Pilot Demonstrations of Innovative Arsenic Water Treatment Technologies in the Arsenic Water Technology Partnership Program

Background: The Arsenic Water Technology Partnership program is a multi-year effort designed to develop and verify cost effective methods to remove arsenic from drinking water sources. Funded by the U.S. Department of Energy, this program will move technologies from the bench-scale to demonstration and will enable water utilities, particularly those serving small, rural communities and Indian tribes, to implement the most cost-effective solutions to their arsenic treatment needs. The program is a collaborative effort involving the American Water Works Association Research Foundation (AwwaRF), Sandia National Laboratories (SNL), and WERC (A Consortium for Environmental Education and Technology Development).

Pilot Demonstration Program: Sandia National Laboratories will carry out three pilot treatment demonstrations in 2004 in which three or four innovative technologies will be compared in side-by-side tests. The test configurations will include a demonstration in an existing pump house, a demonstration using a portable skid-mounted unit and a demonstration using a mobile treatment trailer. Technologies will be chosen to provide a broad cross-section of treatment processes. The classes of technologies currently recognized include 1). Continuous Flow (ion exchange, metal oxyhydroxides sorbents), 2) Batch (Coagulation/Microfiltration), and 3) Reverse Osmosis. Other types may be recognized as the technology development program led by AwwaRF matures. Waste characterization procedures and disposal costs will also be considered in technology selection. Pilot communities will be chosen based on a number of criteria including water chemistry criteria (concentrations of competing anions, solids content, redox), choice of distributed vs. Point of Use systems, access and permitting scenarios, local assistance, and socioeconomic factors. Pilot communities and technologies will be matched to examine a wide range of alternative technologies and site conditions.

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