

SECTION III. DEACTIVATION FURNACE

A. SECTION HIGHLIGHTS

The APE 1236M2 deactivation furnace was designed by the U.S. Army to destroy obsolete or unserviceable ammunition. The unit is capable of processing ammunition ranging from small arms through 20-mm rounds. Ammunition larger than 20-mm must be sectioned or disassembled prior to feeding to the unit. The MCAAP deactivation facility includes a Munitions Cryofracture Demilitarization Facility (MCDF) that was built to process Area Denial Artillery Munition (ADAM) mines. The MCDF disassembles the mines prior to feeding them to the furnace. The cryofracture process freezes, fractures, punches, and exposes the energetic material prior to delivering it to the incineration system.

The deactivation furnace includes the following major elements in order:

- Rotary kiln
- Cyclone scrubber
- Afterburner
- Ceramic baghouse
- Draft fan
- Exhaust stack

Waste munitions can be fed from either an Automatic Waste Feed Conveyor that delivers ammunition smaller than 20-mm or a Positive Feed system that delivers cryofractured waste from the MCDF. The system is configured so that only one of the delivery systems can operate at any given time. The rotary kiln is equipped with a No. 2 fuel oil burner that is used to pre-heat and maintain the combustion chamber temperature for ignition and incineration of the waste munitions. A combustion air fan provides oxygen for combustion of the fuel and waste streams. Ash and metal components that are not entrained in the flue gases are discharged at the burner end of the kiln onto a discharge conveyor. The discharge conveyor moves the remaining material to an adjacent accumulation area for subsequent removal.

From the kiln, the flue gas is transported to the cyclone to ensure that no sparks are conveyed to downstream equipment. After the cyclone, the flue gas enters the afterburner equipped with a No. 2 fuel oil burner to further heat the combustion gases and destroy any remaining organics. Propane is used during the burner ignition sequence to ignite the afterburner. Following the afterburner, the flue gases pass through stainless steel ductwork to the high temperature ceramic baghouse. An induced draft fan pulls the flue gases through the incineration system before discharge through the exhaust stack.

The furnace is equipped with continuous monitoring systems that measure process parameters and emissions.

B. REGULATORY STATUS

The ODEQ Air Quality Division has issued Clean Air Act Title V Operating Permit No. 2005-301-TV which incorporates the standards of 40 CFR Part 63, Subpart EEE. This permit allows McAAP to operate the deactivation furnace for the destruction of hazardous waste munitions. RCRA regulation 40 CFR 264.340(b) Integration of the MACT standards, states that standards of 40 CFR 264 Subpart O-Incinerators no longer apply when an owner or operator demonstrates compliance with the maximum achievable control technology (MACT) requirements of part 63, subpart EEE. McAAP has demonstrated this compliance. Additionally, the ODEQ has examined the waste analyses included in the Part B of the permit application and does not find that the described wastes will pose a threat to human health and the environment when burned in the deactivation furnace.

C. ALLOWABLE WASTE FEEDS

The Permittee may feed the hazardous wastes as identified in Waste Analysis Plan, Permit Attachment 1.

D. CLOSURE

The Permittee shall follow the procedures in the Closure Plan, Permit Attachment 5.
[40 CFR 264.351]