# **Products and Services**

For The Nuclear Power Industry





Curtiss-Wright Nuclear Division offers a comprehensive range of products and services that support the global nuclear power industry. Our advanced technologies and innovative solutions have been used in operating reactors for over 55 years, sustaining the safe and reliable operation of nuclear plants throughout the world. We continuously provide technologies and experience in support of Plant Life Extension and Extended Power Uprate programs, and offer proactive solutions to critical plant obsolescence issues.

Our Quality Assurance programs are maintained at the highest standards of excellence in support of rigorous industry requirements. We meet 10CFR50, Appendix B; 10CFR20; ASME NQA-1; and ASME Sections III and XI. We possess ASME N, NPT, NR, NS, UV, and VR Certificates, including Material Organization (QSC-614) capabilities. Our international quality programs meet the requirements for Canada, France, China, and Russia, and are NUPIC-and NIAC-audited.

We have invested in new companies, new technology, expanded technical staffing and infrastructure to strengthen our capabilities and industry support. Our business units provide unmatched knowledge, experience and technical superiority, making Curtiss-Wright's Nuclear Division ready and able to meet the demands of existing operating reactors, as well as the future fleet of nuclear power plants.

Curtiss-Wright Nuclear Division has proven its long-term commitment to serve the nuclear power industry. We will be there in the future to provide next-generation technology, equipment, services and experience, and we stand ready to support our industry's complex and evolving requirements.



# **Products and Services**

# For The Nuclear Power Industry

### **Products**

### Actuators

- Electro-Hydraulic
- Pneumatic
- · On-Board Diagnostics

### Airlocks, Hatches & Doors

- Personnel/Containment Airlocks
- Equipment Hatches
- Specialty Doors

### Cables & Connectors

- Safety-Related & Environmentally **Qualified Products** 
  - Cable Assemblies
  - Electrical Penetration Assemblies
  - Grayboot & Blueboot Connectors
  - Single & Multi-Conductor Connectors
  - Class 1E Splice & Sealing Products
  - Safety-Related Instrument Racks

# Outage & Fuel Management Equipment

- Reactor/Steam Generator Servicing Equipment
- Control Rod Servicing Equipment
- Nozzle Dams

### Construction Products - Safety & Non-Safety

- · Cable Travs
- Pipe Hangers & Accessories
- UNISTRUT® & B-Line® Metal Framing
- Safety-Related Hilti® Products

### Fasteners & Precision Machined Components

- ASME, Safety-Related, Commercial Grade
- Standard & Specialty Fasteners
- Specialty Parts Fabrication
- Anchors/Structural Bolting/Fittings
- Safety-Related Metal Framing Systems
- PlasmaBond® Metal Coating
- Innovative Bolting Solutions

# Fluid Sealing Products

- Tube Plugging & Sleeving Systems
- Mechanical Packing
- Gaskets & Textile Sealing Products
- Graphite Pressure Seals
- Specialty Sealing Products
- Mechanical Seals
- Expansion Joints

### Spent Fuel Pool Products

- Fuel Storage Racks/Gates
- Neutron Absorbing Products
  - NETCO SNAP-IN® Rack Inserts
  - NETCO Pinserts® Fuel Bundle Inserts

## Heat Exchangers

- Shell & Tube Support Products
  - Hydrostatic Test/Isolation Plugs
  - Heat Exchanger/Condenser Test Plugs
  - Specialty Tools

# HVAC Systems - Safety & Non-Safety

- Purpose Built Chillers & Control Systems
- · Air Handling Units
- · Fans, Blowers & Motors
- · Heating/Cooling Coils
- · Dampers & Operators
- · Ventilation & Filtration
- · Air Filters
- HEPA Systems

### Tensioning Devices

- HydraNut® Bolt Tensioning Systems
- Reactor Vessel Tensioners

### Snubbers

- Large Bore Snubbers
- True Test-In-Place Manifolds

- Digital FPGA Relays
- Digital Safety Systems
- Thermal Dispersion Flow, Level, & Temperature Instruments
- Smart Products
  - Positioners
  - Controls/Diagnostics/Monitoring
- Analog/Digital Leak Rate Monitors
- Power Supplies
- Analog Controllers and Alarm Modules
- **Indicating Meters**
- Modern Analog Safety System

# System Integration/Fabrication

- HVAC Systems & Equipment
- Tank & Vessel Fabrication
- **Expansion Tanks**
- Accumulators
- Skid Fabrication
- **Custom Panels**
- · Motor Control Centers

### Valves - Safety & Non-Safety

- Diaphragm
- Gate, Globe, & Check
- Pressure Relief
- Single, Double, & Triple Offset Butterfly
- Solenoid Operated
- Thermostatic
- Valve Automation

# Design Engineering Services

- Engineering Services: Application, Design, Analysis, Document Evaluation
- Equivalency Studies
- Digital Upgrades
- Capacity Upgrades
- Plant Equipment Design
- Material Studies, Testing

### Programmatic Engineering Services

- ASME Code Program Development, Review, Implementation
- Project Engineering/Management
- Licensina Consultina Services
- **Engineering Programs:** IST, ISI, LLRT, ILRT, IWE, IWL
- Plant Assessment
- QA/QC Services: Program Development. Procedure, Review, QA Oversight, Audits,
- QC Inspection Services: Civil, Electrical, I&C, Mechanical, Structural, Welding
- · Staff Augmentation

# Spent Fuel Management Systems

· BADGER Testing, Analytical Services & Laboratory Testing

## NDE/NDT Services

- UT, MT, PT, ET, & VT Testing
- Training Programs
- SG Eddy Current Data Analysis
- Innovative Phased Array UT (PAUT) Applications
- Heat Exchanger Inspection (ET, RFT), Condition Assessment, Monitoring
- PDI-Qualified Examiners, Equipment
- Drone Inspection Services

# Fluid Leak Management Services

- SealPRO™: Fluid Leak Management Program
- SealOE™: Web-Based Fluid Sealing Solutions
- · Web-Based Stock Identification
- On-Site Valve Management
- Turn-Key Repacking
- Vendor Managed Inventory
- On-Site Technical Training

# Obsolescence Support

- · Mechanical & Electrical Reverse Engineering
- Repair/Refurbishment
- Substitution
- Special Manufacturing Runs
- Design Changes
- Proactive Obsolescence Planning
- Engineered Obsolescence Solutions (EOS)
- Third Party Replacement Parts
- Hydraulic & Pneumatic Controls
- Analog & Digital Control Modules • Obsolete Item Replacement Database (OIRD)

# Plant Performance & Processing Services

- Advanced Pattern Recognition (PdP)
- **Condition Monitoring**
- **Equipment Reliability**
- Regulation & Information Services
- Plant Process Computer Systems • FAMOS Plant Performance Improvement Suite
- · Radiation Protection Management Plant Monitoring Real Time Data Acquisition
- and Display Software (R-Time) Security Screening Information Systems
- Software Development
- Thermal Performance Training · Worker In-Processing System (IPAA)

- Qualification, Testing & CGD
- Equipment and Environmental Qualification · Commercial Grade Dedication (CGD) - Third Party
- Seismic Testing
- Flow Testing · Containment Integrity Testing

- Supply Chain Management RAPID Virtual Inventory Online Database
  - Inventory Management, Cataloging, Standardization Programs

- Nuclear Services: Field & Factory • Maintenance, Repair, Rebuild Valves & Actuators
  - Control Rod Drive Exchange/On-Site Rebuilding
  - Heat Exchanger Services (Shell & Tube, Plate) · Airlock Services
  - Outage Support Services