

**DEPLOYMENT OF THE GUBKA TECHNOLOGY TO STABILIZE  
RADIOACTIVE STANDARD SOLUTIONS AT THE FERNALD  
ENVIRONMENTAL MANAGEMENT PROJECT**

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**ABSTRACT**

This paper describes the deployment of the Gubka technology to stabilize liquid technical standards at the Fernald Environmental Management Project. Gubka, an open-cell glass crystalline porous material, was developed by a joint research program of Russian Institutes at St. Petersburg, Krasnoyarsk, and Zheleznogorsk and the Idaho National Engineering and Environmental Laboratory.

Gubka technology can be applied in an active or a passive method to stabilize a solution. In both methods the result is the same, and the dried components of the solution are sorbed in the pores of the Gubka block while the liquid phase is evaporated. In this deployment Gubka blocks were passively floated in the solutions at ambient conditions. As the solutions evaporated, the non-volatile components were sorbed in the pores of the Gubka blocks.

The waste-loaded Gubka blocks have been packaged for transportation and disposal at the Nevada Test site within an existing waste category.

**TECHNOLOGY DESCRIPTION**