

## LIST OF ITEMS OPEN BURNED BY HOLSTON ARMY AMMUNITION PLANT (TN)

*Prepared by Volunteers for Environmental Health and Justice  
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### PILE BURNS:

Concrete, wood, piping, plastics and other construction materials from demolished buildings. Process vessels, vehicle and machinery waste oil and potentially explosive contaminated soil. Given the nature of the facility and the age of the buildings, these materials may contain lead and asbestos. Large amounts of untreated wood, including felled trees and untreated lumber are used as fuel for the fires. Diesel fuel or kerosene is used to light the fires. Note: The permit does not require the facility to characterize, document or record materials burned in this waste stream. Items listed are a compilation of items contained in documents acquired from the Department of Defense, the Environmental Protection Agency and the Tennessee Department of Environment and Conservation.



### CAGE BURNS:

Plastic bags, coiled paper wicks, paper towels, false bottom filters from recrystallization tanks, dewatering filter socks, personal protective equipment, rubber items. Note: The permit does not require the facility to characterize, document or record materials burned in this waste stream. Items listed are a compilation of items contained in documents acquired from the Department of Defense, the Environmental Protection Agency and the Tennessee Department of Environment and Conservation.



### PAN BURNS:

HSAAP manufactures explosives and explosive formulations. The principal explosives manufactured at HSAAP are cyclotrimethylene trinitramine (RDX) cyclotetramethylene tetranitramine (HMX), NTO (3-nitro-1,2,4 triazol-5 one) and DNAN (2,4-dinitroanisole). TNT, Triamino-trinitrobenzene (TATB), and nitrocellulose (NC) are examples of explosives brought from off-site which are used to produce other explosive compounds. Table 2-1 of Holston-OBOD-Permit-TNHW-148 (2011) includes a listing of the representative range of



explosives compounds that HSAAP manufactures or incorporates into products along with the chemical formulas of these compounds. This table also includes materials such as propellants (e.g., nitrocellulose [NC]), which are not manufactured by HSAAP but are part of product formulations that may be treated in the burn pans. These energetics (explosives/propellants) are manufactured as either final products or as an intermediate phase to the final product. The final products are packaged and shipped off site or stored temporarily in the storage magazines.

The end-products manufactured and formulated at HSAAP may contain nonexplosive additives such as waxes and lecithin. Table 2-2 of Holston-OBOD-Permit-TNHW-148 (2011) provides a listing of such additives and their chemical formulas. Table 2-3 of Holston-OBOD-Permit-TNHW-148 (2011) provides a representative listing of the items manufactured and potentially treated at the Burn Pan Unit by HSAAP along with their explosive and nonexplosive constituents. HSAAP does not utilize any RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) in the manufacturing of the explosives. These metals are not present in the primary raw ingredients (e.g., acetic acid, nitric acid, hexamine) or in the various additives (e.g., wax, lecithin) that are added as binders for many products.

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#### **SOURCE DOCUMENTS:**

Hazardous Waste Open Burn Treatment Permit, TNHW-148 issued to Holston Army Ammunition Plant, Kingsport, Tennessee on March 31, 2011.

January 22, 2013 letter from Joseph R. Kennedy, Commander's Representative at Holston Army Ammunition Plant's Environmental Office to Judge Mark H. Toohey.

July 13, 2012 letter from R.E. Winstead, Environmental Manager of BAE Systems Ordnance Systems, Inc. to Barry Stephens, Director, Tennessee Department of Environment and Conservation, Division of Air Pollution Control.

Title V Major Source Operating Permit, Number 558406, issued to Holston Army Ammunition Plant, June 30, 2009 (expired June 29, 2014; the facility is currently operating under a permit shield, awaiting approval of a renewal permit by the Tennessee Department of Environment and Conservation)

U.S. Army Corps of Engineers, Engineer Research and Development Center, Alternative Treatment Options for Open Burning of Explosive Waste at Holston Army Ammunition Plant, ERDC/EL TR-12-8, March 2012, redacted version issued by U.S. Department of Army on 16 November 2016 to the Tennessee Department of Environment and Conservation.

U.S. Environmental Protection Agency, Comments on Title V Draft Permit, Electronic Communication, Eva Land (EPA Region IV) to Moe Baghernejad (Tennessee Department of Environment and Conservation-Air Pollution Control), September 25, 2017.



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