



Date: September 2008

Type: Horizontal/Vertical Movement

Application: Nuclear Industry

Load (lbs): 6000 lbs

Travel: 200 inches

Serapid Chain Type: 60S

Project Description: Mechanical linear actuator for a guided carriage transporting 6000 pounds of nuclear waste. The load moves horizontally through 200 inches of travel, with multiple stop points. At each stop point, the carriage locks in place while the 6000 pound load is lifted using another actuator. The system also has to tolerate a highly corrosive acidic environment in an unmanned chamber. Corrosion protection, safety and accessibility are maximized by locating as much machinery outside the chamber as possible.

Serapid's solution includes a pressure-sealed, stainless steel push/pull Rigid Chain System positioned outside the chamber. It acts through a single opening in one wall of the chamber to push or pull the carriage to a precise position. Serapid supplied a redirection housing, which was integrated into the carriage to redirect the chain from horizontal to vertical motion. The entire Rigid Chain push/pull system retracts into a small package and is powered by a single electric motor.

