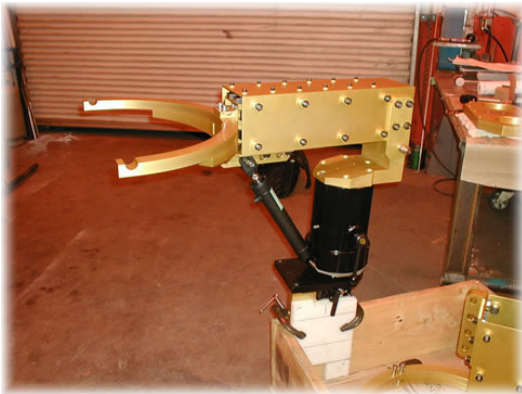


Telescopic Boom Crane for Palo Verde Nuclear Generating Station Reactor Re-Circulation Pump

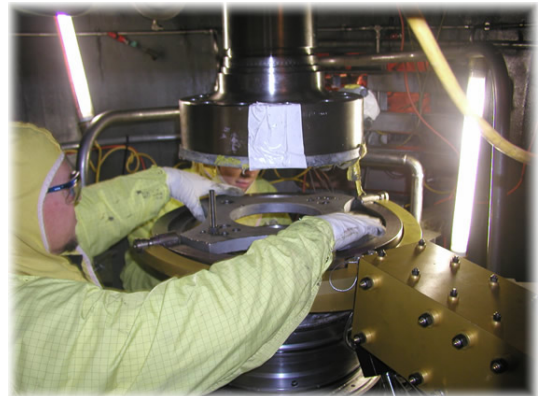
MCE designed and built two prototype Telescopic Boom Cranes to remove the seal and associated hardware from the pump shaft on the reactor re-circulation pumps for the Palo Verde Nuclear Generating Station. The cranes are easily transported, assembled, and operated, providing improved productivity and reduced worker fatigue.



MCE prepared a conceptual design based on customer constraints and requirements to have this crane be hand carried and assembled, and to function within the pump shroud. The space limitations and crane mobility requirements from the customer added to the complexity of this project. MCE prepared a fully functional 3-D working model from the original concept and provided “sequence of operations” views to the customer for approval prior to the commencement of construction.

This fully functional, three-dimensional model was used to produce fabrication drawings for manufacturing the crane components.

These cranes were required to rotate 360 degrees, have a “Z” axis hydraulic lift of 900+ lb., provide a 30-degree upward pitch, and have a 24-inch telescopic extension while functioning within a 60-inch diameter space. MCE designed, built, and tested these cranes on a very fast-track schedule and ultimately delivered on schedule and under budget. These prototype cranes were used within days of their delivery during Palo Verde’s annual reactor refueling outage and have performed flawlessly.



**Client: Palo Verde Nuclear Generating Station
Tonopah, Arizona**