Kurion, Inc. Mobile Disposal Unit

The EPA approved Kurion, Inc. to operate their mobile GeoMelt In-Container Vitrification (ICV) unit anywhere in the United States. The GeoMelt ICV is a mobile treatment unit designed to treat/destroy PCBs in contaminated soil, waste, and debris.

The GeoMelt ICV uses a large lined container (similar to a dumpster in size) to treat contaminated soil, waste, or debris. First, the waste-filled container is uniformly heated until the temperature is above the melting point of the waste. Then the container is slowly cooled back to room temperature. After cooling, the contents of the container are then converted to an inert and stable glass-like product. Any gases produced during the treatment process are captured and managed by the off-gas treatment system (OGTS). The OGTS filters, scrubs, cools and thermally treats the captured exhaust gases prior to release into the environment.

After extensive review of Kurion's application, EPA approved Kurion to perform a demonstration of the GeoMelt ICV unit supervised by EPA personnel. Then, EPA reviewed the results from the demonstration, as well as Kurion's operating procedures and safety precautions. EPA decided that Kurion met the requirements of the PCB regulations and issued them a disposal approval. The extreme temperatures used in the GeoMelt ICV destroy the PCB molecules to a level that is equivalent to that of an incinerator. As an additional benefit, the GeoMelt ICV unit is designed to be suitable for treatment of radioactive waste. However, treatment of radioactive waste is regulated by the Nuclear Regulatory Commission.

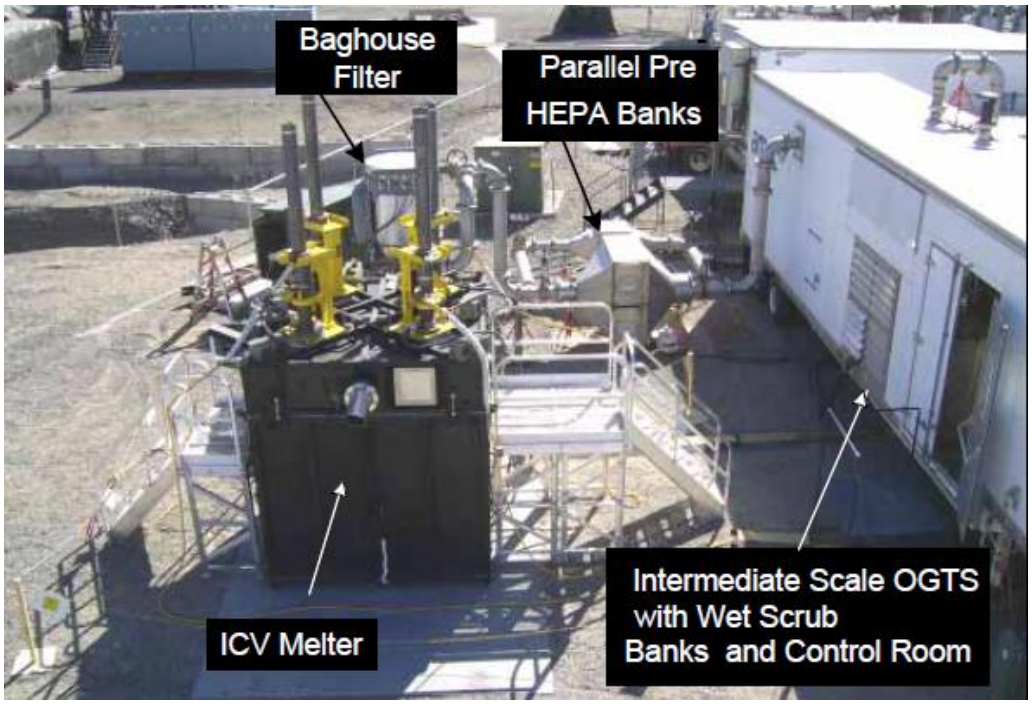

Figure 1: GeoMelt ICV Unit During the Demonstration Test with EPA

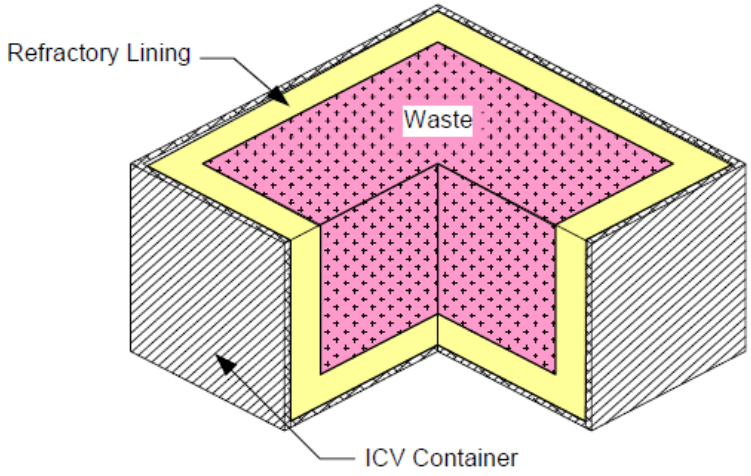

Figure 2: Conceptual Drawing of the Inside of the ICV Container and Lining

Figure 3: Demolition of Final Glass-like Product to Allow for Sampling During EPA Demonstration