, EP, EL, RP)
 Nuclear Plant Journal, Downers Grove, IL (RP)
 NUCON International, Inc., Columbus, OH (AT, NT)
 NWT Corp., San Jose, CA (CH, RC, TL, WC)
 Oak Ridge Institute for Science and Education, (ORISE), (Operated by Oak Ridge Associated Universities (ORAU), Independent Environmental Assessment and Verification (IEAV)), Oak Ridge, TN (RP)
 ORTEC, Oak Ridge, TN (RP, RC)
 PECOS Management Systems, Inc., (PECOS), Albuquerque, NM (AE, EM, EL, PM, QA, WM)
 Project Assistance Corp. (PAC), Walnut Creek, CA (AC, PM, QA, RT, SE, SQ)
 ♦Radiation Protection Systems, Inc., Groton, CT (RM, RP)
 Radiation Safety Assoc., Inc., Hebron, CT (AC, L, RM, RP, RS)
 Radiological Solutions, Inc., Rockdale, IL (CH, RC, WC)
 RSO, Inc./Radiation Service Organization, Laurel, MD (EP, RM, RP, WM)
 Sargent & Lundy LLC, Chicago, IL (AT, AC, AE, CH, CM, EP, EM, EE, ME, ES, EL, EQ, FP, HV, L, M, MN, NT, PM, QA, RM, RP, RA, RT, SE, SQ, TB, WM, WC)
 SGS Herguth Laboratories, Inc., Vallejo, CA (M, NT, TL)
 Siemens Power Generation Services, Orlando, FL (RP)
 Howard L. Sobel, P.E., Oceanside, NY (EM, FC, QA, WM)
 Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (FC, FT)
 Sundance Consulting, Inc., Pocatello, ID (AE)
 System One, Pittsburgh, PA (I, NT, QA)
 Teletrix, Pittsburgh, PA (SR)
 TLG Services, Inc., (Affl. of Entergy Corp.), Bridgewater, CT (D)
 Tri Tool Inc., Rancho Cordova, CA (EQ, TM)
 Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (QA)
 Westinghouse Electric Co., Nivelles, Belgium (CH, EP, EQ, I, M, PM, QA, RM, RP, RA, RS, RT, SE, SQ, TE, TI, TL, TM, WM, WC)
 Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (CS, EE, ME, I, M)
 ♦Westinghouse Electric Co. LLC, Cranberry Township, PA (CH, EP, EQ, I, M, PM, QA, RM, RP, RA, RS, RT, SE, SQ, TE, TI, TL, TM, WM, WC)
 ♦WMG, Inc., Peekskill, NY (AC, CP, EL, WM)
 ♦WM Symposia, Tempe, AZ (WM)

86400 **Training Centers, Facilities—also see Training; Training Materials**
 GSE Systems Inc., Sykesville, MD
 Radiation Safety & Control Services, Inc., Stratham, NH
 System One, Pittsburgh, PA
 Technical Management Services, Inc., New Hartford, CT
 Westinghouse Electric Co., Nivelles, Belgium
 Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN
 ♦Westinghouse Electric Co. LLC, Cranberry Township, PA

86500 **Training Materials, Courseware—also see Mockup Design; Training; Training Centers**
 AV Audio-Visual Aids
 CA Computer-Aided
 DV Digital Video, Interactive
 M Models, Mockups
 T Textual
 AREVA Inc., (North American Headquarters), Charlotte, NC (AV, CA, DV, M, T)
 Curtiss-Wright Nuclear Division, Brea, CA (M)
 Donley Technology, Colonial Beach, VA (CA)
 GSE Systems Inc., Sykesville, MD (AV, CA, M, T)
 International Atomic Energy Agency, Vienna, Austria (T)
 LeBlond and Associates, LLC, Libertyville, IL (CA, T)
 NEWEX-SSG, LLC, Folsom, CA (M, T)
 Nuclear Plant Journal, Downers Grove, IL (CA)
 Sargent & Lundy LLC, Chicago, IL (CA, DV, M, T)
 Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (M, T)
 Technical Management Services, Inc., New Hartford, CT (T)
 WD Associates, Inc., Whiteford, MD (T)
 Westinghouse Electric Co., Nivelles, Belgium (AV, CA, DV, M, T)
 Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (AV, CA, DV, M, T)
 ♦Westinghouse Electric Co. LLC, Cranberry Township, PA (AV, CA, DV, M, T)
 ♦WMG, Inc., Peekskill, NY (CA, T)

86900 **Translation Services**
 RussTech Language Services, Inc., Tallahassee, FL

87000 **Transport Services**
 C Consulting/Transport Management
 DC Dry Cask
 HC Heavy Components
 IR Intermodal/Rail
 L Liners
 HL Radioactive, High-Level
 LL Radioactive, Low-Level
 TP Transload Facility, Permanent
 TT Transload Facility, Temporary
 AeroGo, Inc., Seattle, WA (HC, TP, TT)
 AREVA Inc., (North American Headquarters), Charlotte, NC (HL)
 ♦AREVA TN, Columbia, MD (C, DC, HC, IR, L, HL, LL, TP, TT)
 Bigge Power Constructors, (Div. of Bigge Crane and Rigging Co.), San Leandro, CA (DC, HC)
 Canal Barge Co., New Orleans, LA (HC)
 ♦EnergySolutions LLC, Salt Lake City, UT (C, HC, IR, HL, LL)
 I.C.E. Service Group, Inc., Ambridge, PA (C, DC, HC, IR, L, HL, LL, TP, TT)
 Konecranes Nuclear Equipment & Services LLC, New Berlin, WI (DC)
 MHF Services, (An EnergySolutions Company), Wexford, PA (C, HC, IR, L, HL, LL)
 NAC International, Norcross, GA (C, DC, HL)
 Philotechnics, Ltd., Oak Ridge, TN (C, LL)
 Precision Custom Components, LLC, York, PA (HC)

♦ Denotes Advertiser

RSO, Inc./Radiation Service Organization, Laurel, MD (C, LL, TP)
 Sarens USA, Inc., San Ramon, CA (C, DC, HC, IR)
 Savage Logistics, LLC, Richland, WA (C, DC, HC, IR, L, HL, LL)
 Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (C, DC, IR, L, HL)
 Studsvik, Inc., Atlanta, GA (HC, IR, LL)
 sa TRANSRAD nv, Fleurus, Belgium (C, IR, HL, LL)
 Tri-State Motor Transit Co., Joplin, MO (C, DC, HC, HL, LL)
 Visionary Solutions, LLC, Knoxville, TN (C, DC, HC, IR, L, HL, LL, TT)
 ♦Waste Control Specialists LLC, Dallas, TX (DC, LL)
 Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (DC)
 Whiting Corp., Monee, IL (HC)

87380 **Tritium Handling Equipment**
 Kurion, Inc., Richland, WA
 ♦Major Tool & Machine, Inc., Indianapolis, IN
 NUCON International, Inc., Columbus, OH
 ♦Wagstaff Applied Technologies, Spokane, WA

87395 **Tritium Recycle & Extraction Equipment**
 Kurion, Inc., Richland, WA
 ♦Major Tool & Machine, Inc., Indianapolis, IN

87400 **Tritium Removal Equipment**
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA
 Kurion, Inc., Richland, WA
 Nuclear Systems Associates, Inc., Brea, CA
 NUCON International, Inc., Columbus, OH
 ♦SNC Lavalin Nuclear Inc., (Head Office), Mississauga, Ontario, Canada

90100 **Vacuum Equipment & Accessories—also see Cleaning Equip.; Filters**
 Coastal Network, Inc., Charlottesville, VA
 HI-Q Environmental Products Co., Inc., San Diego, CA
 NFT, Golden, CO
 Oerlikon Leybold Vacuum, Export, PA
 Pave Technology Co., Dayton, OH
 RADeCO, Inc., Plainfield, CT
 Schutte and Koerting, Trevoese, PA
 The Spencer Turbine Co., Windsor, CT
 Underwater Construction Corp., Essex, CT
 E. H. Wachs, Lincolnshire, IL

90250 **Valve Operators (Actuators)**
 A Air
 ES Electric Solenoid
 EH Electrohydraulic
 EX Explosive-Activated
 H Hydraulic
 MN Manual
 M Motor
 AREVA Inc., (North American Headquarters), Charlotte, NC (MN)
 AZZ Nuclear | NLI, Fort Worth, TX (A, ES, H, M)
 ♦BHI Energy, Plymouth, MA (A, M)
 Conval, Inc., Somers, CT (A, ES, EH, H, MN, M)
 ♦DNS - Dedicated Nuclear Solutions, Aiken, SC (A, ES, H, MN, M)
 Rotork Controls, Inc., Rochester, NY (A, M)
 ♦SSM Industries, Inc., Pittsburgh, PA (A, ES, EH, MN, M)
 Valcor Engineering Corp., (Valcor Nuclear)(Valcor), Springfield, NJ (A, ES, MN)
 E. H. Wachs, Lincolnshire, IL (A, H, M)

90330 **Valve Stem Gland Packing Systems, Live-Loaded**
 Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL

90600 Valves, Check, Stop Check

- AC Air-Cylinder-Assisted
 - B Ball
 - CC Controlled-Closure
 - NS Non-Slam
 - PO Piston-Operated
 - SL Spring-Loaded
 - ST Swing Type
 - SA Swing Type, Alloy
 - TD Tilting Disk
- AREVA Inc., (North American Headquarters), Charlotte, NC (B)
- AZZ Nuclear | NLI, Fort Worth, TX (B, ST, SA, TD)
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (B, PO, SL, ST, SA)
- Conval, Inc., Somers, CT (B, PO, SL)
- ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (AC, B, CC, NS, PO, SL, ST, SA, TD)
- Flowsolve Flow Control Div., (Div. of Flowsolve Corp.), Raleigh, NC (AC, B, PO, ST, TD)
- Schutte and Koerting, Trevose, PA (ST)
- Valcor Engineering Corp., (Valcor Nuclear)(Valcor), Springfield, NJ (PO, SL)
- Velan Inc., Montreal, Quebec, Canada (B, TD)

90800 Valves, Control

- F Flow
 - FA Flow, Acoustic Emission
 - I Intelligent
 - P Pressure
 - T Temperature
 - V Vacuum
- AZZ Nuclear | NLI, Fort Worth, TX (F)
- C.J. Enterprises, (Div. of C.J. Instruments, Inc.), Tarzana, CA (P)
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (F, P)
- ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (F, FA, I, P, T, V)
- Flowsolve Flow Control Div., (Div. of Flowsolve Corp.), Raleigh, NC (F, P)
- Oerlikon Leybold Vacuum, Export, PA (V)
- Schutte and Koerting, Trevose, PA (F)
- Valcor Engineering Corp., (Valcor Nuclear)(Valcor), Springfield, NJ (F, P)

91000 Valves, Gate

- B Bellows Seal
 - JA Jacketed Alloy
 - K Knife
 - PS Parallel Slide Type
 - W Wedge Type
- AREVA Inc., (North American Headquarters), Charlotte, NC (B, W)
- AZZ Nuclear | NLI, Fort Worth, TX (PS, W)
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (PS, W)
- Conval, Inc., Somers, CT (B, W)
- ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (B, JA, K, PS, W)
- Flowsolve Flow Control Div., (Div. of Flowsolve Corp.), Raleigh, NC (PS, W)
- Valcor Engineering Corp., (Valcor Nuclear)(Valcor), Springfield, NJ (B)
- Velan Inc., Montreal, Quebec, Canada (B, K, PS, W)

91260 Valves, Other

- BW Backwater
- B Ball
- BU Burner
- BF Butterfly
- D Diaphragm
- EF Excess-Flow
- FS Fail-Safe
- FI Feedwater Isolation
- FL Filter, In-Line
- FD Fire Deluge
- FM Flow Monitoring/Alarm System
- FB Flush Bottom Tank
- G Globe
- GB Globe, Bellows
- IM Instrumentation Manifold
- IS Isolation Shutoff
- LB Line-Blind

- MS Main Steam Isolation
 - M Miniature
 - N Needle
 - P Packless
 - PL Plastic-Lined
 - PG Plug
 - PR Pressure Regulating
 - PU Pump Recirculation
 - Q Quick-Opening & -Closing
 - R Ram-Type
 - RS Relief, Safety
 - SL Slurry
 - SO Solenoid
 - V Vacuum
- AREVA Inc., (North American Headquarters), Charlotte, NC (B, SO)
- AZZ Nuclear | NLI, Fort Worth, TX (B, BF, D, FI, G, IM, M, N, PR)
- ◆BHI Energy, Plymouth, MA (BF, G, MS)
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (B, BF, G, PG, PR, SO)
- Conval, Inc., Somers, CT (B, FI, FL, G, GB, IS, MS, N, P)
- Curtiss-Wright Nuclear Division, Brea, CA (BF, D, EF, FS, FI, G, GB, IM, IS, MS, N, P, PG, PU, Q, RS, SL, SO, V)

- ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (BW, B, BU, BF, D, EF, FS, FI, FL, FD, FM, FB, G, GB, IM, IS, LB, MS, M, N, P, PL, PG, PR, PU, Q, R, RS, SL, SO, V)
- Dubose National Energy Services, Clinton, NC (B, G)
- Flowsolve Flow Control Div., (Div. of Flowsolve Corp.), Raleigh, NC (B, BF, FI, G, IS, MS)
- Intek, Inc., Westerville, OH (FM)
- Oerlikon Leybold Vacuum, Export, PA (V)
- Predictive Maintenance Inspection, Inc., Madison, AL (IS)
- Schutte and Koerting, Trevose, PA (G, PG, PR, Q)
- Valcor Engineering Corp., (Valcor Nuclear)(Valcor), Springfield, NJ (FS, G, GB, IM, IS, N, P, PR, Q, SO)
- Velan Inc., Montreal, Quebec, Canada (B, BF, G, GB, MS, SL)

91380 Valves, Pressure Seal

- BL Breech Lock
 - G Gate
 - GL Globe
 - PC Piston Check
 - SC Swing Check
 - TD Tilting Disk
 - W Wafer Check Valves
- AREVA Inc., (North American Headquarters), Charlotte, NC (G, GL)
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (G, GL, PC, SC)
- Conval, Inc., Somers, CT (G, GL, PC)
- Curtiss-Wright Nuclear Division, Brea, CA (G, GL, PC, TD, W)
- ◆DNS - Dedicated Nuclear Solutions, Aiken, SC (BL, PC, TD, W)
- Flowsolve Flow Control Div., (Div. of Flowsolve Corp.), Raleigh, NC (G, GL, PC, SC, TD)
- Schutte and Koerting, Trevose, PA (G, GL, SC)
- Velan Inc., Montreal, Quebec, Canada (G, GL, PC, SC, TD, W)

92300 Vessels—also see Respiratory Protection Equipment

- F Flasks, Water, Valve-Operating
 - P Pressure
 - PR Pressure, Reactor
- American Airworks, Sophia, WV (P)
- American Fabrication, Inc., Idaho Falls, ID (P)
- Consolidated Power Supply, (Div. of Consolidated Pipe & Supply Co., Inc.), Birmingham, AL (P, PR)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright QualTech NP), Cincinnati, OH (P)
- Ellis & Watts Global Industries, Inc., Batavia, OH (P)

◆ Denotes Advertiser

- Fuel Tank Maintenance Co., LLC, Cookeville, TN (P)
- ◆Holtec International, Marlton, NJ (F, P, PR)
- ◆Joseph Oat Corp., Camden, NJ (P, PR)
- ◆Major Tool & Machine, Inc., Indianapolis, IN (P, PR)
- ◆Petersen Inc., Ogden, UT (P)
- Precision Custom Components, LLC, York, PA (F, P, PR)
- Sarens USA, Inc., San Ramon, CA (PR)
- SKODA JS a.s., Plzen, Czech Republic (P, PR)
- Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (F)
- Vigor (formerly Oregon Iron Works), Clackamas, OR (P, PR)
- ◆Wagstaff Applied Technologies, Spokane, WA (F, P, PR)
- Westinghouse Electric Co., Nivelles, Belgium (F, P, PR)
- ◆Westinghouse Electric Co. LLC, Cranberry Township, PA (P, PR)
- ◆Worthington Industries, Columbus, OH (P, PR)

92800 Video Services

- I Inspection
 - PP Plant Photodocumentation
 - R Remote
 - U Underwater
- Ahlberg Cameras, Wilmington, NC (I, R, U)
- AREVA Inc., (North American Headquarters), Charlotte, NC (I, PP, R, U)
- Bowtech Products Ltd., Aberdeen, United Kingdom (PP, R)
- Curtiss-Wright Nuclear Division, (Curtiss-Wright Anatec), Irvine, CA (I)
- InterTest, Inc., Columbia, NJ (I, PP, R, U)
- Inuktun US, LLC, Rio Rancho, NM (I, R, U)
- Lenox Instrument Co., Inc., Trevose, PA (R, U)
- ◆R.O.V. Technologies, Inc., Brattleboro, VT (R, U)
- Sidus Solutions LLC, San Diego, CA (I, R, U)
- ◆Thermo Scientific - CIDTEC Cameras & Imagers, (Part of Thermo Fisher Scientific), Liverpool, NY (I, R, U)
- Underwater Construction Corp., Essex, CT (R, U)
- Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (I, PP, R, U)
- Westinghouse Electric Co., (Fuel Handling Equipment & Crane Manufacturing), Shoreview, MN (R)

93040 Waste Management Services—also see Analysis; Health Physics Services

- DM Demineralization
- DW Dewatering, Nonradioactive
- DR Dewatering, Radioactive
- DL Disposal (Low-Level)
- ER Environmental Remediation
- FP Fuel Pool Services
- I Incineration
- IL Intermediate-Level
- LC Lead Contamination
- MW Mixed Waste Analysis & Processing
- MD Mixed Waste Disposal/Treatment
- MS Mixed Waste Solvent Disposal
- MO Molten Salt Oxidizers
- M Monitoring
- NR Non-Radioactive
- OF Off-Site (Fixed Base)
- ON On-Site
- P Packaging/Repackaging
- LL Radioactive, Low-Level
- HL Radioactive, High-Level
- RD Resin Destruction
- RP Resin Pyrolysis
- RR Resin Regeneration
- RC Resource Recovery
- SM Scrap Melting
- SS Sealed Source Decommissioning
- S Solidification
- SR Survey & Release
- T Transuranic (TRU)
- UT Uranium Mill Tailings Reclamation
- V Vitrification
- VR Volume Reduction
- WC Waste Characterization
- WS Waste Sampling
- WD Wood Decontamination

Aloran Nuclear Services, Wampum, PA (DL, IL, M, OF, P, HL, RC, SS, VR, WC)
 AMEASOL - American Measurement Solutions LLC, Santa Fe, NM (MW, M, WC)
 AMEC Environment & Infrastructure Inc., Grand Junction, CO (ER, SR, UT, VR, WC)
 American DND Inc., Grand Island, NY (DL, ER, FP, LC, NR, P, SM, VR)
 Ameriphsysics, LLC, Knoxville, TN (DL, ER, P, LL, SS, WC, WS)
 Applied Health Physics, LLC, Bethel Park, PA (DL, ER, M, NR, OF, ON, P, HL, RC, SS, S, WC, WD)
 AREVA Inc., (North American Headquarters), Charlotte, NC (DM, DR, DL, FP, I, M, P, HL, RR, S, VR, WC)
 ♦ AREVA TN, Columbia, MD (FP, ON, P, LL, HL)
 ARS International, LLC, Port Allen, LA (ER, MD, P, LL, HL, T, VR, WC, WS)
 Attenuation Environmental Co., Seattle, WA (ER, MW, WC)
 Avantech, Inc., Columbia, SC (FP, HL, VR)
 Babcock Noell GmbH, (Dept. BEV), Wuerzburg, Germany (IL, P, LL, HL, S, VR)
 Babcock Services, Inc., Kennewick, WA (DW, DR, DL, ER, FP, IL, M, NR, OF, ON, P, LL, RC, SM, S, SR, VR, WC, WS, WD)
 ♦ BES Technologies, Oak Ridge, TN (DW, DL, LL)
 ♦ BHI Energy, Plymouth, MA (ER, FP, MW, M, P, RC, SR, T, VR, WC, WD)
 Bubble Technology Industries Inc., Chalk River, Ontario, Canada (WC)
 ♦ BWX Technologies, Inc., Lynchburg, VA (MW, MD, P, LL, HL)
 Cabrera Services Inc., East Hartford, CT (DL, ER, MW, MD, M, OF, ON, P, LL, HL, SR, T, UT, V, WC, WS, WD)
 ♦ Canberra Industries, Meriden, CT (HL)
 Ceradyne, Inc. a 3M company, Quapaw, OK (MW, LL, HL, T)
 Chesapeake Nuclear Services, Inc., Annapolis, MD (SR, WC)

CH2M HILL, Inc., (CH2M HILL Nuclear Business Group), (CH2M HILL International Nuclear Services, Ltd.), (CH2M HILL Constructors, Inc.), Englewood, CO (DL, ER, FP, IL, LL, HL, SR, T, V, VR, WC, WS)
 Conestoga-Rovers & Assoc., Niagara Falls, NY (ER, LC, M)
 Cox Nuclear Consulting Services LLC, Seabrook, NH (WC, WS)
 CS-2 Inc., Grand Island, NY (DL, NR, SM, WC)
 Curtiss-Wright Nuclear Division, (Curtiss-Wright EST Group), Hatfield, PA (WS)
 The Delphi Groupe, Inc., Austin, TX (I, IL, M, NR, ON, P, HL, S, VR)
 ♦ DNS - Dedicated Nuclear Solutions, Aiken, SC (MW, MD, MS, P, LL, HL, S, V, VR, WC)
 DW James Consulting, North Oaks, MN (WC)
 ECC, Burlingame, CA (ER, M, NR, ON, P, LL, HL, S, SR, UT, WC)
 ♦ EnergySolutions LLC, Salt Lake City, UT (DW, DR, DL, ER, FP, I, LC, MW, MD, MS, P, LL, HL, RC, SM, SS, S, SR, T, V, VR, WC)
 EXCEL Services Corporation, Rockville, MD (ER, MW)
 ♦ ExchangeMonitor Publications & Forums, Rockville, MD (LL, HL)
 Fuel Tank Maintenance Co., LLC, Cookeville, TN (DM, DW, ER, LC, NR)
 Fuji Electric Corp. of America, Edison, NJ (RD, RP)
 ♦ The GEL Group, Inc., (GEL Engineering, LLC), (GEL Laboratories, LLC), (GEL Geophysics, LLC), (Cape Fear Analytical, Inc.), Charleston, SC (ER, M, WC)
 The GEL Group, Inc., (General Engineering Laboratories, LLC), Charleston, SC (ER, M, WC, WS)
 Geovariations, Avon cedex, France (SR, WC)
 ♦ Holtec International, Marlton, NJ (DL, ER, FP, ON, P, VR)
 Stan A. Huber Consultants, Inc., New Lenox, IL (M)

I.C.E. Service Group, Inc., Ambridge, PA (DL, ER, I, IL, LC, MW, MD, NR, OF, ON, P, LL, S, UT, VR, WC, WS, WD)
 ISO-PACIFIC Nuclear Assay Systems, Inc., Richland, WA (DR, DL, ER, LC, MD, NR, LL, SR, T, UT, VR, WC)
 Kurion, Inc., Richland, WA (DM, DR, ER, MW, MD, OF, ON, HL, S, VR)
 Materials & Chemistry Laboratory, Inc., Oak Ridge, TN (MW)
 Mayco Industries, Birmingham, AL (LC)
 M4 Services LLC, Glenwood, MD (DM, DR, DL, ER, FP, LL, S, VR)
 MHF Services, (An EnergySolutions Company), Wexford, PA (DL, ER, IL, LC, MD, MS, NR, OF, ON, P, LL, HL, SM, SS, SR, T, UT, VR, WC)
 ♦ National Nuclear Laboratory (UK), Warrington, United Kingdom (ER, MW, MD, MS, LL, HL)
 NEWEX-SSG, LLC, Folsom, CA (DL, NR, ON, P, LL, SS, S, SR, VR, WC)
 New Millennium Nuclear Technologies International, Lakewood, CO (ER, WC, WS)
 Newport News Nuclear, Inc., Newport News, VA (ER)
 NFT, Golden, CO (MW, P, LL, HL, T, VR, WC)
 NorthStar Group Services, Inc., Richland, WA (ER)
 NPTS, Inc., Buffalo, NY (ON)
 NRG, Petten, The Netherlands (SR, WC)
 NUKEM Technologies GmbH, Alzenau, Germany (DR, ER, FP, I, IL, M, VR, WC)
 ♦ PacTec, Inc., Clinton, LA (P)
 PECOS Management Systems, Inc., (PECOS), Albuquerque, NM (ER, T, UT)
 Perma-Fix Environmental Services, Inc., Knoxville, TN (DL, ER, I, IL, LC, MW, MD, MS, M, OF, ON, P, LL, RD, S, SR, T, VR, WC, WS)
 Perma-Fix Environmental Services Inc., (Perma-Fix of Florida) (A Wholly Owned Sub. of Perma-Fix Environmental Services, Inc.), Gainesville, FL (I, MW, MD, MS, NR, OF, P, LL, RD, RC, S, SR, VR, WC, WS)
 Philotechnics, Ltd., Oak Ridge, TN (DR, DL, ER, OF, ON, P, LL, SR, WC)
 Portage Inc., Idaho Falls, ID (ER)

♦ Denotes Advertiser

ANS Career Center
 FOR RADWASTE PROFESSIONALS AND ORGANIZATIONS

ANS.org/career

SMOKY MOUNTAIN SOLUTIONS

A Service-Disabled Veteran-Owned Small Business Providing:

- Radioactive Laundry and Respirator Services
- Radioactive Wastewater Processing and Filtration (on- and off-site)
- BSFR and Waste Management Services
- Providing Environmental Services Today for a Better World Tomorrow

Smoky Mountain Solutions
 2010 Highway 58, ETTP, Oak Ridge, TN
www.bestechtn.com • 865.964.1124

WHERE'S YOUR SAFETY NET?

Careful where you step. There's a lot to think about when choosing a company to dispose of your low level radioactive waste (LLW). WCS provides a safety net when you dispose of Class A, B & C LLW at our Compact or Federal disposal facilities.

That's because our disposal repositories are the most robust in the world and title to the waste is transferred either to the state of Texas or the Federal government.

WCS can also take 80%+ of your decommission and operating waste as 'Exempt' in our RCRA landfill, which is more protective than the other guys landfill, *and at a fraction of the price.*



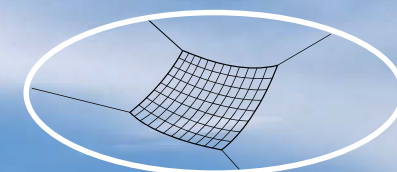
THE TEXAS SOLUTION

DALLAS OFFICE:
ANDREWS SITE:

Three Lincoln Centre, 5430 LBJ Freeway, Suite 1700, Dallas, Texas 75240-2697
9998 West State Highway 176, Andrews, Texas 79714

(972) 715-9800
(888) 789-2783

Learn more, visit WCS online: www.WCSTexas.com



KEEP CALM
AND
CALL WCS

A robust disposal facility, liability protection and great customer service are just a few advantages you get when you choose WCS as your disposal source for LLW.

ANSI/ANS-40.37-2009

Mobile Low Level Radioactive Waste Processing Systems

Supersedes ANSI/ANS-40.37-1993

This standard sets forth design, fabrication, and performance recommendations and requirements for mobile low-level radioactive waste processing systems (including components) for nuclear facilities that generate low-level radioactive wastes as defined by the Atomic Energy Act as amended.

Contact ANS for this standard and for a complete list of standards developed by the ANS Standards Committee.

Print and electronic copies are available on the ANS website (ANS Store):
www.ans.org

\$146.00 Order #: 240280

American Nuclear Society

555 N. Kensington Avenue
La Grange Park, IL 60526
Phone: 708/579-8269
Email: standards@ans.org

ANSI/ANS-41.5-2012

Verification & Validation of Radiological Data for Use in Waste Management and Environmental Remediation

New Standard

This standard establishes criteria and processes for verification and validation of radioanalytical data for waste management and environmental remediation activities.

Contact ANS for this standard and for a complete list of standards developed by the ANS Standards Committee.

Print and electronic copies are available on the ANS website (ANS Store):
www.ans.org

\$161.00 Order #: 240288

American Nuclear Society

555 N. Kensington Avenue
La Grange Park, IL 60526
Phone: 708/579-8269
Email: standards@ans.org

Project Assistance Corp. (PAC), Walnut Creek, CA (IL, MW, HL, VR, WC)
PTP Spent Fuel Services, LLC, Grand Island, NY (FP, LL, HL)
Puro-lite Corp., Bala Cynwyd, PA (DM)
Radiac Research Corp., Brooklyn, NY (HL)
♦Radiation Protection Systems, Inc., Groton, CT (VR)
Radiation Safety Assoc., Inc., Hebron, CT (M, P, VR)
Radiation Safety & Control Services, Inc., Stratham, NH (DL, MD, P, LL, HL, SR, WC)
♦Reef Industries, Inc., Houston, TX (P, LL)
♦REI Nuclear, LLC, Columbia, SC (ER, FP, VR, WC)
RSO, Inc./Radiation Service Organization, Laurel, MD (DL, ER, MD, M, P, LL, SS, SR, VR, WS)
Sargent & Lundy LLC, Chicago, IL (FP, IL, HL)
Sevenson Environmental Services, Inc., Niagara Falls, NY (DW, DR, ER, LC, MD, LL, S, UT, VR)
J. L. Shepherd & Assoc., San Fernando, CA (SS)
Sidus Solutions LLC, San Diego, CA (M)
Siempelkamp Nukleartechnik GmbH, Krefeld, Germany (SM)
Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (FP, P, HL, T, WC)
SSI Shredding Systems, Inc., Wilsonville, OR (VR)
Stoller Newport News Nuclear (SN3), (A sub. of Huntington Ingalls Industries), Broomfield, CO (DL, ER, IL, MW, M, NR, P, LL, HL, SR, T, UT, WC)
Studsvik, Inc., Atlanta, GA (DR, OF, P, LL, RP, SR, VR)
Sundance Consulting, Inc., Pocatello, ID (DL, ER, LC, MD, NR, LL, WC, WS)
TAG Technical Solutions, LLC, Knoxville, TN (DM, DR, LC, P, LL, SR)
Tecnubel, Dessel, Belgium (FP, MW, P)
Toxco, Inc., (d/b/a Toxco Materials Management Center), Oak Ridge, TN (DR, DL, LC, OF, P, LL, RC, S, VR, WC, WS)
TransWare Enterprises Inc., Sycamore, IL (WC)
Underwater Construction Corp., Essex, CT (FP)
Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (DM, DR, FP, VR)
♦UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (DL, LC, OF, SR, VR, WD)
Veolia Water Technologies, Plainfield, IL (VR)
Visionary Solutions, LLC, Knoxville, TN (ER, P, LL, HL, WC)
♦Waste Control Specialists LLC, Dallas, TX (LC, MW, NR, P, LL, SS, S, T, UT)
Wastren Advantage, Inc., Piketon, OH (DM, DW, DR, DL, ER, FP, I, IL, LC, MW, MD, MS, MO, M, NR, OF, ON, P, LL, HL, RD, RP, RR, RC, SM, SS, S, SR, T, UT, V, VR, WC, WS, WD)
Westinghouse Electric Co., Nivelles, Belgium (FP, M, HL, VR)
♦Westinghouse Electric Co. LLC, Cranberry Township, PA (FP, M, HL, VR)
♦WVG, Inc., Peekskill, NY (FP, IL, OF, P, LL, HL, S, T, WC)

93900 **Welding Services—also see***Diving Services*

A Arc
AT Automatic Tube & Pipe
C Canister
DB Diffusion Bonding
EM Electromagnetic
EB Electron Beam
EX Explosive
LB Laser Beam
P Plasma
RM Remote
S Stud
UM Underwater, Manual
UR Underwater, Remote
WO Weld Overlays
WC Weldment Cleaning

AREVA Inc., (North American Headquarters), Charlotte, NC (A, AT, DB, EM, EB, EX, LB, P, RM, S, UM, UR, WO, WC)
Avantech, Inc., Columbia, SC (A, AT, C)

♦ Denotes Advertiser

AZZ | WSI LLC, Norcross, GA (A, AT, C, P, RM, S, WO, WC)
♦BHI Energy, Plymouth, MA (A, WO)
Diakont, San Diego, CA (RM)
Dubose National Energy Services, Clinton, NC (C)
Fuel Tank Maintenance Co., LLC, Cookeville, TN (A, AT, C, DB, EM, EB, EX, P, S, WO, WC)
♦Joseph Oat Corp., Camden, NJ (C)
♦Major Tool & Machine, Inc., Indianapolis, IN (A, C, LB, P, S, WO)
Newport News Nuclear, Inc., Newport News, VA (A, AT, C, DB, P, S, WO, WC)
PaR Systems, Inc., Shoreview, MN (RM)
Precision Custom Components, LLC, York, PA (A, P, RM, S, WO)
Premier Technology, Inc., Blackfoot, ID (A, AT)
Tri Tool Inc., Rancho Cordova, CA (AT, WO)
Underwater Engineering Services, Inc., (Nuclear Services Div.), Fort Pierce, FL (P, UM, UR)
♦Wagstaff Applied Technologies, Spokane, WA (A, AT, S, WO, WC)

95750 **Windows, Radiation-Shielding—also see Maintenance & Repair Services; Shielding Materials**

LG Lead Glass
LP Lead Plastics
Hot Cell Services Corp., Kent, WA (LG)
Mayco Industries, Birmingham, AL (LG, LP)
Premier Technology, Inc., Blackfoot, ID (LG)

95850 **Wipers, Wiping Cloths—also see Health Physics Equipment & Supplies**

C Cotton
CR Clean Room Laundered
D Disposable, Soluble
I Industrial
LF Lint-Free
OT Oil-Treated Dusting
T Tacky

Alphasource, Inc., Philadelphia, PA (C, CR, D, I, LF, OT, T)
Coastal Network, Inc., Charlottesville, VA (C, OT, T)
Eastern Technologies, Inc., (OREX), Ashford, AL (C, D, I, LF, OT, T)
Fram Safety Products, Inc., Nashville, TN (LF)
JSM Protective, Inc., Wilmington, NC (C, CR, I, LF, T)
♦Mohawk Safety, Manchester, CT (C, I, LF, OT, T)
♦UniTech Services Group, Inc., (Sub. of UniFirst Corp.), Springfield, MA (C, CR, D, I, LF, T)
United States Products Co., Pittsburgh, PA (LF)

95900 **Wire—also see Cable**

IS Insulated, Signal
SW Insulated, Switchboard
IT Insulated, Thermocouple
M Magnet
MH Magnet, High-Temperature
MS Metal-Shielded
NM Nickel, Monel & Nickel-Chromium
RF Refractory
RS Resistance
SP Spring
SU Superconducting
T Thermocouple


C.J. Enterprises, (Div. of C.J. Instruments, Inc.), Tarzana, CA (IS, M, MH)
Dubose National Energy Services, Clinton, NC (SP)
General Cable Co., (ULTROL® 60+), Willimantic, CT (IS, SW, IT)
RSCC Wire & Cable LLC, East Granby, CT (IS, SW, IT, MS)

96200 **Work Platforms**

C Cask Servicing
M Mobile
S Stationary

♦Petersen Inc., Ogden, UT (S)
Plant Decommissioning, Lake Villa, IL (C, M, S)
Sosny Research and Development Co., Dimitrovgrad, Ulyanovsk region, Russia (C, M, S)

When you don't know who to call...

Call us 

For over 35 years WMG has prided itself in innovative solutions to the industry's most complex needs. Beginning with the revolutionary RADMAN™ shipping software, WMG has progressed to Engineering and Technical Services, Specialty Packages, Irradiated Hardware and Spent Fuel Pool Services, Regulatory Training, and both Onsite and Offsite support.

WMG continues to innovate and in the past 4 years alone we have introduced comprehensive tank, sump, and torus cleaning, spent fuel pool management, offsite filter processing, and expanded our offerings in packaging and assessment services.

Within the commercial nuclear industry, WMG has completed over 2,000 projects related to the management of radioactive materials, with services performed at every U.S. operating nuclear power station. Considered a waste management innovator and leader, WMG continues to set the standard for solving complex Radwaste problems, and helping our clients manage and ultimately solve their most challenging issues.

Our combination of nuclear engineering experience, software design expertise and project management capabilities are unparalleled in the industry. This breadth and depth of WMG's experience are applied to every assignment undertaken and continues to this day.

***Our team of Subject Matter Experts
can help make your job easier.***

When you don't know who to call... call the smart guys.



16 Bank Street
Peekskill, New York 10566
www.wmginc.com

Phone: (914) 736-7100
Fax: (914) 736-7170
Email: wmg@wmginc.com

THE-WAS ▼

◆ THERMO SCIENTIFIC - CIDTEC CAMERAS & IMAGERS, (Part of Thermo Fisher Scientific), 101 Commerce Blvd., Liverpool, NY 13088. Contact: Tony Chapman (315/451-9410, 800/888-8761, cidtec@thermofisher.com). Web site: www.thermofisher.com. Code Nos. 40900, 73300, 75850, 83600, 92800
(See advertisement on page 81)

TIMESOFT, 1955 E. Spring St., Long Beach, CA 90801. Contact: Greg Guzman (562/422-4459, 888/484-6376, Fax: 562/422-4459, guzman@timesoft.com). Web site: www.timesoft.com. Code Nos. 03200, 12800, 12900, 13400, 14000

TIOGA PIPE SUPPLY CO., INC., 2450 Tioiga Ave., Oneonta, NY 13827. Contact: Jeff Shaw (215/831-0700, Fax: 215/831-0700, E-mail: jshaw@tiogapipe.com). Stamp System 3 MC. Certification by ISO 9001-2008, 14001. Code Nos. 45208A Level 1. Web site: www.tiogapipe.com. Code Nos. 26900, 59800, 59850

TLG SERVICES, INC., (Affl. of Enterprize), 1000 Bridgewater, CT 06752-1123. Contact: Vickery (860/355-2705, E-mail: vickery@tlgserv.com, Fax: 860/355-2705, E-mail: adler@tlgserv.com). Code Nos. 03800, 14000, 20300, 37200

TOXCO, INC., (d/b/a Toxco Mate), 1000 Oak Ridge, TN 37830. Contact: Rick (865/482-5605, E-mail: rlow@toxco.com). Code Nos. 93040

TRANSPORT PLANNING & SERVICES, 2nd Flr., Gloucester City, NJ 08030. Contact: Jack Goiriandia (856/742-5260, 888/256-9831, Fax: 856/742-5260, jack@transportplanning.com). Code Nos. 14300

TRANSWARE ENTERPRISES, 1000 IL 60178. Contact: Megan Paterson (815/461-1400, Fax: 815/461-1400, transware.net). Web site: www.transware.net. Code Nos. 03800, 12800, 14000

TRANSTER, INC., 1900 Oldfield Rd., 940/723-7125, Fax: 940/723-7125. ASME; ISO 9001. Web site: www.transster.com. Code Nos. 47400, 71500

TRI-STATE MOTOR THERMAL SYSTEMS, 1000 Contact: Leslie Martin (408/848-1111, Fax: 408/848-1111, leslie.martin@tsmtco.com). Code Nos. 86250, 86260

◆ UNITECH SERVICES GROUP, INC., (Sub. of UniFirst Corp.), 295 Parker St., P.O. Box 51957, Springfield, MA 01151. Contact: Gregg Johnstone (413/543-6911 x146, 800/344-3824, Fax: 413/543-2975, E-mail: gjohnstone@unitech.com). Web site: www.unitech.com. Code Nos. 14300, 20300, 20350, 26230, 26600, 37130, 37160, 37190, 43350, 74350, 79370, 81680, 83210

Is your company listed?

◆ NEW Company Listings

If your company is not listed in the following Directory of Suppliers and you would like to be included in next year's 2016 *Radwaste Solutions* Buyers Guide (company listings are complimentary), simply:

Go to our website, www.ans.org/advertising/rs, and select the "New Company Listing Form" link under the *Radwaste Solutions* Buyers Guide.

◆ Existing Company Listings

If your company is listed in the following Directory of Suppliers, be advised that we will begin to send e-mail notifications to the contact e-mail address that is provided in your company listing to verify your listing information for RSBG 2016. These e-mail notifications will come from the following email address <rsbg2016@ans.org> starting in June 2016.

Within this e-mail you will find a unique URL which will enable you to access your listing and make updates or verify your contact information and nuclear-related products, services, and certifications remain the same.

Note: Companies that fail to verify their listing each year are subject to be removed from the next directory.

Remember, these are FREE company listings. Looking ahead, the deadline to create a new listing or verify an existing one will be **Monday, August 1, 2016**. The annual *Radwaste Solutions* Buyers Guide remains the commercial reference publication for the business of radioactive waste management and site cleanup and remediation. Thank you for your continued participation and support!

The **Radwaste Solutions Buyers Guide** issue will assist decision-makers, throughout the upcoming year, assign contracts to vendors who are in the business of radioactive waste management and site cleanup and remediation.

More than 400 companies will be listed throughout 168 categories that relate directly to the business of radioactive waste management and site cleanup and remediation.

U.S. Directory of Suppliers

AAF INTERNATIONAL, P.O. Box 35690, Louisville, KY 40232-5690. Contact: Joe Magner (502/637-0279, 800/869-6907, Fax: 502/637-0498, E-mail: jmagner@aafintl.com). Stamp Symbols: SEG-Certified Incinerable Products, NUPIC Audited, ASME AG-1, QPL HEPA Qualification; Certified to UL 586 and UL 900 Certification by ISO 9001-2000; 10CFR50 App. B; 10CFR21; ASME NQA-1; ASHRAE 52.1 & 52.2. Provision of ASME III N Stamp products. Web site: www.aafintl.com
Code Nos. 03000, 27450, 32250

ADVANCED CONSULTING GROUP, INC., Executive Towers, Suite 603, 5901 N. Cicero Ave., Chicago, IL 60646. Contact: Tom Litka (773/481-9500, Fax: 773/481-9981, E-mail: advcnsgrp@aol.com).
Code Nos. 03800, 14000, 20300, 72300, 79360, 86300

AECOM, 106 Newberry St., S.W., Aiken, SC 29801. Contact: Keith Wood (803/502-5710, Fax: 803/502-5702, E-mail: keith.wood@aecom.com). Web site: www.aecom.com
Code Nos. 36000

AEROGO, INC., 1170 Andover Park W., Seattle, WA 98188. Contact: Barb Kiliz (206/575-3344, 800/426-4757, Fax: 206/575-3505, E-mail: info@aerogo.com). Stamp Symbols: ASME member. ISO 9001:2008. CE compliant. Web site: www.aerogo.com
Code Nos. 68000, 87000

AHLBERG CAMERAS, 419B Raleigh St., Wilmington, NC 28412. Contact: Karl Anderson (910/399-4240, Fax: 910/523-5876, E-mail: karl@nuclear-cameras.com). Web site: www.ahlberg-electronics.com/
Code Nos. 12900, 26230, 40900, 92800

AIR MONITOR CORP., 1050 Hopper Ave., Santa Rosa, CA 95403. Contact: Dean DeBaun (707/544-2706, 800/AIR-FLOW, Fax: 707/526-2825, E-mail: amcsales@airmonitor.com). Web site: www.airmonitor.com
Code Nos. 26080, 40050, 55040*

ALARON NUCLEAR SERVICES, 2138 State Rt. 18, Wampum, PA 16157. Contact: Scott Eckler (724/535-5777, Fax: 724/535-1165, E-mail: scott.eckler@veolia.com). Web site: www.veolia.com
Code Nos. 14000, 20300, 20350, 25600, 47400, 68000, 79360, 81680, 84600, 93040*

ALBER CORP., 7775 W. Oakland Park Blvd., Sunrise, FL 33351. Contact: Jack Clayton (954/377-7101, 800/851-4632, Fax: 954/623-6671, E-mail: sales@alber.com). Web site: www.alber.com
Code Nos. 54750, 84150, 86300

ALPHASOURCE, INC., 4837-49 N. Stenton Ave., P.O. Box 12250, Philadelphia, PA 19144. Contact: Andi Bookbinder/Brian Bookbinder (215/844-6470, 800/292-7247, Fax: 215/844-6252, E-mail: sales@alphasourceintl.com). Web site: www.alphasourceintl.com
Code Nos. 06950, 10780, 10850, 10900, 11400, 12800, 12900, 14000, 14300, 19700, 20350, 26600, 27450, 37130, 37160, 41200, 47400, 59800, 61570, 64300, 71190, 73300, 75190, 77800, 79370, 95850

ALPHA SPECTRA, INC., 715 Arrowest Ct., Grand Junction, CO 81505. Contact: Frank Wilkinson III (970/243-4477, 800/231-2545, Fax: 970/244-6947, E-mail: fjwxtals@alphaspectra.com). Web site: www.alphaspectra.com
Code Nos. 17950, 26080

AMEASOL - AMERICAN MEASUREMENT SOLUTIONS LLC, 1 Coral Bell Ct., Santa Fe, NM 87508. Contact: Tony Marlow (505/699-8923, Fax: 480/287-8709, E-mail: t.marlow@ameasol.com). Web site: www.ameasol.com
Code Nos. 03800, 04000, 12800, 14000, 17950, 20300, 25250, 26080, 26230, 26970, 30500, 40900, 41015, 44000, 68000, 72300, 73620, 75850, 79360, 84600, 86130, 86300, 93040

AMEC ENVIRONMENT & INFRASTRUCTURE INC., 2275-A Logos Ct., Grand Junction, CO 81505. Contact: Steve Rima (970/208-8396, Fax: 970/256-7356, E-mail: steve.rima@amec.com). Web site: www.amec.com
Code Nos. 14000, 20300, 37200, 67380, 68000, 93040

AMERICAN AIRWORKS, P.O. Box 1000, Sophia, WV 25921-1000. Contact: Ray Lambert (304/683-4595, 800/523-7222, Fax: 304/683-3257, E-mail: sales@americanairworks.com). Web site: www.americanairworks.com
Code Nos. 10780, 10900, 11650, 20350, 26230, 26600, 37200, 47400, 64750, 73550, 92300

AMERICAN BERYLLIA, INC., 16 First Ave., Haskell, NJ 07420. Contact: 973/248-8080, Fax: 973/248-8012, E-mail: info@americanberyllia.com. Web site: www.americanberyllia.com
Code Nos. 03800

AMERICAN CERAMIC TECHNOLOGY, INC., (Silflex Shielding), 1317 Simpson Way, Suite J, Escondido, CA 92029. Contact: Richard Culbertson (619/992-3104, Fax: 858/487-3736, E-mail: cubculbertson@cs.com), Kim Stewart (530/570-0269, Fax: 858/487-3736, E-mail: kim@silflexshielding.com). Web site: www.silflexshielding.com
Code Nos. 47400, 77750, 77800

AMERICAN CRANE & EQUIPMENT CORP., 531 Old Swede Rd., Douglassville, PA 19518. Contact: Oddvar Norheim (610/385-6061, 877/877-6778, Fax: 610/385-3191, E-mail: info@americancrane.com). Stamp Symbols: NQA-1 Compliant; 10CFR50, Appendix B Compliant. Web site: www.americancrane.com
Code Nos. 14000, 18590, 18600, 40900, 68000, 72300, 86300

AMERICAN DND INC., P.O. Box 553, Grand Island, NY 14072. Contact: Bill Schaab (716/699-5515, 866/699-5515, Fax: 716/773-5515, E-mail: andnd@americandnd.com). Web site: www.americandnd.com
Code Nos. 06790, 13050, 14000, 18600, 20300, 20350, 25400, 26230, 79360, 93040*

AMERICAN FABRICATION, INC., 2517 W. Omni Dr., Idaho Falls, ID 83402. Contact: Todd Freeman (208/522-1361, Fax: 208/525-8299, E-mail: tfreeman@americanfabrication.com). Stamp Symbols: ASME NQA-1; ASME VIII Div. 1, U & R Stamps; Nat'l. Bd. Insp. Code R Stamp; MIL-I-45208; ISO 9001:2008. Web site: www.americanfabrication.com
Code Nos. 14300, 32250, 36000, 37600, 83150, 92300

AMERICAN WARMING & VENTILATING, 7301 International Dr., Holland, OH 43528. Contact: Keith Emerson (419/491-9170, Fax: 419/865-1374, E-mail: kemerson@awv.com). Web site: www.awv.com
Code Nos. 03000, 19450*

AMERIPHYSICS, LLC, 9111 Cross Park Dr., Suite D200, Knoxville, TN 37923. Contact: Tom Hansen (865/470-4176, 800/563-7497, Fax: 865/470-4179, E-mail: tom@ameriphysics.com). Web site: www.ameriphysics.com
Code Nos. 14000, 20300, 20350, 37200, 93040

ANAMET INC., 26102 Eden Landing Rd., Suite 3, Hayward, CA 94545. Contact: Kenneth R. Pytlewski (510/887-8811, 800/377-7768, Fax: 510/887-8427, E-mail: ken@anametinc.com), Ed Foreman (510/887-8811, 800/377-7768, Fax: 510/887-8427, E-mail: ed@anametinc.com). Stamp Symbols: Nuclear Industry Assessment Committee Approved (NIAC), ISO 17025:2005 American Association for Laboratory Accreditation (A2LA). Web site: www.anametinc.com
Code Nos. 03800, 40900

FN. ANDERSON & ASSOC., 1274 Helmsdale Dr., Forest, VA 24551-4760. Contact: Floyd N. Anderson (434/258-3380, Fax: 434/525-2022, E-mail: andersonfn@aol.com). Web site: www.fnaai.com
Code Nos. 77800

APCO EXTRUDERS INC., P.O. Box 556, 180 National Rd., Edison, NJ 08818. Contact: Charlie Grand (732/287-3000, 800/942-8725, Fax: 732/287-1421, E-mail: apcoext@aol.com). Stamp Symbols: Duratek SEC Certified for Incineration.
Code Nos. 06790, 10850, 14300, 37130, 83210

APPLIED ANALYSIS CORP., P.O. Box 518, Reading, PA 19607. Contact: Juan M. Cajigas (610/775-0272, Fax: 610/777-3718, E-mail: jmcajigas@applied-analysis.com). Stamp Symbols: Nuclear Quality Program per 10CFR50 App. B. Web site: www.applied-analysis.com
Code Nos. 03800, 14000, 37200

APPLIED HEALTH PHYSICS, LLC, 2986 Industrial Blvd., Bethel Park, PA 15102. Contact: Todd Mobley (412/835-9555, 800/332-6648, Fax: 412/835-9559, E-mail: tmobley.ahp@comcast.net). Stamp Symbols: Certification by American Board of Health Physics. Web site: www.appliedhealthphysics.com
Code Nos. 03800, 09800, 14000, 14300, 17950, 20300, 20350, 26100, 26230, 37130, 37200, 41000, 55040, 55060, 67380, 71190, 86300, 93040

APPLIED SCIENCE PROFESSIONALS, (ASP-LLC), P.O. Box 9052, Salt Lake City, UT 84109. Contact: Gary M. Sandquist (801/273-0200, Fax: 801/904-4100, E-mail: gms@asp-llc.com). Stamp Symbols: Certified Health Physicist (ABHP), Certified Quality Auditor (ASQ), PE in Nuclear and Mechanical Engineering, SE in Mechanical Engineering. Web site: www.asp-llc.com
Code Nos. 03800, 14000, 37200, 67380, 86300

ARC MACHINES, INC., 10500 Orbital Way, Pacoima, CA 91331-7129. Contact: Stephen J. Ripp (818/896-9556, Fax: 818/890-3724, E-mail: sales@arcmachines.com). Web site: www.arcmachines.com
Code Nos. 59850, 83600

ARES CORP., (Energy Services Div.), 1100 Jadwin Ave., Suite 400, Richland, WA 99352. Contact: Larry Shipley (509/946-3300, E-mail: lshipley@arescorporation.com). Web site: www.arescorporation.com
Code Nos. 03800, 12800, 13850, 14000, 14300, 20300, 75600, 86300

AREVA INC., (North American Headquarters), 7207 IBM Dr., Charlotte, NC 28262. Contact: Donna Gaddy-Bowen (434/832-3702, Fax: 434/832-3840, E-mail: donna.gaddybowen@areva.com). Stamp Symbols: ASME III N, NPT Stamp, ASME I S Stamp, ASME VIII Div. 1 U Stamp, National Board Nuclear Components, Mod/Repl/Repair NR Stamp & Pressure Retng Items Repair/Alter R Stamp, N, NR, NPT, ISO 9001. Web site: www.us.areva.com
Code Nos. 03800, 04000, 09730, 09800, 10780, 11700, 12800, 12900, 14000, 14300, 17950, 19700, 20300, 20350, 22410, 26100, 26230, 27450, 30040, 30500, 37130, 37200, 40900, 41000, 41200, 44000, 45550, 47400, 53950, 54750, 55490, 56600, 58000, 59800, 59850, 61570, 64700, 66280, 68000, 71190, 72300, 73550, 73620, 75190, 77600, 77750, 81680, 81710, 83150, 83600, 84150, 84600, 86250, 86260, 86300, 86500, 87000, 90250, 90600, 91000, 91260, 91380, 92800, 93040, 93900

◆ **AREVA TN**, 7135 Minstrel Way, Suite 300, Columbia, MD 21045. Contact: Tara Neider (704/805-2465, Fax: 410/910-6902, E-mail: tara.neider@areva.com), Jean Tullier (410/910-6549, Fax: 410/910-6902, E-mail: jean.tullier@areva.com). Stamp Symbols: N, Classes 1, 2 & 3 and Class CS; N3, TC Transportation Containments. Web site: www.us.areva.com/arevatn
Code Nos. 03800, 14000, 14300, 20300, 30500, 40900, 47400, 66280, 77750, 77800, 81680, 81710, 86250, 86300, 87000, 93040
(See advertisement on page 5)

◆ **ARGONNE NATIONAL LABORATORY**, (Decommissioning Training), (NE Div.), 9700 S. Cass Ave., Bldg. 208, Argonne, IL 60439. Contact: Larry Boing (630/252-6729, Fax: 630/252-7577, E-mail: lboing@anl.gov). Web site: www.dd.anl.gov/ddtraining/
Code Nos. 20300, 86300
(See advertisement on page 56)

ARKEMA INC., (formerly ATOFINA Chemicals, Inc.), 900 1st Ave., King of Prussia, PA 19406-1308. Contact: 610/205-7000, 800/225-7788, Fax: 610/205-7913, E-mail: arkema.usph-general@arkema-americas.com. Web site: www.arkema-americas.com
Code Nos. 20350, 27450

ARROW-TECH, INC., 417 Main Ave. W., P.O. Box 1240, Rolla, ND 58367-1240. Contact: Perry LaFountain (701/477-6461, 877/477-6461, Fax: 701/477-6464, E-mail: sales@dosimeter.com). Web site: www.dosimeter.com
Code Nos. 03200, 09750, 09800, 17950, 21270, 37130, 55040, 55060

ARS INTERNATIONAL, LLC, 2609 N. River Rd., Port Allen, LA 70767. Contact: Steve Green (225/381-2991, 800/401-4277, Fax: 225/381-2996, E-mail: sgreen@amrad.com). Web site: www.amrad.com
Code Nos. 26100, 37200, 67380, 84600, 93040

ARTISAN INDUSTRIES INC., 44 Campanelli Pkwy., Stoughton, MA 02072-3704. Contact: Perry Alasti (781/893-6800 x239, Fax: 781/647-0143, E-mail: palasti@artisanind.com). Stamp Symbols: U, U2, R, N, NPT. Web site: www.artisanind.com
Code Nos. 68000

AT&F, 12314 Elmwood Ave., Cleveland, OH 44111. Contact: Kevin Cantrell (216/252-1500, 800/544-5316, Fax: 216/252-4871, E-mail: cantrellk@atfco.com). Stamp Symbols: NQA-1 Quality program, ISO 9001:2008, ASME U, S, U2 stamps. Web site: www.atfco.com
Code Nos. 47400, 66280, 75700*

◆ **ATTENTIONIT, INC.**, 1704 Schaeffer Rd., Knoxville, TN 37932. Contact: Jeanice Pratt (865/769-8888 x400, Fax: 865/769-8931, E-mail: jeanice@attentionit.com). Web site: www.attentionit.com
Code Nos. 03800, 06950, 12800, 14000
(See advertisement on page 49)

ATTENUATION ENVIRONMENTAL CO., P.O. Box 30537, Seattle, WA 98113-0537. Contact: Doris Minor (206/783-3208, Fax: 206/783-3989, E-mail: doris@attenuation.us.com). Stamp Symbols: W.B.E./D.B.E. Web site: www.attenuation.us.com
Code Nos. 03800, 14000, 37200, 93040

AUTOMATION PRODUCTS, INC., (Dynatrol® Div.), 3030 Maxroy St., Houston, TX 77008-6294. Contact: Technical Sales Dept. (713/869-0361, 800/231-2062, Fax: 713/869-7332, E-mail: sales@dynatrolusa.com). Web site: www.dynatrolusa.com
Code Nos. 04000, 25000, 40050, 54750*

AVANTECH, INC., 2680 Westcott Blvd., Knoxville, TN 37931-3111. Contact: Dennis Brunzell (865/539-9000 x105, Fax: 865/539-9001, E-mail: dbrunzell@avantechinc.com). Stamp Symbols: ASME Code VIII. Web site: www.avantechinc.com
Code Nos. 22410, 24170, 77800

AVANTECH, INC., 2050 American Italian Way, Columbia, SC 29209. Contact: Jim Braun (803/407-7171, Fax: 803/407-1215, E-mail: jbraun@avantechinc.com), Gary Benda (803/317-1116, E-mail: gbenda@avantechinc.com). Stamp Symbols: ASME Code Stamp, UL Approved, NQA-1. Web site: www.avantechinc.com
Code Nos. 09950, 10780, 68000, 79370, 93040, 93900

NORMAN N. AXELROD ASSOC., (Optical Sensing & Control System Development Div.), 445 E. 86th St., Apt. 7G, New York, NY 10028-6445. Contact: Dr. Norman N. Axelrod (212/741-6302, E-mail: naxelrod@axelrodassociates.com). Web site: www.axelrodassociates.com
Code Nos. 14000, 19700, 72300

AZZ NUCLEAR | NLI, 7410 Pebble Dr., Fort Worth, TX 76118. Contact: John Portillo (817/239-1693, 800/448-4124, E-mail: johnportillo@azz.com). Stamp Symbols: 10CFR50 Appendix B, NQA-1, ASME III N, NS, NPT. Web site: www.azznuclear.com/nli
Code Nos. 03000, 03800, 22200, 27450, 37600, 40050, 47400, 63400, 64700, 75190, 76400, 83150, 90250, 90600, 90800, 91000, 91260

AZZ | WSI LLC, 2225 Skyland Ct., Norcross, GA 30071. Contact: Chris Futrick (412/915-9363, Fax: 770/449-4684, E-mail: chrisfutrick@azz.com). Stamp Symbols: NB, U, U2, R, S, NR, NPT. All classes - No restrictions. Web site: www.azznuclear.com/wsi
Code Nos. 11400, 14000, 14300, 40900, 47400, 59800, 59850, 83600, 93900

BABCOCK SERVICES, INC., 8113 W. Quinault Ave., Suite 201, Kennewick, WA 99336. Contact: JoAnn Dauberger (901/848-2095, E-mail: jdauberger@babcockservices.com). Web site: www.babcockservices.com/
Code Nos. 10780, 14000, 14300, 20300, 20350, 20700, 22410, 25400, 30040, 68000, 79360, 79370, 86130, 93040

G.D. BARRI & ASSOCIATES, INC., 6860 W. Peoria Ave., Peoria, AZ 85345. Contact: Georgia D. Barri (623/773-0410, Fax: 623/773-2924, E-mail: georgia.barri@gdbarri.com). Web site: www.gdbarri.com
Code Nos. 03800, 25400, 26100, 40900

- BCP ENGINEERS & CONSULTANTS**, 401 Whitney Ave., Suite 402, Gretna, LA 70056. Contact: Ron Rowley (504/361-4236 x321, Fax: 504/362-8601, E-mail: rlr@bcpengiengineers.com), Brad Myers (504/957-9678, Fax: 504/362-8601, E-mail: mbm@bcpengiengineers.com). Web site: www.bcpengineers.com
Code Nos. 03800, 09800, 12800, 12900, 13850, 14000, 20300, 25300, 25350, 37200, 39960, 40900, 56600, 84600, 86300
- BEAMEX, INC.**, 2152 Northwest Pkwy. S.E., Suite A, Marietta, GA 30067-9306. Contact: Sales Dept. (770/951-1927, 800/888-9892, Fax: 770/951-1928, E-mail: beamex.inc@beamex.com). Web site: www.beamex.com
Code Nos. 09750, 12800, 37200, 67380, 68950
- ◆ **BERKELEY NUCLEONICS CORP.**, 2955 Kerner Blvd., San Rafael, CA 94901. Contact: Bernadette Jamieson (415/453-9955, 800/234-7858, Fax: 415/453-9956, E-mail: bernadette@berkeleynucleonics.com). Web site: www.berkeleynucleonics.com
Code Nos. 09800, 17950, 26080, 37200, 41000, 47400, 55040, 84150
(See advertisement on page 64)
- ◆ **BES TECHNOLOGIES**, 2010 Hwy. 58, Suite 1106, Oak Ridge, TN 37830. Contact: Shannon Eaker (865/964-1124, E-mail: seaker@bestechtn.com).
Code Nos. 14000, 27450, 37130, 37200, 44000, 73300, 73550, 86300, 93040
(See advertisement on page 85)
- ◆ **BHI ENERGY**, 60 Industrial Park Rd., Plymouth, MA 02360. Contact: Stephanie Fox (339/832-2012, 800/225-0385 x1149, Fax: 508/591-1397, E-mail: stephanie.fox@bhienergy.com), Butch Smith (803/226-0330, E-mail: butch.smith@bhienergy.com). Web site: www.bhienergy.com
Code Nos. 03000, 10780, 11400, 13050, 14000, 20300, 20350, 25250, 25300, 25400, 26100, 26230, 27450, 37130, 37200, 47400, 67380, 74350, 75600, 77750, 86300, 90250, 91260, 93040, 93900*
(See advertisement on page 57)
- BIGGE POWER CONSTRUCTORS**, (Div. of Bigge Crane and Rigging Co.), 10700 Bigge Ave., San Leandro, CA 94577. Contact: Gedge Knopf (510/638-8100, 888/337-2444, Fax: 510/639-4053, E-mail: gknopf@bigge.com). Web site: www.bigge.com
Code Nos. 14000, 18600, 20300, 47400, 86250, 86260, 86300, 87000
- BIRNS, INC.**, 1720 Fiske Pl., Oxnard, CA 93033-1863. Contact: Eric F. Birns (805/830-5885, 888/247-6788, Fax: 805/487-0427, E-mail: service@birns.com), Laura Powell (805/830-5869, 888/247-6788, Fax: 805/487-0427, E-mail: lpowell@birns.com). Stamp Symbols: ISO 9001:2008. Web site: www.birns.com
Code Nos. 45550
- BLUEGRASS CONCRETE CUTTING, INC.**, P.O. Box 427, Greenville, AL 36037. Contact: Robert Hulick (334/382-0200, 800/734-2935, Fax: 334/382-0815, E-mail: bhulick@concretecutters.com). Web site: www.concretecutters.com
Code Nos. 20300, 20350
- BLUE LAKE PRODUCTS**, P.O. Box 16355, Irvine, CA 92623-6355. Contact: Dean Smeaton (949/786-0108, 800/257-3477, Fax: 949/786-3108, E-mail: dean@bluelakeproducts.com). Web site: www.bluelakeproducts.com
Code Nos. 10780, 27450
- ◆ **BROKK INC.**, 1 Coral Bell Ct., Santa Fe, NM 87508. Contact: Tony Marlow (505/466-3614, 800/621-7856, E-mail: tony@brokkinc.com). Stamp Symbols: Certification by ISO 9001. Web site: www.brokkinc.com
Code Nos. 13050, 20300, 20350, 26230, 59850, 68000, 72300, 73620*
(See advertisement on page 75)
- BURNS & MCDONNELL ENGINEERING COMPANY, INC.**, (Aviation & Federal Global Practice), 9400 Ward Pkwy., Kansas City, MO 64114. Contact: Willie Clark (202/731-0190, E-mail: wclark@burnsmcd.com). Web site: www.burnsmcd.com
Code Nos. 03800, 06790, 12800, 13850, 14000, 20300, 20350
- ◆ **BWX TECHNOLOGIES, INC.**, 2016 Mt. Athos Rd., Lynchburg, VA 24504-5447. Contact: Dave Ferris (434/522-6855, Fax: 434/522-5450, E-mail: drferris@bwxt.com). Stamp Symbols: NQ-A-1. N Stamp. Web site: www.bwxt.com
Code Nos. 03800, 40900, 56600, 84600
(See advertisement on Cover 3)
- CABRERA SERVICES INC.**, 50 Founders Plaza, Suite 207, East Hartford, CT 06108. Contact: Shannan Ryll (860/569-0095, Fax: 860/569-0277, E-mail: sryll@cabreraservices.com). Web site: www.cabreraservices.com
Code Nos. 03800, 09800, 14000, 20300, 26080, 26100, 26230, 37200, 41015, 44000, 67380, 86300, 93040
- CANAL BARGE CO.**, 835 Union St., New Orleans, LA 70112. Contact: Tom Dowie (504/581-2424, Fax: 504/584-1505, E-mail: tdowie@canalbarge.com). Web site: www.canalbarge.com
Code Nos. 87000
- ◆ **CANBERRA INDUSTRIES**, 800 Research Pkwy., Meriden, CT 06450. Contact: 203/238-2351, 800/243-3955, Fax: 203/235-1347, E-mail: customersupport@canberra.com. Stamp Symbols: Certification by ISO 9001. Web site: www.canberra.com
Code Nos. 03200, 03800, 04000, 09800, 12900, 14000, 17950, 19700, 20000, 20300, 20350, 26080, 26100, 26230, 37130, 37200, 40900, 41000, 55040, 55060, 67380, 68000, 71190, 77750, 86300, 93040
(See advertisement on page 63)
- CBI POLYMERS, INC.**, (DBA Metis Scientific), 1002 N. Central Expy. Suite 499, Richardson, TX 75080. Contact: Michelle Layug (888/344-0073, E-mail: mlayug@metischem.com). Web site: www.decongel.com
Code Nos. 11400, 20350*
- CERADYNE, INC. A 3M COMPANY**, 3250 S. 614 Rd., Quapaw, OK 74363. Contact: Sandra Rushin (918/673-2201, Fax: 918/673-1052, E-mail: sjrushin@mmm.com). Web site: www.3m.com/boron
Code Nos. 00400, 17650, 55490, 77800, 93040
- CHEMCHEK INSTRUMENTS, INC. (TM)**, 1845 Terminal Dr., #101, Richland, WA 99354. Contact: B.R. Miller-Collins (509/943-5000, Fax: 509/946-3368, E-mail: sales@chemchek.com). Web site: www.chemchek.com
Code Nos. 03800
- CHESAPEAKE NUCLEAR SERVICES, INC.**, 788 Sonne Dr., Annapolis, MD 21401. Contact: J. Stewart Bland (410/266-9174, Fax: 410/266-5811, E-mail: jsbland@chesnuc.com). Web site: www.chesnuc.com
Code Nos. 12800, 14000, 20300, 25250, 37200, 55040, 86300, 93040
- CH2M HILL, INC.**, (CH2M HILL Nuclear Business Group), (CH2M HILL International Nuclear Services, Ltd.), (CH2M HILL Constructors, Inc.), 9191 S. Jamaica St., Englewood, CO 80112. Contact: William Badger (720/286-5632, 888/242-6445, Fax: 720/286-8017, E-mail: wbadger@ch2m.com). Stamp Symbols: American Society of Mechanical Engineers Nuclear Quality Assurance (ASME) NQA-1. Web site: www.ch2m.com
Code Nos. 14000, 20300, 93040
- C.J. ENTERPRISES**, (Div. of C.J. Instruments, Inc.), P.O. Box 570430, Tarzana, CA 91357-0430. Contact: Marshall Cantor (818/996-4131, Fax: 818/708-8473, E-mail: cjinstruments@aol.com).
Code Nos. 40050, 54750, 76400, 90800, 95900
- COASTAL NETWORK, INC.**, 600 Plantation Ct., Charlottesville, VA 22903-7657. Contact: Michael O. Moyles (434/978-1204, Fax: 434/978-4775, E-mail: coanetinc@aol.com). Web site: www.nuclearsupply.com
Code Nos. 10850, 10900, 14300, 20350, 37130, 47630, 55040, 55060, 73300, 83110, 83210, 90100, 95850*
- COLUMBIANA HI TECH**, 1621 Old Greensboro Rd., Kernersville, NC 27284. Contact: Douglas Moore (336/852-5679, Fax: 336/852-6149, E-mail: dmoore@chtnuclear.com). Web site: www.chtnuclear.com
Code Nos. 14300
- COMRENT INTERNATIONAL, LLC**, 16201 Trade Zone Ave., Suite 103, Upper Marlboro, MD 20774. Contact: Dennis Frierson (301/430-2720, 888/881-7118, Fax: 301/249-5816, E-mail: dfrierson@comrent.com). Web site: www.loadbanks.com
Code Nos. 03800, 08800, 47400, 84150*
- CONESTOGA-ROVERS & ASSOC.**, 2055 Niagara Falls Blvd., Suite 3, Niagara Falls, NY 14304. Contact: Bruce McConnell (519/884-0510, E-mail: bmccConnell@craworld.com). Web site: www.craworld.com
Code Nos. 14000, 86300, 93040

CONSOLIDATED POWER SUPPLY, (Div. of Consolidated Pipe & Supply Co., Inc.), 3556 Mary Taylor Rd., Birmingham, AL 35235-3235. Contact: Ray Troxell (205/655-5515, 800/264-5515, Fax: 205/655-5511, E-mail: sales@consolidatedpower.com). Stamp Symbols: ASME (MS), QSC 515, Classes 1, 2, 3, MC, NF. ASME N-3341. Web site: www.consolidatedpower.com
Code Nos. 06950, 11400, 12800, 13700, 14000, 14300, 27450, 37600, 40900, 41200, 56600, 59800, 61570, 90330, 90600, 90800, 91000, 91260, 91380, 92300*

CONTAINER PRODUCTS CORP., P.O. Box 3767, 112 N. College Dr., Wilmington, NC 28406. Contact: Katie Fletcher (910/392-6100, 800/635-5647, Fax: 910/392-6778, E-mail: sales@c-p-c.com). Stamp Symbols: CE, GOST-R, NQA1, PE. Web site: www.c-p-c.net
Code Nos. 10780, 11700, 14000, 14300, 20350, 68000*

♦ **CONTAINER TECHNOLOGIES INDUSTRIES, LLC**, 375 Marcum Pkwy., Helenwood, TN 37755-5085. Contact: 423/569-2800, Fax: 423/569-2806, E-mail: sales@ctifab.com. Web site: www.containertechnologies.com
Code Nos. 10780, 14300, 68000, 75700, 83150, 84600
(See advertisement on page 53)

CONVAL, INC., 265 Field Rd., Box 1049, Somers, CT 06071. Contact: Mike Hendrick (860/749-0761, Fax: 860/763-3557, E-mail: mhendrick@conval.com). Stamp Symbols: Certification by ISO 9001. ASME N Stamp Section III, Class 1, 2 and 3; NPT Stamp; European PED; Indian IBR. Web site: www.conval.com
Code Nos. 90250, 90600, 91000, 91260, 91380*

CORROSION CONTROL SERVICES, INC., (CCSI Engineered Diaphragm Div.), 324 Scott St., P.O. Box 3708, Davenport, IA 52808. Contact: Ron Frantz (563/324-9076, Fax: 563/324-9077, E-mail: ronfrantz@hotmail.com). Web site: www.corrosioncontrolservice.com
Code Nos. 22430, 40900, 83150

COX NUCLEAR CONSULTING SERVICES LLC, 45 Railroad Ave., Seabrook, NH 03874. Contact: Billy Cox (603/760-8227, Fax: 978/378-0939, E-mail: coxncs@gmail.com). Web site: coxncs.com
Code Nos. 14000, 20300, 37200, 47400, 67380, 77750, 86300, 93040

CRANE NUCLEAR, INC., 2825 Cobb International Blvd., Kennesaw, GA 30152-4352. Contact: Matt Fangman (630/226-4938, 866/282-2600, Fax: 770/429-4752, E-mail: mfangman@cranevs.com). Stamp Symbols: NR, VR, Section I, III, VIII, Classes 1, 2, 3; N, NPT; NUPIC Audited/Listed Supplier, QA Program-requirement 10CFR50 App. B; Classes 1, 2, 3 line valves-pressure relief devices. Web site: www.cranenuclear.com
Code Nos. 03800, 04000, 09800, 12800, 14000, 19700, 47400, 56600, 84150, 84600, 86300

CROLL-REYNOLDS ENGINEERING CO., INC., 483 Monroe Tpk., Unit 112, Monroe, CT 06468. Contact: J. Quinlan/L. D. Ancillai (203/371-1983, Fax: 203/371-0615, E-mail: creco@att.net).
Code Nos. 27450

CS-2 INC., P.O. Box 553, Grand Island, NY 14072. Contact: Bill Schaab (716/699-5515, 866/699-5515, Fax: 716/773-5515, E-mail: cs2@cses-i.com). Web site: www.cses-i.com
Code Nos. 03800, 06790, 14000, 20300, 25400, 40900, 93040*

CTR TECHNICAL SERVICES, INC., 950 Sugarloaf Rd., Manitou Springs, CO 80829. Contact: Charles Rombough (719/685-3805, E-mail: ctr@ctr-tech.com). Stamp Symbols: Certification by 10CFR50, 10CFR21. Web site: www.ctr-tech.com
Code Nos. 03800, 14000, 86300

CURTISS-WRIGHT NUCLEAR DIVISION, 2950 Birch St., Brea, CA 92821. Contact: Christine Anderson (714/528-2301, E-mail: canderson@curtisswright.com). Web site: curtisswright.com/
Code Nos. 47400

2950 Birch, Brea, CA 92621. Contact: Christine Anderson (714/528-2301, Fax: 714/528-0128, E-mail: canderson@curtisswright.com). Stamp Symbols: N, Classes 1, 2, 3 Valves, NPT, Classes 1, 2, 3, Valves & Appurteances & Component Supports; NV Classes 1, 2, 3; NU; NA. Web site: www.enertech.cwfc.com
Code Nos. 03800, 09800, 14000, 25400, 26230, 37600, 39650, 40050, 40900, 41000, 47400, 54750, 56600, 86300, 86500, 91260, 91380*

18001 Sheldon Rd., Middleburg Heights, OH 44130. Contact: Jack Hoose (216/267-3200, Fax: 216/433-1640, E-mail: jhoose@curtisswright.com). Stamp Symbols: ASME-NPT Cert No #N3002; NCA-4000; ASME-ISO-9001 Cert No. #GQC-211; 10 CFR Part 71-Subpart H. Certification by NVLAP - Laboratory Accreditation Lab Code No. #200202-0. Web site: nova.cwfc.com/
Code Nos. 26230, 26900, 56600, 84600, 86130*

(Curtiss-Wright Anatec), 38 Executive Park, Suite 350, Irvine, CA 92614. Contact: Christopher J. Speas (949/271-7520, Fax: 949/271-7521, E-mail: cspeas@curtisswright.com). Web site: anatec-lmt.cwfc.com
Code Nos. 14000, 40900, 47400, 56600, 61570, 84150, 84600, 86300, 92800

(Curtiss-Wright EST Group), 2701 Township Line Rd., Hatfield, PA 19440. Contact: Drew Bergman (215/721-1100, 800/355-7044, Fax: 215/721-1101, E-mail: est-info@curtisswright.com), Mark Schmidley (215/721-1100, 800/355-7044, Fax: 215/721-1101, E-mail: mschmidley@curtisswright.com). Stamp Symbols: NUPIC Listed; ISO-9001 Certified. ANSI N45.2, NQA-1, 10CFR50 App. B. Web site: estgroup.cwfc.com
Code Nos. 10780, 20350, 26230, 40900, 56600, 59850, 61570, 75190, 86130, 93040*

(Curtiss-Wright QualTech NP), 4600 E. Tech Dr., Cincinnati, OH 45245-1000. Contact: Troy Bowman (513/201-2117, E-mail: tbowman@curtisswright.com). Stamp Symbols: N, NA, NPT, and NS. Web site: www.qualtechnp.cwfc.com
Code Nos. 03000, 03200, 03800, 08800, 13400, 14000, 19450, 40050, 47400, 75190, 76400, 84600, 86300, 92300

CUTTING EDGE SERVICES CORP., 1535 Old SR 74, Batavia, OH 45103. Contact: Tim Beckman (513/388-0199, Fax: 513/732-1248, E-mail: beckman@cuttingedgeservices.com). Web site: www.cuttingedgeservices.com
Code Nos. 13050, 14000, 20300*

CUTTING TECHNOLOGIES (CTI), 101 Washington Ave., Gloucester City, NJ 08030. Contact: Jay Faith (856/456-2255, Fax: 856/456-8070, E-mail: sales@cuttingtechnologies.com). Web site: www.cuttingtechnologies.com
Code Nos. 13050, 20300, 22700, 36900, 39960, 55040, 56600

DADE MOELLER & ASSOC., 1835 Terminal Dr., Suite 200, Richland, WA 99354. Contact: Stephen Bump (509/942-3639, Fax: 509/946-4412, E-mail: sbump@moellerinc.com). Web site: www.moellerinc.com
Code Nos. 03800, 09800, 14000, 20300, 37200, 67380, 86300

DCS SYSTEMS, INC., 12 Oakwood Rd., Simsbury, CT 06070-2123. Contact: George D. Dooley (860/651-0218, Fax: 860/651-0219, E-mail: gddooley@dcsystems.com).
Code Nos. 03800, 14000, 25400, 40900, 86300

THE DELPHI GROUPE, INC., 2211 S. Interstate Hwy. 35, Suite 400, Austin, TX 78741. Contact: R. D. Gauny (512/462-1181, Fax: 512/462-1187, E-mail: rdgauny@delphigroupe.com). Web site: www.delphigroupe.com
Code Nos. 03800, 14000, 20300, 20350, 25400, 37200, 40900, 71190, 86300, 93040

DESIGN ENGINEERING ANALYSIS CORP., 335 Morganza Rd., Canonsburg, PA 15317. Contact: George Hrico (724/743-3322, Fax: 724/743-0934, E-mail: info@deac.com). Stamp Symbols: Registered Professional Engineers. Web site: www.deac.com
Code Nos. 03800, 14000, 25400, 56600

DIAKONT, 3853 Calle Fortunada, San Diego, CA 92123. Contact: Aaron Huber (858/551-5551, Fax: 858/504-7065, E-mail: support@diakont.us.com). Web site: www.diakont.com
Code Nos. 12800, 30500, 39960, 45550, 47400, 61570, 68000, 72300, 75850, 84600, 86130, 93900*

DLE TECHNICAL SERVICES, LLC, 4634 S.W. Long Bay Dr., Palm City, FL 34990. Contact: Rob De La Esprilla (772/341-1093, E-mail: rob.dle@dle-services.com). Web site: www.dle-services.com
Code Nos. 14000, 86300*

◆**DNS - DEDICATED NUCLEAR SOLUTIONS**, 2131 S. Centennial Ave., Aiken, SC 29803. Contact: Greg Jones (720/272-7907, E-mail: greg.jones@urs.com), John Portillo (817/239-1693, E-mail: johnportillo@dnsalliance.com). Stamp Symbols: 10CFR50 App. B, NQA-1, ASME III N, NS, NPT. Web site: dnsalliance.com
Code Nos. 03000, 03800, 11400, 13700, 14000, 22200, 26900, 27450, 37600, 40050, 41200, 47400, 56600, 59800, 59850, 60100, 61570, 63400, 64700, 75190, 76400, 83150, 84600, 90250, 90600, 90800, 91000, 91260, 91380, 93040
(See advertisement on page 7)

DONLEY TECHNOLOGY, P.O. Box 152, Colonial Beach, VA 22443. Contact: Elizabeth Donley (804/224-9427, E-mail: donleytech@donleytech.com). Web site: www.donleytech.com
Code Nos. 86300, 86500

DOOSAN HF CONTROLS CORP., (Sub. of Doosan Heavy Industries & Construction Co., Ltd.), 1624 W. Crosby Rd. #124, Carrollton, TX 75006. Contact: John A. Stevens (469/568-6500, Fax: 469/568-6599, E-mail: john.stevens@doosan.com). Web site: www.hfcontrols.com
Code Nos. 03200, 40050, 41000, 54750, 67380*

DUBOSE NATIONAL ENERGY SERVICES, 900 Industrial Dr., Clinton, NC 28328. Contact: Garry Snyder (910/590-2151, Fax: 910/590-3555, E-mail: garry.snyder@dubosenes.com). Stamp Symbols: ASME NA, ASME NS, ASME NPT. Web site: www.dubosenes.com
Code Nos. 13700, 26900, 56600, 59800, 60100, 61570, 91260, 93900, 95900*

DUFRANE NUCLEAR SHIELDING, INC., 125 Price Rd., Winsted, CT 06098. Contact: Jeff Wollmann (860/379-2318, Fax: 860/379-2325, E-mail: support@dufrane.com). Web site: www.dufrane.com
Code Nos. 14000, 14300, 37130, 68000, 75700, 77750, 77800

DW JAMES CONSULTING, 855 Village Center Dr., #330, North Oaks, MN 55127. Contact: Tom Kalinowski (651/482-7556, Fax: 901/339-2070, E-mail: tkalinowski@dwjames.com). Web site: www.dwjames.com
Code Nos. 14000, 20300, 86300, 93040

EASTERN TECHNOLOGIES, INC., (OREX), 215 Second Ave., P.O. Box 409, Ashford, AL 36312. Contact: Doug Kay (817/559-0506, Fax: 334/899-2310, E-mail: dkay@orex.com), Benji McWaters (334/899-4351, 800/467-0547, Fax: 334/899-2310, E-mail: bmcwaters@orex.com). Web site: www.orex.com
Code Nos. 10850, 10900, 14300, 37130, 37160, 37200, 95850*

ECC, 1240 Bayshore Hwy., Burlingame, CA 94010. Contact: Mark Kirshe (410/991-7628, E-mail: mkirshe@ecc.net). Web site: www.ecc.net
Code Nos. 03800, 14000, 20300, 26100, 37200, 93040

ECU CORPORATION, 7209 E. Kemper Rd., Cincinnati, OH 45249. Contact: Michael J. Fox (513/898-9294, Fax: 513/898-9312, E-mail: mfox@ecucorp.com). Stamp Symbols: UL508A Listed Industrial Panels, ASME AG-1 HVAC Equipment, 10CFR50 App. B QA program. Web site: www.ecucorp.com
Code Nos. 03000, 03800, 14000, 19450, 27180, 32250, 47400, 71500

ELAN TECHNICAL CORP., 9919 ValleyView Rd., Eden Prairie, MN 55344. Contact: R. Bush (952/452-8667, Fax: 952/595-5996, E-mail: elantechnical@sbcglobal.net). Web site: www.elantechnical.com
Code Nos. 25000, 40050, 51730, 54750, 84150*

ELCOMETER INC., 1893 Rochester Industrial Dr., Rochester Hills, MI 48309. Contact: Sunny Nietubicz (248/650-0500, 800/521-0635, Fax: 248/650-0501, E-mail: sales@elcometerusa.com). Stamp Symbols: Certification by ISO 9001:2008. Web site: www.elcometerusa.com
Code Nos. 03800, 04000, 26080, 56600, 84150*

ELLIS & WATTS GLOBAL INDUSTRIES, INC., 4400 Glen Willow Lake Ln., Batavia, OH 45103-2320. Contact: Michael Doersam (513/752-9000, Fax: 513/752-4545, E-mail: mdoersam@elliswatts.com). Stamp Symbols: U, UM, N, NA, NPT, NS. Web site: www.elliswatts.com
Code Nos. 00400, 03000, 14000, 19450, 27180, 27450, 32250, 37600, 71500, 73550, 92300*

ENECON CORP., 6 Platinum Ct., Medford, NY 11763. Contact: Mike Tedesco (516/349-0022, 888/436-3266, Fax: 516/349-5522, E-mail: info@enecon.com). Stamp Symbols: U.S. Military Specification DOD-C-24176/QPL-24176; Nuclear Irradiation, Decontamination & DBA Testing; Canadian Electrical Association No. 511G530 - Reduction of Cavitation Erosion Damage/87 - Rated Best Coating Services Group (CSG) Torus Liner Performance (Nuclear) Evaluation; CeramAlloy CL+ (No. 3168) - Highest Rating; Other Tests/Approvals/Commendations: U.S. Coast Guard, U.S. Navy, ABS, U.S.D.A., NSF. Web site: www.enecon.com
Code Nos. 11400, 14000, 17650, 47400*

◆**ENERGYSOLUTIONS LLC**, 299 S. Main St., Suite 1700, Salt Lake City, UT 84111. Contact: Mark Walker (801/649-2000, Fax: 801/321-0453, E-mail: mwalker@energysolutions.com). Stamp Symbols: ASME NQA-1-Quality Assurance Requirements for Nuclear Facility Applications-2000, ASME AG-1-Code on Nuclear Air and Gas Treatment, ASME Boiler and Pressure Vessel Code, ICBO-Uniform Building Code (UBC)-1997, ASME B31.1-Power Plant Piping, ASME B31.3-Chemical Plant and Petroleum Refinery Piping, AISC Manual of Steel Construction-Allowable Stress Design, ASCE 4-Seismic Analysis of Safety-Related Nuclear Structures and Commentary, ASCE 7-Minimum Design Loads for Building and Other Structures, NFPA 70-National Electric Code (NEC), AWS D1.1-Structural Welding Code-Steel, AWS D1.2-Structural Welding Code-Aluminum, AWS D1.3- Structural Welding Code-Sheet Steel, AWS D1.6-Structural Welding Code-Stainless Steel, WRC 107-Local Stresses in Spherical and Cylindrical shells due to external loadings, WRC 297-Local Stresses in Cylindrical shells due to external loadings. Web site: www.energysolutions.com
Code Nos. 03800, 04000, 09800, 09950, 10780, 10850, 14300, 17950, 20300, 20350, 26230, 27450, 30040, 30500, 37200, 41000, 44000, 68000, 77800, 79360, 86300, 87000, 93040
(See advertisement on page 1)

ENMET, 680 Fairfield Ct., Ann Arbor, MI 48108. Contact: Nancy Aulisa (734/761-1270, 800/521-2978, Fax: 734/761-3220, E-mail: naulisa@enmet.com). Web site: www.enmet.com
Code Nos. 04000, 54750, 73550, 74150*

ENVIRONMENTAL RESTORATION GROUP, INC., 8809 Washington St. N.E., Suite 150, Albuquerque, NM 87113. Contact: Chuck Farr (505/298-4224, Fax: 505/797-1404, E-mail: chuckfarr@ergoffice.com). Web site: www.ergoffice.com
Code Nos. 09800, 14000, 17950, 20300, 25250, 26080, 26100, 26230, 37130, 37200, 55040

EPICOR, INC., 1414 E. Linden Ave., P.O. Box 1608, Linden, NJ 07036. Contact: Rose Bussiculo (908/925-0800, Fax: 908/925-7795, E-mail: epicorinc@aol.com). Stamp Symbols: Certification by ISO 9001:2000. Web site: www.epicorinc.com
Code Nos. 14000, 27450, 41700*

EUCLID VIDARO MFG. CO., 333 Martinel Dr., P.O. Box 550, Kent, OH 44240-0550. Contact: H. Fleischmann (330/673-7413, Fax: 330/673-0228, E-mail: hfleischmann@vidaro.com), Rosemarie Einholz (330/673-7413, Fax: 330/673-0228, E-mail: reinholz@vidaro.com). Web site: www.vidaro.com
Code Nos. 10850, 10900

EXCEL MODULAR SCAFFOLD AND LEASING CORP., 60 Industrial Park Rd., P.O. Box 1800, Plymouth, MA 02360. Contact: Jim Elkins (800/225-0385 x1369, 800/652-7712, Fax: 508/830-0997, E-mail: jim.elkins@excelscaffold.com). Web site: www.excelscaffold.com
Code Nos. 25400, 74350, 77900, 86300*

EXCEL SERVICES CORPORATION, 11921 Rockville Pike, Suite 100, Rockville, MD 20852. Contact: Donald R. Hoffman (301/984-4400, Fax: 301/984-7600, E-mail: donaldh@excelservices.com). Web site: www.excelservices.com
Code Nos. 03800, 09800, 12800, 14000, 20300, 25400, 41000, 41200, 47400, 71190, 76400, 86300, 93040*

◆**EXCHANGEMONITOR PUBLICATIONS & FORUMS**, 4 Choke Cherry Rd., 2nd Floor, Rockville, MD 20850. Contact: Thomas Sloma-Williams (301/354-1696, 888/707-5814, Fax: 301/309-3847, E-mail: tawilliams@accessintel.com). Web site: www.exchangemonitor.com
Code Nos. 12800, 14000, 20300, 40700, 93040
(See advertisement on page 67)

FAUSKE & ASSOCIATES, LLC, (A sub. of Westinghouse Electric Company, LLC), 16W070 83rd St., Burr Ridge, IL 60527. Contact: Kris Fauske (630/887-5246, Fax: 630/986-5481, E-mail: kfauske@fauske.com). Stamp Symbols: Certification by ISO 9001:2000 and QA compliant with 10CFR50 App. B. QME and NQA1. Web site: www.fauske.com
Code Nos. 03800, 14000, 19700, 39650, 56600, 64750, 76400, 84600, 86300

FCI-FLUID COMPONENTS INTERNATIONAL LLC, 1755 La Costa Meadows Dr., San Marcos, CA 92078-5115. Contact: Randy Brown (760/744-6950, 800/854-1993, Fax: 760/736-6250, E-mail: fcicarcom@fluidcomponents.com). Stamp Symbols: Qualified to IEEE 323, IEEE 344, IEEE 382; Class 1E Seismic Category 1; FCI Quality Assurance meets 10CFR50 App. B and complies with 10CFR21, ANSI N45.2 and NQA-1. Web site: www.fluidcomponents.com
Code Nos. 03200, 09800, 17950, 32250, 40050, 54750, 55040*

FEMTO-TECH, INC., 25 Eagle Ct., P.O. Box 8257, Carlisle, OH 45005. Contact: Rick Straub (937/746-4427, Fax: 937/746-9134, E-mail: femtotch@aol.com). Web site: www.femto-tech.com
Code Nos. 55040

F&J SPECIALTY PRODUCTS, INC., 404 Cypress Rd., Ocala, FL 34472. Contact: Sales Coordinator (352/680-1177/1178, 800/832-5037, Fax: 352/680-1454, E-mail: fandj@fjspecialty.com). Web site: www.fjspecialty.com
Code Nos. 09800, 27450, 55040, 74150*

FLOWERVE FLOW CONTROL DIV., (Div. of Flowserve Corp.), 1900 S. Saunders St., Raleigh, NC 27603. Contact: Floyd Bensinger (919/831-3200, Fax: 919/831-3369, E-mail: fbensinger@flowserve.com). Stamp Symbols: N, NPT, Classes 1, 2, 3. Web site: www.flowserve.com
Code Nos. 90600, 90800, 91000, 91260, 91380*

FOSS THERAPY SERVICES, INC., 5938 Satsuma Ave., North Hollywood, CA 91601. Contact: Joseph Shepherd (626/818-3880, Fax: 253/830-7843, E-mail: ftsinc12@gmail.com). Web site: www.fosstherapyservices.net
Code Nos. 09800, 14000, 14300, 37200, 47400, 77750

FRHAM SAFETY PRODUCTS, INC., P.O. Box 101177, 318 Hill Ave., Nashville, TN 37224. Contact: Fred Nance (615/254-0841, Fax: 615/726-2514, E-mail: fnance@frhamsafety.com). Web site: www.frhamsafety.com
Code Nos. 03000, 10780, 10850, 10900, 11400, 11650, 15250, 26080, 26100, 26600, 27450, 37130, 37160, 73550, 79370, 83210, 95850*

FUEL TANK MAINTENANCE CO., LLC, 240 Mill Dr., Cookeville, TN 38501. Contact: Jerry Hahn (615/355-5636, 800/742-2417, Fax: 615/355-6926, E-mail: jthahnjr@hotmail.com). Stamp Symbols: SSPC, QP1, QP2; NACE Level 1, Level 2. 10CFR 50 Appendix B and NQA-1 Certifications. Web site: www.fueltankmaintenance.com
Code Nos. 03800, 06790, 11400, 13050, 14000, 17650, 20300, 20350, 25400, 30500, 40900, 47400, 56600, 75700, 75850, 83150, 84600, 92300, 93040, 93900

FUJI ELECTRIC CORP. OF AMERICA, 50 Northfield Ave., Edison, NJ 08837. Contact: James Menge (201/490-3921, Fax: 201/368-8258, E-mail: jmenge@fecoa.fujielectric.com), Daisuke Inui (201/490-3911, Fax: 201/368-8258, E-mail: dinui@fecoa.fujielectric.com). Web site: www.americas.fujielectric.com
Code Nos. 03200, 09800, 12800, 17950, 19700, 25250, 26080, 30040, 30500, 37130, 47600, 55040, 55060, 68000, 72300, 93040*

GAMMA PRODUCTS, INC., 7730 W. 114th Pl., Palos Hills, IL 60465. Contact: Blake Meier (708/974-4100, Fax: 708/974-0071, E-mail: sales@gammaproducts.com). Web site: www.gammaproducts.com
Code Nos. 17950, 77800*

GARDNER DENVER WATER JETTING SYSTEMS, INC., (Sub. of Gardner Denver), 12300 N. Houston-Rosslyn Rd., Houston, TX 77086. Contact: John Snyder (281/448-5800, 800/231-3628, Fax: 281/448-7500, E-mail: mktg.wjs@gardnerdenver.com). Web site: www.waterjetting.com
Code Nos. 10780, 59850

GASSEW ASSOCIATES, INC., P.O. Box 88, Darby, PA 19023. Contact: Michael J. Conway (610/259-9771, Fax: 610/259-9560, E-mail: mike@gassewassociates.com), Jeff Gassew (Fax: 610/259-9560, E-mail: jeff@gassewassociates.com). Web site: www.gassewassociates.com
Code Nos. 54750

THE GEL GROUP, INC., (GEL Engineering, LLC), (GEL Laboratories, LLC), (GEL Geophysics, LLC), (Cape Fear Analytical, Inc.), 2040 Savage Rd., Charleston, SC 29407. Contact: Robert Wills (843/556-8171, E-mail: robert.wills@gel.com). Web site: www.gel.com
Code Nos. 03800, 04000, 14000, 26100, 37200, 74150, 74320, 86300, 93040

◆(General Engineering Laboratories, LLC), 2040 Savage Rd., Charleston, SC 29407. Contact: Robert Wills (843/556-8171, Fax: 843/766-1178, E-mail: robert.wills@gel.com). Web site: www.gel.com
Code Nos. 03800, 04000, 14000, 26100, 37200, 74150, 86300, 93040*
(See advertisement on page 46)

GENAVE ELECTRONICS, 2520 151st Ct. W., Rosemount, MN 55068. Contact: Jim Edwards (651/460-6616, E-mail: support@genave.com). Web site: www.genave.com
Code Nos. 25300, 40900

GENERAL CABLE CO., (ULTROL® 60+), 1600 W. Main St., Willimantic, CT 06226-1128. Contact: Heidi Field (860/465-8726, 800/237-6419 x8726, Fax: 860/465-8869, E-mail: hfield@generalcable.com). Web site: www.generalcable.com
Code Nos. 08800, 95900*

GENERAL PLASTICS MFG. CO., 4910 Burlington Way, Tacoma, WA 98409. Contact: Kris Hsin (253/343-6087, 800/806-6051, E-mail: kris_hsin@generalplastics.com), Rick Brown (253/473-5000, 800/806-6051, E-mail: rick_brown@generalplastics.com). Stamp Symbols: General Plastics is certified to ISO 9001:2008/AS9100C. In addition, we meet such exacting quality systems as: NQA-1; MIL-I-45208A; Boeing Company D6-82479; General Plastics' extensive quality assurance program satisfies the demanding requirements of the aerospace industry, the Nuclear Regulatory Commission and the U.S. Department of Defense. BMS 8-133 Flame-Retardant Rigid Urethane Foams (core materials); BMS 8-350 Integral Skinning Flexible Urethane Foam and Paint for Molded Products; BMS 8-39 Flexible Urethane Foams. We earned Federal Aviation Agency approval of our burn-test facilities in 2010. General Plastics is ITAR-compliant. Web site: https://www.generalplastics.com/
Code Nos. 39960, 79700, 83210, 84600, 86130

GETINGE-LA CALHÈNE, (Sub. of Getinge Group), 1325 Frandsen Ave. S., Rush City, MN 55069. Contact: David L. Milligan (320/358-4713, Fax: 320/358-3549, E-mail: david.milligan@getinge.com). Web site: www.getinge.com/nuclear
Code Nos. 10850, 72300, 79360

GOLDSIM TECHNOLOGY GROUP, 22500 S.E. 64th Pl., Suite 240, Issaquah, WA 98027-8111. Contact: Rick Kossik (425/295-6985, Fax: 425/642-8073, E-mail: rkossik@goldsim.com). Web site: www.goldsim.com
Code Nos. 03800, 14000

GRAYCOR INDUSTRIAL CONSTRUCTORS, Two Mid America Plaza, Suite 400, Oakbrook Terrace, IL 60181. Contact: Adam Brown (630/684-7306, Fax: 630/684-7120, E-mail: adam_brown@graycor.com).
Code Nos. 13050, 13850, 14000, 20300, 47400

GRAYLING INDUSTRIES, INC., 1008 Branch Dr., Alpharetta, GA 30004. Contact: Ben Greene (770/751-9095, 800/635-1551, Fax: 770/751-3710, E-mail: grayling@graylingmail.com). Web site: www.graylingindustries.com
Code Nos. 06790*

GROVE ENGINEERING, INC., (Grove Software), 4925 Boonsboro Rd., Suite 257, Lynchburg, VA 24503. Contact: Eric Giavedoni (434/386-8080, Fax: 434/386-8081, E-mail: contact@groveengineering.net). Web site: www.groveengineering.net
Code Nos. 03800, 12800, 14000, 37200, 77750

GSE SYSTEMS INC., 1332 Londontown Blvd., Suite 200, Sykesville, MD 21784. Contact: Alex Lekich (410/970-7800, 800/638-7912, Fax: 410/970-7999, E-mail: power@gses.com), Deanne Bellin (410/970-7800, 800/638-7912, Fax: 410/970-7999, E-mail: deanne.bellin@gses.com). Web site: www.gses.com
Code Nos. 12800, 14000, 86300, 86400, 86500

HAWKS, GIFFELS & PULLIN (HGP), INC., 1720 N. Pleasantburg Dr., Greenville, SC 29609. Contact: Karen Masters (864/370-0213, Fax: 864/370-0215, E-mail: hgp@hgp-inc.com), Jacob Wood (864/370-0213, 775/851-1532, Fax: 864/370-0215, E-mail: hgp@hgp-inc.com). Web site: www.hgp-inc.com
Code Nos. 03800, 12800, 14000, 71190

HEALTH PHYSICS INSTRUMENTS, 330 S. Kellogg Ave., Suite D, Goleta, CA 93117. Contact: Deborah Thiele (805/964-3615, Fax: 805/964-3162, E-mail: info@fwt.com). Web site: www.fwt.com
Code Nos. 04000, 09800, 17950, 21270, 25250, 37130, 37200, 47400, 55040

HENNIGAN ENGINEERING CO., INC., 55 Industrial Park Rd., Hingham, MA 02043. Contact: Timothy Hennigan, Jr. (781/749-0220, 800/472-8484, Fax: 781/740-8738, E-mail: power@henniganengineering.com). Stamp Symbols: Certification by SSPC-QP1 and QP2. Web site: www.henniganengineering.com
Code Nos. 10780

HERCULITE PRODUCTS, INC., P.O. Box 435, Emigsville, PA 17318. Contact: Chad Twombly (717/764-1192, 800/772-0036, Fax: 717/764-5211, E-mail: customercare@herculite.com). Stamp Symbols: Certification by SEG. Web site: www.herculite.com
Code Nos. 37130

HI-Q ENVIRONMENTAL PRODUCTS CO., INC., 7386 Trade St., San Diego, CA 92121. Contact: Marc A. Held (858/549-2820, Fax: 858/549-9657, E-mail: info@hi-q.net). Stamp Symbols: ISO 9001:2008 Certified. Web site: www.hi-q.net
Code Nos. 04000, 09800, 26080, 27450, 37130, 37200, 41000, 55040, 58000, 90100*

◆ **HOLTEC INTERNATIONAL**, Holtec Technology Center, One Holtec Dr., Marlton, NJ 08053. Contact: Joy Russell (856/797-0900 x3655, Fax: 856/797-0909, E-mail: j.russell@holtec.com), Dr. Rick Springman (856/797-0900 x3716, Fax: 856/797-0909, E-mail: r.springman@holtec.com). Stamp Symbols: ASME Stamps: N, NPT, N3, U, R, NR, NB. Web site: www.holtecinternational.com
Code Nos. 03800, 14000, 14300, 30500, 55490, 66280, 68000, 72300, 79360, 81710, 83150, 92300, 93040*

(See advertisement on page 78)

HOPEWELL DESIGNS, INC., 5940 Gateway Dr., Alpharetta, GA 30004. Contact: Robert O. Rushton (770/667-5770, Fax: 770/667-7539, E-mail: rorushton@hopewelldesigns.com), Ralph Brittelli (770/667-5770, Fax: 770/667-7539, E-mail: rbrittelli@hopewelldesigns.com). Web site: www.hopewelldesigns.com
Code Nos. 00400, 09800, 37130, 37160, 37200, 47400, 55490, 68000, 73300, 77750*

HOT CELL SERVICES CORP., P.O. Box 5729, Kent, WA 98064-5729. Contact: Mark Lutz (253/854-4945, 800/562-2439, Fax: 253/854-4947, E-mail: hotcell@hotcell.com). Stamp Symbols: ASME NQA-1. Web site: www.hotcell.com
Code Nos. 77750, 95750*

STAN A. HUBER CONSULTANTS, INC., 200 N. Cedar Rd., New Lenox, IL 60451-0468. Contact: Glenn A. Huber (815/485-6161, 800/383-0468, Fax: 815/485-4433, E-mail: glennhuber@sahci.com). Web site: www.sahci.com
Code Nos. 09800, 14000, 37200, 71190, 86300, 93040

HUKARIASCENDENT INC., 4251 Kipling St., Unit 400, Wheat Ridge, CO 80033. Contact: Matthew Hadacek (303/384-9079, 866/487-7628, Fax: 303/277-1458, E-mail: matthewh@hukari.com). Web site: www.hukari.com
Code Nos. 03800, 13850, 14000, 25400, 86300

I.C.E. SERVICE GROUP, INC., 192 Ohio River Blvd., Suite 100, Ambridge, PA 15056. Contact: Dennis Morgan, II (412/916-5710, Fax: 724/266-7583, E-mail: dmorgan@iceservicegroup.com). Stamp Symbols: NQA-1. Web site: www.iceservicegroup.com
Code Nos. 12800, 14000, 14300, 20300, 26230, 87000, 93040

ICM-INTERNATIONAL CLIMBING MACHINES, 630B Elmira Rd., Ithaca, NY 14850-8745. Contact: Samuel J. Maggio/Carolina Osorio Gil (607/288-4001, Fax: 607/288-4004, E-mail: info@icm.cc). Web site: www.icm.cc
Code Nos. 10780, 20300, 20350, 26230, 37200, 40900, 56600, 72300*

ILD, INC., 7353 Highland Rd., Suite B-378, Baton Rouge, LA 70808. Contact: Jack Little (225/769-2780 x111, Fax: 225/769-2751, E-mail: jack@ildpower.com). Web site: www.ildpower.com
Code Nos. 03800, 14000

INTEK, INC., 751 Intek Way, Westerville, OH 43082. Contact: Tony Bonina (614/895-0301, 800/743-6822, Fax: 614/895-0319, E-mail: tbonina@intekflow.com). Stamp Symbols: Certification by ISO 9001-2008. Web site: www.intekflow.com
Code Nos. 03200, 17950, 40050, 54750, 84600, 91260

INTERDEVELOPMENT, INC., P.O. Box 15249, Arlington, VA 22215. Contact: M.K. Luddemann-Faris (202/508-1459, Fax: 202/331-3759, E-mail: interdevelopment@starpower.net). Web site: www.interdevelopment.com
Code Nos. 03800, 14000

INTERNATIONAL PLASTICS, INC., 185 Commerce Ctr., Greenville, SC 29615-9527. Contact: Steve McClure (864/297-8000 x117, 800/433-4043, Fax: 864/297-7186, E-mail: steve@interplas.com). Stamp Symbols: Certified incinerable. Web site: www.interplas.com
Code Nos. 14300, 37130, 83210

INTERTEST, INC., 303 State Rt. 94, Columbia, NJ 07832. Contact: Thomas F. Daly (908/496-8008, 800/535-3626, Fax: 908/496-8004, E-mail: bginfo@intertest.com). Web site: www.intertest.com
Code Nos. 26230, 39960, 84150, 84600, 92800

INUKTUN US, LLC, 103 Rio Rancho Dr. N.E., Suite A-6, Rio Rancho, NM 87124. Contact: Rod Barber (505/994-0702, 877/468-5886, Fax: 505/994-0726, E-mail: sales@inuktun.us). Web site: www.inuktun.us
Code Nos. 10780, 26230, 26240, 40900, 47600, 68000, 72300, 73300, 73620, 75850, 79360, 83600, 84150, 86130, 92800

IONEX RESEARCH CORP., P.O. Box 70, 1301 Eastwind Dr., Lafayette, CO 80026. Contact: D. W. Porrey (303/666-5550, Fax: 303/666-5560, E-mail: dporrey@ionex.us). Stamp Symbols: QA Program in accordance with NQA-1. Web site: www.ionex.us
Code Nos. 27450, 32250

◆ **IROBOT CORP.**, 8 Crosby Dr., Bedford, MA 01730. Contact: Kim Monti (505/508-8952, Fax: 781/430-3898, E-mail: kmonti@irobot.com). Web site: www.irobot.com
Code Nos. 40900, 72300
(See advertisement on page 74)

ISO-PACIFIC NUCLEAR ASSAY SYSTEMS, INC., 3250 Port of Benton Blvd., Suite B, Richland, WA 99354. Contact: Lori Dillon (509/375-0100, Fax: 509/375-0101, E-mail: lori.dillon@isopacific.net). Web site: www.isopacific.net
Code Nos. 03200, 03800, 04000, 09730, 09750, 09800, 10780, 12800, 14000, 17950, 18600, 20300, 20350, 21370, 22700, 25600, 26100, 26230, 30500, 37130, 37200, 39960, 47400, 53950, 55040, 56600, 63400, 64700, 66280, 67380, 68000, 68950, 71190, 72300, 73300, 73620, 74150, 74320, 77750, 79700, 84600, 87400, 93040

◆ **JOSEPH OAT CORP.**, 2500 Broadway, Drawer 10, Camden, NJ 08104. Contact: Crystal Harrington (856/541-2900, Fax: 856/541-0864, E-mail: c.harrington@josephoat.com). Stamp Symbols: N, NPT, NA, Classes 1, 2, 3, MC, U, S; N Classes 1, 2, 3, MC Vessels + Piping Systems. +2, 3 Storage Tanks, NPT Class 1, 2, 3 & MC, NA Class 1, 2, 3 U&S, Certification by ISO 9001. Web site: www.josephoat.com
Code Nos. 03800, 09950, 13700, 14000, 14300, 27450, 36000, 37600, 40900, 56600, 59800, 68000, 77750, 78700, 83150, 92300, 93900*
(See advertisement on page 9)

JRM CHEMICAL INC., 4881 Neo Pkwy., Cleveland, OH 44128. Contact: Dave Czehut (216/475-8488, 800/962-4010, Fax: 216/475-6517, E-mail: jrm@en.com). Web site: www.soilmoist.com
Code Nos. 79370*

JSM PROTECTIVE, INC., 8345 Vintage Club Cir., Wilmington, NC 28411. Contact: Jeannette McLean (910/686-5423, Fax: 888/457-7682, E-mail: jmclean@jmonline.com). Stamp Symbols: WBE Certified (Woman Owned Business) WBENC. Web site: www.jmonline.com
Code Nos. 10850, 10900, 26080, 37130, 54750, 55040, 73550, 83110, 83210, 95850*

KIEWIT POWER NUCLEAR CO., 9401 Renner Blvd., Lenexa, KS 66219. Contact: Jack Symonds (913/928-7342, Fax: 913/689-4799, E-mail: jack.symonds@kiewit.com), Diane Jones (913/689-4691, Fax: 913/689-4799, E-mail: diane.jones@kiewit.com). Stamp Symbols: 10CFR50 App. B Program; NQA-1, 2008 with 2009 Addenda; 10 CFR Part 21; 10 CFR 830.120; DOE Order O 414.1d; ASME Sec III Division 1 & 2 Certificates and Stamps; Corporate Certificates - N, NR, NPT, NA, NS & Shop Extension Certificates and Stamps - N, NPT, NA & NS. Web site: www.kiewit.com/markets/power/nuclear/ Code Nos. 13850, 14000

KODEX, INC., 160 Park Ave., Nutley, NJ 07110-2882. Contact: Gary Korkala (973/235-0606, 800/325-6339, Fax: 973/235-0132, E-mail: kodex@kodexray.com). Web site: www.kodexray.com Code Nos. 26230, 75850*

KONECRANES NUCLEAR EQUIPMENT & SERVICES LLC, 5300 S. Emmer Dr., New Berlin, WI 53151. Contact: Steve Lawrence (262/364-5700, E-mail: steve.lawrence@konecranes.com). Stamp Symbols: Quality Compliant to ISO 9001, 10CFR50 App. B & NQA-1. Web site: www.konecranes.com Code Nos. 09950, 13600, 14000, 18590, 18600, 30500, 40900, 47400, 68000, 72300, 81680, 81710, 86300, 87000*

K&S ASSOCIATES, INC., 1926 Elm Tree Dr., Nashville, TN 37210. Contact: Peter Gordon (615/883-9760, 800/522-2325, Fax: 615/871-0856, E-mail: pgordon@kslab.com). Web site: www.kslab.com Code Nos. 08800, 09800, 17950, 37200, 47400

KURION, INC., 1355 Columbia Park Trl., Richland, WA 99352. Contact: Stephen Riesenweber (509/737-1377, E-mail: sriesenweber@kurion.com). Stamp Symbols: NQA-1 2008/2009 Addendum; ISO 9001. Web site: www.kurion.com Code Nos. 03800, 13850, 14000, 40900, 41700, 47400, 53950, 68000, 72300, 73620, 77750, 87380, 87395, 87400, 93040

LABLOGIC SYSTEMS, INC., East Pointe Park, 1040 E. Brandon Blvd., Brandon, FL 33511-5509. Contact: Ashvin Boodhun (813/626-6848, 800/875-4687, Fax: 813/620-3708, E-mail: ahoodhun@lablogic.com). Web site: www.lablogic.com Code Nos. 03200, 03800, 04000, 17950, 25250, 55040

LANCS INDUSTRIES, 12704 N.E. 124th St., Suite 36, Kirkland, WA 98034. Contact: Lewis E. Byrd (425/823-6634, Fax: 425/820-6784, E-mail: sales@lancsindustries.com). Stamp Symbols: Certification by SEG. Web site: www.lancsindustries.com Code Nos. 10850, 10900, 14300, 27450, 37130, 68000, 73550, 77800, 83210*

LASER SAFETY SOLUTIONS, 42179 W. Santa Fe St., Maricopa, AZ 85138. Contact: Ken Barat (925/698-5661, E-mail: lasersafety@solutions@gmail.com). Stamp Symbols: CLSO, LIA Fellow, SPIE Senior Member, IEEE Senior Member. Web site: lasersafety@solutions.org Code Nos. 14000

LEBLOND AND ASSOCIATES, LLC, 424 Ridgewood Ln., Libertyville, IL 60048. Contact: Peter LeBlond (847/549-8775, Fax: 847/549-8775, E-mail: leblond@prodigy.net). Web site: www.leblondassociates.com Code Nos. 14000, 86300, 86500

LEIDOS, 11951 Freedom Blvd., Reston, VA 20190. Contact: Charlotte O'Neil (865/481-4724, Fax: 865/481-4722, E-mail: oneil@leidos.com). Web site: leidos.com/engineering Code Nos. 03800, 14000, 20300, 26100, 37200, 71190

LENAPE FORGED PRODUCTS CORP., 1334 Lenape Rd., West Chester, PA 19382. Contact: Randy Lewis (610/793-5090, Fax: 610/793-3070, E-mail: lewisr@lenapeforge.com). Web site: www.lenapeforge.com Code Nos. 56600, 68000, 81710

LENOX INSTRUMENT CO., INC., 265 Andrews Rd., Trevoze, PA 19053. Contact: Bill Lang (215/322-9990, 800/356-1104, Fax: 215/322-6126, E-mail: bill@lenoxinst.com). Web site: www.lenoxinst.com Code Nos. 26230, 40900, 92800

LIGHTS CAMERA ACTION, LLC, 1730 W. Sunrise Blvd., Suite B102, Gilbert, AZ 85233-5021. Contact: Walt Ahland (480/345-0642, 877/345-0642, Fax: 480/345-0644, E-mail: wahland@lights-camera-action.net). Web site: www.lights-camera-action.net Code Nos. 08800, 17650, 26230, 45550, 73300, 83600, 86130

LUDLUM MEASUREMENTS, INC., 501 Oak St., P.O. Box 810, Sweetwater, TX 79556-0810. Contact: Larissa Place (325/235-5494, 800/622-0828, Fax: 325/235-4672, E-mail: laplace@ludlums.com). Web site: www.ludlums.com Code Nos. 04000, 55060*

MAGNETROL INTERNATIONAL, 705 Enterprise St., Aurora, IL 60504. Contact: M.D. Tikalsky (630/969-4000, 800/624-8765, Fax: 630/969-9489, E-mail: mtikalsky@magnetrol.com). Stamp Symbols: Certification by 10CFR50 App. B. Web site: www.magnetrol.com Code Nos. 03200, 40050

♦ **MAJOR TOOL & MACHINE, INC.**, 1458 E. 19th St., Indianapolis, IN 46218. Contact: Joel Manship (317/917-2619, Fax: 317/634-9420, E-mail: jmanship@majortool.com). Stamp Symbols: N-Class 1, 2, 3 & MC Vessels; Class 1, 2 & 3 Piping Systems; Class 2 & 3 Storage Tanks, Class CS Core Support Structures and Class TP Transport Packaging; NPT - Class 1, 2, 3, CS, MC & TP. Fabrication without design responsibility. N3 - Construction of Class TC Transportation Containments. Stamps N, N3, NPT, NS, U, U2 and R. Audited and compliant to NQA-1. Certifications to ISO 9001:2000, AS9100, NADCAP. Web site: www.majortool.com Code Nos. 14300, 30500, 36000, 56600, 66280, 68000, 79360, 81710, 83150, 87380, 87395, 92300, 93900*

(See advertisement on page 54)

MARSHALLTON RESEARCH LABORATORIES, INC., P.O. Box 930, King, NC 27021. Contact: Amy Leadford (336/983-2131, Fax: 336/983-0096, E-mail: inquiries@marshalltonlabs.com). Web site: www.marshalltonlabs.com Code Nos. 20350

MATERIALS & CHEMISTRY LABORATORY, INC., East Tennessee Technology Pk., Bldg. K-1006, 2010 Hwy. 58, 400 Heritage Blvd., Oak Ridge, TN 37830. Contact: Barry A. Stephenson (865/576-4138, Fax: 865/576-8558, E-mail: bstephenson@mcl-inc.com). Web site: www.mcl-inc.com Code Nos. 03800, 14000, 20350, 37200, 40900, 84600, 93040

MAYCO INDUSTRIES, 18 W. Oxmoor Rd., Birmingham, AL 35209. Contact: Mike Ward (205/942-4242, 800/749-6061, Fax: 205/945-8704, E-mail: mike@maycoindustries.com). Stamp Symbols: 10 CFR. Web site: www.maycoindustries.com Code Nos. 14300, 77800, 93040, 95750

MAZUR INSTRUMENTS, 200 S. Wilcox St. #448, Castle Rock, CO 80104. Contact: Vince Mazur (303/660-5247, Fax: 303/496-6000, E-mail: vince.mazur@mazurinstruments.com). Web site: www.mazurinstruments.com Code Nos. 17950, 55040

MEGA-TECH SERVICES, LLC, 11118 Manor View Dr., Mechanicsville, VA 23116. Contact: John Bowen (804/789-1577, Fax: 804/789-1578, E-mail: jbowen@mega-techservices.biz). Web site: www.mega-techservices.biz Code Nos. 03800, 13050, 14000, 20300, 20350, 81710

MERRICK & COMPANY, 5970 Greenwood Plaza Blvd., Greenwood Village, CO 80111. Contact: Neal McCraw (704/576-5094, 800/544-1714, Fax: 303/751-2581, E-mail: neal.mccraw@merrick.com). Stamp Symbols: ISO 9001:2008; ASME NQA-1. Web site: www.merrick.com Code Nos. 03800, 14000

M4 SERVICES LLC, 14676 Mustang Path, Glenwood, MD 21738. Contact: Mark Kirshe (410/991-7628, E-mail: mark.kirshe@m4services.com). Web site: www.m4services.com Code Nos. 03800, 09950, 14000, 25400, 68000, 93040

MHF SERVICES, (An EnergySolutions Company), 4500 Brooktree Rd., Suite 200, Wexford, PA 15090-9289. Contact: Lisa Sabol (724/772-9800 x5562, 877/452-9300, Fax: 724/772-9850, E-mail: lasabol@energysolutions.com). Web site: www.mhfservices.com Code Nos. 09950, 14000, 14300, 20300, 26230, 37200, 68000, 87000, 93040*

MIRION TECHNOLOGIES DOSIMETRY SERVICES, 2652 McGaw Ave., Irvine, CA 92614. Contact: Lou Biacchi (949/419-1000, 800/251-3331, Fax: 949/296-1144, E-mail: info@mirion.com). Stamp Symbols: NVLAP. Web site: www.mirion.com Code Nos. 37130, 37200, 55060

- MIRION TECHNOLOGIES (IST) CORP.**, (Sensing Systems Div.), 315 Daniel Zenker Dr., 300 IST Center, Horseheads, NY 14845. Contact: Tim Pelot (607/562-4530, Fax: 607/562-4482, E-mail: tpelot@mirion.com). Stamp Symbols: N Classes 1, 2, 3 & MC Vessels, Class 1, 2, 3 Valve Parts & Appurt., Class 1, 2, 3, Valves, Class MC Penetrations & Assem. Web site: www.mirion.com Code Nos. 08800, 17950, 26910, 45550, 54750, 73300, 75190, 83600*
- ♦ **MOHAWK SAFETY**, 5 Glen Rd., Manchester, CT 06040-6707. Contact: James W. Francoline (860/643-5107, 800/394-6853, Fax: 860/646-6209, E-mail: jfrancoline@mohawksafety.com). Stamp Symbols: Certified Small Business. Web site: www.mohawksafety.com Code Nos. 10780, 10850, 10900, 14300, 20350, 26600, 27450, 37130, 37160, 77800, 83110, 83120, 83210, 84150, 95850* (See advertisement on page 62)
- MOTT CORP.**, 84 Spring Ln., Farmington, CT 06032-3142. Contact: Process Systems Sales (860/747-6333, 800/289-6688, Fax: 860/747-6739, E-mail: quest@mottcorp.com). Web site: www.mottcorp.com Code Nos. 27450, 68000
- MPR ASSOCIATES, INC.**, 320 King St., Alexandria, VA 22314-3230. Contact: Paul Gallagher (703/519-0200, Fax: 703/519-0224, E-mail: pgallagher@mpr.com). Web site: www.mpr.com Code Nos. 03800, 14000, 54750, 86300
- M2 POLYMER TECHNOLOGIES, INC.**, P.O. Box 365, West Dundee, IL 60118. Contact: Martin Matushek (847/836-1393, Fax: 847/836-6483, E-mail: info@m2polymer.com). Web site: www.m2polymer.com Code Nos. 20350, 68000, 79360, 79370*
- NAC INTERNATIONAL**, 3930 E. Jones Bridge Rd., Suite 200, Norcross, GA 30092. Contact: Doug Jacobs (678/328-1257, Fax: 678/328-1457, E-mail: djacobs@nacintl.com), Juan Subiry (678/328-1282, Fax: 678/328-1482, E-mail: jsubiry@nacintl.com). Web site: www.nacintl.com Code Nos. 03800, 14000, 14300, 30040, 30500, 68000, 77800, 81710, 86300, 87000
- NATIONAL INSPECTION & CONSULTANTS**, 9911 Bavaria Rd., Fort Myers, FL 33913. Contact: David J. Vigne (239/939-4313, Fax: 239/334-8777, E-mail: dave.vigne@nicinc.com). Stamp Symbols: Certification by ISO 9001-2008 and AS9100C. Web site: www.nicinc.com Code Nos. 14000, 40900, 86300
- NEPTUNE AND COMPANY, INC.**, 1435 Garrison St., Suite 110, Lakewood, CO 80215. Contact: Paul Black (303/956-9867, Fax: 720/746-1802, E-mail: pblack@neptuneinc.org). Web site: www.neptuneancco.com Code Nos. 03800, 14000
- NEWAGE INDUSTRIES, INC.**, 145 James Way, Southampton, PA 18966. Contact: Customer Support (215/526-2300, 800/50-NEWAGE, Fax: 215/526-2190, E-mail: psales@newageindustries.com). Web site: www.newageindustries.com Code Nos. 37130
- NEWEX-SSG, LLC**, 1024 Iron Point Rd., Suite 100, #1220, Folsom, CA 95630. Contact: Rob Snyder (707/599-4395, E-mail: rob@newex.net). Stamp Symbols: California Small Business, California Public Utility Commission (CPUC), SBA. Web site: www.newex-ssg.com Code Nos. 14000, 14300, 20300, 37200, 68000, 86300, 86500, 93040
- NEW MILLENNIUM NUCLEAR TECHNOLOGIES INTERNATIONAL**, 575 Union Blvd., #102, Lakewood, CO 80228. Contact: Sue Aggarwal (303/984-5788, E-mail: saggarwal@nmmuclear.com). Stamp Symbols: Certification by ISO 9001. Web site: www.nmmuclear.com Code Nos. 13050, 20350, 25600, 26100, 93040
- NEWPORT NEWS NUCLEAR, INC.**, 4101 Washington Ave., Newport News, VA 23607-2734. Contact: David Carlson (757/380-7047, Fax: 757/380-2671, E-mail: dave.carlson@hii-nns.com). Web site: nnn.huntingtoningalls.com Code Nos. 12800, 14000, 14300, 20300, 30500, 47400, 54750, 56600, 77800, 93040, 93900
- NEW YORK BLOWER CO.**, 7660 Quincy St., Willowbrook, IL 60527. Contact: Margaret Wood (630/794-5700, 800/208-7918, Fax: 630/794-5776, E-mail: mwood@nyb.com). Web site: www.nyb.com Code Nos. 03000
- NEXTTEQ LLC**, 8406 Benjamin Rd., Suite J, Tampa, FL 33634. Contact: Janet Baker-Truex (813/249-5888, 877/312-2333, Fax: 813/249-0188, E-mail: janet_b1@nextteq.com), Jennifer Moore (813/249-5888, 877/312-2333, Fax: 813/249-0188, E-mail: jennifer_m2@nextteq.com). Web site: www.nextteq.com Code Nos. 03800, 04000, 32250, 37130, 54750, 73550
- NFT**, 741 Corporate Cir., Suite R, Golden, CO 80401. Contact: Terry Wickland (303/384-9785, Fax: 303/384-9579, E-mail: twickland@nftinc.com). Web site: www.nftinc.com Code Nos. 14300, 27450, 77800, 90100, 93040
- NLB CORP.**, 29830 Beck Rd., Wixom, MI 48393-2824. Contact: Danielle Irelan (248/624-5555, 800/441-5059, Fax: 248/624-0908, E-mail: nlbmkgt@nlbusa.com). Web site: www.nlbcorp.com Code Nos. 10780, 13050, 20350
- NOCHAR, INC.**, 8650 Commerce Pk., Suite K, Indianapolis, IN 46268. Contact: Dennis Campbell (317/613-3046, Fax: 317/613-3052, E-mail: nochar@nochar.com). Stamp Symbols: SEG Certified Incinerable; NTS, WIPP, Envirocare approved. Web site: www.nochar.com Code Nos. 79370*
- NORTHSTAR GROUP SERVICES, INC.**, 1992 Saint St., Suite B, Richland, WA 99354. Contact: Tom Gilmore (865/300-3394, E-mail: tgilmore@northstar.com). Code Nos. 06790, 20300, 93040
- NPTS, INC.**, 2060 Sheridan Dr., Buffalo, NY 14223-1470. Contact: Hormoz Mansouri (716/876-8066, Fax: 716/876-8004, E-mail: rbroman@eiteam.com). Web site: www.npts.net Code Nos. 03800, 14000, 25400, 37200, 40900, 86300, 93040
- NUCLEAR NEWS MAGAZINE**, 555 N. Kensington Ave., La Grange Park, IL 60526. Contact: Betsy Tompkins (708/579-8241, E-mail: nucnews@ans.org), Jeff Mosses (708/579-8225, 800/NUC-NEWS, E-mail: nucnews1@ans.org). Web site: www.ans.org/nn Code Nos. 40700
- NUCLEAR PLANT JOURNAL**, 1400 Opus Pl., Suite 904, Downers Grove, IL 60515-5706. Contact: Newal K. Agnihotri (630/858-6161 x102, Fax: 630/852-8787, E-mail: newal@goinfo.com). Web site: www.nuclearplantjournal.com Code Nos. 86300, 86500*
- NUCLEAR SHIELDING SUPPLIES & SERVICE**, 4620 S. Coach Dr., Tucson, AZ 85714-1942. Contact: Cari Barros (520/838-0961, 866/286-6311, Fax: 520/917-0664, E-mail: cari.barros@nuclearshielding.com). Web site: www.nuclearshielding.com Code Nos. 14000, 77750, 77800*
- NUCLEAR SYSTEMS ASSOCIATES, INC.**, 2701 Saturn St., Brea, CA 92821. Contact: Charles Divona (949/499-9980, E-mail: nuclearsystems@cox.net). Web site: www.nuclearsystems.com Code Nos. 14000, 30500, 45550, 68000, 72300, 87400
- NUCLEAR TECHNOLOGY SERVICES, INC.**, 635 Hembree Pkwy., Roswell, GA 30076. Contact: Dr. Hermon Rao (770/663-0711, Fax: 770/663-0547, E-mail: hermonrao2@aol.com). Web site: www.ntsinc.org Code Nos. 09800, 14000, 37130, 37200, 67380, 68950
- NUCLEAR WASTE NEWS**, 10504 Great Arbor Dr., Potomac, MD 20854. Contact: Adam P. Goldstein (301/633-4500, Fax: 240/306-0976, E-mail: nucwaste@verizon.net). Code Nos. 40700
- NUCON INTERNATIONAL, INC.**, 7000 Huntley Rd., P.O. Box 29151, Columbus, OH 43229. Contact: Curtis E. Graves (614/846-5710 x115, 800/992-5192, Fax: 614/431-0858, E-mail: sales@nucon-int.com), Joe Enneking (614/846-5710 x111, 800/992-5192, Fax: 614/431-0858, E-mail: sales@nucon-int.com). Web site: www.nucon-int.com Code Nos. 04000, 09800, 14000, 26230, 27450, 32250, 40900, 41000, 54750, 56600, 73550, 79370, 86300, 87380, 87400*
- NUTHERM INTERNATIONAL, INC.**, US501 S. 11th St., Mount Vernon, IL 62864. Contact: Wade Bowlin (618/244-6000, Fax: 618/244-6000, E-mail: wade.bowlin@nutherm.com). Web site: www.nutherm.com Code Nos. 03000, 03800, 08800, 14000, 19450, 27450, 40050, 76400, 84600

NWT CORP., 7015 Realm Dr., San Jose, CA 95119-1387. Contact: S. G. Sawochka (408/281-1100, Fax: 408/578-0790, E-mail: sawochka@nwtcorp.com). Web site: www.nwtcorp.com
Code Nos. 03800, 09800, 14000, 54750, 86300

OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION, (ORISE), (Operated by Oak Ridge Associated Universities (ORAU), Independent Environmental Assessment and Verification (IEAV)), P.O. Box 117, Oak Ridge, TN 37831-0117. Contact: Alex J. Boerner (865/574-0951, Fax: 865/241-3497, E-mail: alex.boerner@orau.org). Web site: www.orise.orau.gov/ieav/health-physics/hp-training.htm
Code Nos. 86300

OCENCO INC., 10225 82nd Ave., Pleasant Prairie, WI 53158-5801. Contact: Richard A. Van Derveer (262/947-9000, Fax: 262/947-9020, E-mail: vanderveer@ocenco.com). Web site: www.ocenco.com
Code Nos. 11650, 37130, 73550

OERLIKON LEYBOLD VACUUM, 5700 Mellon Rd., Export, PA 15632. Contact: Mario Vitale (724/325-6665, 800/764-5369, Fax: 800/215-7782, E-mail: mario.vitale@oerlikon.com). Stamp Symbols: ISO9001 and CE. Web site: www.oerlikon.com/leyboldvacuum
Code Nos. 64750, 84150, 90100, 90800, 91260*

ORDELA, INC., 1009 Alvin Weinberg Dr., Oak Ridge, TN 37830. Contact: Wayne Graves (865/483-8675, Fax: 865/483-8404, E-mail: wpgraves@ordela.com). Web site: www.ordela.com
Code Nos. 04000, 17950, 26080, 55040*

ORTEC, 801 S. Illinois Ave., Oak Ridge, TN 37831. Contact: Susie Brockman (865/483-2124, 800/251-9750, Fax: 865/483-0396, E-mail: susie.brockman@ametek.com). Web site: www.ortec-online.com
Code Nos. 03200, 04000, 12900, 17950, 19700, 26080, 26230, 37130, 55040, 55060, 58000, 77800, 86300*

OTEK CORP., 4016 E. Tennessee St., Tucson, AZ 85714. Contact: Horst R. Hamann (520/748-7900, 877/227-6835, Fax: 520/790-2808, E-mail: sales@otekcorp.com). Stamp Symbols: Otek products are nuclear-certified. The certification is handled by a third party. Web site: www.otekcorp.com
Code Nos. 03200, 17950, 40050

PACIFIC RADIATION CORP., 2945 Stonehill Dr., Altadena, CA 91001. Contact: Dr. Dan Gollnick (626/798-8100, E-mail: dr_dan@pacificrad.com). Web site: www.pacificrad.com
Code Nos. 14000, 37200

◆ **PACTEC, INC.**, P.O. Box 8069, Clinton, LA 70722. Contact: Bill Smart (225/683-8602, 877/554-2541, Fax: 225/683-8711, E-mail: billsmart@pactecinc.com), Trey Castleberry (225/683-8602, 877/554-2541, Fax: 225/683-8711, E-mail: treycastleberry@pactecinc.com). Web site: www.pactecinc.com
Code Nos. 09950, 14300, 22410, 27450, 37130, 37160, 64300, 68000, 79360, 83150, 93040
(See advertisement on page 72)

PALL CORP., 25 Harbor Park Dr., Port Washington, NY 11050. Contact: Robert Emproto (516/801-9341, 800/645-6532, Fax: 516/801-9762, E-mail: robert_emproto@pall.com). Stamp Symbols: NPT, N, U; Class U. Web site: www.pall.com
Code Nos. 27450, 32250

PARAGON D&E, 5225 36th St. S.E., Grand Rapids, MI 49512. Contact: Robert Starck (616/949-2220, E-mail: bstarck@paragonde.com). Web site: www.paragonde.com
Code Nos. 81710

PARKER HANNIFIN CORP., (Instrumentation Products Div.), 1005 A Cleaner Way, Huntsville, AL 35805-6708. Contact: Fred Roy (256/885-3833, 800/272-7537, Fax: 256/881-5730, E-mail: ipdusnuclear@parker.com), Johnnie Chung (781/686-8340, E-mail: jpchung@parker.com). Stamp Symbols: 10CFR50 App. B, NQA-1, ASME N-Stamp, U-Stamp, UV-Stamp, RCCM Compliance, Commercial Grade Dedication. Web site: www.parkerpowergen.com
Code Nos. 14300, 27180*

PARKER HANNIFIN CORP., (Nuclear Portal - IPD), 1005 A Cleaner Way, Huntsville, AL 35805. Contact: Fred Roy (256/885-3833, 800/C-Parker, Fax: 949/851-3799, E-mail: ipdusnuclear@parker.com), Johnnie Chung (440/213-3770, E-mail: jpchung@parker.com). Web site: www.parker.com
Code Nos. 75190

PAR SYSTEMS, INC., 707 County Rd. E. W., Shoreview, MN 55126-7007. Contact: Brittney Keough (651/846-3003, Fax: 651/483-2689, E-mail: bkeough@par.com). Stamp Symbols: ISO 9001:2008; AS9001-2009 Revision C; NQA-1; GMP1; NOG-1; CMAA; ASME; NRSC. Web site: www.par.com
Code Nos. 03800, 10780, 14000, 18600, 47400, 47600, 56600, 68000, 72300, 73620, 79360, 84150, 84600, 93900

PARTNERS ENVIRONMENTAL CONSULTING, INC., 31100 Solon Rd., Suite G, Solon, OH 44139. Contact: Dan Brown (440/248-6005, Fax: 440/248-6374, E-mail: dbrown@partnersenv.com). Stamp Symbols: Ohio Dept. of Health 3219 License. Voluntary Action Program Certified Professional. Web site: www.partnersenv.com
Code Nos. 03800, 14000, 20300, 26100, 37200

PAVE TECHNOLOGY CO., 2751 Thunderhawk Ct., Dayton, OH 45414-3451. Contact: Walter Wood (937/890-1100 x103, Fax: 937/890-5165, E-mail: tek@pavetechnologyco.com). Stamp Symbols: Certification by ISO 9001:2008. ASME NQA-1a-2009 CGD. L2 helium leak test trained. Web site: www.pavetechnologyco.com
Code Nos. 75190, 90100*

PECOS MANAGEMENT SYSTEMS, INC., (PECOS), P.O. Box 13343, Albuquerque, NM 87192. Contact: Christopher M. Timm (505/323-8355, Fax: 505/323-2028, E-mail: ctimm@pecosmanagement.com). Web site: www.pecosmanagement.com
Code Nos. 03800, 14000, 37200, 86300, 93040

PERKINS SPECIALIZED TRANSPORTATION CONTRACTING (PERKINS STC), 1800 Riverview Dr., Northfield, MN 55057. Contact: Ron Donahoo (507/301-0701, E-mail: rdonahoo@perkinsstc.com). Web site: www.perkinsstc.com
Code Nos. 86250, 86260

PERMA-FIX ENVIRONMENTAL SERVICES, INC., 2800 Solway Rd., Knoxville, TN 37931. Contact: Hope O'Dell (865/342-7668, Fax: 865/539-9868, E-mail: hodell@perma-fix.com), Autumn Bogus (865/251-2088, Fax: 865/251-0355, E-mail: abogus@perma-fix.com). Web site: www.perma-fix.com
Code Nos. 09800, 14000, 17950, 26080, 26100, 26230, 37200, 93040

PERMA-FIX ENVIRONMENTAL SERVICES INC., (Perma-Fix of Florida) (A Wholly Owned Sub. of Perma-Fix Environmental Services, Inc.), 1940 N.W. 67th Pl., Gainesville, FL 32653. Contact: Raymond Whittle (352/373-6066, 800/365-6066, Fax: 352/372-8963, E-mail: rwhittle@perma-fix.com). Web site: www.perma-fix.com
Code Nos. 93040

◆ **PETERSEN INC.**, 1527 N. 2000 W., Ogden, UT 84404. Contact: Rob Despain (801/732-2000, 800/410-6789, Fax: 801/732-2098, E-mail: sales@peterseninc.com). Stamp Symbols: Facilities in Utah and Idaho. ASME VIII Div. 1 U, U2, S, Stamp; National Board Inspection Code R Stamp; ASME NQA-1; NRC Subpart H of 10 CFR Part 71; ASME B31.1 and B31.3; API 1104; AWS D1.1, D1.2, D1.3, D1.6; ISO 9001-2008. Web site: www.peterseninc.com
Code Nos. 09730, 14300, 68000, 81680, 83150, 86130, 92300, 96200*
(See advertisement on Cover 2)

PHDS CO., 3011 Amherst Rd., Knoxville, TN 37921. Contact: Ethan Hull (865/481-3725, E-mail: ethanhull@phdsco.com). Web site: www.phdsco.com
Code Nos. 17950, 21270

PHILOTECHNICS, LTD., 201 Renovare Blvd., Oak Ridge, TN 37830. Contact: Meghan Turvey (865/285-3064, 888/RADWASTE, Fax: 865/220-0686, E-mail: mgturvey@philotechnics.com). Web site: www.philotechnics.com
Code Nos. 14000, 14300, 20300, 37200, 79370, 87000, 93040

PLANT DECOMMISSIONING, 266 Park Ave., Lake Villa, IL 60046. Contact: Steve Larson (847/265-8800, Fax: 847/265-6556, E-mail: sales@plantdecommissioning.com). Web site: plantdecommissioning.com
Code Nos. 20300, 26240, 47600, 53950, 79360, 86130, 96200

PORTAGE INC., 1075 S. Utah Ave., Suite 200, Idaho Falls, ID 83402.
Contact: Harry Fugate (801/652-4277, Fax: 208/523-8860, E-mail: hfugate@portageinc.com), Michelle Tremelling (208/523-6608, Fax: 208/523-8860, E-mail: mtremelling@portageinc.com). Web site: www.portageinc.com
Code Nos. 03800, 13850, 14000, 37200, 93040

PRECISION CUSTOM COMPONENTS, LLC, 500 Lincoln St., P.O. Box 15101, York, PA 17405-7101. Contact: James C. Stouch, P.E. (717/848-1126 x2362, Fax: 717/843-5733, E-mail: jstouch@pcc-york.com). Stamp Symbols: ASME Sect. III (N, NS, NA, NPT Stamps); ASME Sect. VIII Div. 1, 2 and 3 (U, U2, U3 Stamps); MIL-Q-9858 with QRC82. Web site: www.pcc-york.com
Code Nos. 03800, 09800, 10780, 14000, 14300, 30500, 40900, 53950, 56600, 66280, 81710, 83150, 87000, 92300, 93900

PREDICTIVE MAINTENANCE INSPECTION, INC., 110 Castle Dr., P.O. Box 429, Madison, AL 35758. Contact: F. Scott Hoover (256/721-0100, Fax: 256/721-0102, E-mail: scotth@pmial.com). Web site: www.pmal.com
Code Nos. 03800, 54750, 56600, 91260

PREFERRED ENGINEERING CORP., (Sub. of Preferred Utilities Mfg. Corp.), 31-35 South St., Danbury, CT 06810. Contact: Ivan Cabrera (203/743-6741, Fax: 203/798-7313, E-mail: icabrera@preferred-mfg.com). Web site: www.preferredengineering.com
Code Nos. 03800, 10780, 14000, 20350, 26900, 30500, 47400, 61570, 75190, 77800

PREMIER TECHNOLOGY, INC., 1858 W. Bridge St., Blackfoot, ID 83221. Contact: Lyle Freeman (208/782-9129, Fax: 208/782-9001, E-mail: lfreesman@ptius.net). Stamp Symbols: ASME Section VIII, U, R, & S ASME Section III, NA, NS, NPT. Web site: www.ptius.net
Code Nos. 14300, 21400, 36000, 45550, 47400, 53950, 77800, 83150, 93900, 95750

PREVISION SYSTEMS LLC, 354 U.S. Hwy. 46 W., Suite 1C, Hackettstown, NJ 07840-5335. Contact: Jeffrey Drost (908/508-8998, Fax: 973/404-8560, E-mail: info@previsionsystems.com). Web site: www.previsionsystems.com
Code Nos. 12800, 47400, 47600, 72300, 73300, 83600, 84150, 86130*

PRICEWATERHOUSECOOPERS LLP, (Capital Projects & Infrastructure), 1730 Pennsylvania Ave., Washington, DC 20006. Contact: Tom Magette (202/756-1738, E-mail: thomas.e.magette@us.pwc.com). Web site: pwc.com/us/capitalprojects
Code Nos. 14000

PRIVATE PROFESSIONAL SERVICES, INC., (PPS Access Screening), P.O. Box 189, Arden, NC 28704. Contact: Cynthia Miller (828/684-5960, Fax: 828/684-2553, E-mail: pps@ppsaccessscreening.com). Stamp Symbols: Veteran Owned Small Business. Web site: www.privateprofessionalservices.com
Code Nos. 75600

PROJECT ASSISTANCE CORP. (PAC), 1855 Olympic Blvd., Suite 165, Walnut Creek, CA 94596. Contact: Leigh A. Gouveia (925/943-5750, Fax: 925/943-5753, E-mail: leigh.gouveia@pacpeople.com). Stamp Symbols: NQA-1. Web site: www.pacpeople.com
Code Nos. 03800, 14000, 20300, 25400, 40900, 56600, 71190, 84600, 86300, 93040*

PROXTRONICS DOSIMETRY, LLC, (Proxdose), 85 S. Bragg St., Suite 400, Alexandria, VA 22312. Contact: Wesley Guy Davis (703/856-6116, E-mail: sales@proxtronics.com), Ron Holmes (703/570-6112, Fax: 571/335-4625, E-mail: rholmes@proxtronics.com). Stamp Symbols: NVLAP Accredited for Ionizing Radiation Dosimetry; ISO/IEC 17025:2005; Lab Code 200940-0. Web site: www.proxdose.com
Code Nos. 03800, 09800, 14000, 20300, 25000, 26080, 26100, 37200, 56600

PTP SPENT FUEL SERVICES, LLC, P.O. Box 553, Grand Island, NY 14072. Contact: Bill Schaab (716/699-5515, 866/699-5515, Fax: 716/773-5515, E-mail: ptp@ptpsfs.com). Web site: www.ptpsfs.com
Code Nos. 14000, 14300, 18600, 20300, 30500, 68000, 81680, 81710, 93040*

PUROLITE CORP., 150 Monument Rd., Bala Cynwyd, PA 19004. Contact: Andrea M. Bartus (610/668-9090, 800/343-1500, Fax: 610/668-8139, E-mail: andrea.bartus@puroliteusa.com). Web site: www.purolite.com
Code Nos. 12800, 14000, 27450, 41700, 93040

PUTNAM TECHNOLOGY, INC., 1720A McCoba Dr., Smyrna, GA 30080. Contact: Judd Putnam (770/436-9731, Fax: 770/432-6642, E-mail: jputnamtec@aol.com).
Code Nos. 14300, 77750, 77800

QAL-TEK ASSOCIATES, LLC, 3998 Commerce Cir., Idaho Falls, ID 83401. Contact: Travis Snowden (208/523-5557, 888/523-5557, Fax: 208/524-8470, E-mail: info@qaltek.com), Ron Ulbrich (208/523-5557, 888/523-5557, Fax: 208/524-8470, E-mail: rulbrich@qaltek.com). Web site: www.qaltek.com
Code Nos. 03800, 12800, 14000, 20300, 55040, 55060, 68000, 71190

RADECO, INC., 17 West Pkwy., Plainfield, CT 06374-2048. Contact: Bradford Lovendale (860/564-1220, Fax: 860/564-6631, E-mail: info@radecoinc.com). Web site: www.radecoinc.com
Code Nos. 09800, 26080, 27450, 37130, 37200, 40050, 55040, 58000, 90100*

RADEX, INC., 136 Meadow Ln., Winterville, GA 30683. Contact: Jim Kitchens (706/742-8954, E-mail: jlkitch@bellsouth.net).
Code Nos. 03200, 20300

RADIAC RESEARCH CORP., 261 Kent Ave., Brooklyn, NY 11249. Contact: Art Green (718/963-2233, 800/640-7511 x207, Fax: 718/388-5107, E-mail: agreen@radiacenv.com), Joseph Spektor (718/963-2233, 800/640-7511 x205, Fax: 718/228-7029, E-mail: jspektor@radiacenv.com). Web site: www.radiacenv.com
Code Nos. 14000, 93040

◆ **RADIATION PROTECTION SYSTEMS, INC.**, 60 Leonard Dr., P.O. Box 890, Groton, CT 06340. Contact: Haley Stout (860/445-0334, 888/637-7779, Fax: 860/446-1876, E-mail: hstout@radprosys.com), Ken Acker (860/445-0334 x227, 888/637-7779 x227, Fax: 860/446-1876, E-mail: kacker@radprosys.com). Web site: www.radprosys.com
Code Nos. 03000, 10780, 14000, 27180, 37200, 73550, 77800, 79360, 86300, 93040*

(See advertisement on page 43)

RADIATION SAFETY ASSOC., INC., 19 Pendleton Dr., P.O. Box 107, Hebron, CT 06248-0107. Contact: K. Paul Steinmeyer (860/228-0487, Fax: 860/228-4402, E-mail: kpstein@radpro.com). Web site: www.radpro.com
Code Nos. 09800, 14000, 17950, 20300, 20350, 26230, 37200, 44000, 55040, 67380, 77750, 84600, 86300, 93040

RADIATION SAFETY & CONTROL SERVICES, INC., 91 Portsmouth Ave., Stratham, NH 03885. Contact: Jennifer Collins (603/778-2871 x222, 800/525-8339, Fax: 603/778-6879, E-mail: jacollins@radsafety.com). Web site: www.radsafety.com
Code Nos. 03180, 03200, 03800, 04000, 10850, 12800, 14300, 17950, 25300, 27450, 37160, 68950, 86400, 93040*

RADIOLOGICAL SOLUTIONS, INC., 1840 Moen Ave., Suite A, Rockdale, IL 60436. Contact: Richard Kohlmann (815/207-4300, Fax: 815/207-4333, E-mail: rkohlmann@radiologicalsolutions.com). Web site: www.radiologicalsolutions.com
Code Nos. 04000, 14000, 20350, 26080, 27450, 37200, 54750, 55040, 67380, 68000, 74150, 86300

◆ **RADWASTE SOLUTIONS MAGAZINE**, 555 N. Kensington Ave., La Grange Park, IL 60526. Contact: Tim Gregoire (414/530-2455, E-mail: editor@radwastesolutions.org), Jeff Mosses (708/579-8225, 800/682-6397, Fax: 708/352-6464, E-mail: advertising@ans.org). Web site: www.ans.org/rs
Code Nos. 40700

(See advertisements on pages 36, 109, and 120)

RDF CORP., 23 Elm Ave., Hudson, NH 03051. Contact: DerZen Fan (603/882-5195, 800/445-8367, Fax: 603/882-6925, E-mail: dfan@rdcorp.com). Web site: www.rdfcorp.com
Code Nos. 09800, 51730, 54750

◆ **REEF INDUSTRIES, INC.**, 9209 Almeda Genoa Rd., Houston, TX 77075. Contact: Tom Scarborough (713/507-4207, 800/231-6074, Fax: 713/507-4295, E-mail: tscarborough@reefindustries.com). Stamp Symbols: Meets NFPA 701 Large Scale Test and Certified Incinerable. Web site: www.reefindustries.com
Code Nos. 08800, 11400, 14300, 37130, 64300, 68000, 77800, 81710, 83210, 93040*

(See advertisement on page 71)

◆ **REI NUCLEAR, LLC**, 1230 Veterans Rd., Columbia, SC 29209. Contact: Steve Garner (803/851-4700, Fax: 803/851-4701, E-mail: sgarner@reinuclear.com). Web site: www.reinuclear.com
Code Nos. 03800, 14000, 14300, 20300, 20350, 22700, 53950, 68000, 72300, 73620, 79360, 93040
(See advertisement on page 56)

REMOTE OCEAN SYSTEMS (ROS), 5618 Copley Dr., San Diego, CA 92111. Contact: Norman Ruppen (858/565-8500, Fax: 858/565-8808, E-mail: sales@rosys.com). Stamp Symbols: ISO 9001. Web site: www.rosys.com
Code Nos. 08800, 10780, 13400, 13600, 39960, 45550, 73300, 83600

RESEARCH PRODUCTS INTERNATIONAL CORP., 410 N. Business Center Dr., Mt. Prospect, IL 60056. Contact: Albert L. Eccker (847/635-7330, 800/323-9814, Fax: 847/635-1177, E-mail: service@rpcicorp.com). Web site: www.rpcicorp.com
Code Nos. 26080

REVISS SERVICES INC., (Sub. of Revis Services (UK) Ltd.), One Hawthorn Pl., 175 E. Hawthorn Pkwy., Suite 142, Vernon Hills, IL 60061. Contact: John Schrader (847/680-4522, Fax: 847/680-5159, E-mail: john.schrader@revis.com). Web site: www.revis.com
Code Nos. 14300

REXON COMPONENTS, INC., 24500 Highpoint Rd., Beachwood, OH 44122. Contact: Dr. M.R. Farukhi (216/292-7373, Fax: 216/292-7714, E-mail: sales@rexon.com). Web site: www.rexon.com
Code Nos. 17950, 37130, 55040, 55060*

R&G LABORATORIES, INC., 217 Hobbs St., Suite 105, Tampa, FL 33619. Contact: Cheryl Huff (813/643-3513, 866/854-1177, Fax: 813/793-4429, E-mail: cheryl@randglabs.com). Stamp Symbols: 10CFR50 App. B QA/QC program, and ISO 9001. Web site: www.randglabs.com
Code Nos. 03800

RICH INDUSTRIES INC., 2384 Brightwood Rd. S.E., New Philadelphia, OH 44663-6772. Contact: David Patterson (330/339-4113, Fax: 330/339-1166, E-mail: davepatterson@richindustriesinc.com). Web site: www.richindustriesinc.com
Code Nos. 10850, 10900, 14300, 37130, 64300, 77800, 78700, 83210*

RIVER TECHNOLOGIES, LLC, 2107 Graves Mill Rd., Suite A, Forest, VA 24551-4293. Contact: Robert Kozma (434/525-4734, Fax: 434/525-7058, E-mail: robert@rivertechnologies.biz). Web site: www.rivertechnologies.biz
Code Nos. 03000, 10780*

ROBATEL TECHNOLOGIES LLC, 5115 Bernard Dr., Suite 304, Roanoke, VA 24018. Contact: Christopher Dane (E-mail: cdane@robateletech.com), Donna Martin (E-mail: dmartin@robateletech.com). Stamp Symbols: NQA-1, Part 71, 10CFR50 Part B. Web site: www.robateletech.com
Code Nos. 14000, 14300, 20300, 36000, 47400, 47600, 55490, 68000, 72300, 77800, 81710, 83150

ROBERTS ENGINEERING SERVICES, INC., 969 S.E. Federal Hwy., Suite 100A, Stuart, FL 34994. Contact: C. L. Roberts (772/220-0584, Fax: 772/283-6336, E-mail: res1977@bellsouth.net).
Code Nos. 00400, 55490, 77800

ROCKWELL AUTOMATION, INC., 1201 S. Second St., Milwaukee, WI 53204-2496. Contact: Product Information (414/382-2000, 800/223-5354, Fax: 414/382-4444, E-mail: webmaster@rockwellautomation.com). Web site: www.rockwellautomation.com
Code Nos. 03200, 12800, 12900, 14000, 19700, 25000, 26080, 40050, 40900, 41000, 47620, 63400, 72300, 84150, 84600

ROSEMOUNT NUCLEAR INSTRUMENTS, INC., 8200 Market Blvd., Chanhassen, MN 55317. Contact: Gerard Hanson (952/949-5233, 800/328-7385, Fax: 952/949-5201, E-mail: gerard.hanson@emersonprocess.com). Web site: www.rosemountnuclear.com
Code Nos. 03200, 40050

ROTORK CONTROLS, INC., 675 Mile Crossing Blvd., Rochester, NY 14624-1319. Contact: Jake Chilek (585/247-2304 x10236, Fax: 585/247-2308, E-mail: sales@rotork.com). Stamp Symbols: EQ to IEEE 382-1996 case IV LOCA profile. Web site: www.rotork.com
Code Nos. 90250

◆ **R.O.V. TECHNOLOGIES, INC.**, 49 Bennett Dr., Brattleboro, VT 05301. Contact: Jill Zachary (802/254-9353, Fax: 802/254-9354, E-mail: jill.zachary@rolls-roycenuclear.com). Stamp Symbols: US NRC Materials License #44-30912-01. Hazardous Materials Registration #070308550042QS. Web site: www.rovtech.com
Code Nos. 03200, 10780, 13600, 14000, 26230, 40900, 45550, 55040, 72300, 73300, 73620, 75850, 83600, 92800*
(See advertisement on page 76)

RSCC WIRE & CABLE LLC, 20 Bradley Park Rd., East Granby, CT 06026. Contact: Carol Grosso (860/653-8315, 800/327-7625, Fax: 860/653-8301, E-mail: carol.grosso@r-scc.com). Web site: www.r-scc.com
Code Nos. 95900

RSO, INC./RADIATION SERVICE ORGANIZATION, 5204/5206 Minnick Rd., Laurel, MD 20707. Contact: David Wellner (301/953-2482, 888/723-5463, Fax: 301/498-3017, E-mail: radmaterials@rsoinc.com), Steve McDaniel (301/953-2482, 888/RAD-LINE, Fax: 301/498-3017, E-mail: sales@rsoinc.com). Web site: www.rsoinc.com
Code Nos. 09800, 10850, 14000, 14300, 17950, 20300, 20350, 26100, 26230, 37130, 37200, 55040, 55060, 67380, 73550, 77800, 79370, 83110, 83210, 84600, 86300, 87000, 93040

RTCA-RADON TESTING CORP. OF AMERICA, INC., 2 Hayes St., Elmsford, NY 10523. Contact: Nancy Bredhoff (914/345-3380, 800/457-2366, Fax: 914/345-8546, E-mail: info@rtca.com). Stamp Symbols: Certification by NRSB, NYSDOH ELAP. Web site: www.rtca.com
Code Nos. 55040

RUSSTECH LANGUAGE SERVICES, INC., 1338 Vickers Rd., Tallahassee, FL 32303. Contact: Kimberly Williams (850/562-9811, Fax: 866/434-9815, E-mail: kwilliams@russtechinc.com). Web site: www.russtechinc.com
Code Nos. 40700, 86900

SARENS USA, INC., 5000 Executive Pkwy., Suite 230, San Ramon, CA 94583. Contact: Stephen Kenney (925/359-6006, 877/605-1394, E-mail: stephen.kenney@sarens.com), Tim Hughes (251/990-0480, 877/605-1394, E-mail: tim.hughes@sarens.com). Stamp Symbols: Certification by ISO 9001:2008 & OHSAS 18001:2007. Web site: www.sarens.com
Code Nos. 13850, 14000, 14300, 18600, 20300, 47400, 73570, 81680, 87000, 92300

SARGENT & LUNDY LLC, 55 E. Monroe St., Chicago, IL 60603-5780. Contact: Mike Launi (312/269-6113, E-mail: clauni@sargentlundy.com). Stamp Symbols: ISO 9001:2008. Web site: www.sargentlundy.com
Code Nos. 03800, 13850, 14000, 20300, 26100, 37200, 40900, 56600, 67380, 68000, 71190, 75600, 77750, 81680, 81710, 86300, 86500, 93040

SAVAGE LOGISTICS, LLC, P.O. Box 38, Richland, WA 99352. Contact: Salina Savage (509/375-6222, Fax: 509/375-3555, E-mail: salina@savagelogistics.com). Web site: www.savagelogistics.com
Code Nos. 86250, 86260, 87000

SCHUTTE AND KOERTING, 2510 Metropolitan Dr., Trevoise, PA 19053. Contact: Caroline Nelson (215/639-0900, 800/752-8558, Fax: 215/639-1597, E-mail: sales@s-k.com). Stamp Symbols: ASME UPV Section VIII. Web site: www.s-k.com
Code Nos. 47400, 64750, 90100, 90600, 90800, 91260, 91380*

SEAFAB METALS CO., (Div. of The Doe Run Co.), 1112 N. VIP Blvd., Casa Grande, AZ 85122. Contact: Jami Clay (520/421-3051, 800/426-7082, Fax: 520/421-3222, E-mail: jclay@seafab.com). Web site: www.seafab.com
Code Nos. 14300, 59800

S.E. INTERNATIONAL, INC., 436 Farm Rd., P.O. Box 39, Summertown, TN 38483-0039. Contact: Beth Cramer (931/964-3561, 800/293-5759, Fax: 931/964-3564, E-mail: radiationinfo@seintl.com). Web site: www.seintl.com
Code Nos. 17950, 37130, 55040, 55060*

SENIOR OPERATIONS, LLC, 1075 Providence Hwy., Sharon, MA 02067. Contact: John Meyer (781/302-1214, Fax: 781/784-1405, E-mail: jmeyer@metalbells.com). Web site: www.metalbells.com
Code Nos. 64750

SENTRY EQUIPMENT CORP., 966 Blue Ribbon Cir. N., Oconomowoc, WI 53066. Contact: Rebecca Dinan Schneider (262/567-7256, Fax: 262/567-4523, E-mail: marketing@sentry-equip.com). Stamp Symbols: U, ASME - Section VIII, Div. 1. ISO 9001:2008 certified. Web site: www.sentry-equip.com
Code Nos. 04000, 09800, 17650, 74320*

SEVENSON ENVIRONMENTAL SERVICES, INC., 2749 Lockport Rd., Niagara Falls, NY 14305. Contact: Michael House (716/284-0431, 800/777-3836, Fax: 716/284-1796, E-mail: jmhouse@sevenson.com). Web site: www.sevenson.com
Code Nos. 20300, 20350, 93040*

S&G ENTERPRISES, INC., N115 W19000 Edison Dr., Germantown, WI 53022-3024. Contact: Mark J. Griffith (262/251-8300, 800/233-3721, Fax: 262/251-1616, E-mail: info@ramflat.com). Web site: www.ramflat.com
Code Nos. 11680, 11700, 68000

SGS HERGUTH LABORATORIES, INC., 101 Corporate Pl., Vallejo, CA 94590. Contact: Linda Perry (707/554-4611, 800/645-5227, Fax: 707/554-0109, E-mail: linda.perry@sgs.com). Web site: www.herguth.com
Code Nos. 03800, 14000, 86300*

J. L. SHEPHERD & ASSOC., 1010 Arroyo Ave., San Fernando, CA 91340-1822. Contact: J. L. Shepherd (818/898-2361, Fax: 818/361-8095, E-mail: sales@jlshepherd.com). Stamp Symbols: Certification by USNRC-QA Program-10CFR71, Subpart H, ANSI/ASME NQA-1. Web site: www.jlshepherd.com
Code Nos. 14000, 14300, 37130, 77750, 93040*

SIDUS SOLUTIONS LLC, 7352 Trade St., San Diego, CA 92121. Contact: Leonard Pool (619/275-5533 x306, Fax: 619/275-5544, E-mail: l.pool@sidus-solutions.com), Larry Hagstrom (619/275-5533, Fax: 619/275-5544, E-mail: lhagstrom@sidus-solutions.com). Web site: www.sidus-solutions.com
Code Nos. 08800, 14000, 45550, 54750, 56600, 72300, 73300, 75850, 83600, 92800, 93040*

SIEMENS POWER GENERATION SERVICES, 4400 Alafaya Trl., Orlando, FL 32826-2399. Contact: Product Information (407/736-2000, Fax: 407/736-3131, E-mail: support.energy@siemens.com). Stamp Symbols: Certification by ISO 9000/ISO 9001. Web site: www.usa.siemens/energy
Code Nos. 14000, 19700, 26100, 37130, 37200, 55060, 86300

SIEMENS PROCESS INDUSTRIES AND DRIVES, (Industry Automation Div.), (Process Instrumentation & Analytics), 155 Plant Ave., Hauppauge, NY 11788. Contact: Product Information (631/231-3600, 800/275-8479 or 800/241-4453, Fax: 631/231-3334, E-mail: helpline.sii@siemens.com). Web site: www.usa.siemens.com/industry
Code Nos. 03200, 09800, 17950, 40050, 84150, 84600*

SIEMPELKAMP NUCLEAR SERVICES, INC., 3229 Sunset Blvd., West Columbia, SC 29169. Contact: Dr. Holger Spann (803/796-2727, Fax: 803/939-1083, E-mail: sns@siempekkamp.com). Web site: www.siempekkamp-sns.com
Code Nos. 03800, 11700, 12800, 13050, 14000, 14300, 18590, 18600, 20300, 20350, 25400, 30500, 37200, 47400, 67380, 68000, 68950, 72300*

HOWARD L. SOBEL, P.E., 3061 David Ct., Oceanside, NY 11572. Contact: Howard L. Sobel (516/536-0199, Fax: 516/536-7691, E-mail: hlsobel@aol.com).
Code Nos. 03800, 14000, 37200, 40900, 86300

SOUTHWEST MICROWAVE, INC., (Security Systems Div.), 9055 S. McKemy St., Tempe, AZ 85284-2946. Contact: Tom Wallace (480/783-0201, Fax: 480/783-0401, E-mail: infossid@southwestmicrowave.com). Web site: www.southwestmicrowave.com/ssd
Code Nos. 03180, 03200, 14000, 75850

SOUTHWEST RESEARCH INSTITUTE, Attn: Business Development, P.O. Drawer 28510, San Antonio, TX 78228-0510. Contact: Michael Ladika (210/684-5111, Fax: 210/522-3496, E-mail: bd@swri.org). Stamp Symbols: SNT-TC-1A. Web site: www.swri.org
Code Nos. 03800, 12800, 14000, 56600, 72300, 84600

THE SPENCER TURBINE CO., 600 Day Hill Rd., Windsor, CT 06095-4706. Contact: J. C. Cayne (860/688-8361, 800/232-4321, Fax: 860/688-0098, E-mail: marketing@spencer-air.com). Stamp Symbols: N, NPT, Classes 1, 2, 3. Web site: www.spencerturbine.com
Code Nos. 03000, 10780, 68000, 90100

SSI SHREDDING SYSTEMS, INC., 9760 S.W. Freeman Dr., Wilsonville, OR 97070. Contact: Brigitte Duncan (503/682-3633, 800/537-4733, Fax: 503/682-1704, E-mail: sales@ssiworld.com). Web site: www.ssiworld.com
Code Nos. 14000, 68000, 79360, 93040

◆ **SSM INDUSTRIES, INC.**, 3401 Grand Ave., Pittsburgh, PA 15225-1507. Contact: Mark E. Saucier (412/777-5101 x363, Fax: 412/771-5382, E-mail: m.saucier@ssmi.biz). Web site: www.ssmi.biz
Code Nos. 03000, 03800, 12800, 19450, 27180, 32250, 83150, 90250
(See advertisement on page 42)

STANDISH TECHNOLOGIES INTERNATIONAL, 1005 Ashby C, Deerfield Beach, FL 33442. Contact: Neil Passman (786/664-6776, Fax: 954/697-0311, E-mail: neilp@standtech.com). Web site: www.standtech.com
Code Nos. 37200

STAPLEX - AIR SAMPLER DIV., 777 Fifth Ave., Brooklyn, NY 11232-1626. Contact: Phil Reed (718/768-3333, 800/221-0822, Fax: 718/965-0750, E-mail: info@staplex.com). Web site: www.staplex.com
Code Nos. 55040, 74150*

**STEELE BODY COOLING VESTS, P.O. Box 7304, 26112 Iowa Ave. N.E., Kingston, WA 98346. Contact: Lynn Steele (360/297-4555, 888/783-3538, Fax: 360/297-2816, E-mail: steeleinvest@gmail.com). Web site: www.steeleinvest.com
Code Nos. 10850, 10900, 37130***

STOLLER NEWPORT NEWS NUCLEAR (SN3), (A sub. of Huntington Ingalls Industries), 105 Technology Dr., Suite 190, Broomfield, CO 80021. Contact: Geoff Asmus (303/546-4300, 800/841-5599, Fax: 303/443-1408, E-mail: gasmus@stoller.com). Web site: www.stoller.com
Code Nos. 03800, 14000, 14300, 20300, 26100, 37200, 40700, 47620, 67380, 93040

STUDSVIK, INC., 5605 Glenridge Dr., Suite 705, Atlanta, GA 30342. Contact: Howard Stevens (404/497-4908, Fax: 404/497-4901, E-mail: howard.stevens@studsvik.com), Beverly Hutchinson (404/497-4910, Fax: 404/497-4901, E-mail: beverly.hutchinson@studsvik.com). Web site: www.studsvik.com
Code Nos. 14300, 20300, 87000, 93040

SUNDANCE CONSULTING, INC., 305 N. 3rd Ave., Suite B, Pocatello, ID 83201. Contact: September Myres (208/233-2929, Fax: 208/478-2032, E-mail: sbrod@sundance-inc.net). Web site: www.sundance-inc.net
Code Nos. 03800, 14000, 20300, 47620, 71190, 84600, 86300, 93040

SYSTEM ONE, 12 Federal St., Suite 205, Pittsburgh, PA 15212. Contact: Mark Fenske (412/995-1900, 877/505-SYS1(7971), Fax: 412/995-1901, E-mail: inquiry@systemoneservices.com). Web site: www.systemoneservices.com
Code Nos. 09800, 14000, 25400, 40900, 44000, 56600, 84150, 84600, 86300, 86400

TAG TECHNICAL SOLUTIONS, LLC, 12104 Brookstone Dr., Knoxville, TN 37934. Contact: Barbara Strand (865/712-1806, E-mail: barb@gststrand.com). Web site: www.tagtechnicalsolutions.com
Code Nos. 14300, 68000, 93040

TECHNICAL ASSOCIATES, (Overhoff Technology Corp. Sub.), (US Nuclear Corp. Div.), 7051 Eton Ave., Canoga Park, CA 91303. Contact: Wanda Magill (818/883-7043, Fax: 818/883-6103, E-mail: wanda@tech-associates.com), Robert Goldstein (818/883-7043, Fax: 818/883-6103, E-mail: rgoldsteinta@gmail.com). Stamp Symbols: ISO 9001, CE Mark. Web site: www.tech-associates.com
Code Nos. 17950, 26080, 26230, 55040, 55060, 67380*

TECHNICAL MANAGEMENT SERVICES, INC., P.O. Box 226, New Hartford, CT 06057. Contact: Robin Rivard (860/738-2440, Fax: 860/738-9322, E-mail: rrvard@tmscourses.com). Web site: www.tmscourses.com
Code Nos. 37200, 86400, 86500

TECH PRODUCTS, INC., 105 Willow Ave., Staten Island, NY 10305. Contact: Daniel D. O'Connor (718/442-4900, 800/221-1311, Fax: 718/442-2124, E-mail: doconnor@techproducts.com). Web site: www.techproducts.com
Code Nos. 37130, 47630*

TELETRIX, P.O. Box 14209, Pittsburgh, PA 15239. Contact: Michael Podobnick (412/798-3636, Fax: 412/798-3633, E-mail: info@teletrix.com). Web site: teletrix.com
Code Nos. 86300*

TERAHERTZ TECHNOLOGIES, INC., 169 Clear Rd., Oriskany, NY 13424. Contact: Donald Biron (315/736-3642, Fax: 315/736-4078, E-mail: sales@terahertztechnologies.com). Web site: www.terahertztechnologies.com
Code Nos. 12900, 19700, 75850, 84150

TESTAMERICA INC., 2800 George Washington Way, Richland, WA 99354. Contact: Jodie Carnes (509/375-3131, 866/785-LABS, E-mail: jodie.carnes@testamericainc.com). Web site: www.testamericainc.com
Code Nos. 03800

◆ **THERMO SCIENTIFIC - CIDTEC CAMERAS & IMAGERS**, (Part of Thermo Fisher Scientific), 101 Commerce Blvd., Liverpool, NY 13088. Contact: Tony Chapman (315/451-9410, 800/888-8761, Fax: 315/451-9421, E-mail: sales.cidtec@thermofisher.com). Web site: www.thermoscientific.com/cidtec
Code Nos. 40900, 73300, 75850, 83600, 92800*
(See advertisement on page 81)

TIMESOFT, 1955 E. Spring St., Long Beach, CA 90806. Contact: Marisol Guzman (562/422-4459, 888/484-6376, Fax: 866/925-2071, E-mail: marisol.guzman@timesoft.com). Web site: www.timesoft.com
Code Nos. 03200, 12800, 12900, 13400, 14000, 19700

TIOGA PIPE SUPPLY CO., INC., 2450 Wheatshaf Ln., Philadelphia, PA 19137. Contact: Jeff Shaw (215/831-0700, 800/523-3678, Fax: 215/533-1645, E-mail: jshaw@tiogapipe.com). Stamp Symbols: ASME QSC 467; Classes 1, 2, 3 MC. Certification by ISO 9001-2008, 10CFR50, App. B., NQA-1, MIL-I-45208A Level 1. Web site: www.tiogapipe.com
Code Nos. 26900, 59800, 59850

TLG SERVICES, INC., (Affl. of Entergy Corp.), 148 New Milford Rd. E., Bridgewater, CT 06752-1123. Contact: Caren Vickery (860/355-2300, Fax: 860/355-2705, E-mail: vickery@tlgservices.com), Joseph J. Adler (860/355-2300, Fax: 860/355-2705, E-mail: adler@tlgservices.com). Web site: www.tlgservices.com
Code Nos. 03800, 14000, 20300, 37200, 86300

TOXCO, INC., (d/b/a Toxco Materials Management Center), 109 Flint Rd., Oak Ridge, TN 37830. Contact: Rick Low (865/532-5532, 423/920-0070, Fax: 865/482-5605, E-mail: rlow@toxcommc.com). Web site: toxcommc.com
Code Nos. 93040

TRANSPORT PLANNING & SERVICES INT'L. INC., 132 B. N. King St., 2nd Flr., Gloucester City, NJ 08030-1420. Contact: Andrea E. Chirico (856/742-5260, 888/256-9831, Fax: 856/742-5270, E-mail: andrea@transportplanning.com), Jack Goitandia (856/742-5260, 888/256-9831, Fax: 856/742-5270, E-mail: jack@transportplanning.com). Web site: www.transportplanning.com
Code Nos. 14300

TRANSWARE ENTERPRISES INC., 1565 Mediterranean Dr., Sycamore, IL 60178. Contact: Megan Patterson (815/895-4700, E-mail: megan.patterson@transware.net). Web site: www.transware.net
Code Nos. 03800, 12800, 14000, 20300, 77750, 81680, 93040

TRANTER, INC., 1900 Old Burk Hwy., Wichita Falls, TX 76306. Contact: 940/723-7125, Fax: 940/723-5131, E-mail: sales@tranter.com. Stamp Symbols: ASME; ISO 9001. Web site: www.tranter.com
Code Nos. 47400, 71500

TRI-STATE MOTOR TRANSIT CO., 8141 E. 7th St., Joplin, MO 64801. Contact: Leslie Martin (417/621-2224, 800/234-8768, Fax: 417/621-2016, E-mail: leslie.martin@tsmtco.com). Web site: www.tsmtco.com
Code Nos. 86250, 86260, 87000

TRI TOOL INC., 3041 Sunrise Blvd., Rancho Cordova, CA 95742-6502. Contact: Bill Atkinson (916/288-6100, 800/345-5015, Fax: 916/288-6160, E-mail: b.atkinson@tritool.com). Web site: www.tritool.com
Code Nos. 14000, 26230, 26240, 47400, 59850, 68000, 72300, 86300, 93900*

UNDERWATER CONSTRUCTION CORP., 110 Plains Rd., P.O. Box 699, Essex, CT 06426. Contact: Philip McDermott (860/767-8256, 800/USA-DIVE, Fax: 860/767-0612, E-mail: pmcdermott@uccdive.com). Web site: www.uccdive.com
Code Nos. 20300, 22700, 40900, 56600, 66280, 72300, 90100, 92800, 93040*

UNDERWATER ENGINEERING SERVICES, INC., (Nuclear Services Div.), 3306 Enterprise Rd., Unit 203, Fort Pierce, FL 34982-8435. Contact: Charlie Vallance (772/337-3116, 877/348-3837, Fax: 772/429-9990, E-mail: cvallance@uesi.com), Rex Wamsher (772/337-3116, 877/348-3837, Fax: 772/429-9990, E-mail: rwamsher@uesi.com). Stamp Symbols: ADCI Certified Commercial Divers, ANSI N45.2.6 Certified Inspections, ASNT SNT-TC-1A, CP-189; Certified NDE (ASME XI exams), ASME IX, XI, II Certified Welding, Coatings and Corrosion Engineers. Web site: www.uesi.com
Code Nos. 10780, 11400, 14000, 20300, 20350, 22700, 26230, 27450, 40900, 47400, 56600, 73300, 73620, 79360, 83600, 84600, 86300, 92800, 93040, 93900*

◆ **UNITECH SERVICES GROUP, INC.**, (Sub. of UniFirst Corp.), 295 Parker St., P.O. Box 51957, Springfield, MA 01151. Contact: Gregg Johnstone (413/543-6911 x146, 800/344-3824, Fax: 413/543-2975, E-mail: gjohnstone@unitechus.com). Web site: www.unitechus.com
Code Nos. 10850, 10900, 14300, 20300, 20350, 26230, 26600, 37130, 37160, 37200, 45550, 47630, 55040, 55060, 68000, 73550, 74350, 79370, 81680, 83210, 86260, 93040, 95850*
(See advertisement on page 58)

UNITED STATES PRODUCTS CO., 518 Melwood Ave., Pittsburgh, PA 15213-1136. Contact: L.C. Brown (412/621-2130, 800/359-2628, Fax: 412/621-8740, E-mail: sales@us-products.com). Web site: www.us-products.com
Code Nos. 00300, 95850

UOP, A HONEYWELL CO., 25 E. Algonquin Rd., Des Plaines, IL 60016. Contact: 847/391-2000, 800/877-6184, E-mail: info@uop.com. Web site: www.uop.com
Code Nos. 00400, 20300, 32250, 41700, 79360, 79370

UTICOM SYSTEMS, INC., 109 Independence Way, Coatesville, PA 19320. Contact: Bob Thompson (610/857-2655, 800/548-5321, Fax: 610/857-2986, E-mail: bob@uticom.net), Jackie Waller (610/857-2655, 800/548-5321, Fax: 610/857-2986, E-mail: jackie@uticom.net). Stamp Symbols: IEEE-323; US RegGuide 1-38, ANSI N45-2. Certified incinerable. Web site: www.uticom.net
Code Nos. 75850, 83210

VALCOR ENGINEERING CORP., (Valcor Nuclear)(Valcor), 2 Lawrence Rd., Springfield, NJ 07081. Contact: Steve Gatcomb (973/467-8400, Fax: 973/218-1819, E-mail: nuclear@valcor.com), Thien Nguyen (973/467-8400, Fax: 973/218-1819, E-mail: tnguyen@valcor.com). Stamp Symbols: N, NPT, Classes 1, 2, 3. Certification by ANSI N45.2 App. B 10CFR50; ISO 9001. Web site: www.valcor.com
Code Nos. 47400, 75190, 84150, 90250, 90600, 90800, 91000, 91260*

VEOLIA WATER TECHNOLOGIES, 23563 W. Main St., IL Rt. 126, Plainfield, IL 60544. Contact: Timothy M. Cornish (815/609-2042, 800/927-0319, Fax: 815/609-2044, E-mail: hpd.info@veolia.com). Web site: www.veoliawaterst.com/hpdevaporation
Code Nos. 68000, 93040

VIGOR (FORMERLY OREGON IRON WORKS), 9700 S.E. Lawnfield Rd., #9460, Clackamas, OR 97015. Contact: Bradley D. Dunkin (503/653-6300, Fax: 503/794-2437, E-mail: brad.dunkin@vigor.net). Web site: vigor.net
Code Nos. 03000, 09730, 09950, 14300, 22430, 24170, 30500, 36000, 37600, 66280, 68000, 78700, 81710, 83150, 92300

VISIONARY SOLUTIONS, LLC, 2553 Quality Ln., Knoxville, TN 37931. Contact: 865/482-8670, Fax: 865/482-8678, E-mail: vsCorp@vs-llc.com. Web site: www.vs-llc.com
Code Nos. 14000, 14300, 68000, 87000, 93040

E. H. WACHS, 600 Knightsbridge Pkwy., Lincolnshire, IL 60069. Contact: Keith Polifka (847/537-8800, 800/323-8185, Fax: 847/520-1147, E-mail: keith.polifka@itw-ocw.com). Web site: www.ehwachs.com
Code Nos. 20300, 22700, 59850, 90100, 90250*

◆ **WAGSTAFF APPLIED TECHNOLOGIES**, 3910 N. Flora Rd., Spokane, WA 99216. Contact: Dan Payne (509/321-3184, Fax: 509/924-0241, E-mail: dan.payne@wagstaff.com). Stamp Symbols: ASME U-Stamp, ASME NQA-1 2008 w/2009 addenda. Web site: www.wagstaffat.com
Code Nos. 14300, 36000, 37600, 53950, 66280, 68000, 77800, 79360, 81710, 83150, 87380, 92300, 93900
(See advertisement on page 61)

WALLACE CRANES, 71 N. Bacton Hill Rd., Malvern, PA 19355-1005.
Contact: Bart J. Sunderland (610/647-1400 x300, 800/553-5438 x300, Fax: 610/644-9043, E-mail: barts@wallacecranes.com). Web site: www.wallacecranes.com.
Code Nos. 18600

◆ **WASTE CONTROL SPECIALISTS LLC**, Three Lincoln Centre, 5430 LBJ Fwy., Suite 1700, Dallas, TX 75240-2697. Contact: Dan Davis (432/556-7357, E-mail: ddavis@valhi.net), Ken Grumski (724/591-8770, E-mail: kgrumski@valhi.net). Web site: www.wcstexas.com
Code Nos. 87000, 93040*

(See advertisement on pages 86–87)

WASTE CONTROL SYSTEMS, INC., 2835 Merrymans Mill Rd., Phoenix, MD 21131-1631. Contact: William Fannon (410/252-9360, 877/252-9360, Fax: 410/252-9362, E-mail: wpf@wastecontrol.com). Web site: www.wastecontrol.com
Code Nos. 11700, 14300, 68000

WASTREN ADVANTAGE, INC., 1571 Shyville Rd., Piketon, OH 45661. Contact: Keith Tucker (303/993-2634, E-mail: keith.tucker@wastrenadvantage.com). Web site: www.wastrenadvantage.com
Code Nos. 03800, 13850, 14000, 14300, 20300, 20350, 25400, 25600, 26080, 26100, 44000, 71190, 93040

WATERS EQUIPMENT, 966 Blue Ribbon Cir. N., Oconomowoc, WI 53066. Contact: Rebecca Dinan Schneider (262/567-7256, 855/699-8700, Fax: 262/567-4523, E-mail: marketing@sentry-equip.com). Stamp Symbols: U, ASME - Section VIII, Div. 1 ISO 9001:2008 Certified. Web site: www.watersequipment.com
Code Nos. 04000, 54750, 74150

WD ASSOCIATES, INC., P.O. Box 187, Whiteford, MD 21160-0187. Contact: Frederic Lake (623/249-0871, Fax: 410/452-0062, E-mail: fdlake@teamwd.com). Web site: www.teamwd.com
Code Nos. 03800, 14000, 86500

WEIR VALVES AND CONTROLS USA, INC., 29 Old Right Rd., Ipswich, MA 01938-1119. Contact: Julia Henning (978/744-5690, Fax: 978/745-6569, E-mail: julia.henning@weirgroup.com). Stamp Symbols: N, NPT, NV, ASME III, Class 1, 2, & 3; Certification by ISO 9001. Web site: www.weirpowerindustrial.com
Code Nos. 03800, 30500*

WESTINGHOUSE ELECTRIC CO., (Fuel Handling Equipment & Crane Manufacturing), 899 Hwy. 96 W., Shoreview, MN 55126. Contact: Corey Hansen (651/415-4374, E-mail: hansencm@westinghouse.com). Stamp Symbols: Certification by ISO 9001. QA Program audited to 10CFR50 App. B and NQA-1. Web site: westinghousenuclear.com/new-plants/cranes-and-fuel-handling
Code Nos. 03800, 08800, 09950, 12800, 14000, 14300, 18600, 26970, 30500, 40900, 47400, 47600, 47620, 66280, 68000, 72300, 73300, 73570, 81680, 81710, 86300, 86400, 86500, 87000, 92800*

◆ **WESTINGHOUSE ELECTRIC CO. LLC**, 1000 Westinghouse Dr., Cranberry Township, PA 16066. Contact: Kathleen M. Posteraro (724/722-6717, Fax: 724/722-5668, E-mail: posterkm@westinghouse.com). Stamp Symbols: ASME N, NPT and NA. Certification by ISO 9001. Web site: www.westinghousenuclear.com
Code Nos. 00400, 03180, 03200, 03800, 04000, 09800, 10780, 12900, 13600, 14000, 14300, 17950, 19700, 20000, 20300, 20350, 25300, 25400, 26080, 26100, 26240, 30500, 37130, 37200, 40050, 40700, 40900, 41000, 53950, 54750, 55040, 55490, 56600, 59850, 61570, 66280, 67380, 68000, 71190, 72300, 73300, 73620, 75190, 76400, 77750, 79360, 81680, 81710, 83110, 86300, 86400, 86500, 92300, 93040*

(See advertisement on Cover 4)

WHELEN ENGINEERING CO., INC., (Mass Notification Products), 51 Winthrop Rd., Chester, CT 06412-0684. Contact: Tom Ellison (860/526-9504, 800/637-4736, Fax: 860/526-4784, E-mail: tellison@whelen.com). Web site: www.whelen.com
Code Nos. 03200, 11650, 25300, 25350

WHITING CORP., 26000 S. Whiting Way, Monee, IL 60449-8160. Contact: Dave Weber (800/255-8594, Fax: 708/587-2001, E-mail: nuclear@whitingcorp.com). Stamp Symbols: 10CFR50 Appendix B, ISO 9001:2000. Web site: www.whitingcorp.com
Code Nos. 03800, 09730, 68000, 87000*

WILLIAMS INDUSTRIAL SERVICES GROUP, LLC, (Williams Plant Services, LLC), 100 Crescent Centre Pkwy., Suite 1240, Tucker, GA 30084. Contact: Robert Badger (770/879-4541, 866/851-4078, Fax: 770/879-4570, E-mail: rbadger@wisgrp.com), Loren Monty (770/879-4463, 866/851-4078, Fax: 770/879-4570, E-mail: lmonty@wisgrp.com). Stamp Symbols: ASME R Certification - Repair Vessels & Heat Exchangers; ASME A Certification - Assembly of Power Boilers. Web site: www.wisgrp.com
Code Nos. 06790, 14000, 25400, 47630, 75600, 83110

◆ **WMG, INC.**, 16 Bank St., Peekskill, NY 10566. Contact: Jim Harris (256/762-7509, E-mail: jharris@wmginc.com), John LePere (914/736-7100, E-mail: jleperc@wmginc.com). Stamp Symbols: Approved 10CFR50 App. B QA Program, including NQA-1, Part II, Subpart 2.7. NUPIC audited and approved. Web site: www.wmginc.com
Code Nos. 03800, 12800, 14000, 14300, 20300, 20350, 37200, 68000, 71190, 77750, 79360, 86300, 86500, 93040*
(See advertisement on page 89)

◆ **WM SYMPOSIA**, P.O. Box 27646, Tempe, AZ 85285. Contact: Jim Voss (480/557-0263, Fax: 520/829-3550, E-mail: jamesvoss@wmarizona.org). Web site: www.wmsym.org
Code Nos. 86300
(See advertisement on page 82)

WORLEYPARSONS, 2675 Morgantown Rd., Reading, PA 19607. Contact: Mike Lorek (423/755-5014, Fax: 610/855-2602, E-mail: mike.lorek@worleyparsons.com), Bruno Bombay (610/855-2232, Fax: 610/855-2602, E-mail: bruno.bombay@worleyparsons.com). Web site: www.worleyparsons.com
Code Nos. 03800, 13850, 14000, 20300, 37200

◆ **WORTHINGTON INDUSTRIES**, 200 Old Wilson Bridge Rd., Columbus, OH 43085. Contact: Brett Williams (800/338-8265, Fax: 614/840-3456, E-mail: brett.williams@worthingtonindustries.com). Stamp Symbols: ASME Section III N, NS, N3, NP certified applications for reactor subassemblies, replacement components and material certification with NQA-1 and ISO 9001:2000 Lloyds register Quality Assurance programs and ASME Section VIII U, UM, P stamps, plus National Boiler & Pressure Vessel Inspectors R stamp for pressure vessels. Web site: www.worthingtonindustries.com
Code Nos. 03800, 14300, 40900, 47400, 56600, 59850, 68000, 77800, 83150, 92300*
(See advertisement on page 73)

WYSSMONT CO., 1470 Bergen Blvd., Fort Lee, NJ 07024-2197. Contact: J. Bevacqua (201/947-4600, Fax: 201/947-0324, E-mail: sales@wyssmont.com). Web site: www.wyssmont.com
Code Nos. 09730, 24170*

ZACHRY NUCLEAR ENGINEERING, (Numerical Applications Div.), 200 Regency Forest Dr., Suite 330, Cary, NC 27518. Contact: Jim Harrell (919/465-7230 x227, Fax: 919/465-7231, E-mail: jim.harrell@numerical.com). Web site: www.numerical.com
Code Nos. 03800, 12800, 14000, 20300

ZACHRY NUCLEAR ENGINEERING, INC., 14 Lords Hill Rd., Stonington, CT 06378. Contact: Bob Atkisson (860/405-3066, Fax: 860/535-9200, E-mail: atkissonr@zachrygroup.com). Web site: www.zachrygroup.com
Code Nos. 03800, 12800, 13850, 14000, 20300, 25400, 40900, 67380, 75600*

Non-U.S. Directory of Suppliers

Austria

BOHLER EDELSTAHL GMBH & CO. KG, (Business Unit Open Die Forge), Mariazellerstrasse 25, 8605 Kapfenberg, Austria. Contact: Hannes Konrad (+43 3862 20 37439, Fax: +43 3862 20 37602, E-mail: hannes.konrad@bohler-edelstahl.at). Stamp Symbols: ISO 9001, AS 9100, ISO 14001, OHSAS 18001, ISO 50001, ISO/TS 16949, KTA1401, NADCAP, NORSOK M650. Web site: www.bohler-edelstahl.at
Code Nos. 14300, 61570, 64700, 75190*

BOHLER BLECHE GMBH & CO. KG, (Affl. of voestalpine Edelstahl GmbH), Bohler-Gasse 1, 8680 Murzzuschlag, Austria. Contact: Anton Schulhofer (+43 3852 555 26250, Fax: +43 3852 3723, E-mail: anton.schulhofer@bohler-bleche.at). Stamp Symbols: EN 9100-2009 including ISO 9001-2008. Web site: www.bohler-bleche.com
Code Nos. 00400, 55490*

INTERNATIONAL ATOMIC ENERGY AGENCY, Wagramer Strasse 5, P.O. Box 100, 1400 Vienna, Austria. Contact: Sophy LeMasurier (+43 1 26000, Fax: +43 1 2600 22417, E-mail: sales.publications@iaea.org). Web site: www.iaea.org
Code Nos. 40700, 86500

Belgium

TECNUBEL, Zandbergen 1, 2480 Dessel, Belgium. Contact: Guido Mulier (+32 14 34 6911, Fax: +32 14 32 0090, E-mail: guido.mulier@tecnubel.be). Stamp Symbols: Certification by ISO 9001; VCA; ISO 14000; CEFRI; EDF/UTO. Web site: www.tecnubel.be
Code Nos. 20300, 20350, 93040

SA TRANSRAD NV, Zoning Industriel - Site IRE, Avenue de l'Esperance, 1, 6220 Fleurus, Belgium. Contact: Hans Van De Maele (+32 71 82 97 58, Fax: +32 71 82 97 68, E-mail: hvandemaele@transrad.be), Gilles Degauque (+32 71 82 97 61, Fax: +32 71 82 97 68, E-mail: gdegauque@transrad.be). Web site: www.transrad.be
Code Nos. 26230, 86260, 87000

WESTINGHOUSE ELECTRIC CO., 43, rue de l'Industrie, 1430 Nivelles, Belgium. Contact: Joseph Boucau (+32 67 28 8434, Fax: +32 67 28 8534, E-mail: boucauj@westinghouse.com). Stamp Symbols: ASME N, NPT and NA. Certification by ISO 9001. Web site: www.westinghousenuclear.com
Code Nos. 00400, 03180, 03200, 03800, 04000, 09800, 12900, 13600, 14000, 14300, 17950, 19700, 20000, 20300, 20350, 25300, 25400, 26080, 26100, 26240, 30500, 37130, 37200, 40050, 40700, 40900, 41000, 53950, 54750, 55040, 55490, 56600, 59800, 59850, 61570, 66280, 67380, 68000, 71190, 72300, 73300, 73620, 75190, 77750, 79360, 81680, 81710, 83110, 83150, 86300, 86400, 86500, 92300, 93040

Canada

BUBBLE TECHNOLOGY INDUSTRIES INC., 31278 Hwy. 17, P.O. Box 100, Chalk River, Ontario K0J 1J0, Canada. Contact: Rob Noulty (613/589-2456, Fax: 613/589-2763, E-mail: noultyr@bubbletech.ca). Stamp Symbols: ISO 9001:2008; ISO 17025:2005. Web site: www.bubbletech.ca
Code Nos. 17950, 25250, 26080, 26100, 37130, 37200, 55040, 67380, 93040

CAMECO FUEL MANUFACTURING INC., 200 Dorset St., E., Port Hope, Ontario L1A 3V4, Canada. Contact: C. Pendlebury (289/251-2601, Fax: 905/372-3748, E-mail: celeste_pendlebury@cameco.com), C. Duncan (905/885-4537, Fax: 905/372-3748, E-mail: connie_duncan@cameco.com). Web site: www.cameco.com
Code Nos. 56600, 59800

COH, INC., 801, Curé Boivin, Boisbriand, Quebec J7G 2J2, Canada. Contact: Gilles Lafleur (514/770-6500, 800/363-6501, Fax: 450/430-6611, E-mail: glafleur@coh.ca). Web site: www.coh.ca
Code Nos. 03800, 04000, 09950, 18600, 30500, 47400

INUKTUN SERVICES LTD., 2569 Kenworth Rd., Suite C, Nanaimo, BC V9T 3M4, Canada. Contact: Jeff Christopherson (250/729-8080, 877/468-5886, Fax: 250/729-8077, E-mail: sales@inuktun.com). Web site: www.inuktun.com
Code Nos. 10780, 26230, 45550, 47600, 68000, 73300, 73620, 83600, 84150

L-3 MAPPS, (Power Systems and Simulation), 8565 Cote-de-Liesse, Montreal, Quebec H4T 1G5, Canada. Contact: Sean Bradley (514/787-4999, Fax: 514/788-1442, E-mail: power.mapps@L-3com.com). Web site: www.L-3com.com/mapps
Code Nos. 14000

MARSHIELD, (Div. of Mars Metal Co.), 4140 Morris Dr., Burlington, Ontario L7L 5L6, Canada. Contact: David Holden (905/637-3862, 800/381-5335, Fax: 905/637-8841, E-mail: dholden@marshmetal.com). Web site: www.marshield.com
Code Nos. 77750

PLASTRUCT POLYZONE, 4305 Spring Creek Rd., Vineland, Ontario L0R 2C0, Canada. Contact: Art Groeneveld (905/563-4000, 800/642-7797, Fax: 905/563-0228, E-mail: art@polyzone.com). Web site: www.polyzone.com
Code Nos. 14000, 47400, 55490, 77800

PYLON ELECTRONICS INC., (Div. of Autrex) (Instrumentation Dept.), 147 Colonnade Rd., Ottawa, Ontario K2E 7L9, Canada. Contact: Lise Leveille (613/226-7920, 800/896-4439, Fax: 613/226-8195, E-mail: instrument@pylonelectronics.com). Web site: www.pylonelectronics.com
Code Nos. 03200, 17950, 55040, 68950, 76400

♦ **SNC LAVALIN NUCLEAR INC.**, (Head Office), 2285 Speakman Dr., Mississauga, Ontario L5K 1B1, Canada. Contact: Jim Vandenberg (905/823-9040, E-mail: jim.vandenberg@snclavalin.com). Web site: www.snclavalin.com/nuclear
Code Nos. 03800, 10780, 13850, 14000, 14300, 17950, 20300, 20350, 30500, 40900, 56600, 67380, 68000, 72300, 75190, 81710, 87400
(See advertisement on page 45)

VELAN INC., 7007 Cote de Liesse, Montreal, Quebec H4T 1G2, Canada. Contact: Christian Schweiger (514/748-7748 x5524, Fax: 514/748-8635, E-mail: christian.schweiger@velan.com). Stamp Symbols: N, NPT, NK, Classes 1, 2, 3. Certification by ISO 9001 TUV, LLOYD, TUV. Web site: www.velan.com
Code Nos. 90600, 91000, 91260, 91380

WORLEYPARSONS, 8133 Warden Ave., Markham, Ontario L6G1B3, Canada. Contact: David Legault (905/944-4575, E-mail: david.legault@worleyparsons.com). Web site: www.worleyparsons.com
Code Nos. 03800, 13850, 14000, 20300, 37200

Czech Republic

SKODA JS A.S., Orlik 266, 31606 Plzen, Czech Republic. Contact: David Pavlis (+420 378 042 640, Fax: +420 377 520 600, E-mail: info@skoda-js.cz). Stamp Symbols: ASME Code S. III; N, NPT, NS. Classes 1, 2, 3, & CS, MC (N, NPT) 1, 2, 3 & MC (NS) Certification by ISO 9001:2000, ISO 14001, AD-Merkblatt HP0. Web site: www.skoda-js.cz
Code Nos. 03800, 14300, 30500, 40900, 56600, 66280, 81710, 83150, 92300

France

ANDRA, (International Div.), Parc de la Croix Blanche, 1/7 rue Jean Monnet, 92298 Chatenay Malabry Cedex, France. Contact: Gerald Ouzounian (+33 1 46 11 81 96, Fax: +33 1 46 11 82 68, E-mail: gerald.ouzounian@andra.fr). Web site: www.andra.fr
Code Nos. 14000

COMEX NUCLEAIRE, (Sub. of Onet Technologies), 36, bd des Oceans, BP 137, 13273 Marseille Cedex 9, France. Contact: G. Gozé (+33 491 291 300, Fax: +33 491 253 039, E-mail: ggoze@onet.fr). Stamp Symbols: Certification by ISO 9001/14001/OHSAS 18001/CEFRI. Web site: www.onet-technologies.com
Code Nos. 14000, 20300

GEOVARIANCES, 49 bis avenue Franklin Roosevelt, 77215 Avon cedex, France. Contact: Elodie Galloyer (+33183886048, Fax: +330164228728, E-mail: galloyer@geovariances.com). Web site: www.geovariances.com/en/
Code Nos. 03800, 12800, 14000, 20350, 93040*

GETINGE-LA CALHÈNE, (Sub. of Getinge Group), 1 rue du Comte de Donegal, 41100 Vendome, France. Contact: Christophe Selliez Vandernotte (+33254734747, Fax: +33254734748, E-mail: christophe.selliez@getinge.com). Stamp Symbols: ISO 9001, ISO 14001, CEFRI. Web site: www.getinge.com/nuclear
Code Nos. 10850, 72300, 79360

OECD NUCLEAR ENERGY AGENCY (NEA), 12 bd des Iles, 92130 Issy-les-Moulineaux, France. Contact: Cynthia Gannon-Picot (+33 1 45 24 10 10, Fax: +33 1 45 24 11 10, E-mail: cynthia.gannon-picot@oecd.org). Web site: www.oecd-nea.org
Code Nos. 40700

PHOTONIS, Avenue Roger Roncier, BP 520, 19106 Brive la Gaillarde Cedex, France. Contact: David Dupuy (+33 555 863 795, Fax: +33 555 863 786, E-mail: d.dupuy@photonis.com), Bernard Cantonnet (+33 555 863 735, Fax: +33 555 863 786, E-mail: b.cantonnet@fr.photonis.com). Web site: www.photonis.com/nuclear
Code Nos. 17950*

PREMIUM ANALYSE, 9 Rue de la Fontaine Chaudron, 57140 Norroy Le Veneur, France. Contact: Steve Phillips (+33 640 89 2443, Fax: +33 387 51 3174, E-mail: steve@premium-analyse.com). Web site: www.premium-analyse.com
Code Nos. 03200, 17950, 55040

SALVI SAFETY, Zi La Croze, Rue de l'industrie, 01360 Loyettes, France. Contact: Gachet (+33 0 612 327 169, E-mail: contact@salvi-safety.com). Web site: www.salvi-safety.com
Code Nos. 14300

SAPHYMO, 25 route de l'orme - Parc des Algorithmes - Bâtiment Esope, 91190 Saint-Aubin, France. Contact: Hélène Blein (+33 1 69 53 73 00, Fax: +33 1 69 53 73 01, E-mail: radioactivite@saphymo.com). Stamp Symbols: Certification by ISO 9001. Web site: www.saphymo.com
Code Nos. 03200, 04000, 09800, 12800, 17950, 25250, 26080, 37130, 37200, 54750, 55040, 55060, 67380, 75850*

Germany

BABCOCK NOELL GMBH, (Dept. BEV), Alfred-Nobel-Strasse 20, 97080 Würzburg, Germany. Contact: Wolfgang Mützel (+49 931 903 1702, Fax: +49 931 903 1018, E-mail: wolfgang.muettel@bilfinger.com). Stamp Symbols: Qualification according to EN ISO 9001:2000; Qualification according to ISO 14001:2004; Qualification according to KTA 1401 and AVS D 100/50. Web site: www.bng.bilfinger.com
Code Nos. 11700, 14300, 20350, 68000, 72300, 83150, 93040*

BIG ENTSORGUNGSTECHNOLOGIEN GMBH, Im Farchet 13 1/2, 83646 Bad Toelz, Germany. Contact: Hubert Strobel (+49 8041 78 77 30, Fax: +49 8041 1822, E-mail: hubert.strobel@big-presse.de). Stamp Symbols: ISO 9001:2008, CNNC-130029600. Web site: www.big-presse.de/english/p-kontaminierte.php?prod=yes
Code Nos. 11700, 24170, 36000, 36900, 68000, 72300, 79360

LINN HIGH THERM GMBH, Heinrich-Hertz-Platz 1, 92275 Eschenfelden, Germany. Contact: Horst Linn (+49 9665 91400, Fax: +49 9665 1720, E-mail: info@linn.de). Stamp Symbols: Certification by DIN EN ISO 9001:2008. Web site: www.linn.de
Code Nos. 24170, 68000*

MIRION TECHNOLOGIES (RADOS) GMBH, Ruhrstrasse 49, 22761 Hamburg, Germany. Contact: Daan van Bree (+49 40 851 930, Fax: +49 40 851 932 56, E-mail: hamburg-info@mirion.com). Web site: www.mirion.com
Code Nos. 25250, 55040, 55060, 67380, 75850

NUKEM TECHNOLOGIES GMBH, Industriestr. 13, 63755 Alzenau, Germany. Contact: Beate Scheffler (+496023911147, Fax: +496023911188, E-mail: beate.scheffler@nukemtechnologies.de). Web site: www.nukemtechnologies.de
Code Nos. 03800, 12800, 14000, 17950, 25600, 26080, 26100, 72300, 77750, 93040

SIEMPELKAMP NUKLEARTECHNIK GMBH, Siempelkampstrasse 45, 47803 Krefeld, Germany. Contact: Thomas Kluth (+49 2151 894 299, Fax: +49 2151 894 488, E-mail: thomas.kluth@siempelkamp.com). Stamp Symbols: Certification by DIN ISO 9001; According KTA 1401; ASME NPT: Nuclear Parts; ASME N3: Storage and Transport Containment of Nuclear Fuel; ASME NQA-1: Quality Assurance Requirements; Accredited testing laboratory in acc. with DIN EN ISO/IEC 17025. Web site: www.siempelkamp.com
Code Nos. 03800, 11700, 12800, 14000, 14300, 18590, 18600, 20300, 30500, 47400, 67380, 68000, 68950, 72300, 77800, 93040*

WÄLISCHMILLER ENGINEERING GMBH, Schießstattweg 16, 88677 Markdorf, Baden-Württemberg, Germany. Contact: Jean-Michel Wagner (+49754495140, Fax: +497544951499, E-mail: jean-michel.wagner@hwm.com). Stamp Symbols: ISO 9001, KTA 1401, ATEX, DIN 18800-7, ISO 3834-2. Code Nos. 10780, 12800, 47600, 68000, 72300, 73620*

The Netherlands

NRG, Westerduinweg 3, P.O. Box 25, 1755 ZG Petten, The Netherlands. Contact: A. Wakker (+31 224 564828, Fax: +31 224 568491, E-mail: a.wakker@nrg.eu). Stamp Symbols: QC services accreditation by Dutch Certification Council. Certification body for QA/QA according to ISO 9000; ISI accreditation by German Council (DAP) and Swedish Council. Web site: www.nrg.eu
Code Nos. 03800, 09800, 12800, 14000, 20300, 20350, 26100, 26230, 37200, 39960, 40900, 56600, 67380, 68000, 71190, 77750, 86300, 93040

Russia

SOSNY RESEARCH AND DEVELOPMENT CO., 4a Dimitrova St., 433507 Dimitrovgrad, Ulyanovsk region, Russia. Contact: Elena Leshchenko (+7 84235 3 98 29, Fax: +7 84235 3 83 28, E-mail: office@sosny.ru). Stamp Symbols: ISO 9001:2008; ISO 14001; OHSAS 18001. Web site: www.sosnycompany.com
Code Nos. 03800, 09750, 10780, 14000, 14300, 18600, 20300, 20350, 25600, 26230, 30040, 30500, 39650, 40900, 41000, 44000, 47400, 47600, 53950, 54750, 66280, 68000, 72300, 75190, 77750, 77800, 79360, 81680, 81710, 84600, 86130, 86250, 86260, 86300, 86500, 87000, 92300, 93040, 96200*

Spain

ENUSA INDUSTRIAS AVANZADAS, S.A., Ctra. Salamanca-Ledesma, Km. 26, 37115 Juzbado (Salamanca), Spain. Contact: Pilar Perez (+34 923 329 712, E-mail: ppm@fab.enusa.es), Angel García (+34 923 329 807, E-mail: ags@fab.enusa.es). Web site: www.enusa.es
Code Nos. 03800

EQUIPOS NUCLEARES, S.A., C/Ortega y Gasset 20, 5°, ES-28006 Madrid, Spain. Contact: María Vega (+34 942 200 142, Fax: +34 942 200 148, E-mail: vega@ensa.es), Rubén Moreno (+34 942 200 142, Fax: +34 942 200 148, E-mail: moreno.ruben@ensa.es). Stamp Symbols: ASME Code for Nuclear Vessels, Classes 1, 2 & 3: N, NPT, NA, N3, NS, S, U, U2. AD-MERKBLATT HPO; Certification by ISO 9001, ISO 14001, ISO 3834, OSHAS 18001, ISO 17025, and more. Web site: www.ensa.es
Code Nos. 11700, 14000, 14300, 20300, 20350, 24170, 37600, 41000, 47400, 61570, 66280, 68000, 72300, 81710*

Sweden ▼**Sweden**

BROKK AB, P.O. Box 730, 93127 Skelleftea, Sweden. Contact: Tony Marlow (505/466-3614, 800/621-7856, E-mail: tmarlow@brokkinc.com). Web site: www.brokk.com
Code Nos. 10780, 13050, 68000, 72300, 73620*

Switzerland

GUTOR ELECTRONIC LLC, (Sub. of Schneider Electric), Hardstrasse 72-74, 5430 Wettingen, Switzerland. Contact: Thomas Stomerski (636/294-5198, Fax: 636/294-5198, E-mail: tom.stomerski@schneider-electric.com). Stamp Symbols: Customer Approved 10CFR50 App. B/NQA-1 QA Program. ISO 9001/2008 certification by Bureau Veritas Firmware nuclear certification to IEC 60880-2006 by TUV Nord. Dedication of firmware for Class 1E applications. Web site: www.gutor.com
Code Nos. 63400*

United Kingdom

BOWTECH PRODUCTS LTD., International Avenue, ABZ Business Park, Dyce, Aberdeen AB21 0BH, United Kingdom. Contact: Marketing Coordinator (+44 0 1224 772345, Fax: +44 0 1224 772900, E-mail: marketing@bowtech.co.uk). Stamp Symbols: Certification by ISO 9001:2008. Web site: www.bowtech.co.uk
Code Nos. 10780, 26230, 30500, 40900, 45550, 68000, 73300, 83600, 92800*

CROSS MANUFACTURING COMPANY (1938) LTD., Midford Rd., Combe Down, Bath BA2 5RR, United Kingdom. Contact: Richard Cross (+44 0 1225 837000, Fax: +44 0 1225 834115, E-mail: mail@crossmanufacturing.com). Web site: www.crossmanufacturing.com
Code Nos. 75190

M&I MATERIALS LTD., Hibernia Way, Trafford Park, Manchester M32 0ZD, United Kingdom. Contact: Steve Jeffery (+44 161 864 5453, Fax: +44 161 864 5444, E-mail: stevejeffery@mimaterials.com). Web site: www.wolfmet.com
Code Nos. 77800

MUNRO INSTRUMENTS LTD., Gilbert House, 406 Roding Lane South, Woodford Green, Essex IG8 8EY, United Kingdom. Contact: Edmund Daley (+44 20 8551 7000, Fax: +44 20 8551 4565, E-mail: met@munro-group.co.uk). Web site: www.munroinstruments.co.uk
Code Nos. 26080, 54750, 55040, 58000*

◆ **NATIONAL NUCLEAR LABORATORY (UK)**, Chadwick House (5th Floor), Birchwood Park, Warrington WA3 6AE, United Kingdom. Contact: Keith Miller (+44 0 7710975956, Fax: +44 0 1925 289989, E-mail: keith.x.miller@nnl.co.uk). Stamp Symbols: ISO 9001, ISO 14001 and ISO/IEC 27001. Web site: www.nnl.co.uk
Code Nos. 03800, 14000, 20300, 20350, 67380, 68000, 75600, 75850, 93040
(See advertisement on page 51)

SIMON CARVES ENGINEERING LTD., Simon House, Atlas Business Park, Simonsway, Manchester M22 5PR, United Kingdom. Contact: Jennifer King (+44 161 718 4400, Fax: +44 161 718 4600, E-mail: info@simoncarveseng.com). Stamp Symbols: ISO 9001:2008 OHSAS 18001:2007 ISO 14001:2004. Web site: www.simoncarveseng.com
Code Nos. 03800, 14000



Radwaste SOLUTIONS

Created by the American Nuclear Society in 1994, *Radwaste Solutions* magazine provides dedicated coverage of the fastest growing segment of the nuclear industry—worldwide decommissioning and waste management. If you are a professional or company working within these specialized areas of the nuclear industry—subscribe today!

Editorial coverage includes the generation, handling, treatment, cleanup, transportation, storage, and disposal of radioactive (including mixed) waste.

In the United States, this business is centered around the following industry subsets: (1) the Department of Energy's remediation of its weapons production and research facilities; (2) civilian radioactive waste activities, including low-level waste disposal, the onsite storage of used nuclear fuel and high-level waste, and efforts to develop a deep geologic repository; (3) the management of waste from operating nuclear power plants and the decommissioning of plants no longer in operation, and (4) nonpower, non-DOE activities.

COVER STORIES

2016 editorial topics include:

- Spent Fuel/High-Level Waste
- Low-Level Waste
- Environmental Remediation
- Transportation
- Decontamination and Decommissioning
- 12th Annual Buyers Guide

Also covered are radwaste activities outside of the U.S., including decontamination and decommissioning efforts in the United Kingdom and the rest of Europe, where plants are closing as a result of post-Fukushima policies. Likewise, Japan continues to seek technical solutions to the challenges posed by the cleanup of Fukushima, including the management and remediation of the large volume of contaminated water resulting from the 2011 accident at the plant.

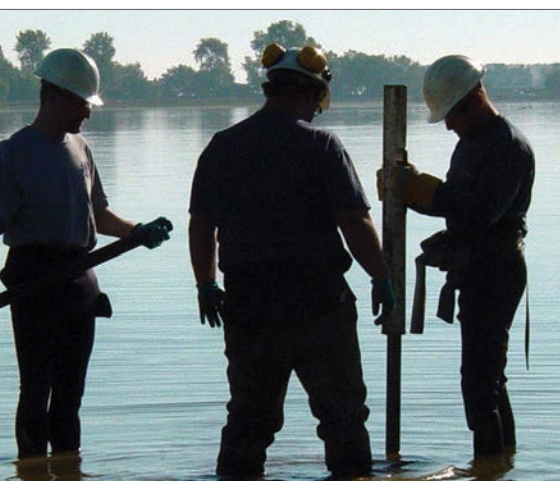
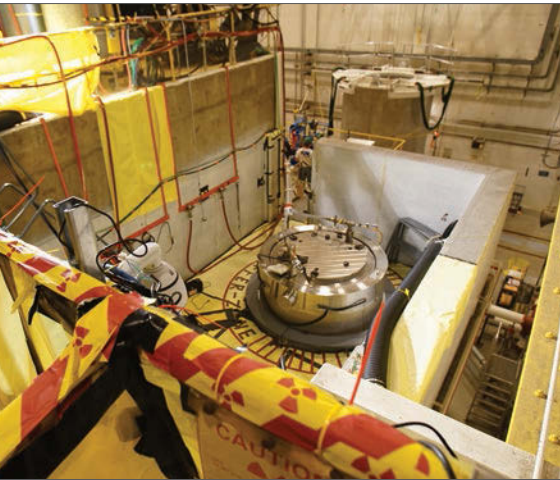
The **12th Annual Products, Materials, and Services Directory** (Buyers Guide) lists nearly 500 worldwide companies who provide more than 165 radwaste-related products and services. This issue will also include editorial features on D&D.

2016 Subscription Information

Annual subscription rate of \$440* includes semiannual print editions, **Spring (March) and Fall (September)**, plus online access for an unlimited IP range of desktop users at your location. All past issues, from 1994 – present, are archived online and fully searchable.

Order Online: www.ans.org/store/browse-magazines
or Phone: 1-708-579-8207

*Extra postage fee of \$20 for orders shipping outside of North America.



AMERICAN NUCLEAR SOCIETY TERMS AND CONDITIONS FOR SUBSCRIPTION SALES

SUBSCRIPTION PERIOD: Full year subscription to ANS Publications runs on a calendar year basis (January through December). The subscriber will receive all back issues of the subscription when the order is placed after January. All subscriptions expire with the December issue. Issues from prior years are available. Contact ANS for price information.

ONLINE ACCESS: Electronic access is available to select ANS publications at no additional charge to subscribers. Electronic Agreement Form required with payment to activate online access. Visit epubs.ans.org for details on access as well as the terms and conditions associated with this additional feature.

OVERSEAS SHIPMENTS: All subscriptions are mailed to countries outside of North America via ISAL (International Surface Air Lift), to Canada and Mexico by U.S. Postal Service. Extra postage charges for orders outside North America include shipment and local distribution. Customers requesting special shipping or handling must prepay the entire additional cost.

CANCELLATION/REFUND POLICY: Customers will be refunded only for unshipped issues. There is a 10% service charge on all cancelled subscriptions. No refunds will be issued after June 1st on a current year subscription.

REPLACEMENT POLICY: Claims for missing print issues must be submitted within 3 months of publication date. When delivery of issues claimed can be traced to the subscriber's address, replacement copies will be furnished only upon receipt of additional payment at the single issue rate. Claims submitted after 3 months will not be replaced without additional payment. To avoid delays/lost shipments, please use a street address (no P.O. boxes). ANS will not honor claims shipped to P.O. boxes.

RETURN SHIPMENTS: Return shipments are accepted only if ANS shipped incorrect or damaged copies.

PAYMENT INSTRUCTIONS AND OPTIONS: Full payment must accompany all subscription orders. Payment may be made by MasterCard, Visa, American Express, Diners Club or check.

Make checks payable to:
American Nuclear Society
97781 Eagle Way
Chicago IL 60678-9770 USA

*Check payments sent other than
U.S. Postal mail should be sent to:*
American Nuclear Society
555 N. Kensington Ave.
La Grange Park IL 60526 USA

Bank funds transfers should be sent to:
ANS Account # 824941
JP Morgan Chase Bank
10 S. Dearborn Street
Chicago IL 60603
ABA #0210 0002 1
Swiftcode: CHASUS33
ACH Transfers Only # 0710 0001 3

2016 SUBSCRIPTION ORDER FORM

Name _____
Comp./Org. _____
Street Address _____

City _____
State/Province _____
Zip/Postal Code _____
Country _____
Telephone _____
Fax _____
E-mail _____

Publication	Qty	Print & Online	Online Only	Total
Full Year (U.S., Canada & Mexico)				
<i>Radwaste Solutions</i>		\$440	\$400	
Full Year (Outside North America)				
<i>Radwaste Solutions</i>		\$460	\$400	
Your Order				
<i>Radwaste Solutions</i>				
Total amount payable in U.S. Dollars				

Payment Method: Check Enclosed# _____ American Express MasterCard Visa Diners Club
Card # _____ Exp. date _____ Security Code _____
Card holder name _____ Signature _____

Subscription starts upon receipt of payment, including all back issues for subscription period. Prices, terms and conditions are subject to change without prior notice.



Moving Up

People in the news

The Electric Power Research Institute has elected **Gil C. Quiniones**, president and chief executive officer of the New York Power Authority, as chairman of its board of directors. Replacing Quiniones as vice chair is **Patricia Vincent-Collawn**, chairman, president, and CEO of PNM Resources. In addition, EPRI has elected five new members to four-year terms on the board: **Lisa Johnson**, CEO and general manager of Seminole Electric Cooperative; **Warner Baxter**, chairman, president, and CEO of Ameren Corporation; **Mark McCullough**, executive vice president of generation at AEP; **William Spence**, chairman, president, and CEO of PPL Corporation; and **Seok Cho**, president and CEO of Korea Hydro & Nuclear Power Company.

The Nuclear Energy Institute has reelected **Christopher M. Crane**, president and chief executive officer of Exelon Corporation, as chairman of its board of directors. **Donald E. Brandt**, chairman of the board, president, and CEO of Pinnacle West Capital Corporation and Arizona Public Service Company, has been reelected board vice chairman. In addition, six NEI board members and four executive committee members were reelected, and three new board members were added. The reelected board members are **Jack Edlow**, president, Edlow International Company; **Gerald Garfield**, partner, Day Pitney LLP; **Edwin D. Hill**, international president, International Brotherhood of Electrical Workers; **William P. Hite**, general president, United Association of Journeymen and Apprentices; **Gary Mignogna**, president and CEO, Areva Inc.; and **Kris P. Singh**, president and CEO, Holtec International. The reelected members of the executive committee are **Anthony Earley**, chairman, CEO, and president, PG&E Corporation; **William Levis**, president and chief operating officer, PSEG Power; **Caroline A. Reda**, president and CEO, GE Hitachi Nuclear Energy; and **John F. Young**, president and CEO, Energy Future Holdings. Newly elected to the NEI board are **Wesley Hines**, Nuclear Engineering

Department head, University of Tennessee; **John Hopkins**, chairman and CEO, NuScale Power LLC; and **Daniel Poneman**, president and CEO, Centrus Energy Corporation.

NEI also reelected the following officers: **Marvin S. Fertel**, president and CEO; **Anthony R. Pietrangelo**, senior vice president and chief nuclear officer; **Phyllis M. Rich**, senior vice president, chief financial officer, and treasurer; **Alex Flint** and **J. Scott Peterson**, senior vice presidents; **Daniel S. Lipman**, **Richard J. Myers**, **Joseph E. Pollock**, and **Douglas J. Walters**, vice presidents; **Ellen C. Ginsberg**, vice president and secretary; **Lisa I. Steward**, assistant secretary; and **Robert L. Dubrow**, assistant treasurer.

Darren Gale has been named vice president of nuclear operations for Day & Zimmermann NPS, a division of D&Z's Engineering, Construction, and Maintenance group. Gale has more than 30 years of experience in the nuclear power industry, most recently serving as vice president and project director at the Babcock & Wilcox Company, where he directed and secured funding for the \$1-billion Department of Energy-sponsored mPower Development and Licensing Program.



Gale

Karyn F. Ovelmen has joined Flowserve Corporation as executive vice president and chief financial officer. Ovelmen comes to the firm from LyondellBasell Industries N.V., a plastics and chemicals company, where she served as executive vice president and CFO. Prior to her tenure at LyondellBasell, she was CFO at Petroplus Holdings AG.

Philip Breidenbach has replaced **Bob McQuinn** as president and project manager of Nuclear Waste Partnership, the management and operating contractor at the Waste Isolation Pilot Plant. Breidenbach was previously with Idaho National Laboratory, where he served



We turn complex nuclear science into easy-to-understand language for the general public, policymakers, students and more. The Center promotes the many benefits of nuclear science and technology in our lives while being a trustworthy source of credible information and education.

With your help, we can do even more to increase public understanding of and support for nuclear science and technology. Check out all we do and donate at NuclearConnect.org.

Support public understanding about nuclear!



Support the Center.

People in the news ▼

as the director of nuclear operations at the Materials and Fuels Complex. Prior to that position, he was an area project manager for the Idaho Cleanup Project.

John L. Hopkins, president and chief executive officer of NuScale Power LLC since 2012, has been elected vice chairman of the U.S. Chamber of Commerce's board of directors, succeeding Michael Ducker, president and CEO of FedEx Freight. Prior to joining NuScale Power, Hopkins held several executive positions during 24 years of service with Fluor Corporation.

Government

Susan Morris has been named assistant manager for environment, safety, health, and quality at the National Nuclear Security Administration Production Office, which oversees the Y-12 National Security Complex and the Pantex Plant. Positions previously held by Morris include team leader and subject-matter expert/program manager for the Industrial Hygiene, Occupational Medicine, Fire Protection, and Environmental Programs and the National Environmental Policy Act compliance officer at the Y-12 Site Office.



Morris

Karen Flynn has been named a senior manager at Hanford, responsible for establishing a new set of site contracts, as many Hanford contracts are due to expire from 2017 to 2019. Flynn will work with employees at the Hanford Richland Operations Office and the Office of River Protection, as well as with representatives from the national DOE Consolidated Business Center.

Dana Bryson has been named acting manager of the Department of Energy's Carlsbad Field Office, which oversees

the Waste Isolation Pilot Plant. He replaces **Joe Franco**, who recently returned to a position in the DOE's Richland Operations Office in Washington. Bryson has more than 30 years of experience in the nuclear industry and most recently served as deputy manager of the Carlsbad Field Office. Previously, he was the director of the River Corridor Division for the DOE's Richland Operations Office, where he was responsible for cleanup and restoration of the Columbia River Corridor.



Yeager

Jill M. Hruby has been named president and director of Sandia National



Hruby

Hommert

Laboratories, succeeding **Paul Hommert**, who retired on July 16 after serving as president and laboratories director since 2010. The first woman to lead a national security laboratory, Hruby most recently served as a Sandia vice president, overseeing efforts in nuclear, biological, and chemical security; homeland security; counterterrorism; and energy security. She joined the technical staff at Sandia's California laboratory in 1983, working in thermal and fluid sciences, solar energy research, and nuclear weapon component research and development. Hruby came to Sandia's New Mexico site in 2010 as vice president of the Energy, Nonproliferation, and High Consequence Security Division and the International, Homeland Security, and Nuclear Security Program Management Unit.



Blue



Saltz

Utilities

FirstEnergy Nuclear Operating Company (FENOC) has named **Michael J. Yeager** director of technical and lab services at the company's BETA Laboratory in Mayfield, Ohio. A 26-year nuclear industry employee, Yeager began his career at FENOC's Perry nuclear plant, where he held a number of positions in engineering and operations. He joined BETA Laboratory in 2005 to manage the lab's external business operations, major projects, and financial reporting.

Robert M. Blue has been named senior vice president of regulation, law, energy solutions, and policy at Dominion Resources. Blue had been serving as president of the company's Dominion Virginia Power operating segment since January 2014.

Douglas C. Saltz has been named director of site operations at FirstEnergy Nuclear Operating Company's Davis-Besse nuclear power plant. Saltz came to Davis-Besse in 2004 and most recently served as the plant's site maintenance director. Prior to joining FENOC, Saltz was a licensed reactor operator at Exelon's Three Mile Island-1.

Rick Libra has been named site vice president for Exelon Generation's Limerick nuclear power plant. He replaces **Tom Dougherty**, who was recently named senior vice president of Mid-Atlantic operations for the utility. Libra, who has over 30 years of U.S. nuclear industry experience, joined Exelon Generation in 2007 as director of corporate design engineering. He most recently served as site vice president and plant manager at Three Mile Island. ■

Business developments

Rolls-Royce has acquired **R.O.V. Technologies**, a Vermont-based company that provides nuclear utility operators with remote visual inspection services for boiling water reactors and pressurized water reactors, it was announced on March 30. According to Rolls-Royce, the acquisition underlines the company's commitment to developing a nuclear business that meets its customers' needs for improved equipment reliability and outage performance over the operational and extended lifetime of the plant. In a statement, Jason Smith, Rolls-Royce president of nuclear, said: "R.O.V. Technologies has an impressive portfolio of remote inspection and cleaning solutions and provides a natural extension to our nuclear services business, bringing complementary BWR expertise and broadening our existing PWR remote inspection capability." Terms of the sale were not disclosed.

Areva and **Kurion** announced on June 2 that they are forming an alliance for nuclear waste decommissioning and remediation services to serve the Department of Energy complex. The alliance will join Areva's engineering and operational expertise in the nuclear energy sector with Kurion's proprietary technologies and expertise in the access, separation, and stabilization of nuclear waste. As a first step in their collaboration, Areva and Kurion will create a joint venture for work related to the cleanup and closure of the DOE's Hanford Site near Richland, Wash. According to the companies, the goal of the partnership is to take advantage of an expanding nuclear decontamination and decommissioning market in the United States by providing technology solutions for nuclear waste, particularly to meet the needs of nuclear facilities undergoing D&D activities.

International Isotopes Inc. announced on July 8 that the Board of Commissioners of Lea County, N.M., has agreed to extend the dates by which the company was to begin construction of and hire a certain number of

employees for a proposed depleted uranium hexafluoride (DUF₆) deconversion facility by two years. Under a project participation agreement with Lea County, International Isotopes was granted direct and indirect assistance for locating the proposed DUF₆ facility in Hobbs, N.M., the principal component of which was the conveyance of approximately 640 acres for construction and operation of the facility. The conveyance of the land was contingent upon the company's start of construction on Phase 1 of the facility by December 31, 2014, and hiring a certain number of employees by December 31, 2015. Under an amendment to the agreement, Lea County has agreed to extend those dates to December 31, 2016, and December 31, 2017, respectively. According to International Isotopes, the delay in starting construction is largely due to the slowdown in nuclear-related projects.

The **Nuclear Regulatory Commission** announced on June 29 that it has received an "A" from the U.S. Small Business Administration for its fiscal year 2014 efforts to meet the federal contracting goal for small businesses. This marks the fourth consecutive year that the NRC has earned this recognition. According to the agency, the NRC had \$245.3 million in eligible contracting dollars in FY 2014. Of that amount, approximately 35.5 percent went to small businesses—exceeding the agency's goal of 31.5 percent.

Utilities

The **Babcock & Wilcox Company** will receive a lump sum payment of \$36.3 million from **Xcel Energy** (Northern States Power Company) to settle a \$45.4 million lawsuit B&W filed against the utility and its contractor **SNC-Lavalin Nuclear**. On May 29, B&W entered into an agreement with the companies to settle all claims and disputes over the replacement of steam generators at the **Prairie Island** nuclear power plant in Red Wing, Minn., according to a June 2

B&W filing with the U.S. Securities and Exchange Commission.

B&W was hired in December 2009 as a subcontractor to **SNC-Lavalin** for the steam generator replacement project. According to a June 4 report in the *Charlotte Business Journal*, B&W completed its work in 2013 and billed SNC-Lavalin and Xcel \$116 million, of which Xcel paid \$71 million. Xcel claimed the remaining costs were not prudently incurred. B&W filed suit against Xcel and SNC-Lavalin in November 2014, and the two companies followed by filing counterclaims.

GE Hitachi Nuclear Energy announced on May 12 that it plans to begin offering refueling services to operators of pressurized water reactors. The announcement includes an agreement with **Exelon Generation** to conduct PWR refueling work. According to GE Hitachi, the outage team selected for this project has more than 300 years of collective experience servicing PWRs in a variety of functions, including project management, planning, supervision, fuel movement, and vessel disassembly and reassembly. GE Hitachi, which currently services and fuels a number of operating boiling water reactors, also said that it intends to introduce advanced services offerings to enhance PWR outage performance.

The construction and engineering company **Day & Zimmermann** announced on June 22 that its Engineering, Construction & Maintenance group has been awarded a six-year alliance contract by **Southern Nuclear** to provide fleet maintenance and modifications services at the company's six nuclear reactors at three locations: the **Vogtle** nuclear power plant (Units 1 and 2) near Waynesboro, Ga.; the **Hatch** plant near Baxley, Ga.; and the **Farley** plant near Dothan, Ala. The company also announced the award of a three-year staff augmentation contract to provide Southern Nuclear with radiation protection and decontamination services across its fleet. Work under the contracts—the values of which were not disclosed—was to begin in July.

Used nuclear fuel

Areva TN, a division of Areva, announced on May 4 that it has been awarded a contract by **Exelon Generation** to supply 30 additional NUHOMS HSM-H used nuclear fuel storage modules to the Nine Mile Point nuclear power plant in Scriba, N.Y. Beginning mid-2015, Areva TN and local labor will construct the horizontal storage modules on-site to reduce the cost of transporting the materials and to generate savings for the customer, according to Areva. The modules will join 40 units already existing at Nine Mile Point, also constructed on-site in 2011. The value of the contract was not disclosed.

Holtec International announced on July 27 that it has been selected by **Entergy** to provide its HI-STORM 100 dry storage system for use at the closed Vermont Yankee nuclear power plant site. The Holtec system is designed to

contain up to 68 boiling water reactor fuel assemblies and consists of a stainless steel multipurpose canister with a welded baseplate and lid, which is placed inside a coated carbon steel and concrete overpack. Entergy, which is decommissioning the reactor under the Nuclear Regulatory Commission's SAFSTOR method, intends to complete the transfer of Vermont Yankee's spent nuclear fuel from wet storage to dry storage by mid-2020. According to Holtec, Entergy selected the company through a competitive bid process involving technical and commercial review of various vendors and systems.

Holtec also announced, on August 10, that the company has been awarded a contract for the supply of dual-purpose spent nuclear fuel casks for the Koeberg nuclear power plant in South Africa. According to the company, the contract between **Eskom** and Holtec was signed in May 2015 following an international bidding competition. Holtec

will be supplying its HI-STAR 100 dual-purpose metal cask for the storage and transportation of pressurized water reactor spent fuel assemblies. Work under the contract also will include the design and supply of the necessary handling equipment for the project, licensing support, training, and cask loading services. To support the continued operation of Koeberg Units 1 and 2, Holtec said the project will be completed on a tight schedule, with most of the work to be completed prior to the March/September 2018 planned outages. The values of the contracts with Entergy and Eskom were not disclosed.

United Kingdom

Sellafield Ltd., the contract company responsible for decommissioning United Kingdom nuclear legacy sites, announced in May that it has awarded



ANS FCWMD

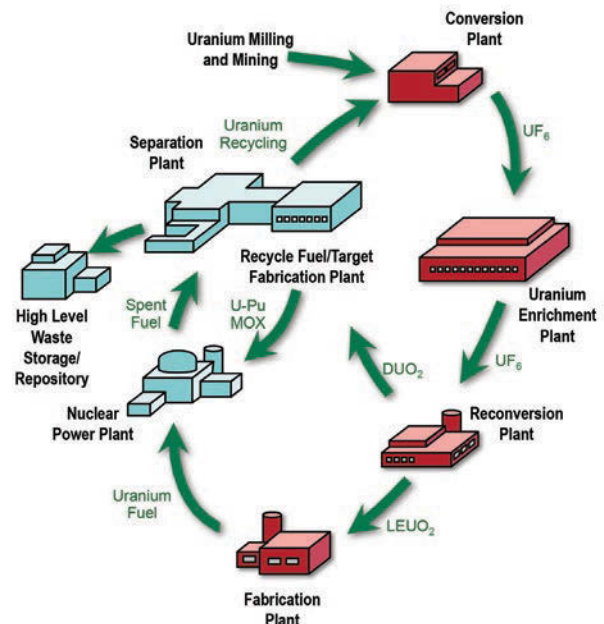
Volunteers Welcome!

Fuel Cycle and Waste Management Division

This Professional Division of the American Nuclear Society is one of the largest and most active divisions within the society. We deal with all aspects of the nuclear fuel cycle—mining, enrichment, fuel fabrication, fuel design, reprocessing, storage, geologic repositories, waste processing, waste form testing, advanced fuel cycle evaluations, fissile material management, and national fuel cycle policies.

We welcome enthusiastic volunteers for all of our activities. If you would like to help organize a session, plan a meeting, edit a newsletter, or update content on the web site, please contact one of the officers. Experience is not required.

For more information visit fcwmd.ans.org



two contracts worth £70 million (about \$108 million) for radioactive waste management at the Sellafield nuclear site in Cumbria, England.

On May 11, Sellafield Ltd. announced that it has signed equipment manufacturer **Metalcraft** to a contract potentially valued at £50 million (about \$77 million), for the provision of 2,200 high-integrity stainless steel storage containers for nuclear waste. According to Sellafield Ltd., Metalcraft was chosen for its ability to fulfill the contract to the standards required to store nuclear waste, as well as certain socioeconomic commitments the company has made, including the delivery of benefits such as new jobs, apprenticeships, and training development to advance manufacturing skills. In addition, Metalcraft has committed to a new facility in West Cumbria for the finishing of 3-m³ boxes for the Phase 2 contract, subject to approval to proceed, according to Sellafield Ltd. The boxes will provide storage for historic nuclear waste that is to be retrieved from the Pile Fuel Cladding Silo on the Sellafield site.

On May 15, Sellafield Ltd. announced that it has awarded **Tata Steel**, part of India's Tata Group, a contract worth £20 million (about \$31 million) to provide packages and gamma gates to the Sellafield site. Under the four-year contract, Tata Steel will modify and refurbish an existing fleet of packages and gamma gates, which are essentially specialty high-integrity containers and doors used to provide shielding during the safe transfer of waste from the site's legacy storage plants to modern, purpose-built stores. This will enable Sellafield Ltd. to decommission the Magnox Swarf Storage Silo, one of the four oldest nuclear waste stores on the Sellafield site. The nuclear waste material will be moved from the silo and transferred to a new Silo Direct Encapsulation Plant, where it will be packaged for storage.

Westinghouse Electric Company announced on June 11 that it has opened a new United Kingdom office in West Cumbria to support the delivery of existing decommissioning and remediation contracts with Sellafield Ltd. and, in the future, the development of the Moorside nuclear new-build project with the company NuGen. Westinghouse most recently was part of a team that

transferred the first sludge from the First Generation Magnox Storage Pond to a new £240-million (about \$372-million) sludge storage plant. According to the company, the new office at Westlakes Science Park initially will be the base for up to 40 people. The new team will work closely with Westinghouse's U.K. head office at Chorley in Lancashire.

Jacobs Engineering Group announced on May 12 that it was awarded a contract by **EDF Energy** to provide project management resources to the company's eight nuclear power stations and two technical centers in the United Kingdom. Under the terms of the contract, Jacobs will provide a range of project management and engineering resources to support EDF's program of maintenance and life-extension projects to 15 nuclear reactors across the Dungeness, Hartlepool, Heysham 1 and 2, Hinkley Point, Hunterston, Sizewell, and Torness power plants, as well as EDF's technical centers at East Kilbride and Gloucester. The value of the contract, which has a term of five years with two optional two-year extensions, was not disclosed.

On July 15, **Areva** announced that it has signed a framework contract with the Nuclear Decommissioning Authority (NDA) Shared Service Alliance to provide engineering services for nuclear site decommissioning in the United Kingdom. According to the company, the contract applies to 12 sites throughout the U.K. managed by the decommissioning company Magnox Ltd., as well as the nuclear site at Dounreay in Northern Scotland and the low-level radioactive waste repository in West Cumbria. The Sellafield site, where Areva already operates, is not included in the contract, which is made up of a number of segments. The first segment, won by Areva and its British partner Atkins, includes engineering and design services for decommissioning projects. The second, won by Areva's British engineering consulting subsidiary, Areva RMC, combines studies for the management of waste from nuclear site decommissioning. Areva said that work under the contract will be executed by an integrated team benefitting from both the company's international expertise and the local engineering contribution. The

value of the contract was not disclosed.

Environmental management

Irvine, Calif.-based **Kurion** announced on May 18 that it has received a contract from **Environmental Properties Management** to design a water treatment system for the decommissioning of the Cimarron fuel fabrication facility located near Guthrie, Okla. Environmental Properties Management is the trustee for the Cimarron Environmental Response Trust, which owns the site. The Nuclear Regulatory Commission and Oklahoma Department of Environmental Quality are the beneficiaries of the trust and jointly regulate the cleanup of the site. According to Kurion, the company will manage all aspects of design, construction, testing, and documentation of the treatment system as the project's lead contractor. The Cimarron project consists of the construction and use of multiple modular systems to remove radioactive nuclides and nitrates, treating groundwater from the former fuel facility. The value of the contract was not disclosed.

DOE

The Department of Energy's Savannah River Operations Office has extended the existing contract with **Savannah River Remediation (SRR)** for an additional two years, from July 1, 2015, through June 30, 2017, it was announced on April 29. The extension option, which has a value of \$797 million, was part of the original contract awarded in 2009. SRR, the liquid-waste contractor at the DOE's Savannah River Site, is responsible for the safe treatment, storage, and disposal of radioactive liquid waste. According to the DOE, the two-year extension will serve the best interests of the government and of the contractor, allowing SRR to continue managing liquid waste at the site.

AECOM announced on April 30 that **UCOR**, the company's joint venture with **CH2M Hill** that is responsible for cleanup work at the Department of



ANS Meetings

ENHANCE YOUR VISIBILITY Become an ANS Meeting Sponsor

ANS Meeting attendees represent a wide-range of professions and expertise in the field of nuclear science and technology.

By becoming a sponsor you have the opportunity to gain optimum exposure with potential buyers and users of your products and services.

We are happy to create a custom package to suit your organization's needs...
Don't miss this opportunity!

Questions?
meetings@ans.org

Contracts, business news, etc. ▼

Energy's Oak Ridge Reservation, has been authorized by the DOE to perform additional work within the existing contract to continue cleanup at the site. According to the company, the contract extension is valued at \$104 million, against the current \$2.5-billion value of UCOR's performance-based contract. UCOR will continue cleanup of the former Oak Ridge Gaseous Diffusion Plant, which is being repurposed as the East Tennessee Technology Park, while performing ongoing environmental management missions, such as facility surveillance and maintenance and various waste management operations at Oak Ridge National Laboratory and the Y-12 Nuclear Security Complex. During this contract phase, UCOR will support the construction of commemorative facilities as part of the National Historic Preservation Project.

On May 7, the Department of Energy announced that it has awarded an indefinite delivery/indefinite quantity contract worth a maximum of \$3.5 million to **Ici-Pec JV** of Lincoln, Neb. Under the contract, the company will provide professional support services to the Los Alamos Field Office of the DOE's Office of Environmental Management for scope requirements planning. The contract has a period of two years.

On May 28, the Department of Energy announced that Piketon, Ohio-based **Wastren Advantage** has been awarded a \$44.6-million contract for the operation and performance of analytical and testing services at the DOE's Hanford 222-S Laboratory near Richland, Wash. The company will provide services including receiving, handling, analyzing, and storing lab samples; performing special tests; and reporting the results of inorganic, organic, and radiochemical analysis to the DOE and site contractors. The contract includes a two-year base period of performance with three one-year option periods.

On June 4, the Department of Energy announced that it has issued seven basic ordering agreements for the treatment of low-level radioactive waste and mixed low-level radioactive waste originating from DOE facilities as a result of federal cleanup and remediation work. The LLW and mixed LLW treatment services also include the treatment of liquid and solid Toxic Substances

Control Act-regulated waste, such as polychlorinated biphenyls and asbestos. The contractors receiving the ordering agreements include **Babcock Services**, **Environmental Dimensions**, **EnergySolutions**, **Omega Consultants**, **Perma-Fix Environmental Services**, **UniTech Services Group**, and **Waste Control Specialists**. The agreements are for a period of five years, with no associated option periods.

On June 17, the Department of Energy announced the award of a \$138.8-million contract to **Swift & Staley**, of Kevil, Ky., for infrastructure support services at the Paducah Gaseous Diffusion Plant in Paducah, Ky. According to the DOE, the full potential value of the contract is \$177.2 million, including the total maximum value of services under the indefinite delivery/indefinite quantity contract line items. The base period of performance is three years, with an additional 22-month option period. Under the contract, Swift & Staley will provide surveillance, maintenance, and repair of facilities; janitorial services; grounds maintenance, snow removal, and pest control; roadway and parking lot maintenance; computing, telecommunication, and cyber security; fleet management; real and personal property management; records management and document control; safeguards and security; environment, safety, health, and quality program; and training services.

On June 18, the Department of Energy announced the signing of a contract valued at \$123.9 million (including all options) with **North Wind Solutions** for waste processing support services at the Oak Ridge Transuranic Waste Processing Center in Oak Ridge, Tenn. The total potential period of performance is five years, with a three-year base period and one two-year option period. Under the contract, North Wind Solutions will manage and operate the waste processing center in support of processing legacy transuranic waste (TRU); perform surveillance and maintenance activities; provide support to the Central Characterization Project for final certification and disposition of TRU soil and debris waste; process other remote-handled and contact-handled TRU waste originating from Oak Ridge National Laboratory; and process Nuclear Fuel Services soils. ■



JOIN. SHARE. DEVELOP.

The American Nuclear Society is a not-for-profit, international, scientific and educational organization, and the premier society for nuclear professionals. Established in 1954 at the National Academy of Sciences in Washington, D.C., ANS was created by a group of individuals who recognized the need to unify professional activities within the various fields of nuclear science and technology. ANS has since developed a diverse membership composed of approximately 11,000 engineers, scientists, administrators, and educators representing more than 1,600 corporations, educational institutions, and government agencies.

ANS provides extensive opportunities for every professional group in the nuclear field to interact effectively via 22 divisions and technical groups, local sections, and student sections.

The Society serves as an advocate for individuals and organizations having a stake in nuclear science and technology. ANS produces position papers covering current nuclear-related topics, and our Washington, D.C. office acts as a technical resource to senior policy and decision makers. Through the Honors and Awards Program, ANS recognizes members for outstanding efforts and accomplishments in their fields.

Vision: ANS will be the recognized, credible advocate for advancing and promoting nuclear science and technology.

Mission: ANS provides its members with opportunities for professional development. It also serves the nuclear community by creating a forum for sharing information and advancements in technology, and by engaging the public and policymakers through communication outreach.

Purpose: The core purpose of ANS is to promote awareness and understanding with regard to the application of nuclear science and technology.

Join Today! Apply online at ans.org/join

American Nuclear Society
555 N. Kensington Ave.
La Grange Park, IL 60526

T: 800-323-3044
708-352-6611
F: 708-579-8295

E: members@ans.org
ans.org

2016 MEMBERSHIP APPLICATION

Or apply online at ans.org/join

Provide **both** home & business addresses.

Please print.

PERSONAL INFORMATION

Birth Date	/ /	MO/DAY/YR	<input type="radio"/> Male	<input type="radio"/> Female
<input type="radio"/> Dr. <input type="radio"/> Mr. <input type="radio"/> Mrs. <input type="radio"/> Miss <input type="radio"/> Ms. <input type="radio"/> Prof. <input type="radio"/> Other _____				
First	M.I.			
Last				
Home Address				
City				
State/Province				
Zip/Postal Code	Country			
Phone	Cell			
Email				
Primary Employer				
Address				
City				
State/Province				
Zip/Postal Code	Country			
Phone	Email			
Title				
Education				Grad Year
College/University				
Major	Degree			

PREFERENCES

- | | | | | | | |
|-------------------------------------|---|--|--|--|----------------------------|--------------------------------|
| Member grade previously held in ANS | <input type="radio"/> Professional | <input type="radio"/> Student | <input type="radio"/> DO NOT include my name in the Membership Directory | Postal mail preference | <input type="radio"/> Home | <input type="radio"/> Business |
| <input type="radio"/> I pay | <input type="radio"/> My company pays/reimburses my membership dues | <input type="radio"/> Allow communications from approved 3rd party organizations | <input type="radio"/> Send me updates about ANS/ANSI Standards | Email preference | <input type="radio"/> Home | <input type="radio"/> Business |
| | | | <input type="radio"/> I am a licensed Professional Engineer (P.E.) | <input type="radio"/> Local Section Member | | |

Application continued on other side ➔

FUNCTION

Engineer

- Nuclear Engineer
- Electrical Engineer
- Mechanical Engineer
- Chemical Engineer
- Other Engineer

Specialist

- Health Physicist
- Chemist
- Technician
- Scientist

Operations

- Reactor Operator
- Plant Operations

All Other

- Educator
- Student
- Sales/Marketing/PR
- General/Corporate Management
- Manufacturing
- Other

POSITION

- Not Employed
- Retired/Emeritus
- President
- Vice President
- Director/Department Head
- Owner
- Manager
- Supervisor
- Analyst
- Chief/Senior Engineer

- Engineer
- Consultant
- Project Manager
- Professor
- Adjunct/Assistant Professor
- Instructor
- Research Assistant
- Student
- Military Officer
- Other

INDUSTRY

- | | | |
|---|---|---------------------------------------|
| <input type="radio"/> Not Employed | <input type="radio"/> Engineering Firm | <input type="radio"/> Service Company |
| <input type="radio"/> Retired | <input type="radio"/> Government Agency | <input type="radio"/> Supplier |
| <input type="radio"/> Active Military | <input type="radio"/> Manufacturer | <input type="radio"/> Utility |
| <input type="radio"/> Construction Company | <input type="radio"/> Medical Institution | <input type="radio"/> Other |
| <input type="radio"/> Consulting Company | <input type="radio"/> National Lab | |
| <input type="radio"/> Educational Institution | <input type="radio"/> Private Research/Test Lab | |

MEMBERSHIP BENEFITS

Knowledge to Gain a Professional Edge

ANS leads in the development, dissemination and application of nuclear science and technology through:

- A large membership of experts from nuclear science and technology sectors
- Articles, papers, and books (*Nuclear News*, professional journals, proceedings, transactions)
- Conferences and workshops
- Development of Standards
- Division memberships (two free included with ANS membership)
- Networking
- Latest developments in nuclear science and technology

A Credible Voice to Support the Advancement of Nuclear Science

- To the general public, regulators and legislators
- Through the Center for Nuclear Science and Technology Information
- Through Congressional Seminar Series, teacher workshops, and position papers

Networking and Collaborating with Peers, Leaders and Mentors for Professional Fulfillment

- Conferences, workshops, and meetings
- Online discussion forums such as Facebook and LinkedIn
- *The Nuclear Cafe* – the ANS blog for all things nuclear
- Mentor Program, providing early-career members a connection to seasoned professionals
- Volunteering and participation in local sections, divisions and a wide variety of committees
- Members Only community at ans.org

Recognition through Honors and Awards

ANS has a vigorous program to honor outstanding achievement and meritorious service in nuclear science and technology. Prestigious awards range from Fellow status conferment, to named awards honoring highly respected individuals in their field.

Included in Your Membership

- *Nuclear News* - Monthly worldwide developments in the nuclear field including exclusive interviews with the movers and shakers who are shaping the profession
- *ANS News* - Bi-monthly reporting on the activities of the society, including public outreach efforts, position statements, honors and awards, and member news
- *Nuclear Headlines* - Nuclear-related news coverage updated every 15 minutes from 25,000 global sources
- *Notes and Deadlines* - Monthly e-bulletin covering timely nuclear topics
- Deeply discounted eJournal subscriptions with access to the Digital Nuclear Library – the central repository containing all digital content of the ANS Journals and other materials from Scientific Publications
- Career Center - Members Only section of the ANS Website for open positions and resume posting
- Membership in two ANS Divisions, providing specialty information and networking opportunities in your area of interest
- Substantial savings over the non-member registration fee at ANS conferences
- Discounts on ANS books, Standards, and other publications

JOIN. SHARE. DEVELOP.



Application continued on other side, or apply online at ans.org/join

PROFESSIONAL DIVISIONS

Choose **TWO** free technical division memberships. Additional divisions are \$10.00 each.

Note: Professionals under age 36, Young Members Group (YMG) is an automatic addition to the two divisions. Others may join YMG for \$10.00. YMG may not be substituted for the two divisions included with membership.

- | | | |
|--|--|--|
| <input type="checkbox"/> Accelerator Applications | <input type="checkbox"/> Human Factors, Instrumentation & Controls | <input type="checkbox"/> Operations & Power |
| <input type="checkbox"/> Aerospace Nuclear Science & Technology | <input type="checkbox"/> Isotopes & Radiation | <input type="checkbox"/> Radiation Protection & Shielding ¹ |
| <input type="checkbox"/> Biology & Medicine ¹ | <input type="checkbox"/> Materials Science & Technology | <input type="checkbox"/> Reactor Physics |
| <input type="checkbox"/> Decommissioning & Environmental Sciences ² | <input type="checkbox"/> Mathematics & Computation ¹ | <input type="checkbox"/> Robotics & Remote Systems |
| <input type="checkbox"/> Education, Training & Workforce Development | <input type="checkbox"/> Nuclear Criticality Safety | <input type="checkbox"/> Thermal Hydraulics |
| <input type="checkbox"/> Fuel Cycle & Waste Management | <input type="checkbox"/> Nuclear Installations Safety | <input type="checkbox"/> Young Members Group (YMG) |
| <input type="checkbox"/> Fusion Energy | <input type="checkbox"/> Nuclear Nonproliferation Policy | |

¹ Includes Computational Medical Physics working group
² Includes Nuclear Production of Hydrogen working group

MEMBERSHIP DUES

ANS memberships run on a calendar year basis, expiring December 31. Payment must be made in full. Membership dues are prorated monthly for the first year, with a credit applied to the following year.

	DUES	AMOUNT
Established Member – age 36 & over	\$ 170	
Young Member – age 35 & younger	\$ 125	
Early Career – graduated after 2011	\$ 85	
Recent Graduate (2015)	\$ 0	
Active US Military Personnel	\$ 85	
Entrance Fee	\$ 18	\$ 18
Extra Divisions \$10.00 ea. (2 included free)		

Residents of least developed/developing countries apply online at www.ans.org or call 1-800-323-3044. Outside the U.S., Mexico and Canada, dues include *Nuclear News* online only.

Total

Note: ANS dues are tax deductible as allowed by law. Consult your tax advisor.
 Membership dues subscription allocations: *Nuclear News* - 49%.

TO THE BOARD OF DIRECTORS

I hereby apply for admission to the American Nuclear Society. I certify that the record of my training and professional experience is correct, and agree that if accepted, I will be governed by the Society's Code of Ethics (ans.org/about/coe), Bylaws, and Rules (ans.org/about/br) as long as I remain a member.

Signature _____ Date _____

Mail U.S. funds with application to:
 American Nuclear Society
 97781 Eagle Way
 Chicago, IL 60678-9770

Wire transfers to:
 Account No. 824941
 JP Morgan Chase Bank
 10 S. Dearborn St. 36th Floor
 Chicago, IL 60603-2300
 Swift Code: CHASUS33
 Routing #: 021000021
 WIRE TRANSFERS MUST INCLUDE MEMBER'S LAST NAME

Fax credit card applications to:
 708-579-8295

American Express MasterCard Visa Diners Club
 Card # _____ CVV _____ Exp. date _____

Signature _____

Calendar

Meetings of interest

October

Oct. 5–6 **2nd Annual Nuclear Decommissioning and Used Fuel Strategy Summit**, Charlotte, N.C. Organized by Nuclear Energy Insider. Contact: Siobhan O'Meara, Nuclear Energy Insider, phone 800/814-3459, ext. 7512; fax +44 0 20 7375 7576; e-mail someara@nuclearenergyinsider.com; web www.nuclearenergyinsider.com/nuclear-decommissioning-used-fuel/.

Oct. 19–22 **27th Annual Decisionmakers' Forum**, Amelia Island, Fla. Organized by ExchangeMonitor Publications & Forums. Contact: Nicole Mattar, ExchangeMonitor, phone 202/296-2814, ext. 109; fax 202/296-2805; e-mail forums@exchangemonitor.com; web www.exchangemonitor.com/index.cfm/forums/the-annual-decisionmakers-forum/.

Oct. 19–23 **International Conference on Global Emergency Preparedness and Response**, Vienna, Austria. Organized by the International Atomic Energy Agency, in cooperation with the OECD Nuclear Energy Agency and others. Contact: Julie Zellinger, IAEA, phone +43 1 2600 21321; e-mail j.zellinger@iaea.org; web <http://www-pub.iaea.org/iaameetings/2015>.

Oct. 21–22 **14th EPRI International Decommissioning and Environmental Remediation Workshop**, Manchester, England. Sponsored by the Electric Power Research Institute. Contact: Linda Nelson, To Plan Ahead, phone 828/318-8428; e-mail lnelson@toplanahead.com; web www.epri.com.

November

Nov. 8–12 **2015 ANS Winter Meeting and Nuclear Technology Expo**, Washington, D.C. Sponsored by ANS. Contact: Donald Hoffman, EXCEL Services Corporation, phone 301/984-4400; e-mail donalddh@excelservices.com; web www.ans.org/meetings/m_145.

Nov. 12 **EPRI Nuclear Vendor Forum**, Charlotte, N.C. Sponsored by the Electric Power Research Institute. Contact: Viviane Mertson, EPRI, phone 704/595-2573; e-mail vmertson@epri.com; web www.epri.com.

www.ans.org/RadwasteSolutions

Nov. 17–19 **Sampling and Characterization Workshop**, Montpellier, France. Sponsored by two units of the French Alternative Energies and Atomic Energy Commission (CEA): the Analytical Methods Committee (CETA-MA) and the Nuclear Energy Directorate (DEN). Contact: Brigitte Jaume, CEA, e-mail brigitte.jaume@cea.fr; web <https://fr.amiando.com/sampling-and-characterisation-2015.html>.

January

Jan. 11–13 **31st INMM Spent Fuel Management Seminar**, Washington, D.C. Sponsored by the Institute of Nuclear Materials Management's Packaging, Transportation and Disposition Technical Division, in cooperation with the U.S. Nuclear Infrastructure Council. Contact: INMM, phone 847/480-9573; fax 847/480-9282; e-mail inmm@inmm.org; web www.inmm.org.

Jan. 31–Feb. 3 **2016 Health Physics Society Midyear Meeting and Exhibition**, Austin, Tex. Sponsored by HPS. Contact: HPS, phone 703/790-1745; fax 703/790-2672; e-mail hps@burkinc.com; web <http://hps.org/meetings/meeting44.html>.

February

Feb. 22–26 **International Conference on Human and Organizational Aspects of Assuring Nuclear Safety—Exploring 30 Years of Safety Culture**, Vienna, Austria. Sponsored by the International Atomic Energy Agency. Contact: Julie Zellinger, IAEA, phone +43 1 2600 21321; e-mail j.zellinger@iaea.org; web <http://www-pub.iaea.org/iaameetings/2016>.

March

Mar. 6–10 **Waste Management Conference (WM2016)**, Phoenix, Ariz. Sponsored by WM Symposia. Contact: Melanie Ravalin, WM Symposia, phone 480/557-0263; fax 520/829-3550; e-mail melanie@wmarizona.org; web www.wmsym.org.

Meetings of interest ▼

And coming up (ANS meetings) . . .

2016 ANS Annual Meeting, June 12–16, 2016, New Orleans, La.

Embedded Topical: International Topical Meeting on Advances in Thermal Hydraulics 2016 (ATH 16), June 12–16, 2016, New Orleans, La.

Embedded Topical: Nuclear Fuels and Structural Materials

(NFSM-2016), June 12–16, 2016, New Orleans, La.

Decommissioning and Remote Systems (D&RS 2016), July 31–Aug. 4, 2016, Pittsburgh, Pa.

2016 ANS Winter Meeting and Nuclear Technology Expo, Nov. 6–10, 2016, Las Vegas, Nev.

2017 ANS Annual Meeting, June 11–15, 2017, San Francisco, Calif. ■

2016 EDITORIAL CALENDAR

Spring	Ad space close: Feb 2, 2016
	Material due: Feb 9, 2016
<p>Waste Management - Featuring editorial coverage on Low-Level and High-Level Radioactive Waste and Environmental Remediation.</p> <p>Advertiser Feature: A copy of this issue will be included in all attendee and exhibitor registration packets at the annual WM2016 Conference.</p>	
BONUS DISTRIBUTION	Waste Management Conference (WM2016)
	ANS Annual Meeting
	EPRI's International Low-Level Waste Conference & Exhibit Show
	Decommissioning and Remote Systems (D&RS 2016)

Fall	Ad space close: Aug 2, 2016
	Material due: Aug 9, 2016
<p>12th Annual Buyers Guide - The Products, Materials, and Services Directory will feature more than 400 suppliers listed throughout 168 categories of various products and services related to the business of radioactive waste management – plus editorial coverage on Decontamination & Decommissioning.</p>	
BONUS DISTRIBUTION	10th Annual RadWaste Summit
	28th Annual Waste Management & Cleanup Decisionmakers' Forum
	ANS Winter Meeting and Nuclear Technology Expo
	Nuclear Power International (Power-Gen International)

ADVERTISING SALES REPRESENTATIVES

Mid-Atlantic/Midwest/Northeast
Barry Kingwill & Jim Kingwill
E: barry@kingwillco.com E: jim@kingwillco.com T: 847-537-9196 F: 847-537-6519
CT, DC, DE, IA, IL, IN, KS, KY, MA, ME, MD, MI, MN, MO, NC, ND, NE, NH, NJ, NY, OH, OK, PA, RI, SC, SD, TN, VA, VT, WI & WV

Southeast/West
Warren DeGraff
E: wdegraff@jjhs.net T: 415-721-0644 F: 415-721-0665
AL, AR, AZ, CA, CO, FL, GA, ID, LA, MS, MT, NM, NV, OR, TX, UT, WA & WY

International
Jeff Mosses, Advertising Sales Manager
E: jmosses@ans.org T: 708-579-8225 F: 708-352-6464
Asia, Canada, Europe, Latin America, United Kingdom and any other territory outside of the continental United States



EXPERIENCED. KNOWLEDGEABLE. RESPONSIVE.


Transuranic waste ready for shipment

BWX Technologies, Inc. (BWXT) provides a broad range of management, operational, technical and environmental management services to the federal government and industry. We are meeting defense, energy and environmental demands by providing services that are critical to the nation's future.

www.bwxt.com



BWXTTM
BWX Technologies, Inc.



MANAGING YOUR CHEMICAL
DECONTAMINATION PROJECT
SHOULD NOT BE
A FLUID SITUATION

WESTINGHOUSE ELECTRIC COMPANY, LLC

You have important assets to protect: the environment, the public, your personnel and your reputation. That's why you can't rely on just anyone for your decontamination and waste fluid handling projects.

Our state-of-the-art technology for chemical decontamination and fluid handling allows us to more effectively disposition the waste stream, resulting in reduced risk to you and more accurate cost projections for disposal.

Westinghouse has more than 30 years of global experience in the decommissioning and dismantling market. We have provided chemical decontamination services for more than 300 BWR systems and 50 PWR systems. Westinghouse provides the certainty you need for your D&D projects.

For more information, visit us at www.westinghousenuclear.com

