

**STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION**

IN THE MATTER OF:

**BAE SYSTEMS ORDNANCE SYSTEMS,
INC. & UNITED STATES DEPARTMENT
OF THE ARMY**

)
)
) **DIVISION OF WATER
RESOURCES**
)
)
)

) **CASE NUMBER WPC12-0140**
)

COMPLIANCE AGREEMENT

NOW COMES Robert J. Martineau, Jr., Commissioner of the Tennessee Department of Environment and Conservation ("Department"), and states:

PARTIES

I.

Robert J. Martineau, Jr. is the duly appointed Commissioner of the Department. The Commissioner is responsible for administering and enforcing the *Water Quality Control Act*, ("Act"), Tennessee Code Annotated Section 69-3-101 *et seq.*

II.

BAE SYSTEMS Ordnance Systems Inc. ("BAE") is the operator of a facility involved in RDX/HMX production, acetic anhydride production and recovery, and concentrated nitric acid and ammonium nitrate production ("Facility") located at 4509 West Stone Drive, Kingsport, Sullivan County, Tennessee.

III.

The United States Department of the Army ("Army") is the owner of a facility involved in RDX/HMX production, acetic anhydride production and recovery, and concentrated nitric

acid and ammonium nitrate production (“Facility”) located at 4509 West Stone Drive, Kingsport, Sullivan County, Tennessee.

JURISDICTION

IV.

The Commissioner may require corrective action be taken pursuant to Section 69-3-109(a) of the Act. Further, the Commissioner has authority to assess civil penalties, pursuant to Section 69-3-115 of the Act; and has authority to assess damages incurred by the State, pursuant to Section 69-3-116 of the Act. Department Rules governing general water quality criteria and use classifications for surface waters have been promulgated pursuant to Section 69-3-105 of the Act and are effective as the *Official Compilation Rules and Regulations of the State of Tennessee* (“Department Rules”), Chapters 400-40-03 and 400-40-04. Pursuant to Section 69-3-107(13) of the Act, the Commissioner may delegate to the Director of the Division of Water Resources (“Division”) any of the powers, duties, and responsibilities of the Commissioner under the Act.

V.

The Army and BAE are “persons” as defined by Section 69-3-103(25) of the Act.

VI.

The South Fork Holston River (including the tributaries Madd Branch, AFG Stream, and Arnott Branch), and the Holston River, described herein, are “waters of the state” as defined by Section 69-3-103(44) of the Act. Pursuant to Section 69-3-105(a)(2) of the Act, all waters of the state have been classified by the Tennessee Board of Water Quality, Oil and Gas for suitable uses. Department Rule 0400-40-04-.11, *Use Classifications for Surface Waters*, is contained in the Department Rules. Accordingly, these waters of the state are classified for the following uses: fish and aquatic life, recreation, irrigation, domestic water supply, industrial water supply, livestock watering, and wildlife.

VII.

Section 69-3-108 of the Act requires a person to obtain coverage under a permit prior to discharging certain substances to waters of the state, or to a location from which it is likely that the discharged substance will move into waters of the state. Department Rule 400-40-05-.08 states in part that a set of effluent limitations shall be required in each permit that shall indicate adequate operation or performance of treatment units used and that appropriately limit those harmful parameters present in the wastewater. Furthermore, it is unlawful for any person to increase the volume or strength of any wastes in excess of the permissive discharges specified under any existing permit.

VIII.

The Department, BAE, and the Army (collectively "Parties") hereby enter into this Compliance Agreement ("Agreement") effective when signed on behalf of all Parties, and for good cause would show:

WHEREAS, the Department issued National Pollutant Discharge Elimination System ("NPDES") Permit TN0003671 (hereinafter the "NPDES Permit") to the Army and BAE on March 31, 2010. The NPDES Permit expired on March 31, 2014, but as a result of the Army and BAE's submittal of a renewal application, the NPDES Permit remains administratively effective. The NPDES Permit authorizes the Army and BAE to discharge

treated industrial wastewater including coal pile runoff, landfill leachate and treated domestic wastewater overflow during peak flow conditions from Outfall 020; treated domestic wastewater from Outfall 025; noncontact cooling water from Outfalls 002, 012, 014, 015, 101 and 108 in Area A and Outfalls 026, 030, 031, 036, 037, 038, 040 and 161 in Area B; traveling screen filter backwash from Outfalls 007 and 023; filtration wastewater for freeze protection from Outfalls

101 and 161; coal pile runoff from Internal Monitoring Point 039; and storm water runoff from Outfalls 026, 030, 031, 036, 037, 038, 040, 101, 108 and 161.

This treated industrial wastewater is discharged to the following receiving waters:

South Fork Holston River for Outfalls 002, 007 and 101; Holston River for Outfalls 020, 023, 025, 026, 030, 031, and 161; Madd Branch for Outfalls 012 and 108; AFG Stream for Outfalls 014 and 015; Arnott Branch for Outfalls 036, 037 and 038; and confluence of Arnott Branch and Holston River for Outfall 040 (including IMP 039)

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in the NPDES Permit;

WHEREAS, during the monitoring period of January 2010 through February 2014, the Army and BAE reported the following number of permit effluent limitations exceedances on Discharge Monitoring Reports (“DMRs”):

- Solids, Total Suspended (TSS) - 5
- Biological Oxygen Demand (BOD) - 54
- *E. coli* - 6
- pH - 5
- Nitrogen, ammonia total (as N) - 2
- Nitrogen, nitrate total (as N) - 2

WHEREAS, by discharging wastewater effluent in violation of the terms and conditions of the NPDES Permit as stated herein, the Army and BAE have violated Sections 69-3-108(b)(1), (3) and 69-3-114(a) of the Act, which state in-part:

Section 69-3-108(b):

It is unlawful for any person, other than a person who discharges into a publicly owned treatment works or a person who is a domestic discharger into a privately owned treatment works, to carry out any of the following activities, except in accordance with the conditions of a valid permit:

- (1) The alteration of the physical, chemical, radiological, biological, or bacteriological properties of any waters of the state;
....
- (3) The increase in volume or strength of any wastes in excess of the permissive discharges specified under any existing permit . . . ;

Section 69-3-114(a):

It is unlawful for any person to discharge any substance into the waters of the state or to place or cause any substance to be placed in any location where such substances, either by themselves or in combination with others, cause any of the damages as defined in § 69-3-103, unless such discharge shall be due to an unavoidable accident or unless such action has been properly authorized. Any such action is declared to be a public nuisance.

WHEREAS, the Facility produces RDX, and RDX at certain levels is authorized to be discharged under the NPDES Permit;

WHEREAS, The United States Environmental Protection Agency ("USEPA") has not established a Maximum Contaminant Level ("MCL") for RDX in drinking water;

WHEREAS, USEPA has established a Health Advisory Level for RDX of 0.002 mg/L (2 parts per billion). *See* 2012 Edition of the Drinking Water Standards and Health Advisories, EPA 822-S-12-001. However, various entities currently are undertaking research on RDX, and preliminary results indicate that justification may exist to set the Health Advisory level at least eight times higher and possibly as much as twenty-three times higher than the current level.

WHEREAS, the Department is working with the Army and BAE to reduce the Facility's discharge of RDX;

WHEREAS, the Army to date has spent approximately \$43 million at the Facility addressing the issue of RDX reduction in industrial wastewater effluent, including ongoing installation of additional anaerobic treatment capacity and RDX waste influent reduction projects;

WHEREAS, the Army has installed a Reverse Osmosis System in Building E-7 at the Facility to treat RDX as part of its remedial efforts;

WHEREAS, on May 1, 2012, a new NPDES Permit limit of 12.2 lbs/day monthly average discharge took effect for wastewater discharged from the wastewater treatment plant to Outfall 020;

WHEREAS, since May 1, 2012, the Army and BAE have conducted prove-out and limited operation of the Reverse Osmosis System and are now operating the system full time;

WHEREAS, the Army and BAE have encountered challenges with the transfer of water to Building E-7, which has limited the treatment of all identified waste streams;

WHEREAS, one significant problem has been pumping and filtration difficulties due to biological growth in the collection system;

WHEREAS, despite these challenges, the Reverse Osmosis System is achieving 98-99% reduction rate;

WHEREAS, the Army and BAE have initiated a plan of action to correct RDX issues; and

WHEREAS, the Parties wish to use this Agreement to implement a plan of action to resolve issues related to treatment of the RDX waste streams.

THEREFORE, PREMISES CONSIDERED, the Parties hereby agree as follows:

1. The Army and BAE shall continue to use their best efforts to address issues relating to the RDX treatment system and will report quarterly to the Department regarding progress with respect to the RDX treatment system. BAE engineering currently is pursuing

fabrication and installation of a pilot granular activated carbon ("GAC") treatment unit for point of generation RDX removal at Building L8. A study of additional RDX sources undertaken in the summer of 2013 indicated that there is a significant contribution of RDX to the wastewater stream from Building L8 that was not previously identified. Building L8 constitutes the single largest RDX wastewater generation source at the Facility that is not treated by the Building E7 reverse osmosis pretreatment system. Additionally, BAE is evaluating the feasibility of reusing filter cloth wash water at explosives wash Buildings E3 and E6. If the Army or BAE fails to meet the requirements of this paragraph by one hundred and twenty (120) days following the effective date of this Agreement, the Department may seek a court order to impose civil penalties in the amount of FORTY THREE THOUSAND SIX HUNDRED DOLLARS (\$43,600.00).

2. The Army and BAE shall implement the RDX Compliance Schedule attached as "Exhibit A." If the Army or BAE fails to complete any task identified in "Exhibit A" by the "Projected Finish" date, the Department may seek a court order to impose civil penalties in the amount of FORTY THREE THOUSAND SIX HUNDRED DOLLARS (\$43,600.00) per uncompleted task.

3. The Army and BAE shall, in good faith, take all necessary steps to obtain sufficient funding to comply with the provisions of paragraphs 1 and 2 above. Any requirement imposed on the Army for payment or obligation of funds in any amount or by a particular date established by the terms of this Agreement shall be subject to the availability of funds, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. 1341. If sufficient appropriations are not available and cannot be obtained, the Army will promptly inform the Department. In such case, the Department may

terminate the Agreement and take other action, if so desired, or amend the Agreement with the Parties' consent.

4. The Army and BAE shall be responsible for the failure to comply with any of the terms and conditions of this Agreement for which they are jointly responsible, unless compliance is made impossible by good cause, including but not limited to earthquake, flood, other acts of God, war, strike, delay by third parties not under the control of the Army and BAE, litigation that interferes with the operation of the treatment system, or such other unforeseeable circumstances beyond their control and not due to a lack of good faith or diligence on their part. The Army and BAE shall demonstrate that such circumstances were beyond their control and not due to a lack of good faith or diligence on their part. The Army and BAE shall notify the Department orally within forty-eight (48) hours and in writing within three (3) business days when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of the Agreement. Such notice shall set forth:

- a. the reasons for the delay or noncompliance;
- b. the projected duration of any such delay or noncompliance;
- c. the measures taken and to be taken to prevent or minimize such delay or noncompliance; and
- d. the timetable by which such measures will be implemented and the date full compliance will be achieved.

5. The Parties shall monitor the ongoing research efforts on RDX in drinking water and USEPA's response to the results of that research. If USEPA establishes a new Health Advisory level for RDX, the Parties may amend this Agreement. In addition, the Army and BAE may request the NPDES Permit be reopened for reconsideration of the RDX limit, and the Department agrees to make a good faith consideration of that request to make the RDX limit commensurate with the USEPA Health Advisory.

6. The Parties acknowledge that the First Utility District of Hawkins County ("Utility District") is incurring additional treatment costs to apply increased amounts of powder activated carbon in an effort to address detectable RDX levels at its intake, and is incurring additional monitoring expenses associated with raw and finished water sampling. To help defray the additional costs associated with increased activated carbon application above standard treatment requirements and additional monitoring, BAE shall make five annual payments in the amount of \$20,000.00 to First Utility District. BAE shall make the first payment to the Utility District within thirty (30) days of the effective date of this Agreement. BAE shall make the remaining four annual payments during January of 2015, 2016, 2017, and 2018.
7. The Department shall treat the five BAE annual payments totaling \$100,000.00 to the Utility District as a Supplemental Environmental Project ("SEP") and shall document the SEP in a separate agreement with BAE.

RESERVATION OF RIGHTS

The Department reserves any and all lawful rights, remedies, and authorities, including the right to assess civil penalties and damages, to enforce the provisions of the Act and the Department Rules. However, the full and timely completion by the Army and BAE of this Agreement shall be taken into consideration in any decision whether to take enforcement action pursuant to the Act.

The Department specifically reserves the right to order such corrective action as may be necessary or required, if in the Department's opinion, such actions or activities are necessary for the protection of the public health or the environment.

In entering into this Agreement, the Army and BAE expressly deny and do not admit to any violation of the Act or the Department Rules or waive any due process rights they may have

to challenge any enforcement action initiated by the Department, other than an action to enforce this Agreement. The Parties further reserve the right to modify this Agreement. This Agreement shall terminate upon completion of the activities agreed to in this Agreement, unless the Agreement has otherwise been modified as discussed in the previous sentence.

This Agreement may be signed in counterparts.

NOTICE OF RIGHTS AND WAIVER OF APPEAL

The Army and BAE are aware of the provisions in Sections 69-3-109 and 69-3-115 of the Act that set-out certain rights of appeal. To the extent that any such rights apply to this Agreement, the Army and BAE waive them. Other than appeal rights as to this Agreement, the Army and BAE waive no other rights of appeal or other rights.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives as of the date first set forth above.

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

By: Robert J. Martineau, Jr.
Robert J. Martineau, Jr.
Commissioner *EJS*

UNITED STATES DEPARTMENT OF THE ARMY

By: Chadwick T. Bauld 20 Aug 14
Chadwick T. Bauld
Col, CM
Commanding

BAE SYSTEMS ORDNANCE SYSTEMS INC.

By: Michelle Bailey 21 August 2014
Michelle Bailey
Contract Manager

EXHIBIT A

RDX Compliance Schedule					
Task Number	Project Description	Projected Start	Projected Finish	Months	Report Deadline
1	Install Additional Anoxic Treatment Capacity at Building 221 Basins 10 & 20, Phase 1	Sept-14	May-17	32	7/15/2017
2	Install Additional Wastewater Treatment Clarifier	Nov-14	Jul-17	32	9/15/2017
3	Industrial Waste Water Treatment Facility Expansion Design	Apr-15	Apr-17	24	6/15/2017
4	Feasibility Study of Treated Water in Explosives Manufacturing	Nov-15	Jan-17	14	3/15/2017
5	Install Additional Anoxic Treatment Capacity at Building 221 Basins 30 & 40, Phase 2	Feb-16	Jun-18	28	8/15/2018
6	Area B Sewer/Industrial Wastewater Condition Study	Jul-15	Jan-17	18	3/15/2017
7	Install Additional Anoxic Filtration Basins 5E and 6E (Bldg. 235)	Mar-16	Oct-18	31	12/15/2018
8	Industrial Wastewater Settling & Equalization Basin # 1	Apr-16	Dec-18	32	2/15/2019
9	Install Additional Anoxic Wastewater Treatment 4th Clarifier	May-16	Dec-18	31	2/15/2019
10	Install Additional Wastewater Aeration Basins (3W & 4W)	Dec-16	Apr-19	28	6/15/2019
11	Install Additional Anoxic Filtration Basins 7E and 8E (Bldg. 235)	Jan-17	Apr-19	27	6/15/2019
12	Install Additional Multi-Media filters at 1WWTF	Feb-17	Jun-19	28	8/15/2019
13	Industrial Wastewater Settling & Equalization Basin # 2	Mar-17	Feb-20	35	4/15/2020
14	Modernize B235 Filter Press, Phase 2	Apr-17	Jul-19	27	9/15/2019

Note: The planned projects identified above are, as required by law, subject to the Anti-Deficiency Act, 31 U.S.C. Section 1341.

