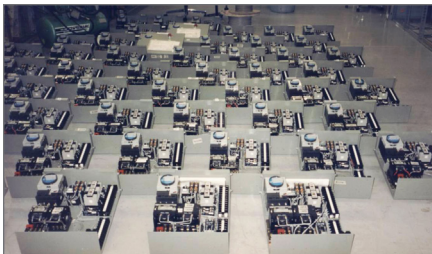


QualTech NP

Safety-Related Hardware Solutions

**CURTISS -
WRIGHT**

Nuclear Power Products and Services



QualTech NP, a product and service brand of Curtiss-Wright Nuclear Division, is a world leader in design, fabrication, qualification, installation and service of specialty equipment used for critical applications in the global nuclear power industry.

We are the industry's safety-related hardware solutions provider for containment integrity, digital protective relays, flooding barriers, HVAC, and custom electrical panels/systems. We deliver custom services for the most demanding and critical requirements, in both new reactor designs and the current fleet of operating nuclear power plants.

Using our resources and capabilities as a full service equipment qualification and commercial grade dedication center, we align our work to our customers' safety-focused culture to develop environmentally qualified systems and hardware solutions that support the supply of safe, economical electricity.

QualTech NP

Safety-Related Hardware Solutions

Containment Integrity Applications

Trentec

- Containment Airlocks
- Outage Equipment Hatches
- Spent Fuel Pool Gates
- Elastomeric Sealing Solutions
- Custom Manufacturing
- Field Services

Specialty Doors

- Equipment Access Doors
- Fire-Rated Doors
- Watertight Doors and Flood Barriers
- Pressure- and Blast-Resistant Doors
- Radiation-Shielding Doors and Barriers
- Bullet-Resistant Doors
- Heavy Wind- and Projectile-Resistant Doors
- Hollow Metal Personnel Doors

HVAC Equipment

- Safety-related Chillers
- Control Upgrades
- Safety-related Dampers
- Safety-related and Augmented Quality Fans

Motor Control Centers (MCCs)

- Custom Design and Manufacturing
- Refurbishment
- Retrofit Kits

Electrical Equipment Panels

- Annunciator Panels
- Sampling Panels
- Electrical Control Panels
- Instrument Panels
- HVAC Control Panels
- Custom Cabinets and Racks
- Electrical Distribution Panels
- Process Flow/Control Panels
- Relay Panels
- High Resistance Ground Panels
- Uninterrupted Power Supplies (UPS)

Digital Protective Relays

SEL

- Distribution Protection
 - Feeder, Transformer, Busbar
- Feeder Protection Relay
- Protection System
- Protection, Automation, & Bay Control System
- Bus Differential & Breaker Failure Relay

- Transformer Relay Protection
- High-Impedance Differential Relay
- Current Differential & Overcurrent Relay

Environmental Qualification (EQ)

- Abnormal Pressure Temperature Cycling
- Cycle Aging
- Electromagnetic/Radio Frequency Interference (EMI/RFI)
- Failure Means Effect Analysis (FMEA)
- Functional Tests
- Hardware Critical Design Review
- High Energy Line Break (HELB)
- Humidity Aging
- Instrument Uncertainty Environmental Analysis
- Loss of Coolant Accident (LOCA)
- LOCA Radiation (Accident Dose)
- Main Stream Line Break (MSLB)
- Material Testing (Spectrometer)
- Mechanical/Electrical Cycling
- Normal Service Radiation Exposure
- Plant-Induced Vibration (Vibration Aging)
- Post-LOCA Submergence Testing
- Radiation Testing
- Seismic Qualification
 - Triaxial Table: 2' x 3', capacity to 300 lbs, accelerations to 12g's
 - Triaxial Table: 3' x 3', capacity to 7,000 lbs, accelerations to 16g's
 - Triaxial Table: 10' x 10', capacity to 10,000 lbs, accelerations to 8g's
 - Single Axis Table: 33" x 33", capacity to 1,100 lbs, accelerations to 8g's, frequency up to 2200 Hz
- ICBO and Building Code Seismic Testing
- Steam Test Simulation
- Software Verification & Validation (V&V)
- Submergence Testing
- Thermal Cycle Aging

Commercial Grade Dedication (CGD)

- Digital Analysis
- Chemical Inspections and Analysis
- Mechanical Testing
- Metallurgical
- Dimensional Inspection
- Non-Destructive Testing

Replacement and Spare Parts

- Obsolete Part Replacement for all OEMs: CB&I, Pittsburgh-Des Moines, W.J. Woolley, and many more
- Safety-related Electrical Components
 - EGS Products
 - Motor Control Center Parts
 - Panels and Power Supplies
- Safety-related Mechanical Components
 - Trentec Products
 - Safety-related Chiller Parts
 - Environmental Qualified Seals
 - O-rings
 - Gaskets

Services

Custom Manufacturing

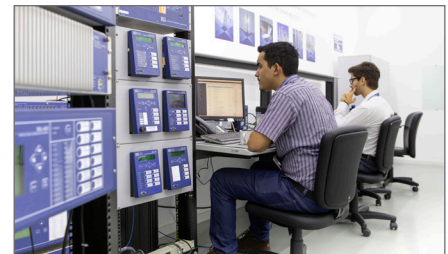
- Product Design and Development
- Mechanical and Electrical Engineering
- Structural Design Finite Element Analysis
 - ALGOR, ANSYS
- Fabrication - Safety-related/Commercial
 - ASME, NIAC, NUPIC, and NRC Audited

Field Services

- On-Site Maintenance
- Field Engineering, Technical Support
- Installation
- Inspection
- Outage Tune-Ups
- Modifications, Enhancements, and Upgrades
- 24/7 Emergency Service

Obsolescence Support

- Cannibalization
- Design Changes
- Repair/Rebuild
- Reverse Engineering
- Surplus
- Special Manufacturing Runs
- Substitution



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