ORDNANCE SYSTEMS INC.
Radford Army Ammunition Plant
P.O. Box 1
Radford, VA 24143
Telephone (540) 639-7631
Fax (540) 639-8588

BAE SYSTEMS

19 November 2014

Mr. Russell L. McAvoy
Office of Waste Permitting and Compliance
Virginia Department of Environmental Quality
629 East Main Street
Richmond, VA 23219

Subject: Radford Army Ammunition Plant, EPA ID No. VA1210020730
Processing of Tenant Owned Propellants at the Open Burning Ground (OBG) and Explosive Waste Incinerator (EWI)

Dear Mr. McAvoy:

BAE Systems Ordnance Systems Inc. (OSI), operating contractor for Radford Army Ammunition Plant (RFAAP) has been notified by a tenant, Pyro-techniques by Grucci (SQG – VAR000009290), that they would like to treat some of the wastes from their operations at our Open Burning Ground (OBG) and Explosive Waste Incinerators (EWIs). .

These materials can be grouped in four different categories: (1) double-base propellant that is low in stabilizer that can be treated by incineration, (2) specialty product containing no chlorides that are clean, but off-specification or otherwise waste propellant that contains paper wrappers that can be treated by open burning, (3) specialty product containing chlorides that are clean, but off-specification or otherwise waste propellant fuses, quick match, primer paste and the whistle component of the grenade simulators Grucci manufactures that can be treated by open burning, and (4) a variety of primarily black powder based materials that are kept water wet in storage and may contain foreign object debris, including the floor sweepings, fuses, quick match, primer paste and the whistle component of the grenade simulators Grucci manufactures that can be treated by open burning. Upon review of these items, their material safety data sheets, internal laboratory analyses and a calculated constituent analysis of the compounds that comprise the whistle component of the grenade simulators, we believe these wastes are substantially similar to wastes already treated at our onsite EWIs and OBG and do not constitute a new waste group under the Resource Conservation and Recovery Act (RCRA) Permits. The first group of material, which includes ball powder from specialty handmade fireworks, is consistent with our Group 10 wastes and is amenable to treatment at the incinerators. The second group of material is a specialty product that contains no chlorides and would be consistent to our Group 17 wastes. The third group of material is a specialty product that contains chloride and would be consistent to our

Group 18 wastes. The fourth group of material is a variety of black powder contaminated materials that are consistent with our Group 20. Please refer to the attached data sheet containing tabs for each waste group discussed below.

Group 10 Waste Propellants

Under the RCRA Permit, the Group 10 wastes are characterized as double base propellants with nitrocellulose (NC) and nitroglycerin (NG). These wastes carry the RCRA code D003 due to their reactivity. The Material Safety Data Sheet (MSDS) for the St. Mark's Ball Powder propellant used by Grucci was reviewed. Based on the primary propellant ingredients of NG, dibutyl phthalate, and ethyl centralite this propellant meets the Group 10 classification. Additionally, the concentrations of regulated constituents in the propellants are substantially similar to the concentrations on record for the Group 10 wastes we have previously treated onsite. Therefore, we believe it appropriate to classify the Ball Powder that Grucci occasionally uses as Group 10 propellant and treat it as such at RFAAP by incineration.

Group 17 Waste Propellants

Under the RCRA Permit, the Group 17 wastes are characterized as specialty products with NC, NG, and do not contain chlorides or perchlorates. These wastes carry the RCRA code D003 due to their reactivity. The first specialty product consists of black powder containing potassium nitrate, charcoal, and sulfur. The second specialty product is primer paste containing black powder, graphite and camphor. Based on the primary ingredients of these specialty products of NC and NG and do not contain chlorides or perchlorates these propellants meet the Group 17 classification. Additionally, the concentrations of regulated constituents in the propellants are similar to the concentrations on record for the Group 17 wastes we have previously treated onsite. Therefore, we believe it appropriate to classify these waste streams that Grucci occasionally generates as Group 17 waste and treat it as such at RFAAP by open burning.

Group 18 Waste Propellants

Under the RCRA Permit, the Group 18 wastes are characterized as specialty products with NC and nitrate esters and do contain chlorides or perchlorates. These wastes carry the RCRA code D003 due to their reactivity. This specialty product consists of NC, small amounts of nitrogen-containing compounds and chlorides. Based on the primary ingredients of this specialty product of NC and chlorides these propellants meet the Group 18 classification. Additionally, the concentrations of regulated constituents in the propellants are similar to the concentrations on record for the Group 18 wastes we have previously treated onsite. Therefore, we believe it appropriate to classify these waste streams that Grucci occasionally generates as Group 18 waste and treat it as such at RFAAP by open burning.

Group 20 Waste

In Section II.B.2e of the OBG RCRA Permit, the Group 20 wastes are described as "a combination of materials from Waste Group 1 through 19, excluding groups 2, 3, 5, and 6. It does not include any listed wastes nor does it exceed any of the limitations on specific constituents set forth in Module III of this Permit." The laboratory data collected on the waste streams containing black powder material support their classification as Group 20 wastes for the

OBG. Furthermore, the process generating the waste is similar to other processes on plant. As shown in the attached data, while the concentrations of regulated constituents are variable due to the nature of the waste, in accordance with the permit the final burns containing this waste will be below the permitted levels specified in Table III-1 and Condition III.B.3 of the OBG RCRA Permit.

While we believe the data provided demonstrates the similarity of the waste and supports that these wastes do not constitute new waste groups under our RCRA Permits, we wish to obtain your concurrence on this prior to beginning treatment of the wastes at the OBG and EWI. If you have any questions or need further information, please contact Mr. Matt Alberts at (540) 639-8722 or by email at Matt.Alberts@baesystems.com.

Sincerely,

Jay Stewart
Environmental Manager
BAE Systems, Ordnance Systems Inc.

Coordination: J. McKenna
J. McKenna

cc: Russell McAvoy, VDEQ
Administrative File
J. McKenna, ACO Staff
M. Alberts, BAE Env.

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