

CORRECTIVE ACTION UNIT EVALUATION FOR SWMU 17

RFAAP, Radford Virginia
RCRA Corrective Action Permit Number VA 1210020730

Prepared for:

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1.0 EXECUTIVE SUMMARY

As defined in the February 23, 2010 meeting between representatives of Radford Army Ammunition Plant (RFAAP) and US EPA Region III, specific Corrective Action Units would be grouped either programmatically or geographically to more effectively evaluate the criteria for their inclusion in the upcoming renewal of RCRA Corrective Action Permit VA 1210020730. The Units discussed herein are components of SWMU 17. SWMU 17 is a contaminated waste burning area located in the south-central part of the Main Manufacturing Area at RFAAP. Components of SWMU 17 as described in the 1987 RCRA Facility Assessment (RFA) include:

- 17A – Stage and Burn Area,
- 17B – ACD Staging Area,
- 17C – Air Curtain Destructor (ACD)
- 17D – ACD Ash Staging Area, and
- 17E – Runoff Drainage Basin

Two subsequent investigations of the site were conducted. They include the 1992 RCRA Facility Investigation (RFI) and a 1996 RFI.

SWMU 17A (Stage and Burn Area) was originally an open burn pile located directly on the ground surface. The unit was re-engineered in 2002 to convey stormwater run-off from the area to a separate holding tank. Stormwater run-on is controlled by a constructed berm.. In addition, an impervious surface was installed beneath the drainage system, thereby eliminating any mobility of historical contaminants at the site.

Each of the Component Units of SWMU 17B, C, D, and E were closed in accordance with the Virginia Solid Waste Management Regulations (VSWMR) under Permit By Rule (PBR) Number 179 in August 2005. Since 2005 RFAAP has elected to make alternative use of components 17B and 17E.

SWMU 17B is currently a 90 day RCRA staging area that is regulated under by VDEQ as a less than 90 day accumulation area. The concrete at SWMU 17B is in good repair and exhibits no loss of integrity.

SWMU 17C and 17D were decommissioned in 2005 and are no longer active units at RFAAP.

SWMU 17E is currently active as a secondary containment basin for materials stored at SWMU 17B. The basin is concrete lined, and the concrete is in good repair and exhibits no loss of integrity. SWMU 17E is only actively used in the event of spills at SWMU 17B. To date, no spills from 17B have been reported.

Accordingly, as described below, it is appropriate to remove SWMUs 17B, 17C, 17D and 17E from further consideration under the RFAAP RCRA Corrective Action Permit.

The closure status of SWMU 17A may or may not be applicable under PBR 179, therefore it is appropriate that the unit be retained in the RCRA Corrective Action Permit. When RFAAP determines that SWMU 17A is no longer needed as an active unit, it will be closed in accordance with the RFAAP Corrective Action Permit.

2.0 INTRODUCTION AND BACKGROUND

In accordance with the RCRA Corrective Action Permit VA 1210020730, the scope of this investigation has been determined by the RFAAP and The US EPA (the parties). See Part II – Specific Facility Conditions – Section D.7 below. The language in bold provides the regulatory basis for the scope of this investigation:

*“D – 7. Attachment A contains a list of thirty-one (31) identified Site Screening Areas (SSAs) which may pose a threat, or potential threat, to human health and the environment. The Permittee shall submit to the EPA and the VDEQ SSP Work Plan(s) which shall outline the activities necessary to determine if there have been releases of hazardous substances, solid wastes, pollutants, contaminants, hazardous wastes, or hazardous constituents to the environment from the SSAs. **The scope of the SSPs shall be determined by the Parties.** The SSP Work Plan(s) shall include a proposed Deadline or Milestone for the submittal of an SSP Report(s)...”*

Each of the components of SWMU 17 (the Unit) in this report are located within the Main Manufacturing Area. Figure 1 (see Attachment 1) shows the locations of the Unit. The Unit was used for the burning of wastes potentially contaminated with explosives or propellants. SWMU 17 consists of 5 components, which are described in **Section 3**:

3.0 UNIT DESCRIPTION AND EVALUATION

SWMU 17 consists of the following 5 subunits:

- ❖ SWMU 17A – Stage and Burn Area: Materials consisting mostly of large metallic items with potential trace amounts of explosive residue are accumulated into large piles in the Stage and Burn Area for decontamination by thermal treatment. Waste oil, diesel fuel, wood, paper, and cardboard were added to the piles to fuel the burning operations. Scrap metal remaining after burning was placed in piles prior to sale for recycling. SWMU 17A was re-engineered in 2002 to provide an all-weather

trafficable and heat resistant containment that would capture and contain contaminated stormwater. Improvements included installation of an under drain stormwater collection system, installation of a geomembrane liner system and installation of clean fill around the site perimeter. All stormwater run-off is captured in a holding tank located outside the SWMU 17A area. Stormwater run-on is managed with a constructed berm. Each burning at SWMU 17A requires prior approval from VDEQ on an as needed basis.

- ❖ SWMU 17B – Air Curtain Destructor Staging Area: Materials were accumulated for staging prior to burning in the ACD in one open and one enclosed bay. The bays were constructed with concrete floors and concrete walls on three sides. SWMU 17B was located adjacent to SWMU 17C. SWMU 17B was closed in accordance with the Virginia Solid Waste Management Regulations (VSWMR) under Permit By Rule (PBR) Number 179 in August 2005. Since 2005 RFAAP has elected to make alternative use of component 17B. Currently the site is operated as a less than 90 day holding area and is regulated under the VDEQ Hazardous Waste Program.
- ❖ SWMU 17C – Air Curtain Destructor (ACD): The Air Curtain Destructor was a constructed burn chamber that consisted of a large concrete pit enclosed within a metal structure with forced air blowers to increase burning efficiency. The system did not qualify as an incinerator under EPA definitions, and was considered a form of controlled open burning. The Unit was decommissioned and closed in August 2005 under a VDEQ Permit By Rule (PBR 179 – February 12, 2005). .
- ❖ SWMU 17D – Air Curtain Destructor Ash Staging Area: Air Curtain Destructor ash and scrap metal remaining after burning in the ACD was accumulated and stored in an area adjacent to SWMU 17C. This practice ceased in the late 1990's as the ash was directly loaded into appropriate over the road containers rather than being stored in the SWMU-17D, and SWMU-17D became inactive at that time. The area was closed and decommissioned in August 2005 accordance with PBR 179 dated February 12, 2005.
- ❖ SWMU 17E – Runoff Drainage Basin: Adjacent to the uncovered storage bay at SWMU 17B is a below grade, concrete lined settling basin that collects surface water runoff from the staging pads. SWMU 17E was closed in accordance with the Virginia Solid Waste Management Regulations (VSWMR) under Permit By Rule (PBR) Number 179 in August 2005. Since 2005 RFAAP has elected to make alternative use of component 17E. Currently the area serves as secondary containment for SWMU 17B.

4.0 MIGRATION PATHWAY ANALYSIS

- ❖ **Soil and Groundwater:** The re-engineering of the Stage and Burn Area included the installation of a drainage system that conveys storm water run-off from the burn area into a holding tank located outside the burn area. Run-on is controlled by a constructed berm. Combustion byproducts remaining after burning are tested for any remaining explosive residue. If explosives remain on the steel substrate material, the materials are re-combusted. Steel materials that remain after combustion are recycled. No pathway is present for movement of potential contaminants to soil or groundwater. Any combustion byproducts remaining after burning are tested and disposed of at an appropriate solid waste facility. An impervious surface was installed beneath the drainage system at SWMU 17A that prevents movement of historical contaminants to groundwater.

SWMU 17B and 17E are concrete lined. The concrete is in good repair and exhibits no loss of integrity. There is no evidence of connectivity between these areas and soil or groundwater.

- ❖ **Surface Water:** All water from the Stage and Burn area is conveyed to a holding tank located outside SWMU 17A. Fluids originating from SWMU 17B are conveyed to SWMU 17E. The settling basin is lined with concrete. The concrete is in good repair and exhibits no loss of integrity. There is no evidence of connectivity between SWMU 17 and surface water.

5.0 BASIS FOR REMOVAL FROM THE RCRA CORRECTIVE ACTION PERMIT

SWMUs 17 B, C, D and E will be removed from the RCRA Corrective Action Permit because units 17 C and D are permanently closed, and units 17 B and E are regulated under the VDEQ Hazardous Waste Program.

Unit 17A will be retained in the RCRA Corrective Action Permit until RFAAP determines that the site is longer needed as an active unit, at which time the site will be closed in accordance with the RCRA Corrective Action Permit.

ATTACHMENT 1
FIGURES

