

BELIEVE IT OR NOT!

This really happened. The effluent quality of the dual-bed demineralizer continued to show high conductivity, despite efforts to operate and regenerate the unit according to OEM specifications. The elution study showed the correct concentration and duration of regenerant introduction. The resin analysis indicated no problems. Finally, plant personnel persuaded the safety department to allow engineers to observe the inlet regenerant lateral through the top manway as operators “cracked” the dilution water valve, simulating a low-pressure regenerant introduction. A hairline crack, in a location on the underside of the inlet regenerant lateral, not easily visible from the manway, opened up under low-pressure flow and was clearly visible to the observers! Problem solved!

LESSON LEARNED: *It is difficult to verify the integrity of plastic components installed in a demineralizer; sometimes an operational test is required to confirm the root cause of a problem.*

Which Words?

Spark test—A test that checks for holes or holidays in the rubber lining of an empty vessel; the test uses a special test device that creates a spark when passed over the steel wall of the vessel exposed by a hole in the rubber lining