

Pneumatic Transfer System Proof-of-Principle Testing

MCE was contracted to perform proof-of-principle testing of the Pneumatic Transfer System (PTS) for the Hanford Waste Treatment and Immobilization Plant. The PTS is a key element of the design used to transport process samples from the Pretreatment, High-Level Waste, and Low-Activity Waste facilities to the Analytical Laboratory at the WTP.

The PTS comprises a network of PVC and stainless steel transfer lines, vacuum lines, exhausters, diverters, tracking switches and control valves. This network connects the autosamplers in the plant to the receipt stations in the Analytical Laboratory.

The *EnergySolutions* design of the PTS is almost entirely based on a proven system used at the Sellafield site in the United Kingdom that exclusively incorporates the use of PVC for the PTS flight tubes. This test was performed in a development environment to prove the ability to transport carriers in the PTS transfer lines using schedule 40 stainless steel piping versus PVC, as a reference point for characterizing the test results. The results of this test were used to determine the suitability of using schedule 40 stainless steel pipe as the PTS transfer lines in the Hanford WTP plant design.



**Client: EnergySolutions
Richland, Washington**