

# PSC Overcomes Common Nuclear Challenges With Patent-Pending Solutions

PSC was founded in 1986 with a focus on post-tensioning surveillance for nuclear power plants. In 2005, PSC expanded its offerings to help nuclear plants solve an array of challenges from maintenance dilemmas and staffing shortfalls to lifting and transporting multimillion dollar equipment and materials. Today, the company is a sophisticated engineering innovator and trustworthy partner with a reputation for quality, integrity and expertise that spans nearly 30 years.

**PSC's mission is to exceed the expectations of nuclear power plants by solving their logistical, fabrication and construction challenges with innovative, cost-effective solutions that are delivered with the highest level of efficiency, professionalism, quality and safety assurance.**

PSC delivers turnkey solutions by providing custom engineered solutions, heavy lift and transport equipment, highly skilled craftsmen, procurement and fabrication services and post-tensioning. With facilities in Indiana and Arkansas, PSC's people, solutions and equipment are ideally located to meet the dynamic needs of nuclear power plants throughout the U.S.A.

## THE SCORPION SYSTEM

During the last 25 years, PSC has completed countless projects at nuclear facilities across the U.S.A. Too often, utilities needed the power of a crane, but extremely limited space restrictions made using one costly and time consuming — if not completely impossible.

Utilizing its engineers' knowledge of nuclear power plants, PSC developed a unique system for use inside reactor buildings. The patent-pending Scorpion System grips the bioshield-wall or can be custom-

designed for other fixture mounting. It virtually eliminates the typical ground-level footprint required for a crane.

To install a traditional crane inside of a reactor building, preparations must be made months, if not years, before the outage. In comparison, the Scorpion System eradicates the need for a pre-installed crane base, counterweights and core drilling. In fact, it requires only minor surface preparation and no structural alterations to the wall or existing components.

Once installed, the Scorpion System works independently of the reactor building's polar crane. By enabling multiple cranes to operate on parallel tasks inside the reactor building, the outage schedule can be reduced, resulting in significant savings for the plant.



This spring, Wolf Creek Nuclear Generating Station needed to replace the cooling coils in four containment coolers inside the reactor building. The building's only equipment hatch is located 50 feet above the ground. To tackle this challenge, PSC debuted its patent-pending **PIPE MODULAR LIFT SYSTEM (PMLS)** (please see photograph on opposite page), which eliminates the hazards of suspended loads, impacts from wind and reliance on cranes. After erecting the PMLS, PSC used an SPMT to transport

the cargo onto the PMLS platform. Once each load reached the elevated equipment hatch, PSC simply drove the SPMT into the reactor building. By employing this method to transport the coils, knuckle boom cranes and materials into position, PSC cut manpower requirements in half and kept the project on schedule with zero time lost for material handling due to wind or inclement weather.

PSC's PMLS has the following features:

- Lift Speed: 20 inches per minute
- Lifting Capacity: 400, 800 and 1,200 tons
- Wind Load: 50 mph (operating) with tolerance up to 120 mph
- Square, rectangular and round layouts
- 5 percent side loading
- Clear span openings configurable to 50 feet
- The PMLS platform accepts any mobile material handling equipment with the cargo in place, making it easy to drive the materials directly into a containment building.

In addition to its patent-pending solutions, PSC has a fleet of self-propelled modular transporters (SPMTs) and knuckleboom cranes. When combined with the company's engineering expertise, highly skilled craft and fabrication capabilities, PSC is well poised to provide any nuclear power plant with turnkey solutions.



**For more information, please visit [www.pscnuclear.com](http://www.pscnuclear.com) or call 800.912.9181.**