



Trentec | Containment Integrity and Barrier Applications

Quality Assurance/Certification

Quality Program

- ASME NQA-1
- ANSI N45.2
- ASME B31.1
- ASME Section IX
- AWS
- 10CFR50 Appendix B
- 10CFR21
- IEEE 323
- IEEE 344
- CSA Z299
- CSA N285
- CSA B51
- NUPIC and NIAC audited

Certifications



- ASME Section III Class 1, 2, 3 & MC fabrication without design responsibility and fabrication with design responsibility for Class 1, 2, 3 & MC appurtenances and as a Material Organization manufacturing and supplying ferrous & nonferrous material at the Huntsville, AL facility
- ISO 9001

Employee Involvement

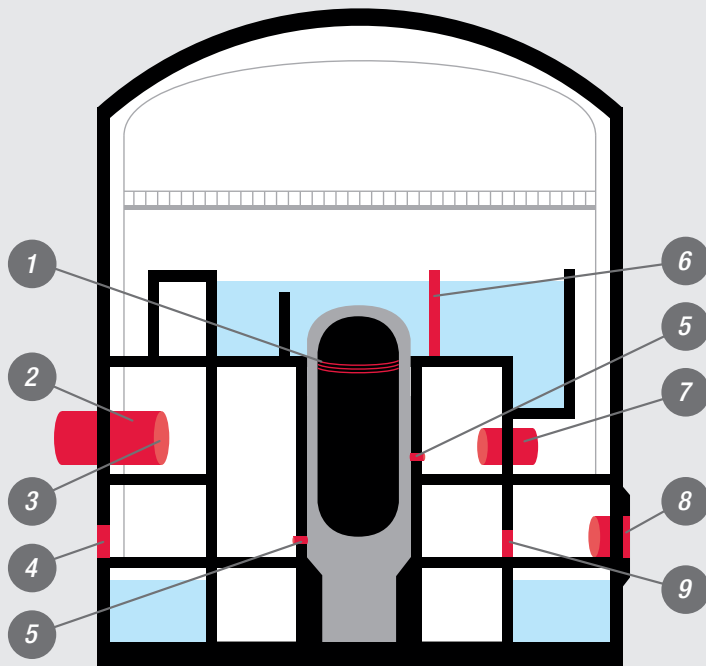
- Appendix J Program Owners Group
- Ice Condensers Users Group (ICUG)
- ASME NQA-1 Committee
- IEEE-323 Standard Committee
- IEEE-344 Standard Committee
- IEEE-C37.98 Standard Committee
- IEEE-C37.105 Standard Committee
- IEEE-SC-2 Standard Committee
- IEEE-649 Standard Committee
- IEEE-NPEC Conformity Assessment Steering Group (CASG)
- EPRI Generic Seismic Technical Evaluations of Replacement Items (G-STERI)
- EPRI Seismic Qualification Reporting and Testing Standardization (SQURTS)
- EPRI Critical Characteristics for Seismically Sensitive Items (CCASSI)
- EPRI Guidance for the Utilization of Commercial Grade Items
- EPRI Guidelines for EMI Testing
- Seismic Changes in JUTG to USNRC NUREG's CR-3875 ASME-AG-1
- Nuclear Air & Gas Treatment Code Committee

Trentec Containment Integrity and Barrier Applications

Who We Are

Curtiss-Wright is the premier provider of containment integrity and flood barrier protection solutions. Trentec, a product and service brand of Curtiss-Wright Nuclear, is comprised of a multi-disciplined, in-house engineering team that develops custom solutions to meet client-specific needs. Trentec fabricates *every* type of airlock, hatch, gate, and specialty door available for *all* reactor designs. Additional Trentec offerings include field service support and obsolescence solutions for *all* Original Equipment Manufacturers (OEMs).

All Trentec barrier and containment products are manufactured to ASME Section III, nuclear grade safety-related or commercial grade standards.



Containment Applications

1. Refueling Seal
2. Containment Airlock
3. Airlock Electrical Penetration Assembly (EPA)
4. Specialty Door
5. Containment Electrical Penetration Assembly (EPA)
6. Spent Fuel Pool Gate
7. Personnel Airlock
8. Equipment Hatch
9. Specialty Door and Equipment Hatch

Services

From start to finish, Curtiss-Wright Nuclear drafts and fabricates specialty doors, spent fuel pool gates, airlocks, and hatches for new applications and supports existing product maintenance with spare parts, retrofits, and field services. Curtiss-Wright Nuclear engineers also work closely with NSSS suppliers, EPCs, and utilities throughout the design process for new Generation III+ reactors.

Custom Manufacturing

Custom manufacturing is a core capability at Curtiss-Wright Nuclear. Precision machining and fabrication ensure efficiency under various lead times and stock replenishment cycles; this includes equipment dedicated to efficient high-speed manufacturing for common stock items as well as rapid set-up equipment dedicated to manufacture emergency orders. Applicable manufacturing initiatives adhere to ASME NCA-4000 NPT or 10CFR50, Appendix B.

Manufacturing services include:

- Custom rebuilds
- Reverse engineering
- Obsolete part replacement

Field and Inspection Services

Curtiss-Wright Nuclear provides field services for *all* specialty doors, spent fuel pool gates, airlocks, and hatches – including *all* OEM designs. Reliable operation of critical components can be achieved with proper inspection and maintenance.

Field services include:

- Turn-key design, fabrication, installation, and new unit start-up
- Major turn-key overhauls
- Routine maintenance and outage tune-ups
- Modifications and upgrades
- Leak testing
- Pressure integrity

Replacement Parts

Electro-mechanical upgrades ensure equipment reliability, systematic improvements, leak test performance enhancements, and maintenance reductions on existing containment products. Trentec part replacements also include license extensions, where applicable.

Curtiss-Wright Nuclear provides O-rings, gaskets, mechanical components, and spare/replacement parts for *all* OEM specialty doors, spent fuel pool gates, airlocks, and hatches. Trentec equipment hatches, drywell heads, and spent fuel pool gates require routine seal replacement. All Trentec seals are made from environmentally qualified elastomers.

Specialty Doors and Barriers

To achieve optimal plant performance, critical safety-related equipment and plant personnel require shielding from severe operating conditions and accident environments. Curtiss-Wright Nuclear provides the required level of protection necessary for nuclear power plants, ranging from routine part replacements to the complete design, fabrication, and installation of new build security barriers. Trentec specialty doors are tailored to customer requirements and are manufactured for *all* ingress and egress scenarios, including those inside and outside containment areas.

Curtiss-Wright Nuclear offers every type of door acceptable for use within a nuclear power station. Trentec products are complemented by a field service department which performs routine maintenance and supplies replacement parts for *all* OEM specialty doors.

Specialty doors/barriers include:

- Equipment access
- Fire-rated
- Heavy wind and projectile-resistant
- Hollow metal
- Pressure and blast resistant
- Radiation shielding
- Security and bullet resistant
- Watertight and flood

Spent Fuel Pool Gates

Spent fuel pool gates are used for new construction as well as replacements for existing power stations. The Trentec Spent Fuel Pool Gate design has a proven track record in its international install base as an integral feature in sustaining a reliable spent fuel management system. Trentec Pool Gates are tailored to *all* size requirements and are equipped with environmentally qualified inflatable seals that are designed to ensure bubble-tight sealing and prevent unwanted leaks. Fabrication options include single or double seals and/or a two gate assembly separated by a monitoring chamber. Routine seal replacement required.

Curtiss-Wright Nuclear performs routine field maintenance and supplies replacement parts, including seals, for *all* OEM spent fuel pool gates.



Equipment Access Door



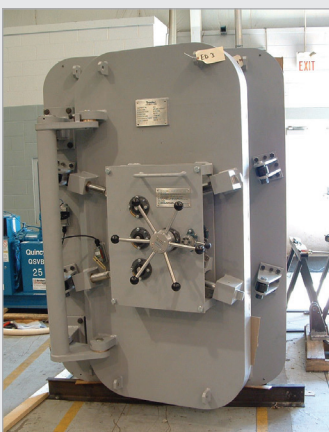
Julius S. Mock Door - Field Service



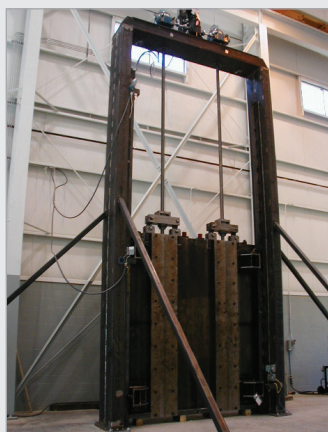
Spent Fuel Pool Gate - Install



Transfer Canal Pool Gate



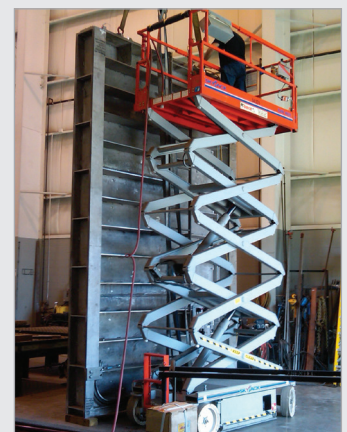
Pressure Resistant Door



Radiation Shielding Door



Watertight Door



Cask Loading Pool Gate

Containment Airlocks and Hatches

Curtiss-Wright Nuclear's proven technology and experience with containment airlocks and hatches extends over 40 years through the former W. J. Woolley Company. This legacy continues today as Curtiss-Wright Nuclear is the *only* company in the United States still designing, fabricating, and servicing airlocks and hatches for nuclear containment applications.

Maintaining containment integrity is critical to protect the public's health and safety. Curtiss-Wright Nuclear's expertise in containment technology is internationally recognized in the United States, South Korea, China, Mexico, Spain, Slovenia, Belgium, and Taiwan.

Spare Parts

Spare parts are provided to satisfy quality requirements for *all* OEM airlocks and hatches, including:

- W.J. Woolley Company
- Pittsburgh-Des Moines
- Hahn & Clay
- CB&I

Electrical Penetration Assemblies

Electrical Penetration Assemblies (EPAs) transfer electrical power and signals through the containment wall and ensure the containment pressure boundary is maintained during design basis accident conditions. This dual function, as a safety-related electrical and mechanical device, makes the EGS EPA an unique nuclear component to containment products.

Curtiss-Wright Nuclear's EPAs are built to custom specifications and are available as an added appurtenance to Trentec products. The EGS brand EPAs are available in the following designs:

- Fiber Optic
- Coaxial
- Triaxial
- Low voltage and instrumentation
- Medium voltage

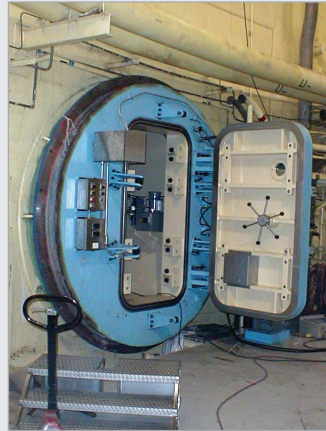
For more information, please contact your regional sales representative or visit www.cwnuclear.com.



Single Point Compression Airlock



6-Pin Compression Airlock



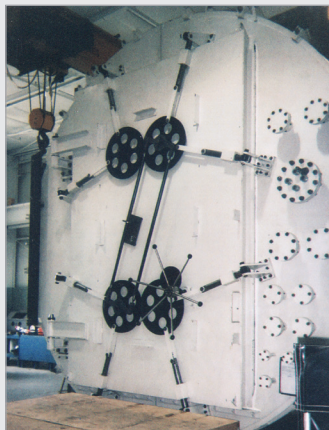
Replacement Airlock



Airlock EPA with Junction Box



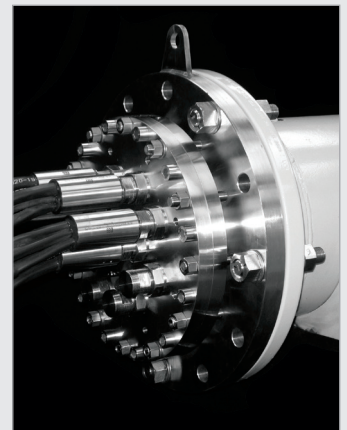
Outage Hatch



Outage Hatch



Watertight Hatch



Low Voltage EPA

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