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OUR COMPANY

WMG, Inc. was founded in 1979 and is a qualified small business located in Peekskill, New York. We provide professional nuclear engineering services and software to government and commercial clients.

WMG's forte is radioactive materials management. We provide our customers with characterization, processing, packaging and shipping of radioactive materials. We are experts in the myriad regulations that govern the transport and disposal of low level radioactive waste (LLRW). We have disposed of various radioactive materials, including large components, contaminated equipment, GTCC waste, mixed waste, transuranic (TRU) waste, LLRW, filters, sludge/resins and spent fuel. Our technical staff has worked at virtually all the U.S. nuclear power plants and at several government facilities, such as West Valley, Savannah River, Hanford, Rocky Flats, and Fernald.

What makes WMG unique? We help our clients manage their most challenging radioactive waste issues. Our combination of nuclear engineering experience, software design capability and project management skills are unparalleled in the industry. This breadth and depth of experience at operating facilities is applied to every assignment we undertake, be it a comprehensive evaluation of a client's practices or providing the design for licensing of a reactor vessel shipping package.

Our many clients within the nuclear industry have recognized WMG's reputation as a high quality provider of expert nuclear services and radioactive materials management. We are well respected by government agencies, including the United States Nuclear Regulatory Commission (NRC), Department of Energy (DOE),

Department of Transportation (DOT) and a number of additional regulators, as well as the operators of the various radioactive waste processing and disposal facilities. WMG also received a Small Business Award for Excellence from the U.S. Small Business Administration for our decommissioning work at the University of Virginia.

OUR SERVICES

WMG's expertise extends to the following disciplines:

Engineering Support

WMG provides a full spectrum of technical services to support operating or decommissioning of a nuclear facility. Our projects have ranged from shielding design and analysis of a spent fuel transfer system to development and implementation of plans for dispositioning unique forms of radioactive waste. WMG also provides on-site project management services for fuel pool cleanout, dry fuel storage, and large component removal projects.

Major Component Disposition

WMG supports the disposition of major nuclear components such as reactor vessels, reactor pressure vessel heads, steam generators, pressurizers, reactor coolant pumps and motors, heat exchangers, tanks, fuel pool racks and other large radioactive components. Our services include characterization, package design and supply, transportation, and processing/disposal. We typically provide fixed-price turnkey solutions.

Irradiated Hardware/Spent Fuel Pool Services

WMG provides a full spectrum of technical services for cleanup of spent fuel pools, including project planning, characterization, and transport and disposal documentation for waste shipped for disposal.

D&D Support

WMG has supported all commercial D&D projects with characterization services for disposition of the reactor vessel and internals. We have prepared D&D, waste management and ALARA plans; provided cost estimating, design and licensing support for large component packaging; planned cavity and spent fuel pool cleanup; acted as liaison with regulatory agencies; and supplied packaging and transport for processing/disposal. We have also provided on-site support for large component and waste management projects.

Package Licensing and Permitting

WMG provides turnkey technical support for NRC licensing of both spent fuel and waste shipping packages, and DOT approval of exempted packages.

Regulatory Training

WMG provides a series of training courses, which address the regulatory and practical aspects of radioactive materials processing, packaging, shipment and disposal.

OUR SOFTWARE

WMG has been the leader in software development for the nuclear industry since 1982. We have provided computer program applications to the commercial and government sectors. Our RADMAN™ software is used at virtually all operating nuclear power plants and at several DOE and commercial waste processing facilities.

Our standard commercial software includes:

- RADMAN™
- OSM™
- MegaShield™
- FILTRK™
- RAMTRK™
- RAMSHP™

WMG also provides customized software for specific client needs. These customized programs incorporate WMG's many years of experience in characterizing, manifesting and managing all forms of radioactive materials including spent fuel.

Nothing Mitigates Risk Like Experience

NUCLEAR GRADE SERVICES

- Highly Regarded Hardware Characterization
- Quality Radwaste Program Development
- Expert Legacy Waste Characterization
- Experienced Project Management
- **PRO SHIPPER**® On Site Shipping Support



WVG
25 Years of
Radwaste
Management

INNOVATIVE PACKAGING

- Exemplary Design & Licensing
- High-Dose Process Equipment
- Large Component Packaging
- High Quality Fabrication

WORLD CLASS SOFTWARE

- **PRO SHIPPER**® Virtual Solutions
- **RADMAN**™ the Industry Standard
- **RAMSHP**™ for Small Generators
- Custom Software Solutions



WVG inc.

16 Bank Street
Peekskill, NY 10566

Tel: 914-736-7100
Fax: 914-736-7170
www.wmginc.com

*Charting the course
of success...*

EXCEL

SERVICES CORPORATION
Nuclear Engineering Consulting

Vision

Passion

Innovation

Execution

In the beginning, **EXCEL's** first client services included providing plants with experienced individuals to support general operating plant licensing issues and to support the initial licensing of new power plants.

Since then, with over 23 years of service, **EXCEL** has earned the reputation of the premier company providing diverse licensing, operations, and engineering services, which has made **EXCEL** uniquely qualified to manage large, complex projects supporting both the current fleet of reactors and the proposed fleet of new reactors.

EXCEL continues to provide innovative solutions for complex operational, engineering, safety and regulatory issues, and provides insightful consultation to senior utility executives and committees striving to maintain and enhance the quality and safety of their organization. These services have proven to be extremely beneficial to the nuclear facilities and the regulatory agencies both in the U.S. and internationally as well.

This cumulative experience, expertise and knowledge ensure the development of the best quality product in a cost effective manner and in accordance with the highest standards of professional excellence.

Vision
Fueled by Passion
Created by Innovation
....with Excellence in Execution

Services

Domestic

Improved Technical Specification Conversions
 Operations, Maintenance, Engineering Support
 Logic System Functional Testing Evaluation
 24 Month Fuel Cycle Interval Extension GI-91-04
 Security Assessments
 Fire Protection
 Procedure Upgrade
 UFSAR Upgrade
 License Renewal
 Power Uprate
 Security Plans
 Security Management
 Construction Oversight
 New Build Project Management Tools
 Due Diligence
 General Licensing Support
 Steam Generator Replacement
 General Part 52
 Early Site Permitting
 Combined Construction and Operating License
 ITACC
 Licensing for Fuel Enrichment Facility
 Department of Energy Facilities Support
 Licensing for Test Reactors both Domestic and International
 Design and Licensing Basis Recovery Projects
 Probability Risk Assessment and Risk Management
 Nuclear Knowledge Management Consulting
 Nuclear Knowledge Management Certification Course
 Licensing for the Yucca Mountain Repository
 Decommissioning
 Environmental Qualification Evaluations
 Preventive Maintenance Optimization
 Reliability/Availability Studies
 Environmental Report Site Evaluation

International

Technical Specification Licensing Pilot- Germany
 Compliance Matrix for PBMR Project- South Africa
 Regulatory Management Group Development-South Africa
 Licensing and Regulatory Support- Finland, Sweden, Mexico
 Technical and Regulatory Support- Canada, United Kingdom
 Decommissioning and Decontamination- United Kingdom
 Regulatory Initiatives-Russia, France, Bulgaria, Brazil, Argentina

11921 Rockville Pike, Suite 100
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Web: www.excel-services.com

for over 20 years

Obsolescence...

Perhaps the greatest issue facing today's operating reactors.

Of the 100,000 parts a plant typically relies on every day to stay up and running, one in five will be difficult – or impossible – to replace (as defined in INPO NX-1037.) That's 20,000 potential obsolescence issues quietly waiting to make themselves known when least expected. Curtiss-Wright Flow Control Nuclear gives utilities "the power of choice" in selecting the "best fit" solution to their obsolescence problem. Just a few of our solutions include:

ASME SECTION III MANUFACTURING

Nuclear power plants operate today with many critical Section III components manufactured by companies that no longer maintain ASME N-stamp certification. During the first wave of nuclear plant construction in the U.S., more than 1,400 companies held ASME N-stamps, while today there are fewer than a hundred certificate holders worldwide. This has become a major cause of obsolescence of critical mechanical equipment.

Six Curtiss-Wright Flow Control companies maintain either ASME "N" or "NPT" certification. In addition to ensuring steady supply of our proprietary product designs, we manufacture ASME Section III equipment and parts from other OEMs that no longer maintain certification. Examples include: pumps (Goulds Pumps); valves (Jamesbury, Marotta, Circle Seal, BIF); and airlocks and equipment hatches (W.J. Woolley, Chicago Bridge & Iron and Pittsburgh-Des Moines).

We excel in "build to print" manufacturing of mechanical components requiring ASME Section III certification.

REVERSE ENGINEERING: ELECTRICAL AND MECHANICAL

Curtiss-Wright Flow Control Nuclear has solved the obsolescence problems associated with control instrumentation used commonly in Westinghouse and General Electric plants. Our OBSOLUTION™ platform includes reverse engineering, repair or refurbishment, and re-engineering of obsolete instruments to provide superior performance, while inspected, tested and certified to provide the same form, fit and function as the original equipment.

In addition to replacements for each of these obsolete product series, we continue to expand our instrumentation

family to support emergent utility needs: Hagan 7100, Foxboro H-Line, Bailey 7000, GE/MAC, Class 1E isolators.

Our reverse engineering expertise also includes mechanical components – from small and simple to large and complex. Whether it is HCU accumulators, fasteners, gaskets or any other machined components, we can provide either replicate parts or engineered upgrades.

SAFETY-RELATED REPLACEMENT PARTS

Many OEMs have discontinued support of their installed base of safety-related components. Curtiss-Wright Flow Control Nuclear has qualified more than 25,000 commercial-grade equivalents with the same form, fit and function as the original part. Our vast array of qualified products covers virtually every plant need, whether the part is large or small; electrical, I&C or mechanical; "one of" or "many of." Examples of our qualifications include: circuit breakers, transmitters, valves, actuators, battery chargers, relays, and a host of other product types.

In addition to unequalled test facilities, providing this service requires an in-depth understanding of component design attributes, accident function and environmental conditions in order to successfully select and qualify an acceptable replacement. Our environmental qualification capabilities and engineering expertise are unsurpassed, allowing us to tackle the most challenging applications in a nuclear plant.

ENHANCED EQUIPMENT RELIABILITY

Components with high maintenance requirements, history of failures and poor reliability – coupled with obsolescence issues - place nuclear plants at risk of lost generation and unplanned outages. Although there may be a higher first-time cost, the best

long-term solution is to replace these components with superior designs that avert frequent maintenance tasks, enhance plant operations and eliminate obsolescence concerns.

We have used advanced technology designs to solve many chronic problems. Examples include:

- *Digital chiller controls*
- *Plant-wide computer replacement and software upgrade*
- *HydraNut® tensioning technology: breakthrough reduction in outage time and worker exposure*
- *Advanced valve and actuator designs eliminate recurring maintenance*

Design and Applications engineers support these complex projects to ensure the scope of the modification is minimized while maximizing the improvement in equipment reliability.

ONLINE TOOLS AND RESOURCES

Several important Curtiss-Wright Flow Control Nuclear online tools solve obsolescence problems, including the RAPID parts sharing database. With over 6 million utility and supplier records, RAPID is the ideal tool for locating surplus parts.

Curtiss-Wright Flow Control Nuclear also hosts the Obsolete Item Replacement Database (OIRD) with direction from the Nuclear Utility Obsolescence Group. Over 50,000 items identified as obsolete have been listed on OIRD, with more than half having solutions posted for sharing by utilities.

A popular OBSOLUTION is the substitution of commercial-grade items through dedication. Commercial-Grade Dedication (CGD) often requires extensive testing; determining those requirements can be an exhaustive process. Curtiss-Wright Flow Control Nuclear makes available an extensive library of CGD testing requirements.



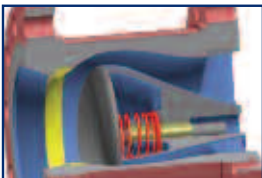
ASME SECTION III
MANUFACTURING



REVERSE ENGINEERING:
ELECTRICAL AND MECHANICAL



SAFETY-RELATED
REPLACEMENT PARTS



ENHANCED
EQUIPMENT RELIABILITY



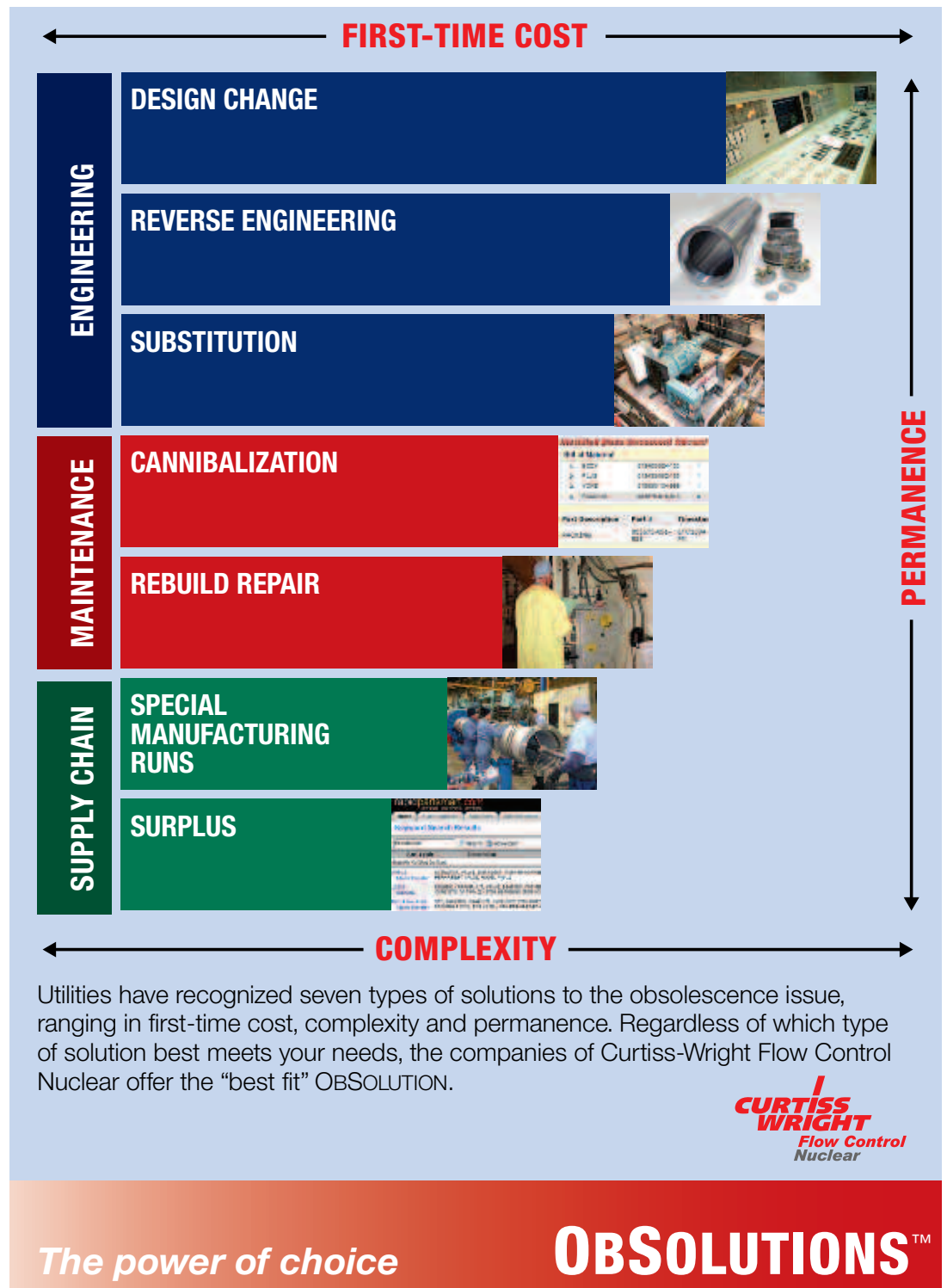
ONLINE TOOLS
AND RESOURCES



ENGINEERING, REPAIR
AND FIELD SERVICES

OBSOLESCENCE

20% of all parts in your plant are obsolete



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It's no accident. Central Research Laboratories (CRL) has been the global leader in direct manipulation of nuclear materials for more than 50 years. How? By creating effective solutions to difficult problems in the absolute world of toxicity.

A little history

CRL of Red Wing, Minnesota has been designing, developing and manufacturing equipment and systems for the nuclear industry since the 1940s. Over the years, the company has accumulated more than 100 patents, and installed more than 8,000 units in 26 countries.

Extending a hand

CRL established its leadership presence in 1950 with a breakthrough telemanipulator design. Telemanipulators function as an extension of the human hand. CRL has 15 different models to manipulate hazardous materials in situations where direct contact isn't safe for people or for the environment, and when finger-like dexterity and feel ("force-feedback") are needed. Without telemanipulators, important activities ranging from nuclear waste cleanup to preparation of radiopharmaceuticals for medical procedures would be more difficult, costly, and dangerous.



It's no accident: Central Research is the leader

Touting the line

In addition to the telemanipulators, CRL's principal product line includes:

Double-Door Sealer Transfer System — Used for transferring items and materials in or out of sealed enclosures, allowing rapid and repeatable transfers without breaking containment of the enclosure or the transfer container.

Sealed Pass-Through Enclosure System — A means of providing a sealed penetration into an enclosed volume using a glove, window, bag, plug, or ball manipulator and maintaining the integrity of the enclosed volume during a replacement or transfer procedure.

Drum Transfer Systems — Bagging and bagless transfer of hazardous materials using industry-standard drums.

Service with a style

Products are important. No question. But so is service. CRL provides complete before- and after-sale service for all products, including:

- Engineering assistance to ensure proper layout, installation, and operation
- On-site installation support
- On-site field service (repair and maintenance) of all CRL equipment
- Factory repair and refurbishing
- Complete spare parts availability
- On-site or factory training on equipment maintenance and operation
- Technical support for the life of your equipment

Again, CRL didn't take the industry lead by accident. Rather, it has earned it every day for more than a half century by providing the best solutions to difficult problems in the absolute world of toxicity.

CENTRAL RESEARCH LABORATORIES

Red Wing, Minnesota 55066
651-388-3565
www.centres.com
FAX 651-385-2109

US-APWR Is Next Mitsubishi Milestone

Since 1970, Mitsubishi Heavy Industries Ltd. (MHI) has built 23 nuclear power plants in Japan using Pressurized Water Reactor (PWR) technology. The company has improved on its PWR technology through operational experience as well as through extensive research and development. While Mitsubishi's technologies have evolved, the company's goal has remained constant: to provide nuclear power plants with levels of reliability, safety, economy, operability and maintainability unparalleled in the world.

Mitsubishi is a fully-integrated nuclear power plant supplier, providing planning, design, manufacturing, construction and plant maintenance for its utility customers. In addition, the

company provides a number of replacement components to utilities in Japan, Europe and the United States, including reactor vessel heads, control rod drive mechanisms, pressurizers and steam generators.

Now, MHI has introduced its U.S. Advanced Pressurized Water Reactor (US-APWR), a design that is more efficient with greater output than any previous power plant built by any company in the world. Luminant Power, a large Texas utility, has selected the US-APWR-design for two plants it intends to build, and other U.S. utilities are expected to follow suit. To work with U.S. utilities, MHI has established Mitsubishi Nuclear Energy Systems Inc. in Washington, D.C.

The motto of MHI is "New Engineering Excellence." This philosophy is reflected in the company's products and its leading-edge research into the technologies of the future. MHI goes beyond merely refining existing technologies; instead, MHI engineers integrate diverse technologies based on totally new concepts in pursuit of ever-more advanced solutions.

Features of the US-APWR include:

Enhanced Safety

- Four-train safety system for enhanced redundancy.
- Advanced accumulator.
- In-containment refueling water storage pit.

Enhanced Reliability

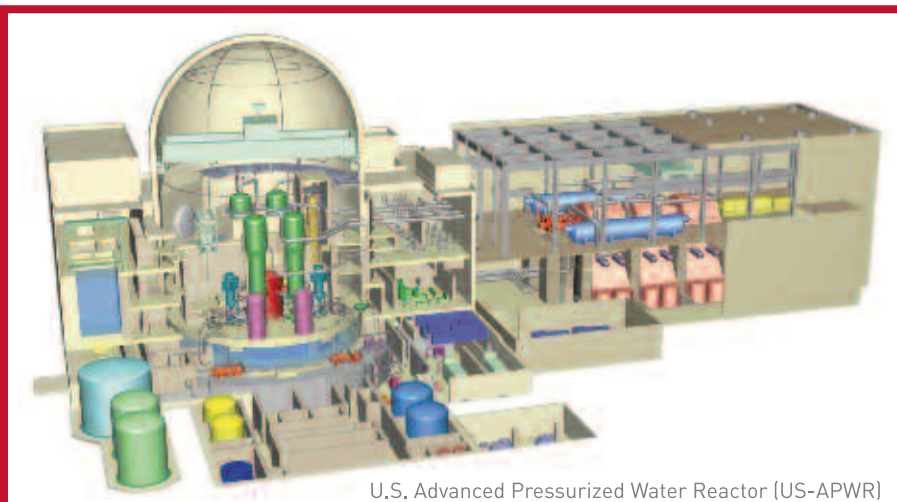
- Steam generator with high corrosion resistance.
- Internals with neutron reflector.
- Reactor with top mounted ICIS.

Attractive Economy

- A large core with high electric output.
- Building volume per MWe that is four-fifths that of other four-loop PWRs.

More Environmentally Friendly

- Reduced occupational radiation exposure.
- Capability to use mixed oxide (MOX) fuels.



U.S. Advanced Pressurized Water Reactor (US-APWR)

Specifications of the US-APWR:

Electric Power	Approx. 1,700 MWe
Core Thermal Power	4,451 MWt
Reactor Fuel Assemblies	257
Reactor Fuel	Advanced 17x17, 14 ft.
Active Core Length	4.2 meters
Coolant System Loops	4
Coolant Flow	2.75x10 ⁴ m ³ /h/loop
Coolant Pressure	15.5 MPa
Reactor Coolant Pump Motor Output	6,000 kW



Contact us to learn more about the US-APWR.
 (202) 775-3933 or visit us at
www.MNES-US.com

 MITSUBISHI HEAVY INDUSTRIES, LTD.

Nuclear Programs Fuel Major Tool & Machine's Growth

Our Present...

Since 1946, Major Tool & Machine, Inc. has been providing engineering, fabrication, machining, assembly and testing services for critical application environments. Our customer-focused philosophy, coupled with continuous reinvestment in our capabilities, facilities and employees, has enabled us to evolve with and respond to the needs of our customers. Major Tool's best value approach provides our customers with the highest quality, competitively priced build-to-print services available.

Major Tool provides unsurpassed levels of capability and quality assurance. Maintaining over 300,000 sq. ft. of environmentally controlled manufacturing space under roof, Major Tool offers extraordinary capacity. Our continuous reinvestment in capital equipment allows us to provide prototype through production forming, welding, machining, assembly and testing services to meet the wide range of application specific shape, size and

configuration hardware required by the nuclear industry.

Our ability to execute this full spectrum of manufacture has allowed Major Tool to successfully participate in many critical government, industry and academia sponsored fission and fusion programs. In fact, Major Tool has been honored by our selection as U.S. Department of Energy Oak Ridge National Laboratory 2003 Small Business of the Year.

Our extraordinary capability, capacity and experience are driven by our commitment to quality assurance. Major Tool maintains ASME N, NPT, N3, NS, U and U2 certifications. Our Quality Assurance System is audited to ASME NQA-1, as is NRC 10CFR50, 10CFR71 and 10CFR72 compliant.

Your future...

It is bright on the nuclear energy horizon. Major Tool is committed to our future, your future, and the future of our generations by championing the growth of nuclear energy and the

safe, successful remediation and disposal of radioactive waste.

We are well positioned to usher in the nuclear renaissance, and we will continue to apply all our resources and knowledge to provide our customers the quality critical hardware necessary to meet tomorrow's demanding nuclear requirements.

Nuclear power plant upgrades, next generation power plants, naval nuclear, radwaste transportation and disposal casks, canisters and tooling, fuel fabrication, magnetic and inertial fusion, and government, industry and academia supported energy sciences initiatives are all areas where Major Tool applies our hardware manufacturing expertise.

We look forward to the bright future that nuclear energy provides us all.

For more detailed information, or to schedule a visit to Major Tool & Machine, contact Joel Manship at (317) 917-2619 or by email at jmanship@majortool.com



Major

Tool & Machine, Inc.
www.majortool.com

World Class Engineering, Fabrication, and Machining Services

58 Years of experience in serving diverse global markets

Fabrications to 60 tons - Carbon and Stainless Steels, Superalloys, Aluminum, and Titanium

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How Can We Help You?

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Phone (317) 636-6433, Fax (317) 634-9420, sales@majortool.com

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



AREVA EPR: The Path of Greatest Certainty



Global Fleet Under Construction – The first Generation III+ design to be built. AREVA has uninterrupted nuclear plant building experience around the world, including the EPR project in Olkiluoto, Finland, which is scheduled to go online in 2011.

AREVA's Evolutionary Power Reactor (EPR) is the first Generation III+ reactor design currently being built to answer the world's growing demand for clean and reliable electricity generation. The EPR is being built in Finland and France, and construction will soon start in China for two units. This ongoing experience benefits current and future generations of customers. At AREVA, it's what they call the path of greatest certainty. Some of the factors that contribute to this path of greatest certainty include:



AREVA never stopped building

Unlike some companies, AREVA never stopped building nuclear reactors. Over the years, 100 nuclear reactors have been ordered from AREVA. AREVA is the only Generation III+ reactor constructor in the world with ongoing building experience.

EPR is being built now

AREVA's Evolutionary Power Reactor (EPR) is being built today, including one in Finland (2011 completion), one in France (2012 completion), and two

in China (2013/14 completion). In the U.S., EPRs are undergoing licensing activities for UniStar at Calvert Cliffs (2016 projected completion), and for PPL Generation at Bell Bend and AmerenUE at Calloway.

Supply Chain Certainty

• Procurement Certainty

EPR's heavy components are sourced directly from AREVA's integrated manufacturing plants. AREVA has 41 manufacturing sites worldwide to ensure supply chain certainty.

• Investments in SFARSTEEL

Owned by AREVA, SFARSTEEL is currently one of the world's leading suppliers of very large, top-quality, forged nuclear components (weighing up to 120 tons apiece) for major energy customers.

Human Resource Development

AREVA has 65,000 employees worldwide, of which 40,000 are in the nuclear sector. They have the right people in place to meet the world's growing need for new nuclear plants.



Also under construction in France, the AREVA EPR is being considered by utilities in the U.S. and around the world.

From building experience and procurement assurance to human resources development, AREVA's EPR provides the path of greatest certainty for new nuclear construction.





The Bartlett Advantage

Founded in 1979, Bartlett has developed into a leading provider of specialty support solutions to nuclear, fossil and hydroelectric power generation facilities (both union & non-union). Today, Bartlett operates five business units that provide a comprehensive suite of complementary services and innovative technologies.

Bartlett maintains a customer focus, servicing 88 power generation customers at over 120 project locations nationwide. We have developed longstanding relationships with our customer base, many lasting more than two decades. Our unique platform of on-site specialty support solutions enables us to develop long-term strategic partnerships where our core objectives and goals are integrated with those of our customers.

Bartlett distinguishes itself from its competition through its extensive industry experience, comprehensive service offering, robust infrastructure and proprietary technology, and exceptional safety record.

Extensive Experience

- Nearly 30 years of service to commercial & government nuclear facilities
- Only company providing these services to every U.S. commercial nuclear reactor
- Executive management team with an average tenure of 11 years company experience & 21 years industry experience

Comprehensive Service Offering

- Broad suite of support services to nuclear, fossil & hydro electric power generation markets
- Union & non-union services
- Year-round and outage on-site specialty support services
- Personnel trained across disciplines to reduce costs & eliminate redundancies for customers

Robust Infrastructure & Proprietary Technology

- IT platform for workforce management enables a fulfillment rate of customer request for resources in excess of 98%
- Over 4,500 dedicated employees working on-site at customer locations nationwide
- Exclusive distribution of EXCEL scaffold to nuclear facilities & exclusive licenses for ALARA radiation protection and contamination control technologies
- Proprietary Automated Monitoring System (AMS) technology

Exceptional Safety Record

- Track record that outperforms industry averages
- EMR of 0.58 and DART of 0.08
- Continual safety training and employee safety incentive reward programs
- "360 degree" safety philosophy evaluating all aspects of every job before performing work; applied at every level of the organization

Our Power Is In Our People

Rely on nearly 30 years of experience providing solutions to the power generation industry to support your next project.

Integrated Professional & Technical Services

- Start Up & Restart
- Engineering & Design
- Radiation Safety
- Environmental Safety & Health
- Groundwater Protection
- Decontamination & Decommissioning
- Scaffold Management
- Technology & Equipment
- Maintenance

Facilities, Civil, Mechanical,
Turbine/Generator &
Rotating Equipment

A LEADER IN SUPPORTING THE POWER GENERATION INDUSTRY



EXCELerate



If you were
using Excel,
you would
be finished
already.

EXCEL An ISO 9001 Quality System

Automatic Locking
Scaffolding System.

No Tools Required.

Savings through Safety, Quality and Technology.



U.S. Patent No. 5,028,164 &
U.S. Patent No. 5,078,532.
Other Patents Pending



EXCEL MODULAR SCAFFOLD



Excel at President Bush's Inauguration



Excel at an Oil Refinery



Commercial Nuclear Power Plant Use

INDEPENDENT EVALUATIONS

1. Boston Edison/Global Supply Evaluation (CD-ROM)
2. International Union of Operating Engineers Evaluation for the Department of Energy (Printed Material)
3. International Union of Operating Engineers Technical Safety Data Sheet (Printed Material)
4. DuPont Engineering Independent Industrial Safety Evaluation (CD-ROM)
5. Innovative Technology Summary Report from the DOE Evaluation at INEEL (Printed Material)

ADDITIONAL EXCEL INFORMATION

6. ISO 9001:2000 Certified Quality Assurance Program-Certificate of Registration Available (Printed Material)
7. Seismically Bench Tested and Qualified by Wyle Laboratories-Test Report Available (Printed Material)
8. Safety and Training Video (CD-ROM)
9. Technical Manual (Printed Material)
10. Client References (Printed Material)
11. Pricing (Printed Material)

Please check the items you are interested in receiving and fax to 508-830-3616, call 800-652-7712 or email your request to excel@bartlettinc.com. Be sure to include your name, company, mailing address and phone.

Name: _____ Company: _____

Address: _____

City: _____ State: _____ Zip: _____

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 For more information call 800-652-7712 or 508-830-1111 • fax 508-830-3616
 Visit our Web Site at <http://www.excelscaffold.com>

Finding solutions to equipment challenges shouldn't be, well, a challenge.

NLI's sole focus is to effectively address the needs of the nuclear industry's most demanding applications, providing answers for all types of equipment problems including electrical, mechanical and instrumentation.



CASE STUDY 1

Because of our long standing relationship with Trane, NLI is able to provide the innovative CH531 digital upgrade for chillers. NLI's scope includes the design, fabrication, mock-up testing, dedication testing, qualification, installation, and start-up of the control system. These units can be used on literally any chiller in the nuclear industry. Supplied as pre-packaged kits, the CH531 units are prequalified for seismic, mild environment, V&V and EMI/RFI, and of course they can be provided for either safety- or nonsafety-related applications. Two NPPs are benefiting from these superior digital upgrades, and the word is spreading.



CASE STUDY 2

In conjunction with our teaming partner Square-D Services, NLI designs, manufactures, qualifies and supplies MASTERPACT® low voltage breakers to replace old maintenance-intensive breakers such as GE AK, AKR and Westinghouse DB, DS and ABB K-Line breakers series. This equipment is furnished as pre-qualified* replacements for existing breakers, requiring *no field changes* to install, and each unit is amazingly *maintenance free* for up to 10,000 "operations or 40 years. Twelve nuclear plants have selected the MASTERPACT to replace low voltage breakers, and several more are looking at the benefits of this innovative equipment.



CASE STUDY 3

NLI manufactures, tests and supplies accumulators and corresponding parts as ASME Section III "N-Stamp" components. Provided as direct replacements for Greer Hydraulic, Inc. accumulators, these parts are produced under NLI's ASME Section III Certificate of Authorization to the original design documents, ensuring proper fit up with the existing installed base. Responsibility is held by NLI for all aspects of design, manufacturing, NDE and testing to meet unique specifications. Currently, five facilities have installed our N-Stamp accumulators with great results.

NLI consistently meets the exacting requirements of our clients, and we are able to support the nuclear industry with proven, state-of-the-art solutions.

* NLI has prequalified the subject equipment in accordance with IEEE Std. 323, IEEE Std. 344, IEEE Std. 7-4.3.2 and EPRI TR-102323, exceeding all requirements.

MASTERPACT® is a registered trademark of Square D Services.

It's simple when you know where to turn.



Custom equipment and solutions. If you need them now, you face a bewildering labyrinth of decisions.

But it doesn't have to be that complicated. At NLI, our strategic alliances with world class companies allow us to be proactive in the development of innovative equipment. Because of our partnerships we are establishing ourselves as a principal OEM in the industry, proficiently supplying built-from-scratch equipment designed and engineered to custom parameters. Our standard-setting QA program—which is ASME III certified, Division 1, Class 1, 2 and 3 "N" Stamp—attests to our commitment to excellence. As the foremost authority in Class 1E supply and a frontrunner in Class 1E equipment maintenance, NLI covers the entire spectrum of engineering-related services with a comprehensive line of products and the ability to address routine needs or very specific requirements. In fact, we can solve just about any problem that nuclear utilities encounter.

When it comes to nuclear power generation, you can count on NLI to know the way.



> the single source

www.nuclearlogistics.com • 800.448.4124

Radiation Detection for a Safer World

Ludlum Measurements, Inc. has been designing, manufacturing and supplying radiation detection and measurement equipment in response to the world's need for greater safety since 1962. Throughout its nearly five decade history, it has developed radiation detection technologies and instruments in support of enhancing the safety of personnel and the environment. It offers one of the largest lines of radiation detection instrumentation available from one company and is widely respected for its legendary support and engineering excellence.



Ludlum
Measurements, Inc.

www.ludlums.com

Ludlum Measurements, Inc. 501 Oak Street, Sweetwater, Texas 79556 USA
Voice: 325-235-5494 Fax: 325-235-4672

New 2008 Products



*Model 700 Series
Isotopic Identifier*



*Model 3030P
Alpha/Beta
Sample Counter*



*Model 9-3
5 Decade
Ion Chamber*



*Model 215
Alpha Frisker*



*Model 25
Radiation Pager*



Ludlum
Measurements, Inc.

www.ludlums.com

The Nuclear Industry's Rigging and Transportation Experts

The unique nature of the nuclear power industry demands vendors with the skills and experience that can consistently perform at extremely high levels. Barnhart's Nuclear Services Group has proven its rigging and transportation expertise in fifteen years of working with the nation's leading nuclear energy producers, contractors, and engineers.

Life extensions, upgrades and major maintenance require the handling of critical components within operating plants. To perform this work during planned outages, a thorough knowledge of major construction techniques, advanced structural engineering, and ALARA is required. It is also crucial that the company has practical working knowledge of the demanding requirements of nuclear protocol, such as NuReg 0612. Barnhart exceeds that criteria and has developed unique tools and methods to perform the movement of major equipment such as:


- RPV Closure Heads
- Moisture Separator Reheaters
- Pressurizers
- Feedwater Heaters
- Condensers
- Transformers

Rigging supervision, lift planning, heavy rigging and crane services are provided through their team of professional supervisors, engineers, and project managers. Barnhart ensures the safety, quality, and timely completion of plant outages. Often they are called upon to participate in the "Readiness Planning" of various operating plants. These plans serve to limit downtime during emergency outages by coordinating the engineering, rigging plans, and transportation schedules. In some cases, heavy rigging in nuclear power facilities presents the challenge and opportunity for development of custom designed rigging tools. Barnhart's ISO9001 certified engineering and fabrication capabilities provide solutions, from concept through completion, to handle major components safely and on schedule.

Experienced and certified for Hazmat service, Barnhart also brings a working knowledge to the transportation of contaminated components to burial or processing. Barnhart's Heavy Lift Terminal

in Memphis serves as a transfer point and waste processing facilities of Studsvik and Duratek. Barnhart provides transportation of such components by barge, rail, or road. Barnhart rounds out their experience by providing warehousing services to support the Pooled Inventory Management System (PIMS) program administered by Southern Company. The PIMS program is a

mechanism for nuclear plant owners to jointly procure and store critical plant spare equipment. Permanent PIMS management resides at the Barnhart facility coordinating the maintenance and handling of the inventory by Barnhart personnel. To learn more about Barnhart's work experience in the nuclear industry, visit us at www.barnhartcrane.com.



**GREAT IDEAS.
SAFE IDEAS.**

Perfectly safe and flawless execution is the Nuclear Industry expectation for all heavy rigging and transportation projects. That's why Barnhart backs up their pledge of safe and expertly engineered solutions with real, verifiable results. Since it entered the nuclear industry over 15 years ago, and performed 125 major projects, Barnhart has consistently met this expectation with zero OSHA recordables and zero accidents. Impressive when you consider many of these were outage projects with crews of more than 100. If your next project involves component replacement - whether highly complex, critical path upgrades or routine maintenance projects - consider Barnhart. We don't simply talk about safe and efficient solutions, we deliver.

BARNHART
Minds Over Matter

800.587.3249 • barnhartcrane.com

Black & Veatch continues history of support for nuclear energy

After almost three decades of little or no nuclear construction in the United States, utilities are beginning to return to nuclear power because of concerns about greenhouse gas (GHG) emissions produced by other types of power plants. Black & Veatch is ready to support this shift offering full-service nuclear power engineering, procurement and construction (EPC) capabilities to meet the challenges of nuclear power's future.

Black & Veatch is already working with clients on two combined construction and operating license applications (COLA) in the United States and was recently selected to support work on a third.



“Nuclear power will support electrical generation diversity in the electric grid and provide a stable baseload.”

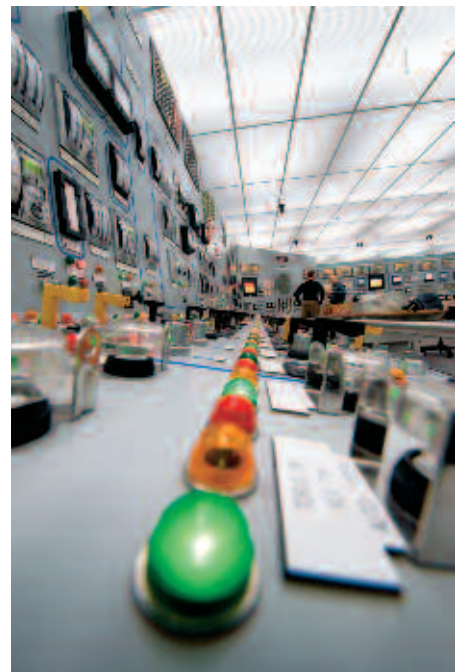
– Bob Fraser, Black & Veatch Energy Project Director

“The industry is constrained on engineering resources right now, and Black & Veatch has demonstrated that we are able to deliver in this market,” said Bob Fraser, B&V Energy Project Director for Nuclear. “This (latest) project will provide Black & Veatch with an opportunity to work with another original equipment manufacturer (OEM) as we continue to diversify ourselves among the boiling water and pressurized water reactor OEMs.”

Much has changed since Black & Veatch began working in this area during the close of World War II. Today, Black & Veatch has qualified and working relationships with more than 90 global vendors, based on our advanced nuclear power project experience.

“The industry is currently spending about \$2 billion annually on new plants, when three years ago they were spending nothing. So, the market is growing quickly,” Fraser said. “We should see some plants breaking ground in 2010 and afterward.”

Although Fraser noted it would take some time for nuclear power to gain momentum, he is certain that it has a positive future in the overall power equation.



“Nuclear power plants do not produce any GHG, therefore, these plants add new power generation supplies with virtually no environmental impact, especially if older fossil-powered plants are retired as the newer nuclear plants come online,” Fraser explained. “Nuclear power will support electrical generation diversity in the electric grid and provide a stable baseload.”



BLACK & VEATCH
Building a world of difference.®

BUILDING A WORLD OF DIFFERENCE®



Committed to meeting your nuclear energy needs

Offering full-service nuclear power engineering, procurement and construction (EPC) capabilities, Black & Veatch is prepared to meet the challenges of nuclear power's future. We deliver total solutions, from concept to construction, as owner's engineer or turnkey provider, on all regulatory, security and safety matters. We bring it all together – our tools, technologies and teams – to manage risk and create value for our clients.

Whether providing environmental sustainability, reliable energy, clean air and water, safety or security, we are passionate in our mission, *Building a World of Difference*.

For more information about Black & Veatch's nuclear capabilities, visit www.bv.com or contact Keith Gusich at **913-458-4791**.

Black & Veatch's nuclear offering include:

- > **New-build capabilities**
- > **Operating plant services**
- > **Safety & quality programs**
- > **Reactor technology evaluation**



BLACK & VEATCH
Building a **world** of difference®



JOSEPH OAT CORPORATION

Founded in 1788, Joseph Oat Corporation is the **oldest, continually operated fabricator in North America**. Conveniently located on the Delaware River across from Philadelphia, Joseph Oat Corporation economically ships equipment to ports worldwide. Privately owned and operated, the company is internationally recognized as a quality fabricator of a variety of alloys and reactive metals for the most demanding and critical applications.

Joseph Oat is one of the largest providers of **nuclear safety related pressure vessels and heat exchangers**. Our equipment is operating in more than 70 power plants around the world, some for over 30 years. **One of the very few companies who have retained the nuclear "N" stamp since the inception of this designation by ASME**, we have continued to serve utilities through the active construction phase. We provide retrofit and replacement equipment on a continuing basis in the U.S. and we are currently participating in active nuclear plant construction in other parts of the world.

Technologically, Joseph Oat Corporation has consistently been one of the **true leaders in heat transfer technology**. We are not only users of internationally recognized software such as HTRI and BJAC, but we are contributors as well. Our unique experience with problems facing power plant designers allow us to often offer innovative and economic solutions to perplexing problems. We perform thermal and mechanical rating of all the heat exchangers we build. Joseph Oat Corporation performs vibration analysis, seismic and structural analysis, and fatigue analysis in-house.

Our engineers can participate together with engineers of nuclear utility companies to **solve problems dealing with water chemistry, vibration, erosion, and special safety issues**.

Joseph Oat's production facility encompasses approximately 120,000 square feet with 160 ton lift capacity. Shipments can be made by truck, rail, or ship. We maintain a fully enclosed, atmosphere controlled **clean room for the fabrication of reactive metals** and special equipment requiring full segregation from other fabrication work.



JOSEPH OAT CORPORATION

2500 Broadway, Drawer #10, Camden, NJ 08104 USA
856-541-2900 fax 856-541-0864 ■ www.josephoat.com

Joseph Oat Corporation possesses the ASME Sec. III "N", "NPT" and "NA" stamps and Sec. VIII Div. 1 "U" and Div. 2 "U-2" stamps. In addition, we are ISO 9001 certified by TUV.

Below are the products we have furnished to nuclear power plants:

- Safety related shell and tube heat exchangers
- Safety related air coolers
- Safety related pressure vessels and storage vessels
- Safety related filters
- Safety related strainers
- Spent fuel racks
- Nuclear waste canisters
- Orifice plates, venturies, and other flow restriction devices
- Components supports
- Pump supports, bedplates and columns
- Spray nozzles
- Piping
- Safety related special weldments
- Raw materials such as bolting, flanges, plate, etc.

Joseph Oat's Quality Assurance Program has been audited by most major nuclear plants and independent agencies, including the multi-utility consortium, NUPIC. Refined and honed over the many years we have participated in the Nuclear Industry, our Quality Assurance Program is an effective and crucial element in all aspects of the services and products we provide.

We are confident that you will find Joseph Oat well qualified to meet your nuclear design and product requirements, whether you are purchasing new or replacing old equipment. Should you require more information or would like to speak to us, please contact the undersigned:

Edward S. Marinock
Vice President

John McDonald
Manager, Marketing and Sales

Call, fax or e-mail us for a copy of our capabilities brochure.



WE MAKE METAL WORK™

THE EXPERIENCED AND RELIABLE SOURCE
FOR NUCLEAR POWER PLANT COMPONENTS



▼ A 316 stainless RHR Heat Exchanger



▲ Clean Room for the fabrication of components requiring physical segregation



▼ Commercial nuclear reactor burial cask



▲ A titanium CCW Heat Exchanger

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
- Section III and safety-related heat exchangers & pressure vessels
- Plate fin air coolers
- Reverse engineering
- Pulsation dampeners
- Filters & Strainers
- Dry storage fabrication for spent fuel
- Yucca Mountain Waste Package Prototype
- MCOs, Model 9975s & other canisters
- Special weldments
- 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 and ISO 9001.



1102 10000 00 000000 00 00

We also hold a Chinese Safety Quality License

OTEK – Your premier source of intelligent bargraph/controllers

Founded in 1974, OTEK offers what is possibly the world's best and most comprehensive line of digital bargraphs/controllers for process control and monitoring in the nuclear industry.

Using state-of-the-art microprocessor-based technology, OTEK equipment is designed to supersede outdated electro-mechanical and analog instrumentation, performing critical as well as customer-specific functions. Form-and-fit replacements for a variety of OEM's, many OTEK units can be used as a stand-alone component or as a remote display for PLC,

DCS, and SCADA. Easy to read, accurate, reliable, and featuring contemporary design, OTEK units meet standard MMI, HFE and HSI requirements.

Next to a full range of single, dual, and triple externally powered bargraphs, OTEK also offers a series of AC-signal powered as well as loop powered meters, which provide for ease of installation and substantial cost savings (wiring!). Practically all units are nuclear qualified and meet various IEEE / ANSI standards and EPRI guidelines (EPRI TR-102323).

OTEK is thoroughly familiar

with control room requirements of nuclear power plants. Over the years OTEK has demonstrated its ability (and willingness) to meet customers' special needs, whether these involve unique operating modes, custom housings or "open frame" units, for example. A long list of satisfied customers is our testimonial.

General features of OTEK digital bargraphs include, but are not limited to:

- Automatic tricolor with programmable limits
- 51 or 101 segments
- 4 or 6 digit display with bright LEDs or backlit LCDs
- Isolated RS232/422/485 serial I/O and USB
- Multiple analog inputs/ outputs including PID
- Optional relays
- Math functions, X-Y tables and polynomials (9th)
- Optional EMI/RFI shielding
- All metal construction

The high quality and reliability designed into its products allow OTEK to grant (an industry-unique) Lifetime Warranty.

For more information about how OTEK can solve your I&C needs, visit www.otekcorp.com or call at 520/748-7900 or email at sales@otekcorp.com.



**TRAFFIC LIGHTS WITHOUT COLOR?
HOW SAFE WOULD THAT BE?**



**It's Time to Bring
COLOR to Your Control Panel**

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The Quality Nuclear Power Support You Can Count On

Our Quality Commitment

Quality is the centerpiece of the value and service we provide to our clients. It is infused in our people, our programs, our processes, and our practices. We believe that it is the quality of our deliverables that ultimately delivers our projects within budget and on schedule.

Our Power Focus Commitment

We've been thinking power... exclusively for over 117 years. We think that's a rather firm commitment to maintaining our focus on what we do best.

Our Leading Expertise Commitment

Key to our ability to produce quality deliverables is the leading engineering, design, analysis, and project management know-how that we maintain current through our highly experienced staff and extensive state-of-the-art applications. And, of course, we are the company that always manages to get it done.

Our Nuclear Commitment

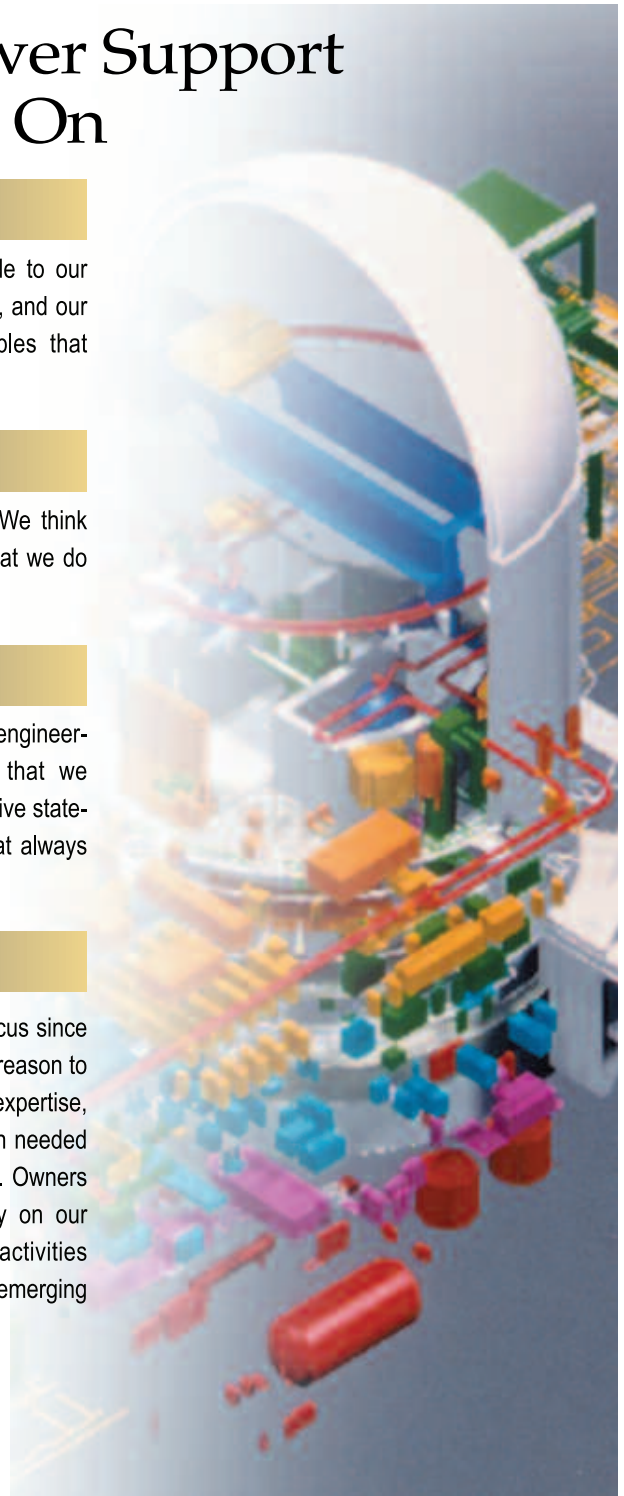
Nuclear power clients have been a primary part of our power focus since 1954, pretty much when it all started. Nuclear clients have good reason to have confidence in our capabilities, not only from our quality, expertise, and focus, but also from knowing we will be here for them when needed with what they need, as we have been for more than 50 years. Owners enlist our broad support as their preferred engineer and rely on our expertise for specialized problem-solving. Our current activities encompass new nuclear plant design and licensing activities, emerging issues, and leading edge initiatives such as:

- AP1000 and ESBWR EPC specification development
- Combined Construction Operating License applications
- Power uprates, digital controls, and adjustable speed drive replacements
- Security upgrades, containment sump strainer analysis and modifications, and dry fuel storage
- Design Basis calculation reconstitution, piping systems vibration analysis, and plant/equipment test optimization

That's in addition to our extensive on-going engineering, design, and analysis for nuclear station owners for diverse projects including:

- Modifications and performance improvement
- Outage and restart support

**To discuss your specific needs, contact Bob Schuetz
at 312-269-6630**



Sargent & Lundy LLC

55 East Monroe Street
Chicago, IL 60603-5780 USA

www.sargentlundy.com



BURNS AND ROE CORPORATE PROFILE

Though a large, full-service firm, Burns and Roe's vision is not to be the biggest in our industry. Our vision and focus is to be the best – the best to the people, the companies, and the selected industries we have chosen to serve. How do we accomplish this? As we have done through three generations, we employ exceptional people, bring a culture of flexibility and responsiveness, develop understanding and commitment, apply superior know-how and innovation, and then focus on the results.

The critical element that Burns and Roe brings to our customers' teams is our ability to work closely with them, to understand their needs and respond very carefully to those needs, and to work together to complete the project successfully.

Our tradition, skill, natural flexibility, and commitment to responsiveness in our work build success and long-term relationships with our valued customers.

Within Burns and Roe, we say:

“Be the Best to the Best!”

It's a tradition at Burns and Roe...People building success!

K. Keith Roe, PE



A Message from

Our President

The Legacy of Burns and Roe

Burns and Roe was founded in 1932 as a partnership between Ralph Roe and Allen Burns. From the beginning, Ralph Roe managed the firm with a vision of exceptional people focused on creating a global service company that provided complete customer satisfaction. In 1963, Kenneth Roe became President, succeeding his father. He led Burns and Roe through a period of unprecedented growth built on strategic customer alliances. He never lost his vision of

empowering talented people to meet the challenges of a growing world. Today, under the leadership of Keith Roe, Burns and Roe's Chairman and CEO, the Burns and Roe legacy lives on. Technically complex facilities remain the centerpiece of Burns and Roe's core capability of responsive service. Through three generations of family leadership, Burns and Roe continues to be a best-in-class service company.

At a Glance

Personnel:	1900 +
Founded:	1932
Headquarters:	Oradell, NJ

OFFICE LOCATIONS

Oradell, NJ	Chicago, IL
Mt. Laurel, NJ	Idaho Falls, ID
Washington, DC	Oak Ridge, TN
Virginia Beach, VA	Taipei, Taiwan
Los Alamos, NM	Bangkok, Thailand

RECENT BURNS AND ROE MILESTONES AND HIGHLIGHTS



K. Keith Roe, the President and CEO of Burns and Roe, along with more than 500 invited guests and employees celebrated Burns and Roe's 75th Anniversary.



Selected to perform the independent review and validation of the price/cost and schedule packages for full EPC of AP1000 facilities.

Power and Energy Services

Burns and Roe's heritage is rooted in the engineering of power generation, from small cogeneration plants to large fossil-fueled, nuclear, and advanced technology facilities. The Company has provided engineering, procurement, and/or construction services for over 175 fossil-fueled generating units totaling over 75,000 megawatts. Burns and Roe also provides services related to the upgrade and retrofit of existing plants.



KEY MARKETS

- Fossil power
- Plant expansion, retrofit and modifications
- Decontamination and decommissioning
- Cogeneration
- Waste-to-energy

Nuclear and Federal Services

At the forefront of nuclear technology since its inception, Burns and Roe stands strategically poised to develop the next generation of nuclear plants in providing clean, dependable and efficient energy. From our portfolio of commercial nuclear reactors engineered world wide to our history of nuclear waste handling, retrofit programs and decommissioning and dismantling of facilities, Burns and Roe has the background of excellence and current expertise to offer a unique range of services for the next generation of nuclear energy.



KEY MARKETS

- Nuclear power
- DOE facilities
- DOD facilities
- Federal laboratories
- Special nuclear programs
- Radioactive Waste Treatment

Industrial Power Services

Burns and Roe provides engineering, procurement, and construction support services to industrial customers, as well as to colleges and universities throughout the United States. The Company has performed projects at refineries, manufacturing facilities, colleges and universities, hospitals, research and development campuses, and transportation facilities. Our focus is on utilities, transmission and distribution facilities, and energy related services.



KEY MARKETS

- Industrial facilities
- Cogeneration
- Utility Systems
- Energy conservation
- Boilers
- Chillers

Operations and Maintenance Services

Burns and Roe provides expert operations and maintenance services throughout the world. The firm mobilizes and manages work forces for projects and facilities, large or small, simple or complex, in urban or remote locations. Burns and Roe supports both government and commercial organizations in the operation of total facilities or as a discrete service function.



KEY MARKETS

- Military bases
- Pharmaceutical/ College campuses
- Federal facilities
- Power plants
- Desalination plants
- Commercial outsourcing



Burns and Roe celebrated the Grand Opening of their Bangkok, Thailand office. The ribbon cutting was performed by Mr. Keith Roe and Mr. Goran Ehren, Managing Director of Burns and Roe Asia.



800 Kinderkamack Road,
Oradell, New Jersey 07649
Tel: (201) 265-2000
Fax: (201) 986-4335
www.roe.com

ECC Strainer Design and Testing for PWR and CANDU Stations

Atomic Energy of Canada Limited (AECL)—a full-service nuclear technology company—is a recognized leader in ECC strainer design for both CANDU® and PWR reactors.

AECL developed the Finned Strainer™, which maximizes filtration area within an available volume for minimal space impact. AECL designs, fabricates and installs Emergency Core Cooling (ECC) system strainers for existing nuclear power plants as well as for new-build projects. ECC strainers filter ECC sump water so that the ECC pump and associated equipment functions properly in the event of a Loss-of-Coolant Accident (LOCA).

AECL also provides analysis, testing and design services to ensure plants meet the latest regulatory requirements in this area. Major testing facilities at its Chalk River Laboratories in Ontario allow AECL to effectively customize and optimize strainers for individual nuclear power plants (NPPs)—and to analyze the effects of plant-specific debris build-up and water chemistry, including the combined effect of these factors. These testing facilities are available to other utilities for testing programs. One was built under contract to Dominion Generation and allows multiple tests to be carried out simultaneously.

Chemical effects tests are performed in the new multi-loop strainer test facility at AECL's Chalk River Laboratories in Ontario, Canada. The facility, which can run six concurrent tests, was designed, built and commissioned by AECL for Dominion.



AECL's Finned Strainer

AECL's innovative Finned Strainer modules consist of a set of perforated fins attached to a common header, with the fins providing most of the strainer surface area. The strainers feature passive operation, a compact design to minimize footprint and low head loss under extreme conditions. The flexible, modular design can overcome acute layout restrictions, while meeting filtration-sizing needs.

Currently, AECL-designed strainers have been installed in 50 NPPs around the world—in Canada, the US, France, Argentina and Romania.

Design and Testing for US PWRs

A recent project, undertaken between 2005 – 2008, illustrates AECL's strong design and analysis, testing, manufacturing, installation, project management and licensing support capabilities. The project involved supplying ECC strainers for six Dominion Generation units. The objective was to meet the US Nuclear Regulatory Commission's (NRC's) Generic Safety Issue-191 requirements to improve safety during design-basis accident events.

Using its Chalk River facilities, AECL analyzed plant-specific conditions of system function, water level, debris mix, seismic loads and available floor space at each plant. Designs were developed and tested to confirm the required strainer surface area and fin pitch. The design was optimized for thin-bed and thick-bed debris loadings, and tests were performed to validate the design and ensure it met requirements.

An AECL Finned Strainer was successfully designed, tested and installed at each of the plants. Subsequent plant-specific water chemistry effects were analyzed and tested for plant-specific conditions to confirm the effectiveness of the strainers with chemical effects combined with debris loading.

To meet the tight deadlines for chemical effects testing, Dominion Generation and AECL designed, built and commissioned an additional multi-loop test facility, which allows six independent tests to be run concurrently. The new facility was installed in an impressive 12-week time frame at Chalk River Laboratories—a tribute to the close collaboration between Dominion Generation and AECL's R&D, design and manufacturing organizations.

“Deliberately Better!” Engineering Services

For many reasons, 1989 was a year the world and the nuclear industry will long remember. From a world perspective, the Berlin Wall came down. An exiled religious leader from a remote region of Tibet won the Nobel Peace Prize. And, off the coast of Alaska, the ruptured tanker Exxon Valdez spilled 11 million gallons of crude oil into Prince William Sound.

For the nuclear industry, 1989 was a memorable year because two hard working Fire Protection Engineers in Fort Worth Texas – convinced there was a better way to provide engineering services to the industry – started a company called Nexus Technical Services Corporation. The industry soon began referring to our company as “Nexus Engineering” because of our superior engineering skills and exceptional service.

Expansion Is Deliberate

Everything we’ve done since 1989 has been deliberate – well planned, well executed and well received by our continually growing family of clients. We were so well received that we expanded from our Fire Protection expertise to include Electrical Engineering and Risk Management, requiring that we hire additional people. But they had to be the right people – with just the right blend of aptitude and attitude.

Our attitude – the willingness of Nexus Engineers to go that proverbial extra mile – has become a Nexus hallmark, a fact that our clients – particularly those in the nuclear industry – have grown to recognize and appreciate.

We’re well known, too, for our ability to listen in ways that enable us to clearly identify, understand, and promptly respond to the highly specialized needs of each of our clients.

Client Growth Is Deliberate

We are known for keeping our word – and for honoring our commitments. Our growing family of clients know that working with Nexus means schedules are met and costs are as agreed. More importantly, they know they can rely on Nexus Engineers to provide updates and reports that document their project’s status. No other engineering firm communicates as well.

Our clients have also discovered that Nexus Engineers work comfortably *with* them, not just for them.

Fast forward to 2007. With regional offices firmly established in Boston and Knoxville, we moved our headquarters to new and larger facilities in Oakbrook

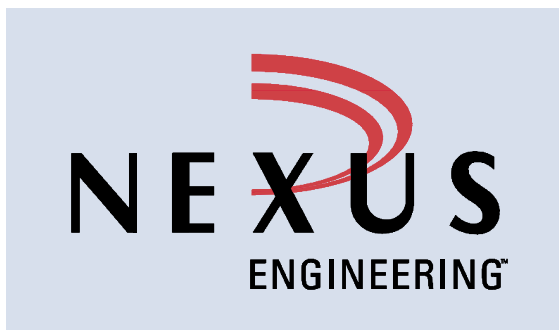
Terrace, just outside of Chicago. We also adopted “Nexus Engineering” as our official trademark – to more accurately describe the work for which we remain best known.

The Result: Deliberately Better Service

And so it has been since 1989, one quick but deliberate step after another – grow the business, grow the staff by adding more expertise, but more importantly, grow Nexus in a way that continues to provide deliberately better service to every client.

Well aware of that very special reputation we began earning back in 1989, we recently adopted the words “Deliberately Better!” to define the way we do business. The Nexus mission has remain unchanged since 1989: To provide a range of deliberately better engineering services that assure the continuing success of each of our clients’ projects.

Nexus: Providing deliberately better engineering services since 1989.



Nexus Technical Services Corporation, One Trans Am Plaza Drive, Suite 200, Oakbrook Terrace IL 60181, 1-630-627-2277



Protect Perform Predict

Conquering the Challenges of Aging Equipment

One of the major factors in operating today's nuclear power plants is how to deal with aging equipment. As equipment ages, its reliability decreases while the operational costs increase. For more than 30 years, Data Systems & Solutions (DS&S) has been a leader in the development of systems that allow plant operations to stay ahead of the concerns of aging equipment. Recent examples of applying that expertise and development to provide a safe, cost-effective alternative to maintaining aging equipment are the rod control system change-outs performed for the nuclear power plants in Doel and Tihange, Belgium.

The need identified

The cost of operating with an aging rod control system (RCS) mounts with every year. An increasing number of tests have to be performed, a practice that continually lengthens the regular outage period. More critically, spurious actuations of the rods were occurring at the Tihange plants. As a result, Electrabel, the operator of the plants at both Tihange and Doel, elected to update the rod control system for their Tihange plants.

The solution proves successful

DS&S' digital RCS was the system selected for this upgrade. Compared to the analog system previously in use, it provides a simpler architecture by using only one slave power cabinet to control each group of four rod clusters. Power converter racks with hot-plug capabilities allow quick and safe repair during production. Advanced current monitoring is provided, allowing operators, with the aid of a high-level man-machine interface, to pinpoint potential problems and quickly resolve them,

reducing the former maintenance time.

The system also employs a reflex double-hold feature. If a wire is cut between a cyclor and a power unit or if the internal digital diagnostics detect a lack of current on a gripper coil, both stationary and moveable grippers of each rod in the group are instantly activated.

These and other features made the DS&S RCS the preferred solution to be implemented for the Tihange 1 replacement. After a year of successful operation, plans were formulated to replace four additional rod control systems in the other Tihange and Doel units. Selected as a result of a competitive solicitation, DS&S formed a consortium with Cegelec, a Belgian company that provided on-site installation and some components. DS&S' role was to design and manufacture the systems, perform testing and training, and provide the post-installation support. DS&S was also responsible for standardization of equipment, documents and training across all the plants.

For each installation, the team worked during a regularly scheduled outage period to remove the old cabinets and install the new, run the new cabling, and complete all tests. All the plants resumed operations on time; none of the plants required any additional shutdown time for the upgrade.

The team operated with two management groups – one focused on logic and the other on power. Both were committed from the start to complete the effort on time, so no deviation from the schedule was considered at any point in the project, even when the customer requested modifications after the design phase of the project was complete.

MOVING FORWARD

Since the Tihange and Doel installations, DS&S has refined its digital RCS to produce the latest-generation that is based on a standardized, self-monitored power module with hot-plug capabilities. The architecture is simple. Each power cabinet includes a logic unit and 12 power modules that fully control one group, and each power module digitally controls and monitors the current of a single coil. In case of failure, a double hold is triggered. By changing a module, the whole control and monitoring part for a coil is completely changed, providing straight-forward diagnostics and repair. In addition, power modules are identical for all coils, allowing a dramatic reduction in the number of spare parts required.

This system is currently available for installation.

The solution provider

This digital rod control system is just one of multiple nuclear energy solutions provided by Data Systems & Solutions' technical staff. Because many of our developers and designers have "hands-on" experience with nuclear power operations, maintenance and engineering, we understand the needs of plant operators and owners. DS&S products and services are installed in every plant in France, more than 80 nuclear power plants in the U.S., and other plants around the world. In 2006, DS&S, in partnership with Cegelec, was awarded a contract to modernize 34 reactors throughout France.

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- Water Analysis
- Laboratory Informatics
- Radiation Tolerant Imaging (Inspection and Monitoring)
- Service and Training



Fig 1: Thermo Scientific Offerings for the Nuclear Power Generation Market

LEGEND KEY

1 SECURITY ACCESS POINT

- Radiation measurement and protection monitoring

2 CONTROL ROOM

- Radiation measurement and protection monitoring
- Data acquisition, monitoring and management
- Alarm monitoring
- Neutron flux monitoring
- Reactor protection systems
- Audible count rate drawers
- Boron dilution monitoring
- Thermo margin monitoring
- Class IE qualified safety-related cabinets
- Class IE qualified power supplies
- LCD digital meters

3 LABORATORY AND INCOMING INSPECTION

- Radiation measurement and protection monitoring
- Data acquisition, monitoring and management
- Weld and alloy verification
- Informatics

4 REACTOR BUILDING

- Radiation measurement and protection monitoring
- Data acquisition, monitoring and management
- Level measurement
- Ex-core neutron flux detectors for source range, intermediate range and power range reactor power monitoring
- Class IE safety-related post-accident qualified cable assemblies
- Audible count rate during shutdown maintenance periods
- Installed gamma area monitors
- Boric acid storage monitoring
- Water analysis monitoring

5 BOILER PIPES

- Cooling water and condensate flow measurement

6 STEAM TURBINE

- Radiation measurement and protection monitoring
- Data acquisition, monitoring and management

7 CONDENSATION CHAMBER

- Data acquisition, monitoring and management
- Level measurement

8 COOLING TANK, COOLING TOWER AND RESERVOIR

- Data acquisition, monitoring and management
- Influent and discharge flow measurement
- Density and level measurement
- On-line water analysis

9 POWER GENERATOR

- Data acquisition, monitoring and management

10 POWER DISTRIBUTION

- Data acquisition, monitoring and management



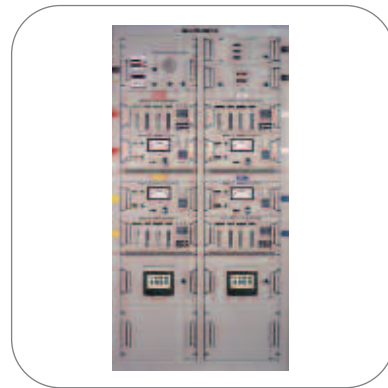
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Visit www.geinspectiontechnologies.com or call 866-243-2638 to learn more about the Ca-Zoom and Phasor XS inspection systems from GE Sensing & Inspection Technologies.



INNOVATIVE, PROVEN SUPPLIER TO THE NUCLEAR INDUSTRY

For over 22 years Holtec International has been serving the nuclear industry in the U.S. and worldwide providing fuel storage equipment and engineering services under 10CFR50, 10CFR71, and 10CFR72 regulations and IAEA standards. Head-quartered in Marlton, New Jersey with operational centers around the globe, Holtec's capabilities include wet and dry spent fuel storage; extensive manufacturing through our domestic-owned facility, Holtec Manufacturing Division (HMD); and other services such as Engineering Consulting in criticality, thermal hydraulic, radiological and structural disciplines. Holtec also provides custom engineered heat exchangers and pressure vessels for nuclear power plants.

A substantial number of Holtec projects are turnkey contracts wherein Holtec engineers, manufactures, and installs the equipment and associated systems with an undivided responsibility for completion. Holtec

is noted as a proven innovator, having virtually invented the ultra-high-density wet spent fuel storage technology during the '80s in the wake of the ban on reprocessing in the U.S. The company has racked over 80 fuel pools, on four continents. Holtec is credited with pioneering the Multi-Purpose-Canister (MPC) technology in the '90s and being the first in the U.S. to license and manufacture systems that employ the MPC technology (HI-STAR 100 and HI-STORM 100).

HMD is Holtec's wholly-owned factory in Pittsburgh, PA. The plant features over 347,000 sq.ft. of manufacturing space, state-of-the-art machinery including 400 tons of lift capacity, and specialized information management systems, giving Holtec autonomous resource to meet its client's equipment needs without reliance on third-party manufacturers. HMD maintains the following ASME code certification stamps: N1, N2, N3, NPT and NA.

Holtec's state-of-the-art QA program has an impeccable record of regulatory compliance. As a certificate holder on several USNRC dockets, our QA program undergoes direct inspection by the USNRC and frequent audits by utilities from around the world, including utility groups such as NUPIC. Holtec's QA program is certified under ISO 9001:2000.

Developing and implementing safe and economical solutions to operating problems are among Holtec's central mission. The company secures on average, five patents each year. Examples of these include the Forced Gas Dehydrator to dry water-logged spent fuel, and the underground spent fuel storage system (HI-STORM 100U), engineered to reduce dose to miniscule values.

To learn more about Holtec, call Joy Russell, Sales and Marketing Manager, at 856-797-0900 Ext. 655; or visit our website:

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L-3 MAPPS simulators provide superior real-world power plant training. L-3 MAPPS offers a variety of products and services, including full scope simulators, part-task trainers, simulator retrofits and upgrades. We provide design to completion turnkey systems, specific components, and simulator design tools as required by the customer. With a worldwide presence, a solid leadership position and the ability to provide any level of customer support, L-3 MAPPS ensures the success of your simulator projects. Our simulators offer the highest quality in simulation fidelity and training to provide trainees and instructors with user-friendly tools for learning, controlling and exploring complex power plant systems.

FULL SCOPE POWER PLANT SIMULATORS

The superior training environments of L-3 MAPPS simulators provide clear advantages for obtaining operator certification, optimizing plant operating procedures and reducing costs. Operators trained on L-3 MAPPS simulator environments acquire the skills necessary to increase plant performance, minimize downtime, and provide confident emergency response. Simulator uses include interactive team training, severe incident management, plant design testing, and start-up/shutdown optimization.

L-3 MAPPS replica-quality hardware controls and touch-screen virtual panels create realistic and credible control environments.



South Texas Project Simulator

Real-time responses to operator actions and interactive instructor controls ensure maximum training effectiveness and adaptability. Any scenario, no matter how complex or dangerous in a real plant, can be reproduced, monitored and varied in real time, providing a highly valuable tool for training and plant engineering.

Our commitment to customer support extends far beyond industry norms. L-3 MAPPS' unique knowledge transfer program allows customers to gain expertise and total confidence in the simulator. Users can directly implement simulator modifications to exactly reflect plant changes, evolve their training programs and expand simulator use into other areas.

USES AND ADVANTAGES

Cost effective training for:

- Experienced operators and new recruits
- Overall plant and individual system operation and control
- Improved team interaction and performance
- Emergency plan implementation and incident management
- Command of malfunction and transient situations
- I&C familiarization
- DCS and plant process computer operation

Other Benefits:

- Operations optimization, including start-up and shutdown
- Fewer unplanned outages
- Improved plant safety
- Analysis of plant response to equipment and/or instrument failure
- Efficient plant design planning and upgrading
- DCS and plant process computer verification and validation
- Ease of simulator upgrade and ability to keep current with plant
- Multiple configurations on one simulator
- Portability of simulation for classroom training



Beznau Simulator

SIMULATOR UPGRADES

Evolving training needs, greater fidelity expectations, changing standards, plant modifications, plant fuel updates, obsolescence and plant life extensions are some of the realities the simulation industry now faces. To keep up, simulator owners need to take advantage of rapid advances in computing technology and implement cost-effective updates. L-3 MAPPS provides updates to legacy simulator platforms, including computer hardware, the instructor station and/or the control room panel interface system. L-3 MAPPS upgrades take advantage of available computing power to improve the modeling fidelity of the reactor core, nuclear steam supply systems and all other plant systems.

EXPERIENCE

For more than 35 years, we have worked with our customers to create superior training systems and have established ourselves as the world's pre-eminent manufacturer of power plant simulators. L-3 MAPPS is a company of people with ideas and vision, with a desire to create value through innovation and with the experience to achieve success.



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Leadership by Example

The Shaw Group Inc.'s Nuclear Division offers a broad range of services based on more than 60 years of nuclear industry leadership.

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Shaw was the engineer/constructor for 18 U.S. nuclear plants. Shaw maintains ASME-III (N) certifications and currently provides engineering services to 43 nuclear power plant operating units.

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Building on our extensive experience in plant completions and restarts worldwide, Shaw played a significant role in the successful completion of the Browns Ferry Unit 1 restart project.

Plant Upgrades and Upgrades

Shaw is a power uprate industry leader. We have performed uprates and studies on 48 operating PWRs and BWRs, adding more than 2,050 MWe to the U.S. grid.

Maintenance and Modifications

As a leading provider of commercial nuclear power plant maintenance and modifications services in the U.S.,

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Spent Fuel Dry Storage

Shaw designs, licenses, and constructs ISFSIs; performs spent fuel management studies; and provides fuel movement and cask loading and handling services. We performed design, licensing, and project management for the private dry fuel storage facility.

Decontamination and Decommissioning

Shaw has provided D&D services to 15 commercial, research and U.S. Army nuclear reactors and to numerous government facilities. Shaw completed decommissioning of Maine Yankee and Connecticut Yankee.

New Plant and Advanced Reactor Design and Construction

From the detailed design of the National Enrichment Facility in New Mexico, to design and construction of the Mixed Oxide Fuel Fabrication Facility in South Carolina, to engineering support for the Lungmen nuclear power plant in Taiwan, Shaw is involved in a wide range of nuclear design/construction projects worldwide.

AP1000 Consortium

Shaw is part of the Westinghouse/Shaw AP1000 Consortium, which is currently building the first four AP1000™ units in China. The consortium also signed engineering, procurement and construction contracts for twin units in Georgia and South Carolina, the first contracts to build new nuclear power plants in the U.S. since the 1970s.

The AP1000™ technology is based on standard Westinghouse pressurized water reactor technology that has more than 2,500 reactor years of proven and highly successful operation.



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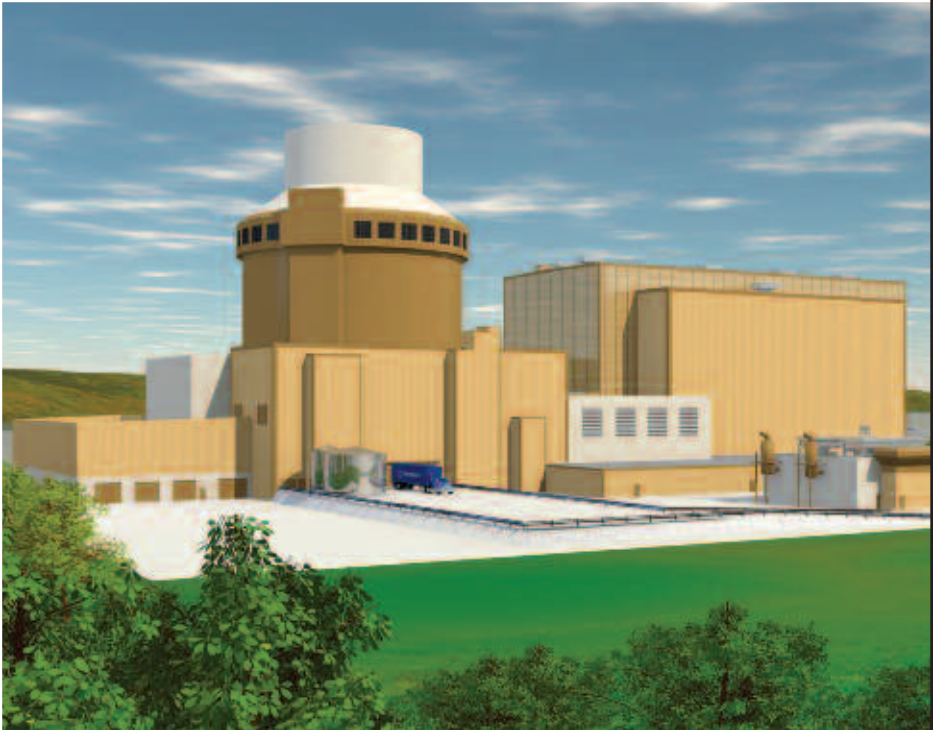
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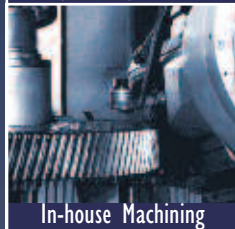
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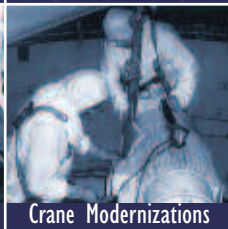
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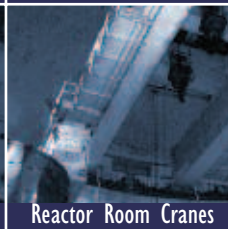
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Quality Inspection Services, Inc. (QISI)

With the new dawn of Nuclear Power Construction comes a need for safety and quality as we build to create our future. QISI has been providing Nuclear Quality Services for over 20 years in the Civil Material, NDE, Heat Treating, Stress Relieving, QA/QC Management and Safety, Health Services. QISI has successfully mobilized laboratories to jobsites throughout the four corners of the United States. Our team is able to support all projects from the ground up...from your civil work to Project Commissioning & Turnover. QISI is the team to trust, start to finish, utilizing our NQA-1 Quality Assurance Program (ANSI/AMSE 1984-2004 Editions and ISO 9001 Compliant).

Quality Inspection Services, Inc. "Health and Safety Program" has been developed in the image of both NRC's 10CFR851 "Worker Safety and Health Program" and OSHA's recommended "Health and Safety Program" used in the VPP Programs. This includes continuous improvement and employee involvement. The major program elements includes the Five Health and Safety Elements of 1) Management commitment and planning, 2) Employee Involvement, 3) Work site analysis, 4) Hazard prevention and control; and, 5) Training. Records are established to verify participation by our locations on these areas and an incentive program helps encourage participation.

QIS strives to achieve Quality through the efforts of its committed workforce listening to and understanding the customer's needs...and doing the right things right the first time. QIS presently employs over 250 fulltime cross certified individuals. Our employees are highly skilled and dedicated professionals qualified/certified in accordance with the following organizations: ASME NQA-1 for Inspection Personnel and Lead Auditors; American Welding Society as Certified Welding Inspectors (CWI), Certified Welding Educators (CWE); ASNT-SNT-TC-1A, NAS410, CP-189,

and Mil-Std-271 for Nondestructive Testing; and ACI, ICC and NICET for Concrete and Soils. Our company was formed in 1987 (over 20 years ago), however our staff consists of individuals with well over 30 years of related experience. QIS maintains a leading edge in providing consistent and thorough services through technological investment, research and development. This is what keeps us on the cutting edge of our industry for

the most effective and safe inspection process. We will be responsive to our customer's needs and fulfill their expectations by delivering a quality service on or ahead of schedule and at or below budget; with the utmost attention to Safety and Quality. "For Job Satisfaction-Think Quality!"

Call 1-877-QIS-4-NDE (1-877-747-4633) for more information.

*In the Dawn of Nuclear Construction...
Trust the Team with Quality!*

Quality Inspection Services, Inc.

Professional, Experienced & Prepared

Phone: 1-877-QIS-4-NDE
Email: info@qisi.com
Website: www.qisi.com

energysteel

Are you

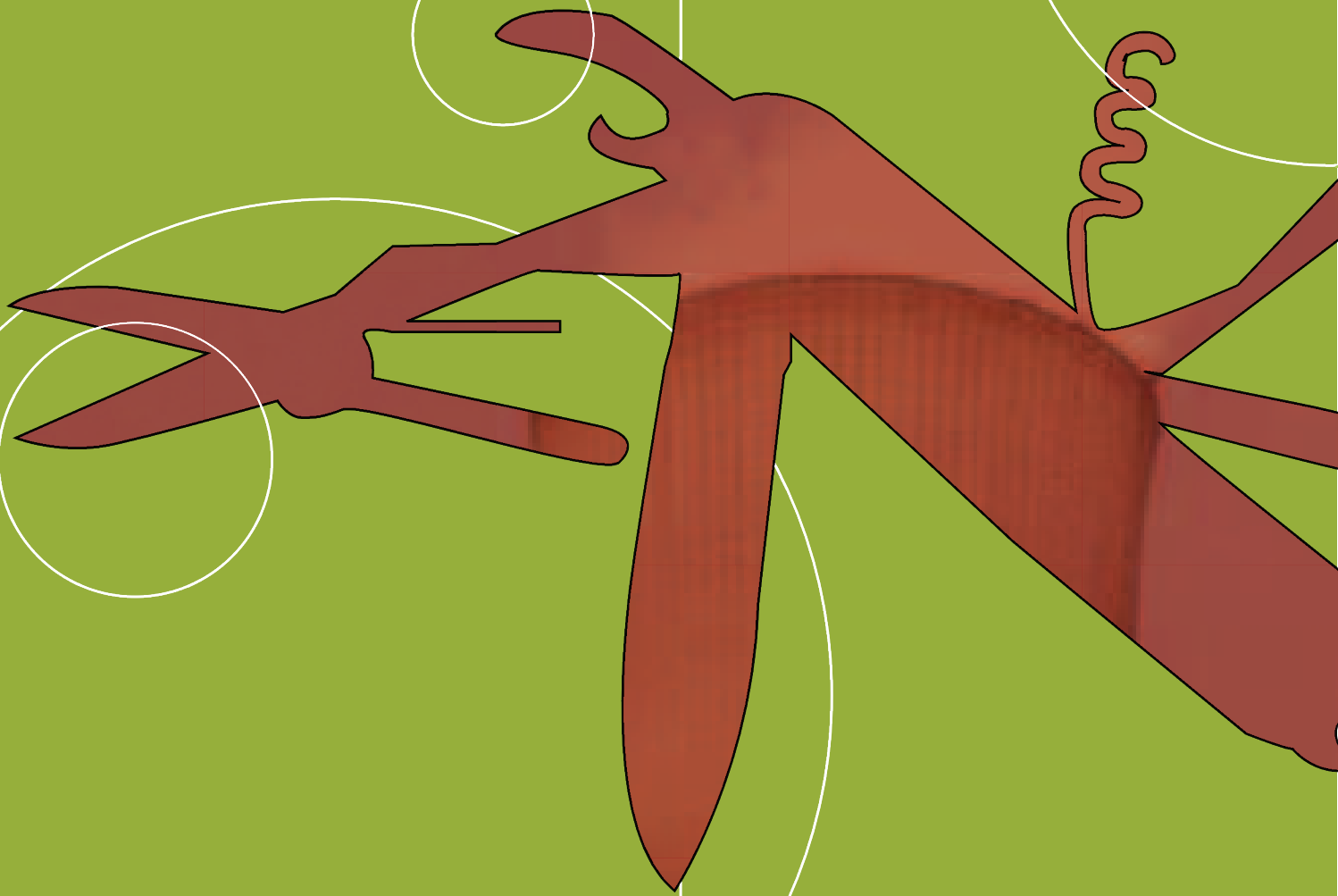
prepared?

The nuclear industry will be challenged in the coming years by

a shifting marketplace and changing regulations. That's why

Energy Steel & Supply Co. is prepared to offer more

diversity and versatility than ever before.



exactly what YOU need.

Uniquely Positioned for the Future of Nuclear Technology

Energy Steel & Supply Co. was founded in 1982 with the single objective of providing the nuclear industry with the absolute best in terms of quality products and services.

Now, 25 years later, we stand prepared for the emerging needs of our industry with a track record of accreditations in every segment of the business, a dedication to continued investment in the industry and a proven ability to deliver for our customers.

STATE-OF-THE-ART OPERATIONS

Continued investment in our people and facilities means that we can meet virtually every requirement set before us. Our teams are available 24/7 to help with your project or circumstance.

AT YOUR SERVICE

We are committed to the future of nuclear power. A new 60,000 square foot, state-of-the-art facility opening later this year firmly places 40 tons of lifting power behind 25 years of trusted experience in providing the industry with quality products and services.

NUCLEAR PROBLEM SOLVERS

We blend decades of experience with a powerful, exclusive network of legacy manufacturers to deliver a custom-crafted solution for each and every project.

To learn more about extended nuclear support, please visit www.energysteel.com

- Fabrication
- Engineering
- Design
- Machining
- ASME Code Welding
- Raw Materials
- Strip Cladding
- Reverse Engineering
- On-Site Support
- Project Management
- Obsolescent Spare Parts

Energy Steel & Supply Co.

Headquartered in Michigan

Phone: (810) 538-4990

Fax (810) 538-0580

email: sales@energysteel.com

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The most comprehensive nuclear quality assurance program in the industry

American Crane & Equipment Corporation

Cranes, Hoists, and Specialized Lift Systems

American Crane & Equipment Corporation (ACECO), a privately held U.S. company with operations in eastern Pennsylvania, is one of the few crane manufacturers that routinely provides cranes and material handling equipment for nuclear applications. The design and manufacture of custom equipment meeting the rigors of nuclear quality assurance is the company's primary business. Customers include nuclear utilities, Department of Energy sites and laboratories, military facilities and aerospace clients.

As a supplier to the nuclear industry, American Crane maintains a Quality Assurance Program that meets both 10 CFR 50, Appendix B, and ASME NQA-1. Our quality program has been audited by commercial nuclear utilities, NUPIC, and DOE contractors.

History of American Crane's Nuclear Experience

American Crane's entry into the nuclear power generating industry began in the mid-1980s with the supply of numerous specially designed low-level radioactive waste handling crane systems. Known as "radwaste" cranes, they were among the most complex cranes built by any manufacturer at the time. 25 years later, the cranes are still in operation, providing highly reliable service.

In 1994, American Crane built its first single failure proof crane system for the re-racking of spent fuel pools. Since then, 32 additional single failure proof cranes have been supplied ranging in capacity from 1 ton to 200 tons. In recent years,



Complete 200 Ton Spent Fuel Handling Crane

American Crane has been actively involved in upgrading nuclear plant cranes for dry spent fuel storage projects. Turn-key single failure proof crane upgrades have been successfully completed for 9 nuclear power units with 5 more currently in production. American Crane has upgraded the cranes in accordance with NUREG 0554. The success of these projects demonstrates American Crane's strength in field service including working within the physical and technical constraints of an operating plant.

From the beginning, American Crane made the strategic decision to maintain the in-house resources for engineering, manufacturing and field service needs. The engineering staff consists of seasoned mechanical and electrical engineers as well as world class nuclear

seismic experts. This assures the client of consistent quality and schedule adherence.

Cranes for the Next Generation of Nuclear Power Plants

American Crane has made significant investments to meet the nuclear industry's demand for high quality cranes, next generation equipment design, and adherence to schedule. American Crane has added:

- Critical personnel resources in engineering, manufacturing and field service
- Innovative software including Solidworks, ANSYS, and SAP2000
- Implemented enterprise wide production control system for enhanced project management
- Expanded building capacity
- Increased fabrication capabilities including the latest numerically controlled tooling
- Installation of one of the largest boring mills in the northeastern United States to assure machining capacity

American Crane is well equipped to provide cranes for the next generation of nuclear power plants. In addition, American Crane's conceptual design for single failure proof cranes currently provides for up to 300 tons with the ability to meet requirements for design and manufacture of higher capacities.

American Crane has extensive experience with nuclear power plant requirements, and has demonstrated its ability to meet customers' specifications. By successfully providing the majority of single failure proof crane upgrades for dry spent fuel storage, American Crane is ready to supply cranes for the next generation of nuclear plants.

Entrust your future crane needs to the nuclear industry's innovative and committed leader.

For more information about how American Crane can solve your nuclear material handling needs, visit www.americancrane.com, email us at sales@americancrane.com or call us direct at 1-877-877-6778 x224.

Benefits of American Crane's Dry Cask Storage Crane Upgrades

- American Crane is a stable, privately owned U.S. company committed to its customers
- NRC accepted design
- Proven installation success managing schedule, safety and adherence with site procedures, including "Control of Heavy Loads"
- Successful cask handling crane performance history (9 units installed since 2000)
- **"Nuclear Responsive"** - American Crane is dedicated to providing technical service and licensing support on a timely basis
- Complete compliance with NUREG 0554 and ASME NOG-1 requirements with several staff members serving on NOG-1 committee since mid-1990s
- American Crane performs all engineering in-house including dynamic seismic analysis
- Complete functional testing of all equipment at American Crane's plant in Pennsylvania
- Complete 125% load testing of trolley and hoist using American Crane's 200 ton test tower minimizing risk during installation and start-up
- Extensive in-house and NDE inspection capabilities
- "User friendly" design allows for ease of troubleshooting, inspection and maintenance achieved through use of state-of-the-art controls.
- Lowest maintenance cost in the industry for single failure proof cranes
- Availability of the SafLift® for safe movement of canisters and casks

Process for Transporting Canisters of Spent Nuclear Fuel
Patent No. 6,788,755 B2
Patent no. 6,674,828 B1

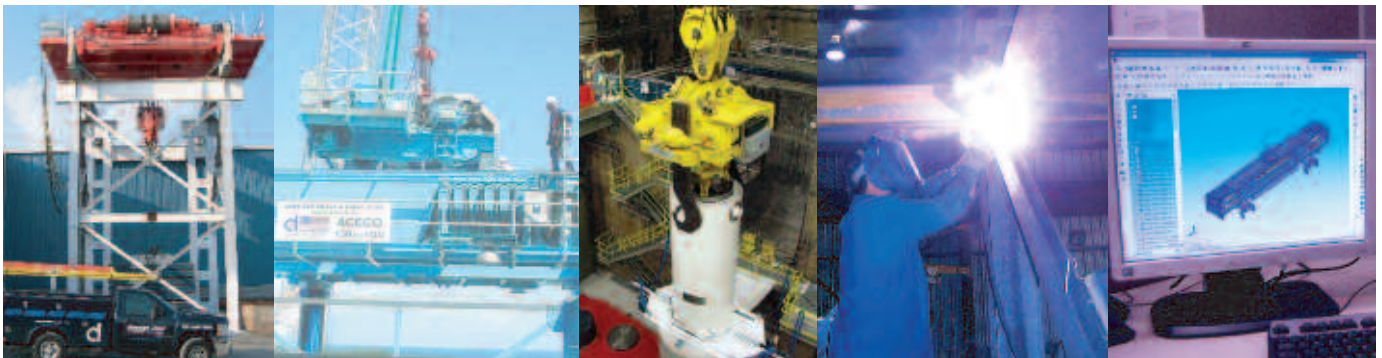
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American Crane can help you navigate through uncharted waters.



Your complete source for specialized Nuclear Material Handling Solutions for current plant needs and the next generation of nuclear power plants.



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 MATERIAL HANDLING
INDUSTRY
OF AMERICA
Member Company

The Top Web Sites for Non-Destructive Testing and Remote Vision Inspection

At a moments notice, you can find yourself in a predicament where you discover that you need to have an inspection device, and you need it right now. Or you could find that you need an inspection device but the ones you are aware of aren't quite right for the task. InterTest specializes in off the shelf non-destructive testing and remote vision inspection devices as well as custom engineered solutions for the hardest of applications.

The following product web sites depict the NDT and RVI products and services provided by InterTest.

www.InterTest.com

This main web site for InterTest is a very traditional site. It provides detailed information concerning their policies & certificates, ordering & warranty information, RMA procedures, company profile, trade show schedule, organization affiliations, company contacts, facility location and a complete download center including software, product videos, manuals and specifications. InterTest.com is also the gateway to the four product sites that they have and home to the press release section to view what is the latest from them.



www.iShotImaging.com

The iShot Imaging label is InterTest's own brand of equipment designed internally. It is a product site dedicated to their standard remote vision inspection equipment as well as their unique customer engineered solutions. The standard inspection systems and kits include; the XtendaCam® Series, PTZ Series, Weld-i™ Series, SeeUV™ Series and the iGrab Series. The solutions tab has a vast sampling of past custom designed "one-off" solutions in a thumbnail style display.



www.RemoteVisionSource.com

Remote Vision Source is a product site as well, where you can find a posting of the top industrial camera brands available, along with a large selection of the latest video component accessories. We spotted various manufacturers of remote vision inspection tools, push cameras and inspection systems.



www.ScopeSource.com

This product site depicts all the various styles of borescopes, fiberscopes, and video probes that are available today. From the simplest configurations to the most sophisticated designs, ScopeSource seemed to cover the topic with specialized kits, as well as, all the video and illumination accessories one would need. Select from numerous scope brands and configurations best suited for your application.

www.NDTSource.com



Within the world of NDT, this site contains products pertaining to two disciplines of nondestructive testing, ultrasonic testing and eddy current testing. In the UT arena, InterTest is a manufacturer's representative for NDT Systems and Sonotron providing thickness gauging, flaw detection, imaging systems and transducers. They offer products from Rohmann and ibg NDT Systems for eddy current crack detection and material property testing. Links to the various manufacturers are present to gather additional information as required. •

Your Source for Non-Destructive Testing and Remote Vision Inspection

Visit our Suite of Web Sites Today!

www.RemoteVisionSource.com
www.NDTSource.com
www.ScopeSource.com
www.iShotImaging.com

303 Route 94 • Columbia, NJ 07832 • www.InterTest.com • Office: 908.496.8008 • Fax: 908.496.8004

FCI in the Nuclear Power Industry

Fluid Components International LLC (FCI) products are installed in multiple plants around the world. FCI's innovative thermal dispersion flow meters and switches with no-moving-parts, solid-state technology, solve a broad range of nuclear power plant applications in both safety- and balance-of-plant installations—from simple liquid flow and level monitoring to complex liquid-foam interface measurement and air/gas flow monitoring.

Products And Applications

FCI's product line for the nuclear power industry includes:

- Flow Switches and Alarms
- Level Switches and Alarms
- Temperature Switches and Alarms
- Flow Meters

Commitment To The Industry

FCI's first flow and level switches for nuclear power applications were developed in the early 1970s to meet critical nuclear industry standards issued by the Institute of Electrical and Electronics Engineers (IEEE). The company extended its commitment to the nuclear industry by becoming a NUPIC and NIAC certified manufacturer. FCI has seamlessly maintained nuclear industry certifications and support for the industry ever since.

Additional Qualifications And Capabilities

FCI continuously works to improve its technologies and products to meet the evolving needs of the nuclear power industry. FCI's current nuclear industry capabilities include:

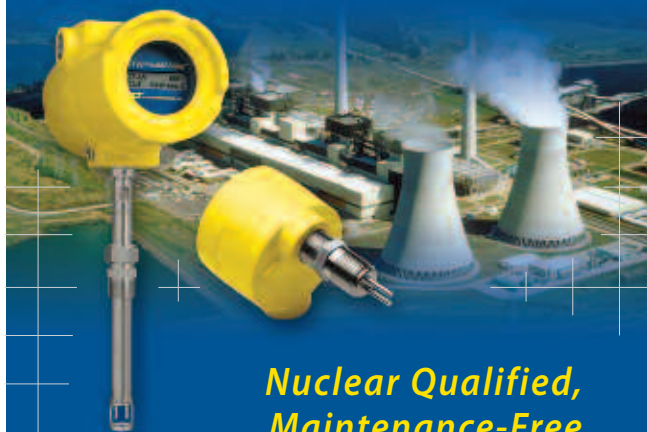
- Certified NUPIC, NIAC, and ISO9001 Manufacturer
- Meets IEEE Standards 323 and 344
- Meets 10 CFR21 and ANSI N45.2
- 100+ Nuclear Plant Installations
- 30 Unique Nuclear Applications Instrumented
- Dedicated Nuclear Application / Customer Support Team
- In-house NIST Traceable Calibration Laboratory
- Service Centers Located Worldwide
- Satisfied, Repeat Nuclear Industry Customers
- Improved Supply Chain Efficiency

FCI's nuclear qualified products have a proven history of exceptional quality, precision accuracy, reliability, longest life and lowest lifecycle costs.

We realize it's more than just providing you a flow, level and temperature measurement solution; it's about providing you the expertise, problem solving, and long-term commitment needed to service and sustain your nuclear power plant.

For more information, visit www.fluidcomponents.com. Call (760) 744-6950 or (800) 854-1993 to speak with one our Nuclear Product Specialists in person.

Flow & Level Measurement Solutions



Nuclear Qualified, Maintenance-Free

For more than 30 years, FCI has sustained qualifications and provided flow, level and temperature measuring instrumentation to the nuclear power industry for plant and balance-of-plant applications.

- No Moving Parts Technology
 - High Reliability
 - Low Life-Cycle Cost
- Liquid/Gas Flow Switches and Alarms
- Level Switches and Alarms
- Air/Gas Flow Transmitters
- Meets 10 CFR 21, ANSI N45.2, IEEE 323, IEEE 344
- ISO 9001, NUPIC and NIAC certified

Find out how FCI can solve your new plant design or retrofit applications:

www.fluidcomponents.com

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NUCLEAR SERVICES

Tetra Tech is a leading provider of consulting, engineering, and technical services worldwide. We provide the nuclear industry with project development and consulting, engineering and design, procurement and construction, operations and maintenance, and quality services.

Tetra Tech leads the nation in nuclear power plant license renewal services and has also prepared license applications for new nuclear power plant projects. Tetra Tech provides complete fuel cycle services including services to support mining and milling uranium ore, used fuel recycling, enrichment, and advanced reactors.

Tetra Tech experts have been involved with the design and construction of more than 30 nuclear power facilities over the past four decades. We have more than 8,500 professionals and are one of the top 10 engineering design firms in the United States. Tetra Tech provides the entire range of nuclear services for site investigation and preparation, licensing and permitting, consulting, Engineering-Procurement-Construction, operations, maintenance, and decommissioning.

PROJECT DEVELOPMENT & CONSULTING SERVICES

- Program Management
- Risk Management
- Project Integration
- Procurement and Supply Chain Management
- Configuration Management
- Licensing, Permitting, and Regulatory Compliance

ENGINEERING & DESIGN SERVICES

- Environmental and Geotechnical Services
- Plant Structures, Systems, and Components Design
- Used Fuel Facilities Design
- Independent Engineer Services
- 3-D Modeling and Analysis

CONSTRUCTION SERVICES

- Constructability Review and Oversight
- New Plant Site Preparation
- Construction Management
- Modularization
- Turn-key Support Facility Construction
- Site Remediation
- Labor and Resource Management

OPERATIONS & MAINTENANCE SERVICES

- Uranium Facilities
- Operating Plant Modification Package Preparation
- Used Fuel Disposition and Handling

QUALITY SERVICES

- NQA-1 Quality Assurance Program – Appendix B Compliant
- ASME Section III, Division 3, Class TC Transportation Containment
- ASME Section III, Division 1, Components
- Audits and Surveillance

For more information:

nuclear@tetrattech.com

DIVESCO – THE Nuclear Industry’s Well-Rounded Parts Solution.

During its three decades of service Divesco has evolved into a full service supplier of I&C, electrical and mechanical parts and components to the nuclear industry worldwide. Divesco assists utilities with their Investment Recovery Programs, giving them economically feasible alternatives when faced with reduction of their inventories. Additionally, Divesco specializes in the supply of obsolete or hard-to-find parts and components back to nuclear plants in need.

Divesco’s 25 years of experience in the nuclear field has given them credibility in the handling, shipping, and storage of the parts and components they own. Their NUPIC audited Quality Assurance Program ensures that their 50,000 square feet of Level B warehouses conform to exacting standards. A standing inventory of more than 15,000 items is accessible on the web 24/7. And for parts that are not available immediately from

stock, Divesco expedites the sourcing of emergency items via a network of partners to assure plants get what they need, when they need it.

Powering Divesco’s expansive inventory is the Divesco team and their industry-leading Priority One Expediting™ service. Divesco has learned through years that there is no time for down time. Their location, adjacent to **Jackson, Mississippi** Airport, has enabled Divesco to ensure that orders are delivered within the most critical timeframes and deadlines.

Whether it is helping utilities reach their investment recovery goals, providing the supply of obsolete and hard-to-find parts, or their Priority One Expediting™, Divesco has put a world of qualified nuclear surplus at their client’s fingertips. The scope of their services and the scale of their inventory have earned Divesco the distinction of being the leader in the nuclear surplus industry.

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DIVESCO
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Rigging International: Serving the Nuclear Power Industry Since 1969

Since its inception in 1969, Rigging International (RI) has been a leader in the heavy lift rigging and heavy haul transport industry. Our nuclear power work history spans the evolution of this industry from new construction in the 1970s to today's major component removal and replacement projects. Our support and commitment to nuclear power generation is unwavering and our reputation in design, equipment, project management and execution are unrivaled.

RI's recent domestic and international accomplishments include:

Reactor Head Replacement

- Beaver Valley, *Pennsylvania*
- Comanche Peak, *Texas*
- Davis Besse, *Ohio*
- Fort Calhoun Station, *Nebraska*
- North Anna, Units 1 & 2, *Virginia*
- Surry, Units 1 & 2, *Virginia*

Reactor Pressure Vessel Package Removal

- Connecticut Yankee, *Connecticut*

Reactor Core Internals Removal

- Genkai, Unit 1, *Japan*
- Ikata, Units 1 & 2, *Japan*

Steam Generator Replacement

- Arkansas Nuclear One, Unit 2, *Arkansas*
- Beaver Valley, *Pennsylvania*
- Comanche Peak, *Texas*
- Fort Calhoun Station, *Nebraska*
- J.M. Farley, Units 1 & 2, *Alabama*
- Kewaunee, *Wisconsin*
- Kori, Unit 1, *Korea*
- Mihama, Unit 1, *Japan*
- Ohi, Units 1 & 2, *Japan*
- Palo Verde Units 1, 2 & 3, *Arizona*
- Sequoyah, Unit 1, *Tennessee*
- Shearon Harris, *North Carolina*
- South Texas Project, Units 1 & 2, *Texas*
- Watts Bar, Unit 1, *Tennessee*

Steam Generator Disposal

- D.C. Cook, Units 1 & 2, *Michigan*
- Kewaunee, *Wisconsin*

Feedwater Heater Replacement

- South Texas Project, *Texas*

Assembly of Dry Cask Storage Modules



- Fort Calhoun Power Station, *Nebraska*
- St. Lucie, *Florida*
- Seabrook, *New Hampshire*


We are ready to meet the demands and challenges of **NEW NUCLEAR CONSTRUCTION** with the innovation and professionalism that we have demonstrated for nearly forty years.

With offices in Alameda and Carson, California; Missoula, Montana; Sewell, New Jersey and Tokyo, Japan, we are ideally positioned to meet our clients' needs.

For further information about RI's Nuclear Services, please contact Jim Roberts at (406) 543-4427 or Kerry Donahoe at (510) 865-2400 or visit our website at www.rigginginternational.com.



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Engineered Solutions for:

- New Plant Construction
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- Feedwater Heater Replacement
- Steam Generator Replacement
- Reactor Pressure Vessel Head Replacement
- Decommissioning and Disposal
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PROTO-POWER: YOUR FULL SERVICE PARTNER

Since its founding in 1974, Proto-Power Corporation has provided engineering, design, and project management services to the power industry.

We offer exceptional breadth of resources with experienced mechanical, electrical, instrumentation and controls, and civil/structural engineering professionals and designers skilled in power plant systems and engineering analysis. Specialized expertise includes security system upgrades, electrical power system analysis, equipment obsolescence solutions, fire protection engineering, and project management services. Other specialized services include heat exchanger performance testing; heating, ventilation, and air conditioning; instrumentation, data acquisition, and control systems.

Proto-Power focuses on:

- Plant performance problems investigation
- Code and regulatory requirements assessments
- Feasibility studies and conceptual design development

- Plant upgrade cost and effectiveness evaluations
- Plans, specifications, and modification packages for plant construction or upgrade projects

Multi-disciplined capabilities and an uncompromising adherence to industry quality standards assure accurate analysis, comprehensive solutions and cost-effective implementation on projects of every size.

Our broad spectrum of nuclear power plant engineering services, system modeling and proprietary performance analysis software for nuclear plants are based upon a first-hand, in-depth knowledge of the industry, and/or regulatory issues.

To meet the specific needs of the power industry for analyzing the performance of power plant systems and equipment, Proto-Power has developed its PROTO-FLO™, PROTO-HX™, and

PROTO-HVAC™ thermal hydraulic system modeling software and, PROTO-SPRINKLER™.

These powerful, PC-based programs provide extensive capabilities for modeling complex power plant piping, heat exchangers, HVAC systems, and fire protection systems in an easy-to-use Microsoft® Windows®-based, graphical environment.

The easy-to-use, PC Windows®-based programs are backed by our commitment of service and our Nuclear Quality Assurance Program.

Proto-Power's Nuclear Quality Assurance Program complies with the Code of Federal Regulations (10CFR50, Appendix B) and ANSI. Our software is developed, validated and controlled under this program.

We welcome your inquiry. Please contact us at our headquarters in Groton, CT or at our Midwest Regional Office in Chicago, IL as shown in our ad.

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SOLUTIONS for Our Energy Future

Proto-Power has been serving the nuclear community for decades so we understand the critical role this resource plays in our future.

Our mission is to provide the highest quality engineering, design and project management in the industry. With experienced account managers focusing on a single client, in-depth resources throughout our organization, and the most comprehensive software package available, we support today's operations and offer guidance for tomorrow's challenges.

Proto-Power. Vision for the nuclear future.

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DELIVERING ENGINEERING SOLUTIONS TO THE NUCLEAR POWER INDUSTRY

Mammoet Nuclear Services

Nuclear Renaissance Support

For the nuclear renaissance Mammoet is the only rigging company operating in the United States with current experience supporting the building of new plants in both Asia and Europe. It's fleet of thousands of cranes from 25 – 3,000 tonnes, thousands of axle lines of trailer and the industry's largest engineering staff, insures the level of innovative support necessary for the restart of this industry. Mammoet's fleet of 1,000 tonne and larger cranes offer the industry a zero incident pedigree for project safety and performance.

Logistics Capability

Mammoet offers global barge, heavy lift ship, and OTR (over the road) logistical support from point of manufacture to final installation through its custom component tracking management system and more than 50 North American and overseas offices. For components best transported to the US sites via rail, Mammoet's rail car inventory and in house rail department provides complete rail logistics for large components and major modules.

Existing Sites

Mammoet is fully committed and uniquely qualified to handle the logistics and replacement of all major components within today's nuclear fleet. No other company in the rigging and lifting industry has the breadth of knowledge regarding the fleet's 104 nuclear plants, the impeccable nuclear safety record established over an estimated 1,000,000+ man-hours, and the incorporated experience and lessons learned from both domestic and international component replacement projects.

Industry Leadership Position

Mammoet is known as the industry leader for the replacement of:

- Steam Generator
- Reactor Heads
- Transformers (MPT, GSU, RAT)
- MSR's and FWH's
- Stators
- Turbines
- Condensers
- RCP's
- ISFSI modules – *including all rail logistics and final assembly*
- Component Modules
- NUREG 0612 test lift support
- And other primary and secondary side components



To learn more contact:

Steve.Kenney@Mammoet.com

Albert.Slikker@Mammoet.com

Jeff.Telman@Mammoet.com

OR VISIT www.Mammoet.com

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Worldwide specialists in heavy lifting and transport



16,883 service years.
879 installations.
0 instances of failure
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How much more trusted can you get?

Flowserve Edward MSIV. Preferred since the beginning of commercial nuclear power.

Some of the most critical valves in the nuclear island are the Main Steam Isolation Valves (MSIVs). Which is why so many Flowserve MSIVs are still in service. With its continuous ASME Section III "N" Stamp certification since 1972, Flowserve continues to support the commercial nuclear power generation industry. Flowserve's MSIVs include the Flowserve Edward "A" series gas / hydraulic actuated Equiwedge gate valve. This modular design remains the first choice when having a trusted partner means everything.

- | | |
|-------------------|-------------------------|
| Actuation | Valves |
| Accessories | Control |
| Actuators | Quarter-Turn |
| Electric | Nuclear |
| Mechanical | Multi-Turn |
| Pneumatic | Check |
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| Intelligent | Refurbishment |
| Pneumatic | Training |
| Switches | Maintenance Supervision |
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To learn more about Flowserve's nuclear power offerings, visit www.flowserve.com/nuclearpower.

Valves • Actuation • Services
Pumps • Seals



Flowserve Is Qualified, Prepared and Committed to Serve Third-Generation Nuclear Plants with Proven Technology

The nuclear power industry is experiencing an era of growth unrivaled since the peak of nuclear plant construction in the 1970s.

Third-generation plants using the Evolutionary Power Reactor (EPR) and AP1000 technologies are under construction in Finland, France and China. Several U.S. utilities are in various stages of commitment from submitting COL applications to the NRC to signing contracts with reactor suppliers and EPCs for new nuclear power plants, their design and construction, and long-lead items. New projects worldwide will operate under an aggressive timeline and to be successful, suppliers of nuclear valves, actuation systems, steam traps, pumps and sealing solutions must be qualified, prepared and committed.

Gearing Up for the Next Generation of Nuclear Energy

To be included in the third-generation nuclear facilities—EPR, ESBWR and AP1000, as well as advanced designs of ABWRs, APWRs and CANDU—fluid motion and control equipment must have a proven track record, in addition to meeting modern standards and incorporating current technologies. The selection of a Flowserve Edward Main Steam Isolation Valve (MSIV) is a case in point.

The Flowserve Edward MSIV is a critical service valve that prevents the loss of steam from the main steam system in the event of a leak or piping rupture. Standard features of the MSIV's gas/hydraulic valve actuator include the integral stored energy source (pressurized nitrogen), the hydraulic speed control system that ensures constant valve stroking speed regardless of the steam load, fail-closed or fail-as-is operating configurations, and an adjustable closing time range of three to 10 seconds.

Seismically and Environmentally Qualified

Through a rigorous qualification program, the Flowserve Edward MSIV has undergone

extensive testing to ensure its performance. Both seismic and environmental testing have proven the dependability of operation under the most adverse conditions.

Designed and manufactured under an ISO 9001 and ASME Section III approved Quality Assurance program, the MSIV received the ASME Section III "N" Stamp, and has been functionally and environmentally qualified in accordance with the requirements of ASDI Standard B16.41, ASME QME-1 and IEEE-382. While some manufacturers have fallen behind with certifications, Flowserve has remained committed to meeting the latest nuclear industry requirements.

Flowserve Offers a Complete Portfolio of Flow Control Solutions for Nuclear Plant Applications

In addition to the Flowserve Edward MSIVs, Flowserve continues to supply a wide range of qualified valves and actuator products to the global nuclear industry. These products include the Anchor/Darling and Edward tilting disc check and lift check or piston check valves and globe valves, the Anchor/Darling flex wedge gate and double-disc gate valves and swing check valves, Gestra steam traps and equipment, Limitorque motor operators, Valtek control valves and Vogt gate, globe and check valves.

These products combine years of engineering research with lengthy operating experience and the latest technologies to ensure superior reliability. These products are supported by a highly experienced technical and service group that is continually available if ever needed.

Although Flowserve has a vast range of products within its portfolio, it has

not lost sight of the importance to details. Whether it be customer-imposed design or quality requirements or rigorous delivery schedules, Flowserve from the top down and the bottom up, maintains a vigilant eye on the important details.

Meeting the Standards

Flowserve is qualified, prepared and committed to meet the most stringent standards and is well positioned to help third-generation power plants establish a record of economical performance, safety and reliability.

For more information, visit www.flowserve.com to see our full portfolio of nuclear valves, pumps, actuation systems and sealing solutions, or contact Floyd Bensinger at 919-831-3200, fbensinger@flowserve.com.



NUCLEAR / MILITARY / EXOTIC MATERIALS FABRICATORS

- Penn Iron Works is a custom plate fabricator, machine shop, assembly facility and testing site operating under highly structured and documented quality assurance programs coupled with detailed project execution.
 - Penn Iron Works is a supplier to customers in commercial nuclear, Navy nuclear, defense, pressure vessel and structural component industries.
 - Penn Iron Works has six (6) decades of experience involving complex components and multiple material specifications.
- Reading, Pennsylvania location
 - 55,000 square foot facility
 - 50 ton Crane Lift Capacity
 - Heat Treating furnace
 - Sand and Shot Blast units
 - CNC Burning Table
 - to 6” in Stainless
 - to 21” in carbon steel
 - 1250 Ton Press Brake
 - 1¼” bending rolls
 - 15 welding positioners
 - Wet Painting booth
 - CNC Union Floor HMC (451 x 139 Platform)
 - CNC Union Table HMC (99 x 99 Platform)
 - NC Summit Table VBM (129 swing/110 underrail)
 - 200 + qualified welding procedures to ASME 1X and military standards (SMAW, GSAW, GTAW, FCAW, SAW processes)
 - Carbon Steels
 - Stainless Steels
 - Exotic Ferrous
 - Non-Ferrous
 - ✓ NPT certificate N-2927 expires 28 JE 2011
 - ✓ NS certificate N-3175 expires 28 JE 2011
 - ✓ U certificate 18,105 expires 18 NV 2009
 - ✓ R certificate R-6985 expires 18 NV 2009
 - ✓ S certificate 35,174 expires 18 NV 2009
 - ✓ Military Technical Publications
 - S9074-AQ-G B- 010/248
 - S9074-AR G B - 010/278
 - T9044-AS-G B - 010/271
 - NAVSEA 0900 – LP-003-8000
 - ✓ ASME Section V Inspections
 - LPI Procedure 212-03
 - MPI Procedure 213-92
 - Visual procedure ASME V Art. 9
 - ✓ Radiography & ultrasonic inspections via audited, approved suppliers



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ASME Sect. III Div. 1 “NPT” (N-2927); “NS” (N-3175) Stamped Fabs and ASME Sect. VIII Div. 1 “U” (No. 18105) Stamped Vessels (Up to 30-40 Tons per unit). “R” & “S” Stamps received in October, 2006

...

Fabs for U.S. Government, Per Mil Std 248, 278, 10CFR21, 10CFR50, S-22698, S9074-AQ-GIB-10/248, S9074-AR-GIB-010/278 & T9074-AS-GIB-010/271.

...

Fully equipped modern Fabrication and Machine Shop with latest CNC Equipment. Steel, Stainless, Duplex, Super Duplex, Alum. Bronze, Monel, Inconel, Nickel, Hastelloy, Alloy 20, AL6XN, 254 SMO, Copper. 200 ASME approved weld procedures. RT, PT, MT, UT, Hydro, Blast, Assembly, Stress-Relieving, and Painting.






www.penniron.com



Our Cost-Effective, Internal Pipeline Rehabilitation Services Provide Long-Lasting Solutions

Whether it's circulating water or safety related piping, Miller Pipeline has a cost effective solution that can be installed quickly and professionally. The flagship of Miller's service offerings in nuclear power plants has been our internal joint sealing product, WEKO-SEAL®, which is used to provide corrosion protection from brackish water or terminate troublesome leaks at joints.

The WEKO-SEAL is a cost effective solution that provides outstanding long-term results in part because of the installation techniques we use when placing them. Their design and the physical properties of the seal itself, which is made from a flexible EPDM (Ethylene Propylene Diene Monomer) rubber compound is held in place with hydraulically expanded stainless steel retainingbands that ensure a bottle tight installation.

The WEKO-SEAL® is installed via man-entry in pipelines with penetration distances in excess of 1,000 feet. The WEKO-SEAL comes in a variety of widths but can also be used for continuous coverage of any distance through our Sleeve/Seal capabilities.

In addition to the WEKO-SEAL, we offer a cured-in-place pipe (CIPP) that is used to reline an existing pipeline of virtually any size or configuration.

The resins used in our MPC ToughTube® CIPP can be designed to meet specific service requirements. Whatever the need might be, or whatever product used, our technicians work closely with staff engineering personnel to formulate and execute all desired outage objectives.

For over 25 years, Miller Pipeline Corp. has served the nuclear industry by providing inspection services, coating repairs, ultrasonic testing, internal joint sealing corrosion prevention, maintenance, video inspection and pipeline cleaning, pipe relining and replacement and more. Miller Pipeline is an industry leader in a number of various trenchless

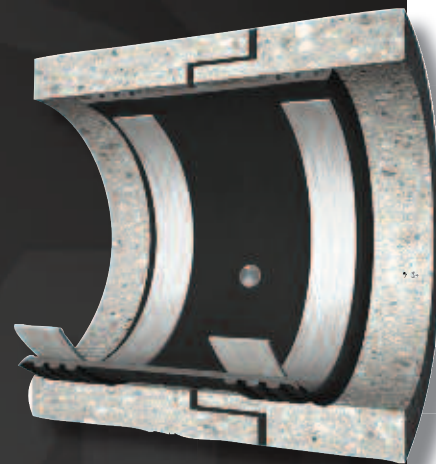
technologies which ensure little to no disruption to above ground facilities or operations. All of Miller Pipeline's technicians are confined-space trained and certified to comply with all requirements of 29CFR 1910.146 Federal OSHA's Permit Required Confined-Space Regulations. Our technicians can quickly gain unescorted access and are able to perform all required activities with short notice.

At Miller Pipeline we understand the stress of refueling outages and view our role as an extension of plant personnel to achieve assigned tasks, on time and in a professional and safe manner.

For additional information regarding Miller Pipeline Corp. please visit our website at millerpipeline.com or call us at 800-428-3742.

What We Can Do For You

- WEKO - SEAL® Internal Joint Seal
- CIPP Installations
- Pipeline Assessment Services
- Certified Coating Applications
- Corrosion Prevention / Maintenance
- UT Testing
- Video Inspections
- Detailed Inspection Analysis



Cross-section model of WEKO-SEAL®



Great people delivering customer-focused, quality-driven, utility solutions

Trust the eB[®] Nuclear Application Suite.

Meet your regulatory requirements, improve safety and increase efficiency with eB.

eB for Nuclear is an integrated suite of information management solutions that ensures the integrity of controlled information by uniquely managing its connectivity to all other relevant information. It captures, stores and manages structured data and unstructured content such as records, specifications, engineering drawings, procedures, reports, emails, design and licensing documents and identifies and relates this content through object modeling to physical items such as equipment, systems, structures and components that comprise the plant. It further allows both content and equipment to be related to certain events that may occur on the plant, such as conditions adverse to quality (CAQ's), corrective actions,

operating experience (OE) and Human Performance observations. By building information bridges between documents, records, assets, people, events, processes and projects, eB for Nuclear creates an Information Management ecosystem for the rapid access of accurate information in context.

Consisting of five integrated solutions based on Configuration Management principles—design engineering, compliance, information management, performance improvement and knowledge management—eB helps ensure that the plant complies fully with INPO[®] guidelines and remains consistent with its design basis, and, as such, compliant with its operating license.

Nuclear fleets share both human and material resources across the enterprise. Increased visibility and data integrity across the fleet reduces risk, increases safety and can reduce outage time. eB's robust multi-dimensional contextual bridgework supports the operations and maintenance processes within a plant, reducing the cost of meeting compliance requirements, minimizing business risk and improving process efficiency. Streamlining processes across the fleet optimizes operating experience, allowing the organization to address Human Performance elements, and instills a safety conscious culture.

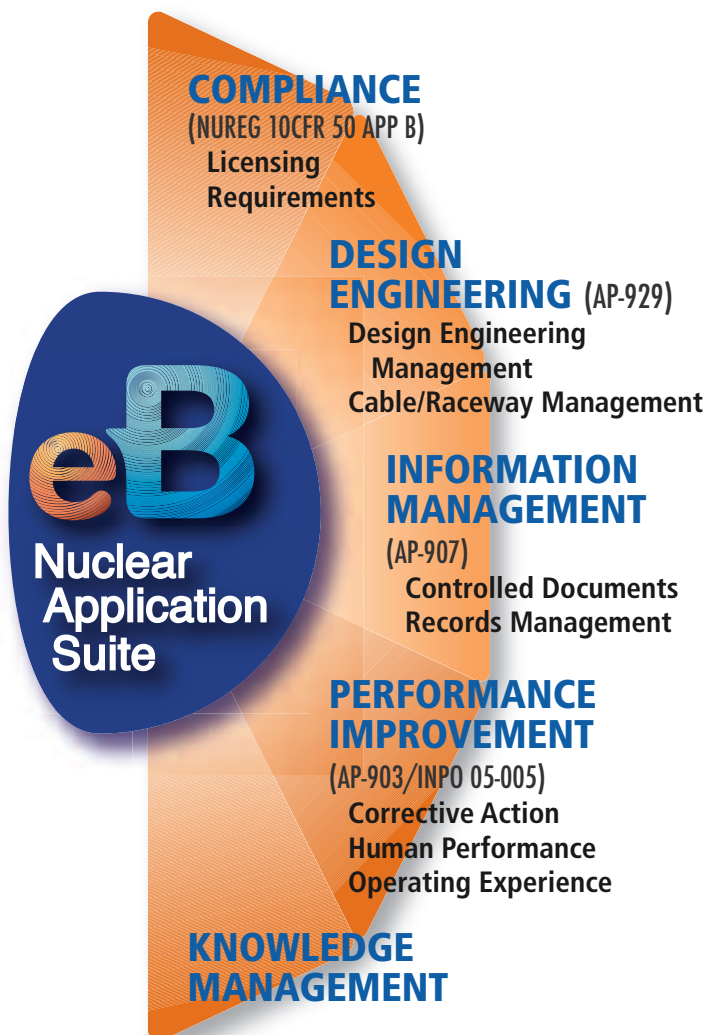
eB offers a modern multi-tier service-oriented architecture (SOA) based on the Microsoft .NET Framework. This architecture offers scalability, flexibility, rapid application development and simplified integration with other systems. Software deployment is greatly simplified by taking advantage of eB's Web based architecture, which also contributes to usability and rapid adoption by end users. eB for Nuclear is based on industry best practices, yet provides the ability for each organization to tailor business rules, workflow processes and terminology to suit their unique requirements.

Enterprise Informatics serves the leaders of the nuclear industry:

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- Constellation Energy
- Energy Solutions
- Entergy
- Florida Power & Light
- Nuclear Fuel Services
- NuStart Energy
- Sandia National Laboratories
- Wolf Creek Nuclear Operating Company
- Westinghouse Nuclear

Contact us for more information and to request a demo of eB Nuclear solutions. 858 625 3000 • info@enterpriseinformatics.com www.enterpriseinformatics.com

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Change is inevitable.

How well you control it is purely optional.

And in this industry, where access to relevant and accurate information is key to your plant's maintenance and operations, Enterprise Informatics' eB® is your most viable option.

"With eB we've been able to improve the rigor of our engineering design change process in accordance with INPO® AP-929 and can ensure that we are compliant with our licensed design basis requirements."

— Janice Hoerber, IT Supervisor, AmerenUE/Callaway Plant

eB Nuclear Suite encompasses applications for Design Engineering, Performance Improvement, Compliance, Information Management, Records Management and Knowledge Management. It streamlines information flow, ensures the integrity of controlled information and delivers all relevant information on demand—and in context—to ensure regulatory compliance.

eB has transformed Callaway's information management processes and is key to their quest for performance excellence. To learn more, view the Callaway vodcast hosted by Computerworld and download the case study at www.enterpriseinformatics.com/nuclear.shtml.

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Quality Manufacturing Capabilities and Capacity for Growth

AT&F Nuclear, Inc. has earned a reputation for quality and service by providing steel solutions to customers since 1940. Steel, alloys and non-ferrous materials are transformed into large-scale precision fabrications, using equipment that is among the largest and most powerful in the world.

The company serves nuclear plant operators, U.S. government contractors, OEMs and fabricators worldwide. AT&F Nuclear offers a unique combination of equipment capabilities, staff and quality systems that make them a reliable choice for a metal service partner and an equipment fabricator.

It employs the most powerful laser cutting systems in the industry, and one of the longest press brakes anywhere. Its rolling and forming capacity easily accommodates heavy wall, long length shapes and cylinders constructed in a single piece. Examples are engineered steel components for nuclear and fossil power generation. These include reactor internals, structural supports, containment parts, heat exchangers, pressure vessels, piping systems, safety-related heavy lift rigs, containers for storing and transporting radioactive materials and material upgrades.

AT&F Nuclear works with all types of plate, cast and forged materials: carbon, stainless, alloy and high-hard abrasion resistant steel, plus titanium and other advanced metals.

Quality systems include: ASME, "N", "NPT", "N3", "NS", "U" and "S" stamps. Their ISO 9002 compliant quality system meets or exceeds stringent military requirements.

Contact AT&F Nuclear to discuss your specific nuclear needs.

From Renaissance to Reality

It's no secret there is a rebirth of interest in nuclear technology. You should know that AT&F has actively cultivated our nuclear fabrication experience over the years and continues to meet the demanding needs of the industry.

With over six decades of manufacturing experience, extensive facilities, and the ability to cut, form, join and machine almost any kind of metal, AT&F has the experience, the capacity and the technology to help take the nuclear power renaissance to reality.

If you're ready to take the step, we're here to make it happen.

- Reactor internals
- Structural supports
- Containment parts
- Pressure vessels and tanks
- Shell and tube heat exchangers
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- Heavy lift rigs
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Keep It Together

Tackle challenging bolting applications with Multi-Jackbolt Tensioners

Critical large-diameter bolting applications have traditionally been difficult to safely and accurately tighten. The problem is that while the strength of a fastener increases with the square of its diameter, the torque required for tightening increases at an even greater rate – to the third power. Because of this, standard nuts and bolts larger than an inch in diameter cannot be effectively tightened with hand tools.

Nuclear bolting applications in particular can face tough challenges with time restrictions and radiation exposure to workers. Various methods have been introduced to handle this problem – stud heaters, hydraulic wrenches and nuts, and hydraulic tensioning. Depending on the application, these can be used with success, but these methods present some of their own challenges and may not be effective in certain circumstances.

Another solution to the inherent challenges of large-diameter bolting is the Multi-Jackbolt Tensioner (MJT). Instead of having to generate enough torque to tighten an entire hex nut, MJT's break those torque requirements

down by utilizing a series of hardened jackbolts threaded through the body of a round tensioner. This enables the user to generate the needed clamping load while using only hand or air tools for installation and removal.

This is a huge advantage in that you no longer need cumbersome or expensive tooling to bolt the joint. Worker safety is greatly increased, and also MJT's boast an accuracy of +/- 5% when calibrated torque wrenches are used. Time savings is another advantage of MJTs. Even though MJT's have several jackbolts to tighten on each tensioner, they have reduced installation times compared to other methods. The use of air tools also greatly speeds up the tightening process, and in many applications multiple workers can be used. Here's how they work:

To install, you first place the hardened washer over the stud or bolt and then thread the tensioner on, hand tight. With simple hand tools, the jackbolts are tightened uniformly. Turning the jackbolts creates a thrusting of the nut body away from the washer surface, creating bolt

tension and imparting a stretch on the main thread (Fig. 1). MJT's flex slightly, adding elasticity to the system which helps keep the joint tight, even when there are temperature changes and fluctuating loads. Common problems such as stud seizure and thread galling are greatly reduced as MJT's are loaded in pure tension.

Every application is different, and it is important to find the right solution for your particular needs. Multi-Jackbolt Tensioners offer a bolting alternative that may be an ideal fit for your machinery. For more information please visit www.superbolt.com.

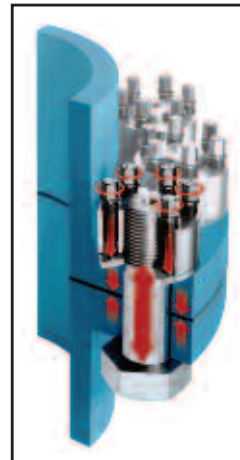


Figure 1: Multi-Jackbolt Tensioners on a flange.

**LARGE
DIAMETER
BOLTING
PROBLEMS?**

**MEET THE
SOLUTION**



Superbolt®
Multi-Jackbolt
Tensioners



(left to right) Main steam inlet flange, control valve, and turbine generator bearing housing.

Superbolt® Tensioners eliminate common bolting problems on a wide variety of nuclear bolting applications. They provide a fast, accurate and safe bolting alternative.

Only hand/air tools are required for installation and removal of any size tensioner. For more information about the benefits of our products, please visit: www.superbolt.com



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What is UniStar Nuclear Energy?

UniStar Nuclear Energy is a developer of a standardized fleet of Generation III+ nuclear power plants—specifically, AREVA's 1600 MW+ net U.S. Evolutionary Power Reactor (US EPR). What makes UniStar unique is that we are creating this standardized fleet with multiple partners – from design, licensing, construction, training, ownership, through to operation.

The Story behind the AREVA EPR

AREVA is the world leader in nuclear production and services, providing nuclear steam supply systems (NSSS) to more than 100 pressurized water reactors (PWRs). The EPR is the first Generation III+ technology to be built in the world. By the time a U.S. EPR is built, there will be at least four EPRs in operation in Europe and China, providing invaluable lessons in construction and operation.

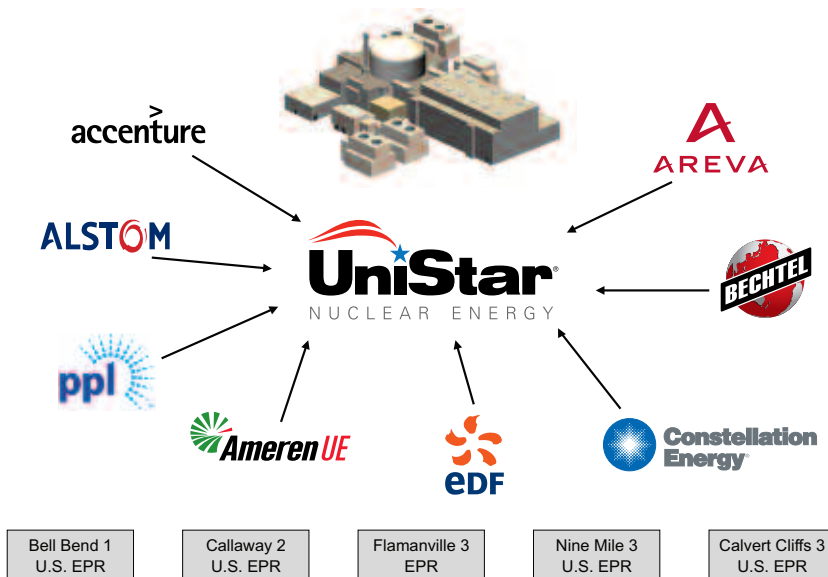
UniStar Benefits

- Flexible ownership participation
- Direct operational involvement
- Uncompromised nuclear safety
- Multi-plant "fleet" operating and economic efficiencies



UniStar successfully completed boring 25 samples in Lake Ontario, which will be evaluated to determine the feasibility of constructing new cooling water intake tunnels for a potential third reactor at Nine Mile Point in New York.

UniStar Partners



AREVA EPR now under construction in Finland.

www.unistarnuclear.com





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AREVA EPR now under construction in France.

Your Partner for Nuclear Power

UniStar is charting a new course to America's energy future with a fleet of AREVA's advanced design U.S. EPR nuclear power plants. UniStar's business model of flexible ownership and operations provides certainty of energy when and where you need it.

To find out more about UniStar, call 410.470.4400 or visit www.unistarnuclear.com.

For information on AREVA's U.S. EPR visit www.us.areva-np.com

For monthly photo updates of construction progress, send your e-mail address to info@unistarnuclear.com.



TriVis Inc.

Spent Fuel Management

TriVis provides the complete solution for high level nuclear waste. We develop and deliver products that address the needs of any organization with high level nuclear waste. Our services cover the entire range of spent fuel storage needs from procedure and program modifications to providing turnkey solutions. We will provide the total management to design, construct, and implement any activities associated with your Independent Spent Fuel Storage Installation (ISFSI).

TriVis personnel are nationally known for their experience in establishment of an ISFSI. Not only do we possess the skills necessary for 10CFR72 facilities but we also represent decades of experience in the 10CFR50 environment. In addition, we have significant experience with NRC regulations; a key to understanding the climate under which our customers function.

TriVis Individual Products

Spent Fuel Project Management - Project Planning Consulting, project Implementation Consulting

Licensing - 10CFR50 Reviews & Support, 10CFR72 Site (& subpart K) Licensing

Spent Fuel Loading Services - Turnkey Loading (includes all procedures & training), Operational Consulting, Supervision

Facility Engineering - Facilities Design, Engineering Analysis, Support Equipment Design

Transportation Services - Planning, Coordination & Integration

Procedure Development - Administrative, Operating & Licensing

Training Programs - Program Development, Program Delivery

Dry Cask Procurement - Cask Procurement Evaluation & Oversight, Support Equipment Procurement

Facility Implementation - Preoperational Testing, Construction

- ISFSI Project Support
- Project Management
- Engineering
- Licensing
- Programs
- Procedures
- Training

- Dry Cask Storage
- Project Management
- Pool to Pad Services
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Same Team. Same Service. Same Commitment. **New Name.**

After 25 years, specialized energy firm is reintroduced as System One.

System One is the specialist for the nuclear energy sector, providing technical outsourcing solutions to improve productivity. You might recognize us as Hudson Energy, or even as the SPEC Group (founded in 1979).

'Relaunched' as System One.

In February 2008, System One spun off as a completely independent enterprise. We deliver a full suite of staff augmentation, managed staffing and quality solutions to the nuclear sector.

Escalating demand for talent.

According to the NEI, "To maintain the current nuclear work force, the industry may need to hire as many as 25,000 more workers in the next five years." Construction may begin on as many as 17 new plants in the U.S. in that timeframe. We'll be ready.

"To maintain the current nuclear work force, the industry may need to hire as many as 25,000 more workers in the next five years."

We speak your language.

At System One, we realize the critical importance of key business drivers: plant productivity, safety, compliance and scheduling. We support every stage of production, from licensing to maintenance.

Responsive recruiting support.

From key direct hires to a contingent work force, System One places the professionals you need to thrive. Outsourcing all or part of your hiring processes to System One gives you:

- capability to quickly alter staffing levels
- availability of talent even in a tight labor market
- reduced administrative and recruiting costs.

Integrated quality assures compliance.

System One's comprehensive quality control solutions help assure regulatory compliance. Services also include non-destructive testing, inspection services and technical training.

Choose the right partner.

System One delivers targeted, practical results. Our clients value our work ethic, our proven processes and our strong execution. Most of all, they value our collective experience within the nuclear energy industry.

19,000 nuclear professionals eligible to retire within the next five years

2,800 workers needed at peak production to build a new nuclear plant

30 nuclear facilities with NRC licensing applications expected or submitted

1 firm to help you manage your complete nuclear work force needs



The numbers tell a compelling story.

The demand for skilled nuclear professionals is increasing dramatically. When you consider attrition and retirement rates, the outlook becomes even more challenging.

System One can help.

With a 25-year track record in the nuclear industry, we are uniquely qualified to recruit the talent you need. What's more, we provide integrated quality solutions and turnkey managed staffing programs.

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- Quality Solutions
- Inspection Services
- Nondestructive Testing
- Technical Training



Nuclear Power Focused

Enertech's commitment to the nuclear power industry began in 1967 with the development of the first nuclear qualified hydraulic large bore snubber. Today, Enertech exclusively focuses on providing products and services to commercial nuclear power plants, NSSS suppliers, A&Es, and the U.S. Department of Energy.



Assuring the Continued Supply of OEM Equipment

Enertech has established strategic relationships with some of the nuclear power industry's most prominent OEMs to provide equipment for the successful operations of existing and newly constructed nuclear power plants. Several of our partners maintain their QA programs, while others rely on Enertech's Appendix B Program and ASME Stamps to provide Safety-Related and ASME Section III components.

Valves

- Target Rock
- Masoneilan
- Consolidated
- Conval
- NozzleCheck
- PermaSeat
- Jamesbury
- Marotta
- Circor/Circle Seal

Actuators

- Enertech EHO
- Bettis
- Masoneilan
- Jamesbury

Pumps

- Goulds

Heat Exchangers and Separation

- Alfa Laval

Fluid Sealing

- Garlock

I&C and Condition Monitoring

- FCI
- Masoneilan
- Goulds
- Swantech

Diagnostics

- Volumetrics
- Masoneilan

Enertech... More Than Just Components

Our team of nuclear experienced application, product, and design engineers ensures that the right product is installed in the right service. Our tenured QA program and continuous improvement process guarantees the quality, reliability, and competitiveness you expect. It is more than just providing you with a component; it is about providing you with the resources needed to improve the performance of your plant.

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- Plant Life Extensions
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Operator Experience



Having a reliable operator in your critical on/off and modulating valve applications is vital for the safe and efficient operation of a nuclear power plant. Enertech Electro-Hydraulic Operators (EHOs) provide some of the highest actuator torques and thrusts and one of the industry's most rigorous seismic and environmental qualifications to ensure peak performance. Keeping safety as the foremost concern, Enertech EHOs are designed with redundant safety features that include stored energy to provide operation during a loss of power. For over 40 years, Enertech EHOs have successfully operated in the most demanding valve applications; why not consider them for yours?

To learn more about Enertech Electro-Hydraulic Operators call 866-211-6840

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Supporting Growth.



BCP Engineers & Consultants



BCP Engineers & Consultants

Since 1981, BCP Engineers & Consultants has been proud to bring reliable and quality support to all areas of the nuclear industry. We are pleased to announce three new services delivered with the same level of quality and from the people you've come to know and trust.

New Services:

Plant Lifecycle Management

BCP and our partner Dassault Systemes (who provide leading 3-D simulation software) provide full plant lifecycle management (PLM) support. From conception to decommissioning, this new service allows you to proactively manage all plant operations.

PLM is more than 3D CAD/CAE and it is more than a tool to improve project execution. It is a business strategy supported by proven technology to improve performance for all phases of the plant lifecycle.

The PLM process: reduces risk in all lifecycle phases, integrates and provides real-time access to plant data and captures fleet synergies.

R&E Tax Services

BCP works directly with you and your tax department to identify and substantiate research and experimentation (R&E) activities and associated costs for new projects and plant improvements.

The R&E tax services BCP provides are particularly applicable to the energy industry due to the high level of investment in capital plant upgrades and improvements in generation and energy delivery.

Tax recovery of qualified research expenditures can have a significant impact on your company's bottom line, providing accelerated cash flow and contribution to after tax net income.

Fire Protection

BCP has extensive experience supporting all aspects of Nuclear Fire Protection from individual on-site staff augmentation to developing complete fire protection programs using cost effective methods.

This service offers: training fire protection engineers on current fire models approved by the NRC for fire impact assessment, CFAST Zone fire models for detector response, manual action feasibility and compartment environment, as well as: FDS used for specific evaluations including target assessment, smoke management and fire barrier integrity.

Our fire risk analysis includes: NFPA 551 experience, nuclear fire FRA resolutions and enhancements, developing exemption request evaluations and supporting performance-based analysis.

Existing Services:

- License Renewal Project Support
- Power Upgrade Project Support
- Engineering Programs
- Maintenance Optimization
- New Plant Cost Support
- Incore Flux Thimble/Seal Table Cleaning, Repair and Replacement
- Containment Building Inspection and Testing
- Reactor Vessel Visual Inspection/Retrieval
- Specialty Tooling Design and Fabrication

How can we help you grow?

Our knowledgeable staff is eager to talk with you about ways we can support the growth of your company.

Contact us today to let us know what we can do for you.

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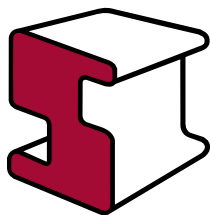
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- Fracture mechanics
- Pipe wall thinning
- Piping analysis
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- Root cause analysis
- Thermal hydraulics
- Materials & failure analysis

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- PC-Crack
- MIC/BioGeorge
- SI Pipe-Eval
- WinPraise



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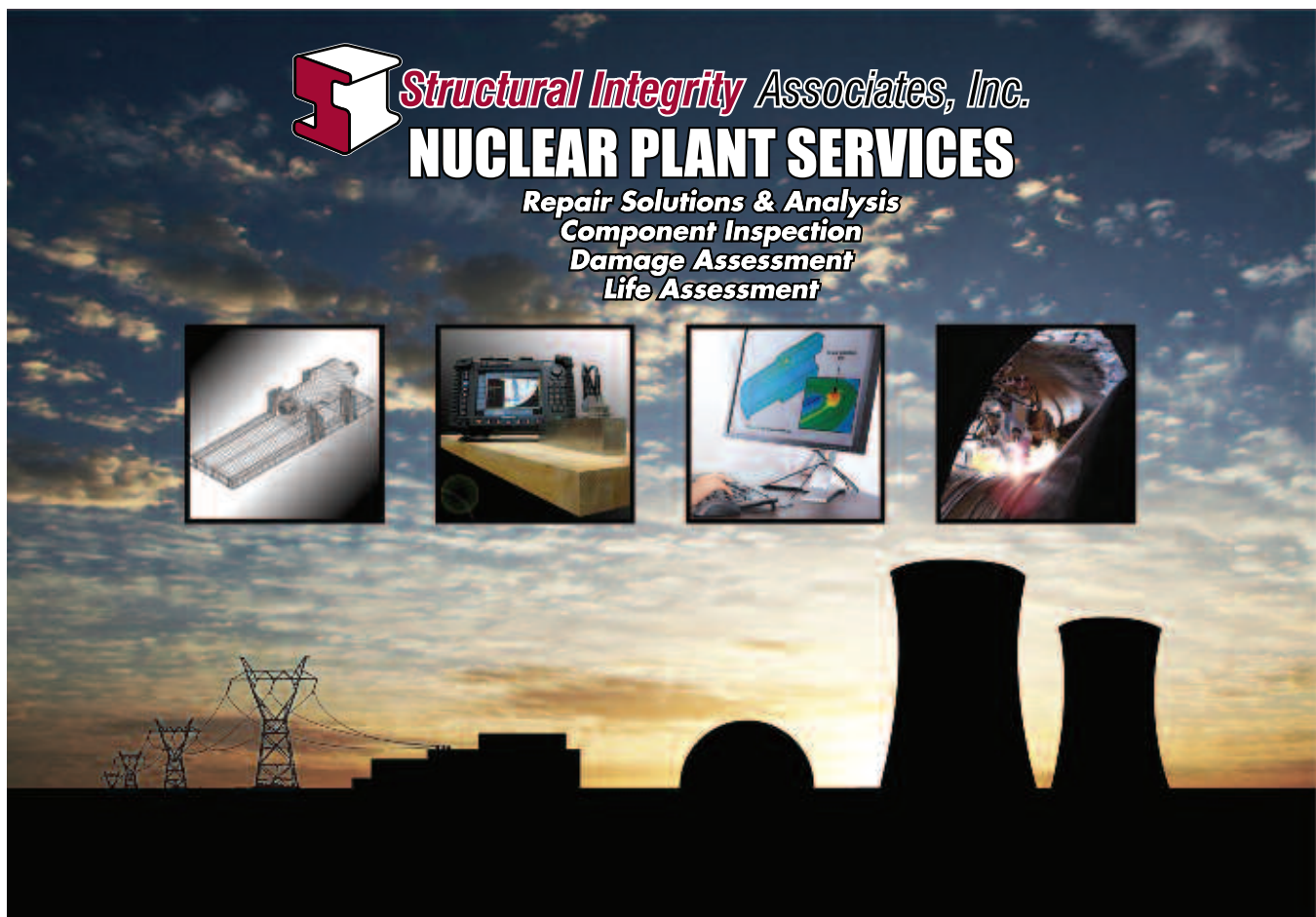
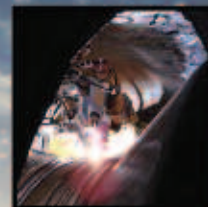
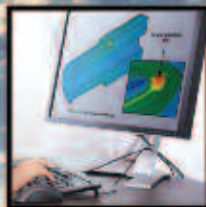
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Structural Integrity Associates, Inc.

NUCLEAR PLANT SERVICES

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Component Inspection
Damage Assessment
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INNOVATIVE SOLUTIONS FOR NUCLEAR COMPONENTS

FOCUS ON QUALITY AND INNOVATION

From its roots as a foundry in the mid-19th century, to its success today as the only company manufacturing steam generators in North America, Babcock & Wilcox Canada has maintained its focus on quality and innovation.

The company's achievements and longevity have been built upon a strong commitment to work with customers to achieve outstanding results.

By successfully combining engineering, manufacturing, and service expertise with investments in research and development, B&W Canada has produced proven designs for steam generators with excellent operating records. More than 295 B&W nuclear steam generators provide power around the world with a record of unparalleled performance.

Today, B&W Canada continues to apply these same high standards in supplying replacement nuclear components.

REPLACEMENT STEAM GENERATORS

Drawing upon its broad background in the supply of steam generation equipment, B&W Canada started designing and manufacturing nuclear steam generators for CANDU reactors more than 40 years ago.

The extensive knowledge and experience gained from the CANDU program provided a strong base for designing and manufacturing replacement steam generators for the U.S. pressurized water reactor (PWR) market. Current B&W supplied PWR replacement steam generators incorporate the same uncompromising attention to detail and quality.

With design and manufacturing innovations such as lattice grid tube supports, CAP steam separators, and the application of a variety of alloys, B&W Canada continues to set the standard for the performance of steam generators and has earned its position as a leader in supplying replacement steam generators for the U.S. market.

REPLACEMENT REACTOR VESSEL CLOSURE HEADS

With the same commitment to quality and innovation that led to success in the replacement steam generator market, B&W Canada supplies replacement reactor vessel closure heads with Alloy 690 nozzles for every type of pressurized water reactor.

In response to the unique challenges posed by stress corrosion cracking, B&W Canada's replacement RVC heads are designed to reduce operating stress and manufactured to reduce residual stress.

In addition, B&W Canada offers integrated solutions, such as an enhanced service structure design that minimizes inspection time, improves outage schedules, and reduces maintenance costs.

STRONG CUSTOMER INVOLVEMENT

B&W Canada's dedicated, professional teams work closely with customers to manage projects, meet challenges, and provide effective results.

From fully integrated North American facilities, with in-house project management, engineering, international procurement, transportation, and the world's largest clean room for assembling nuclear steam generators, B&W Canada continues to build upon its proud history of exceeding its customers' expectations.

For more information on how B&W Canada can focus on your requirements, please contact:

Brian Roberts, Nuclear Sales Manager
 Babcock & Wilcox Canada Ltd.
 581 Coronation Blvd. Cambridge, ON, Canada N1R 5V3
 Phone: 1-866-445-6293
 Fax: (519) 621-9681
 email: beroberts@babcock.com
 www.babcock.com/bwc





Focus (v) : to concentrate attention or effort

At Babcock & Wilcox Canada, we focus.

We focus our solutions to meet your unique requirements.

We pride ourselves on innovation and engineering excellence. Our nuclear steam generators have an outstanding performance record. Our replacement reactor vessel closure heads incorporate unique manufacturing processes to minimize residual stress. And our nuclear services for equipment inspection and maintenance keep your plant operating efficiently with minimal downtime.

Expertise. Attention to detail. Focus. Our approach delivers outstanding results.



babcock & wilcox canada ltd.

Global Leader In Pressure Relief Valve Technology

For over 50 years, the nuclear power industry has trusted Tyco Flow Control to deliver global valve solutions. In fact, Crosby Valve, one of our premier brands, was the first valve manufacturer to receive the ASME Code Symbol NV stamp in 1971, to provide pressure relief valves for nuclear power plant applications.

Since then, Tyco Flow Control has developed solutions for some of the most difficult nuclear power plant applications with products manufactured under such well known brands as Anderson Greenwood, Crosby, Sempell, Vanessa and Yarway.



CROSBY
Main Steam Safety Valve
(PWR Applications)



CROSBY
Pressurizer Safety Valve



Sempell
Media Operated Main Steam
Isolation Valve (MSIV)



vanessa
Triple Offset Rotary
Process Valve

Our leadership position stems from experienced engineers dedicated to providing solutions for existing and the next generation of nuclear power plants. We can assist with:

- Valve design and selection
- ASME Code reconciliation
- Stress and finite element analysis
- Seismic analysis and testing
- Development and management of testing programs

For more information about these services, contact one of our sales engineers at:

(508) 384-3121 or visit

www.crosbynuclear.com



Powerful Brands, Technology And Experience

With the strength and expertise of over 60 trusted brands, Tyco Flow Control meets the most technically-challenging flow control requirements in a nuclear power plant. Tyco Flow Control products that help safeguard the industry and enhance plant performance, include:

- Pressure Relief Valves (spring, pilot and power operated)
- Vacuum Relief Valves
- Medium Operated Isolation Valves
- Hand Valves and Manifolds
- Check Valves
- Triple Offset Rotary Process Valves
- High Pressure Globe Valves
- Butterfly Valves

Applications for the products mentioned include Pressurizer Safety Valves, Main Steam Safety Valves (MSSV – PWR or BWR applications), Main Steam Isolation Valves (MSIV), Vacuum Breakers, Containment Isolation and Instrument Isolation

Tyco Flow Control is a major business segment of Tyco International Ltd. (NYSE: TYC; BSX: TYC). Comprised of Tyco Valves and Controls, Tyco Thermal Controls and Tyco Water and Environmental Systems, Tyco Flow Control has over 15,000 employees in more than 100 locations globally dedicated to delivering total flow control solutions.

For more information visit:

www.tycoflowcontrol.com

tyco / Flow Control

Managing I&C and Digital Technology Risks

It comes as no surprise.

Instrumentation and control (I&C) has become one of the thorniest issues in the renaissance of nuclear power. What may be surprising is that Hurst Technologies Inc, Angleton, Texas, has quietly emerged as a leader in managing nuclear I&C design and bridging what some in the industry have called the “digital delta.”

The heart of the I&C issue is this: The standardized unit designs being pursued by US owner/operators were certified by the NRC a decade ago. However, I&C is a special area with rapidly evolving technology. What is stipulated in the standard design may not be achievable today, notably in the safety and protection systems and how they communicate with other systems. Human factors engineering (HFE) to support these designs is an associated, and no less critical, area of concern.

Put another way, the lack of a defined pathway for the design, licensing, and implementation of digital systems is a significant risk to obtaining a combined operating license (COL).

Hurst supports owner/operators in their COL activities for new units. I&C-related issues are so complex, new unit project teams have determined that it is best to coordinate the I&C discipline separately *within* the engineering organization. In accepting this responsibility, Hurst determines the appropriate digital technology, what the NRC’s position on elements of digital technology is, and how the operators should interface with the plant using modern

control room technology. The development of the plant simulator and the operator training requirements are key elements of this responsibility.

In short, Hurst defines pathways for the successful application of digital technology. In doing so, Hurst acts as the owner’s agent in dealing with system vendors.

Hurst put in the first fully NRC approved digital protection system at the D C Cook station in 1994. Since then, through multiple upgrades at more than a dozen nuclear plants, Hurst has guided digital I&C applications and development. Involvement spans the entire spectrum of a project—from strategic studies and conceptual plans, developing specifications and MOD packages, overseeing vendor-built hardware and software, to installation of equipment, testing, and verification. Hurst has also performed as the system designer and integrator.

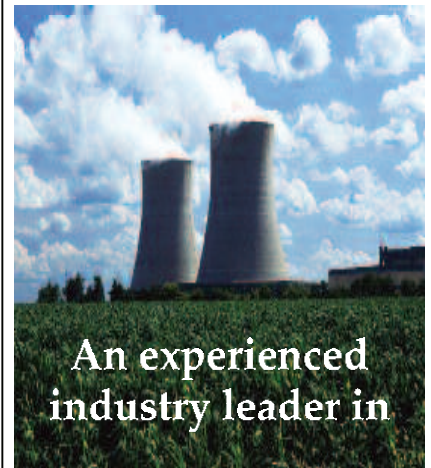
Hurst has assembled a team for COL support activities and I&C upgrades that includes industry veterans who have devoted their careers to nuclear I&C in the regulatory arena, engineering, operations, project and program management, strategic planning, and industry codes, standards, and best practices. Each has several decades of experience in this discipline alone.

Digital upgrades at US nuclear plants have a checkered past, in part because of a lack of coordination and implementation *independent* of the system vendor. I&C is the NRC’s greatest area of concern with standard designs going forward. By making Hurst part of your engineering organization, you can optimize I&C design using available digital technology.

I&C is the NRC’s greatest area of concern with standard designs going forward.

Your partner for

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ENGINEERING**



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Waste Control Specialists Offers a New Choice for 11e.(2) Byproduct Material Disposal

Waste Control Specialists LLC (WCS) has been granted a license to permanently dispose of 11e.(2) byproduct material.

With ideal West Texas geology and a community supportive of the company's operations, the new byproduct disposal capability offers an ideal option for the rapidly growing nuclear industry and ongoing federal cleanup initiatives. The site covers nearly 15,000 acres with 1,338 acres currently permitted for treatment and disposal activities.

"WCS has secured this license at a time when the nuclear industry is in need of a safe and permanent disposal facility," said WCS President Rodney Baltzer.

In addition to the byproduct disposal license, the WCS facility in Andrews County, Texas is licensed for the processing, storage and disposal of a broad range of hazardous and toxic waste and to process and store certain types of low-level and mixed low-level radioactive waste. The treatment, storage and disposal facility began operations in 1997 and includes a professional staff with a broad range of expertise.

The new byproduct license allows WCS to permanently dispose of 11e.(2) byproduct material such as uranium and thorium mill tailings as well as equipment, pipe and other materials from mining operations. Authorized materials include dry, discrete solid objects and containerized bulk materials, such as mill tailings and contaminated soils.

Construction activities for the byproduct facility will begin next month with the facility expected to be fully operational with disposal capabilities in April 2009.

The site is served by an excellent road system and rail access with 110 rail car capacity on a private on-site rail spur. The company is also constructing an enclosed rail car dumper for hazardous and toxic waste that will enable the unloading of up to 80 gondola cars per day into 110 cubic yard dump trucks for hauling materials to the site's RCRA Subtitle C disposal cell.

The company has pending a LLRW license for the disposal of Texas Compact Class A, B and C LLRW as well as Federal Class A, B, and C equivalent LLRW and MLLW. WCS expects to begin permanent disposal of LLRW in 2010.

WCS is a subsidiary of Valhi, Inc. Valhi is engaged in the titanium dioxide pigments, component products and waste management industries.

For more information on the new by-product license or to learn more about WCS capabilities, visit www.westexas.com or contact David Cronshaw, at (801) 944-2464 or e-mail David at dcronshaw@valhi.net

**WASTECONTROL
SPECIALISTS LLC**



WCS Corporate Address
Three Lincoln Centre, Ste 1700
5430 LBJ Freeway
Dallas, Texas 75240
Phone: 972-715-9800

WCS Site Physical Address
9998 Highway 176 West
Andrews, Texas 79714
Phone: 575-394-4300

The Right Choice in 11e.2 Byproduct Material Disposal

More options mean better choices for your 11e.2 byproduct disposal needs.



Come check out the nation's newest disposal option at WCS' modern facility in Andrews County, Texas. **Disposal operations of 11e.2 byproduct material to begin April 2009.**

WASTECONTROL
SPECIALISTS LLC

For more information on how **Waste Control Specialists LLC** can be the right choice for your facility, contact David Cronshaw.

Andrews, TX
Tele: (801) 944-2464
E-Mail: dcronshaw@valhi.net
www.wcstexas.com



Bolting and Machining The World's Critical Joints

For over 20 years INTEGRA Services Technologies has been providing the Nuclear Industry both in the US and Worldwide with On Site Flange Bolting and Machining Services. Having been part of Westinghouse Nuclear (Bolting Services), Raymond Engineering and Flexitallic Gasket, INTEGRA has a complete understanding of the bolted assembly and can provide a wide range of services and technology to solve leak related problems in bolted assemblies.

Our highly trained and experienced Engineers, Sales People and Technicians are available to evaluate, develop and implement controlled bolting, machining and environmental programs for all types of flange connections, flanged components, turbine casings, pipe supports and boiler supports.

All the staff are available 24 hours a day for support with any technical inquiries you may have.

INTEGRA focuses on providing outstanding results, with **zero** accidents, **zero** defects and **zero** delays, their ability to continuously provide this, has resulted in INTEGRA being the number one choice for On Site Bolting and Machining in the Nuclear Industry.

BOLT TENSIONING ON BB296 TURBINES

Custom Tensioners designed to open and close BB296 turbine casings.

INDUCTION BOLT HEATING

Cool to the touch IBH coils are used to remove bolts fast and effectively without damaging the bolts themselves or the machinery.

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The only way to be absolutely sure the specified bolt load is achieved in the bolt is to measure the stretch of the bolt. The only practical way to do this is with Ultrasonic.

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BlackHawk™ Hydraulic Nuts are your solution for high temperature, high pressure applications on a variety of critical components, reliably retaining accurate bolt loads under the most extreme operating conditions.

For more information on INTEGRA Services Technologies, contact us on 1-866-458-1092 or email us at delaware@integratechnologies.com

www.integratechnologies.com



Bolting and Machining The World's Critical Joints

BOLTING SPECIALISTS FOR PRESSURE BOUNDARY COMPONENTS IN NUCLEAR PLANTS



APPLICATIONS

- REACTOR VESSELS
- REACTOR COOLANT PUMPS
- STEAM GENERATORS
- HEAT EXCHANGERS
- TURBINE CASINGS
- VALVES

PRODUCTS & SERVICES

- BOLT TENSIONING FOR BB296 TURBINES
- INDUCTION BOLT HEATING
- ULTRASONIC BOLT LOAD VERIFICATION
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Faster, Safer and Easier... we'll show you how

SOUTHWORTH has been in business since 1890. Known for its precision machine work, we started designing and manufacturing lifts, turntables, tilters and other special material handling devices in the early 50's. **Today Southworth is the largest supplier of vertical and work positioning machinery in the world.**

Headquartered in Falmouth, Maine, Southworth hosts a strong strategic sales and management team that oversees several satellite offices country wide, as well as distribution on four continents. Our products are manufactured and assembled in Manila, Arkansas, utilizing modern manufacturing and assembly techniques and a highly qualified work force. Known for superb quality, durability and performance, all Southworth products



endure an intense quality inspection before shipment assuring that all specifications, design requirements and tolerances are met.

Southworth has the largest, most capable design group in our segment of the material handling industry, hosting a staff of twenty engineers with over 400 years of combined design experience. Every Southworth product is custom designed to meet customer specifications utilizing SolidWorks 3D parametric modeling software and, where applicable, meets or exceeds all existing federally recognized safety standards, including ASME B20.1 or ANSI MH29.1. From simple modifications of standard products to custom designed equipment, we believe our continued growth depends on the ability to provide total product solutions for customer's unique situations.

Southworth's strong reputation has also been built on the philosophy that its customers buy more than just a product. They get the company behind it. Southworth has lead the industry for over forty years with a no-nonsense, full parts and labor warranty and a repair parts program that will not allow any replacement/repair parts to become obsolete. Our corporate goal is to provide competitive, high quality, innovative material handling machinery to improve customer productivity and safety.

Our programs, philosophy and commitment to do what is right for the customer are a few good reasons to buy Southworth.



We look forward to the opportunity to be of service to you!

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Standard Platform	32"x36"
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Transporting your SAM will be *Faster, Safer & Easier* with the CLS4-24.

The CLS4-24 solves a transport issue identified in an Operations Experience by the INPO and has proven successful in safely positioning SAM units in numerous nuclear sites already!



For more information call: Pete Sullivan, 800-743-1000 ext. 4259 or visit us at: www.SouthworthProducts.com/nuclearindustry

Bechtel: The First Name in Nuclear

WORLD LEADER IN NUCLEAR INDUSTRY

Bechtel has been the active leader in the nuclear industry for almost 60 years.

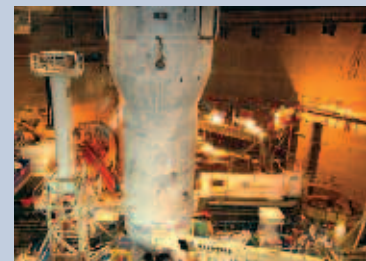
- More than 74,000 MW of nuclear design, construction, and operating plant support experience on over 150 plants worldwide
- Maintenance and Operating Contractor for seven U.S. National Laboratories
- Engineering services and/or construction services for over 88% of the U.S. nuclear power plants
- Ranked #1 overall contractor in the U.S. by Engineering News-Record since 1998
- Ranked #1 in power by ENR since 1996



NEW GENERATION AND DOE SUPPORT ACTIVITIES

Bechtel's new nuclear generation activities include:

- Browns Ferry Unit 1 restart
- Watts Bar Unit 2 completion
- Construction and Operating License applications
- Early Site Permits
- Design certification support of reactor technology suppliers



STEAM GENERATOR AND REACTOR PRESSURE VESSEL HEAD REPLACEMENT

Bechtel's industry achievements include:

- 34 steam generator replacements completed or ongoing and 8 reactor pressure vessel head replacements completed
- Shattered the world record by 8 days by replacing four steam generators and a reactor head in 55 days
- Lowest U.S. SGR accumulated radiation exposure

NUCLEAR OPERATING PLANT SERVICES

Bechtel offers a comprehensive array of operating plant services, including:

- Engineering, licensing, and design modifications
- Plant maintenance and modifications
- Planning, scheduling, and cost control
- Power uprates
- License renewals
- I&C digital control upgrades
- Equipment qualification



www.bechtel.com



MIRION
TECHNOLOGIES

Mirion Technologies Sensing and Imaging Systems Divisions, featuring IST branded products, are worldwide leaders in the nuclear industry, with imaging and sensing systems present in three quarters of all nuclear plants.

Throughout its twenty-year history, the portfolio of IST branded products has successfully grown and solidified a strong market position. Now under the banner of Mirion Technologies, the Company offers products with a complete range of operational safety and non-safety radiation monitoring equipment such as its IST, IST-Rees, IST-Conax Nuclear and IST-Auxitrol Nuclear brands.

Sensing Systems Division

The Sensing Systems Division (SSD), maker of the IST and IST-Conax range of products, is the world's largest supplier of radiation sensors, providing the nuclear power industry with in-core and out-of-core detectors and electrical penetrations. In addition, Mirion's SSD manufactures the associated electronics,

temperature sensors, thermocouples, special purpose valves, connectors, mineral-insulated cable/connector assemblies and electrical conductor seal assemblies.

Imaging Systems Division

With thousands of systems in operation worldwide, the Imaging Systems Division (ISD) supplies IST-Rees branded equipment, the leading brand of CCTV inspection and surveillance cameras in the nuclear industry, providing systems for commissioning, decommissioning, reprocessing and power generation.

The IST-Rees product line also includes a full range of accessories such as lighting attachments and positioning devices that allow operators to carry out a variety of monitoring and inspection tasks. From small, low cost cameras to high performance viewing systems, the Imaging Systems Division provides an imaging solution for the nuclear market.

Mirion Technologies

Mirion Technologies has a long history of providing mission critical products to detect, monitor and identify radiation. With over 700

employees worldwide, Mirion operates 14 production facilities in North America, Europe and Asia.

Mirion is the parent company for IST, MGP Instruments and Global Dosimetry which forms the five Mirion divisions: Sensing Systems, Imaging Systems, Health Physics, Dosimetry Services and Radiation Monitoring Systems. Globally these divisions provide the highest quality products and services to a wide range of customers including nuclear power plants, military and civil defense agencies, hospitals, universities and national laboratories.

The Company is well positioned to extend its global franchise based upon the renaissance of the global nuclear power industry; strong demand for homeland security and defense solutions; and increased utilization of radiological nuclear applications. Mirion will continue to maintain a technology leadership position through innovative products and solutions. For more information visit: www.mirion.com.



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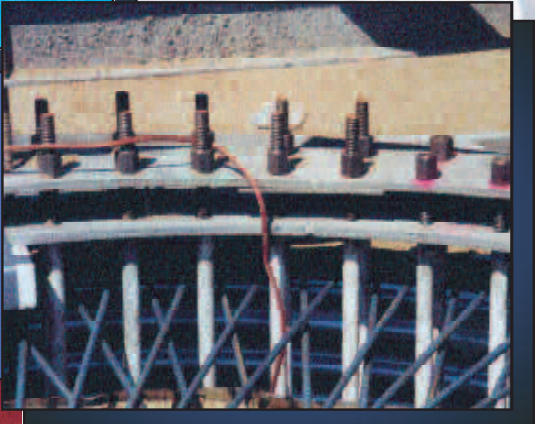
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The Dyson Corporation is a domestic manufacturer of fasteners, forgings and machined components for the nuclear industry. Established in 1884, Dyson supplies all levels of critical infrastructure including power generation, defense, mining, bridge construction/DOT projects and Army Corps of Engineers applications.



Dyson produces a full line of fastening systems that meet exact customer requirements. Fasteners can be supplied to standard or custom dimensions, specifications and materials. Items include nuts, bolts, studs, cap screws, tie-rods, foundation rods, eyebolts and U-bolts. Size capabilities range from 1/4 inch to 8 inch diameters. Custom forgings can range from 1/2 pound to 10,000 pounds.



Dyson complies with NCA3800 of the ASME Boiler and Pressure Vessel Code, 10CFR50 Appendix B, MIL-I-45208A, ISO9001:2000, and recently received our ASME Quality System Certificate as a Material Organization.



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Pressure Vessel Fabrication

Newport News Industrial fabricates tanks, pressure vessels, piping systems and structures for many industries. We have extensive experience working to ASME requirements. We maintain five quality programs in support of our National Board and ASME Certificates of Authorization which include NR, VR, U, R, NA, NPT, and NS. NNI QA Programs meet the requirements of NQA-1, ISO 9001, 10CFR50 appendix B, ANSI N45.2, and Mil-1-45208A. NNI is also qualified to perform SUBSAFE work for the Navy, which requires stringent quality controls due to the risk of loss of life if there is a failure.

NNI recently designed and fabricated a Blowdown Drum Tank for Western's refinery in Yorktown, VA. The tank was fabricated in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Div 1 for unfired pressure vessels. This 55,000 gallon tank demonstrates our recent success in large ASME U stamped pressure vessels. The tank is 11' in diameter by 60' in overall length with a design pressure/temperature of 50 psig/800 degrees F. Shell materials were ASME 516 Gr 70,

normalized plate.

NNI designed and performed code calculations for the pressure vessel, support structure and external reinforcements. NNI procured all shell plates, heads, and nozzle parts per the drawing and Codes referenced.

The customer requirements specified a finished tank that was too large to transport as a completed assembly. The shell plates (five sections) were rolled, edge prepped, and welded at NNI's site. NNI transported the welded vessel shell to the refinery where the 60" and 36" nozzles and saddle supports were fabricated and installed on the vessel at the site. Manual and automatic flux core welding processes were employed. Post Weld Heat Treatment was performed at the refinery with a gas fired system. Radiographic inspection of shell seams was completed with no defects noted. A satisfactory hydrostatic test was also performed. Exterior painting was applied in the field. Final acceptance of the new vessel by our Authorized Inspector and "U" stamping was the last step in a complex project which required detailed planning, design and skilled fabrication.



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***In the brief span of two decades,
The Westerman Companies emerged
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The company has long been one of the world's foremost producers of enriched uranium hexafluoride (UF₆) containers, and continues to expand its product line of containers, pressure vessels and equipment and subassemblies for nuclear remediation and power generation projects.

Confirming its commitment to high quality and stringent customer demands, Westerman is proud to announce the company's achievement of the highest level of excellence within the industry: **the ASME Section III "N" "N3" "NS" "NPT" with an NQA-1 "Certified" Quality Program.** This accomplishment allows Westerman to fulfill most fabrication and material supply requirements of the resurging nuclear energy industry.

With "NPT" certification, Westerman Companies is accredited as a material organization and is authorized to supply certified ferrous and nonferrous material for use in nuclear applications.

The company's manufacturing facilities have steadily expanded and now exceed 275,000 square feet, with more than 275 employees on the roster. And the growth continues.

Superior manufacturing ability

With combined capabilities in fabrication, machining and non-destructive testing service in both light and heavy gage material, Westerman can satisfy customer needs and specifications in a variety of mediums ranging from stainless and carbon steel to metal alloys and specially clad materials.

Above and beyond quality assurance

The scope and depth of Westerman's manufacturing experience, guided by superior quality assurance programs, enable the company to meet stringent NQA-1 certification requirements set by A.S.M.E., the Nuclear Regulatory Commission, and others. The company also meets the most rigorous standards demanded by the U.S. Department of Energy, the U.S. Department of Defense, the U.S. Corps of Engineers, plus numerous prime and secondary government contractors involved with nuclear projects and the production and handling of nuclear products.

The overriding imperative: SAFETY

From the office to the production floor, decisions made at Westerman are formed and molded by a nuclear safety culture that is as powerful as it is pervasive.



Westerman Companies

Since 1986

NQA-1 and ISO 9001/2000

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