



MAGNETIC INDUCTION DECONTAMINATION SYSTEM (MIDS)

The **Magnetic Induction Decontamination System (MIDS)** decontaminates empty ton containers and scrap metal through thermal heating induced by magnetism. This generates less waste than a liquid-rinse process and provides more thorough decontamination as well as increased safety, reduced environmental impact and quicker processing.

The U.S. Army Chemical Materials Activity Recovered Chemical Materiel Directorate deployed the MIDS to decontaminate 4,307 empty ton containers at Pine Bluff Arsenal, Arkansas. Completed in 2011, the project diverted 6.5 million pounds of steel from a hazardous waste facility to a metals recycling facility. It also eliminated 660-thousand gallons of hazardous liquid waste that would have been generated from the liquid-rinse process originally proposed.

Magnetic Induction Heating

Magnetic induction uses a magnetic field to raise the temperature of an item, such as a ton container (TC), to achieve chemical agent decontamination.

Operators bring the TC into the decontamination facility, where they cover it with an insulating blanket, weld on thermocouples, install vent pipes and

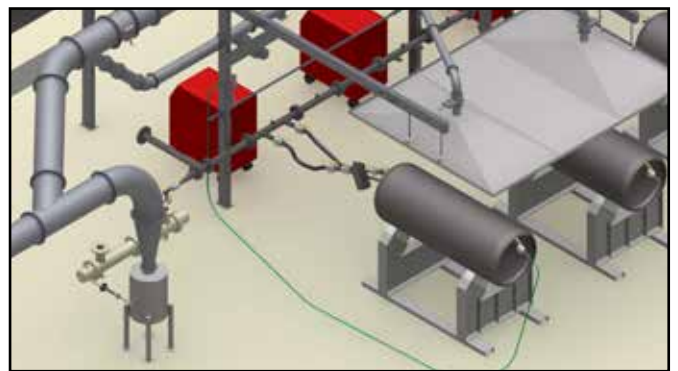
valves, and wrap the TC with a copper induction coil. When the system is energized, the magnetic field causes the iron in the TC to heat up. The insulation blanket prevents the heat from escaping, enabling operators to raise the surface of the TC to the desired temperature.

The MIDS process features a carefully designed venting system. A ball valve and pipe extension connect the TC to the air manifold system to capture any contaminants released during the heating process.

MIDS heats TCs to 1,000°F for a minimum of 60 minutes, well above the standard required by the Army to achieve chemical agent decontamination. Once decontamination is complete, the TC is cooled and ultimately transported to a metal recycler.



To begin the MIDS process, operators cover the TC with an insulating blanket and wrap it in copper conduction coil.



On its cradle, the ton container rests on a layer of fire brick, preventing heat transfer to the metal supports during the decontamination process.

