

S-112 Tank Waste Retrieval System Project for the Hanford Facility

The S-112 Project involves the design, procurement, construction, testing, startup, and operation of a waste retrieval system to retrieve waste from single-shell tank (SST) 241-S-112, and to transfer the waste to the Hanford double-shell tank system. CH2M HILL contracted DMJ to develop and issue a detailed design of the required S-112 waste retrieval system components. DMJMHN contracted MCE to provide fabrication and acceptance testing services for these components.

MCE's fabrication role for this project included fabricability reviews, extensive equipment and materials procurements, machining, welding, in-process inspections, final assembly and acceptance testing, and shipping. All work was performed under MCE's NQA-1 QA Program whereby extensive documentation and configuration control processes were implemented throughout the fabrication and testing phases.

The baseline scope of supply included 21 separate mechanical and electrical components. Prior to initiation of fabrication, MCE's scope was expanded to include multiple copies of certain components to be used as spares and to support eventual waste retrieval from a second SST. These components ranged from complex multi-panel electrical, instrumentation, and process piping skids, and high-precision motorized water distribution devices to some simpler ventilation components, cover plates, and component support structures.

Also included in the scope was a control trailer containing a fully operational monitoring and control system, including UPS and VFD systems, a communications package, a power supply and distribution system, and extensive electrical and instrumentation control systems.

These components were successfully fabricated, tested, and delivered to CH2M HILL on a very fast-track schedule to support an aggressive construction and waste retrieval schedule. Initial components were fabricated, tested, and delivered in less than three months, with spare components being fabricated during the fourth month of the project.



**CH2M HILL Hanford
Group, Inc. / DMJ**