Division for Air Quality

300 Sower Boulevard

Frankfort, KY 40601

(502) 564-3999

DEP7007AI

Administrative Information

___ Section AI.1: Source Information

___ Section AI.2: Applicant Information

___ Section AI.3: Owner Information

___ Section AI.4: Type of Application

___ Section AI.5: Other Required Information

___ Section AI.6: Signature Block

___ Section AI.7: Notes, Comments, and Explanations

Additional Documentation

___ Additional Documentation attached

Source Name: **Ensign-Bickford Aerospace & Defense Company**

KY EIS (AFS) #: **21- 177-00079**

Permit #: **F-17-046**

Agency Interest (AI) ID: **40689**

Date: **7/28/2022**

Section AI.1: Source Information

Physical Location Address:	**Street:**	500 Bickford Rd.				
	City:	Graham	**County:**	Muhlenberg	**Zip Code:**	42344
Mailing Address:	**Street or P.O. Box:**	219				
	City:	Graham	**State:**	KY	**Zip Code:**	42344

Standard Coordinates for Source Physical Location

Longitude: 87.2875 (decimal degrees) **Latitude:** 37.24167 (decimal degrees)

Primary (NAICS) Category: Explosives Manufacturing **Primary NAICS #:** 325920

Classification (SIC) Category: Small Arms and Ammunition **Primary SIC #:** 3482

Briefly discuss the type of business conducted at this site: Manufacturing of energetic materials for demolition and government use.

Description of Area Surrounding Source: ☑ Rural Area ☐ Industrial Park ☐ Residential Area ☐ Urban Area ☐ Industrial Area ☐ Commercial Area

Is any part of the source located on federal land? ☐ Yes ☑ No

Number of Employees: 112

Approximate distance to nearest residence or commercial property: *2,300'*

Property Area: **1,200 acres**

Is this source portable? ☐ Yes ☑ No

What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?

NPDES/KPDES:	☑ Currently Hold	☐ Need	☐ N/A
Solid Waste:	☐ Currently Hold	☐ Need	☑ N/A
RCRA:	☑ Currently Hold	☐ Need	☐ N/A
UST:	☐ Currently Hold	☐ Need	☑ N/A

Type of Regulated Waste Activity:

☐ Mixed Waste Generator ☑ Generator ☐ Recycler ☐ Other: _____

☐ U.S. Importer of Hazardous Waste ☐ Transporter ☐ Treatment/Storage/Disposal Facility ☐ N/A

Section AI.2: Applicant Information

Applicant Name: Ensign-Bickford Aerospace & Defense Company

Title: (if individual)

Mailing Address: **Street or P.O. Box:** P.O. Box 219
City: Graham **State:** KY **Zip Code:** 42344

Email: (if individual)

Phone: 270-377-3200

Technical Contact

Name: Chris Ford

Title: Manager, EHS

Mailing Address: **Street or P.O. Box:** P.O. Box 219
City: Graham **State:** KY **Zip Code:** 42344

Email: cpford@ebad.com

Phone: 270-377-3207

Air Permit Contact for Source

Name: Chris Ford

Title: Manager, EHS

Mailing Address: **Street or P.O. Box:** P.O. Box 219
City: Graham **State:** KY **Zip Code:** 42344

Email: cpford@ebad.com

Phone: 270-377-3207

Section AI.3: Owner Information

☐ **Owner same as applicant**

Name: Ensign-Bickford Aerospace & Defense Company

Title:

Mailing Address: **Street or P.O. Box:** 640 Hopmeadow Street

City: Simsbury **State:** CT **Zip Code:** 06070

Email:

Phone: 860-843-2289

List names of owners and officers of the company who have an interest in the company of 5% or more.

Name	Position
Privately owned company that does not release information.	

Section AI.4: Type of Application

Current Status: ☑ Title V ☑ Conditional Major ☐ State-Origin ☐ General Permit ☐ Registration ☐ None

Requested Action: *(check all that apply)*

☐ Name Change	☐ Initial Registration	☐ Significant Revision	☐ Administrative Permit Amendment
☑ Renewal Permit	☐ Revised Registration	☐ Minor Revision	☐ Initial Source-wide OperatingPermit
☐ 502(b)(10)Change	☐ Extension Request	☐ Addition of New Facility	☐ Portable Plant Relocation Notice
☐ Revision	☐ Off Permit Change	☐ Landfill Alternate Compliance Submittal	☐ Modification of Existing Facilities
☐ Ownership Change	☐ Closure		

Requested Status: ☑ Title V ☑ Conditional Major ☐ State-Origin ☐ PSD ☐ NSR ☐ Other: _____

Is the source requesting a limitation of potential emissions? ☐ Yes ☑ No

Pollutant:	Requested Limit:	Pollutant:	Requested Limit:
☐ Particulate Matter		☐ Single HAP	
☐ Volatile Organic Compounds (VOC)		☐ Combined HAPs	
☐ Carbon Monoxide		☐ Air Toxics (40 CFR 68, Subpart F)	
☐ Nitrogen Oxides		☐ Carbon Dioxide	
☐ Sulfur Dioxide		☐ Greenhouse Gases (GHG)	
☐ Lead		☐ Other	

For New Construction:

Proposed Start Date of Construction: *(MM/YYYY)* _____ **Proposed Operation Start-Up Date:** *(MM/YYYY)* _____

For Modifications:

Proposed Start Date of Modification: *(MM/YYYY)* _____ **Proposed Operation Start-Up Date:** *(MM/YYYY)* _____

Applicant is seeking coverage under a permit shield. ☐ Yes ☑ No **Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.**

Section AI.5 Other Required Information

Indicate the documents attached as part of this application:

- ☐ DEP7007A Indirect Heat Exchangers and Turbines
- ☐ DEP7007B Manufacturing or Processing Operations
- ☐ DEP7007C Incinerators and Waste Burners
- ☐ DEP7007F Episode Standby Plan
- ☐ DEP7007J Volatile Liquid Storage
- ☐ DEP7007K Surface Coating or Printing Operations
- ☐ DEP7007L Mineral Processes
- ☐ DEP7007M Metal Cleaning Degreasers
- ☐ DEP7007N Source Emissions Profile
- ☐ DEP7007P Perchloroethylene Dry Cleaning Systems
- ☐ DEP7007R Emission Offset Credit
- ☐ DEP7007S Service Stations
- ☐ DEP7007T Metal Plating and Surface Treatment Operations
- ☐ DEP7007V Applicable Requirements and Compliance Activities
- ☐ DEP7007Y Good Engineering Practice and Stack Height Determination
- ☐ DEP7007AA Compliance Schedule for Non-complying Emission Units
- ☐ DEP7007BB Certified Progress Report
- ☐ DEP7007CC Compliance Certification
- ☐ DEP7007DD Insignificant Activities
- ☐ DEP7007EE Internal Combustion Engines
- ☐ DEP7007FF Secondary Aluminum Processing
- ☐ DEP7007GG Control Equipment
- ☐ DEP7007HH Haul Roads
- ☐ Confidentiality Claim
- ☐ Ownership Change Form
- ☐ Secretary of State Certificate
- ☐ Flowcharts or diagrams depicting process
- ☐ Digital Line Graphs (DLG) files of buldings, roads, etc.
- ☐ Site Map
- ☐ Map or drawing depicting location of facility
- ☐ Safety Data Sheet (SDS)
- ☐ Emergency Response Plan
- ☐ Other: _____

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

P. Cary Franklin — **Authorized Signature**

8/23/2022 — **Date**

P. Cary Franklin — **Type or Printed Name of Signatory**

Director, Operations — **Title of Signatory**

*Responsible official as defined by 401 KAR 52:001.

Section AI.7: Notes, Comments, and Explanations
No changes to current permit. Submitting for permit renewal.

Division for Air Quality

300 Sower Boulevard

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DEP7007V

Applicable Requirements and Compliance Activities

___ Section V.1: Emission and Operating Limitation(s)

___ Section V.2: Monitoring Requirements

___ Section V.3: Recordkeeping Requirements

___ Section V.4: Reporting Requirements

___ Section V.5: Testing Requirements

___ Section V.6: Notes, Comments, and Explanations

Additional Documentation

___ Complete DEP7007AI

Source Name: **Ensign-Bickford Aerospace & Defense**

KY EIS (AFS) #: **21- 177-00079**

Permit #: **F-17-046**

Agency Interest (AI) ID: **40689**

Date: **6/26/2023**

Section V.1: Emission and Operating Limitation(s)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
RX915	**Stainless Steel Reactor**	**401 KAR 63:020**	**Isobutyl Isobutyrate,**	**N/A**	**Vacuum Service: Exempt**	**Vacuum Service: Exempt**	**Mass Balance/Vacuum Service**
VP001	Nash Vacuum Pump	401 KAR 63:020	ate, Xylene, Me	N/A	Vacuum Service: Exempt	Vacuum Service: Exempt	Mass Balance/Vacuum Service
VP518	Busch Vacuum Pump	401 KAR 63:020	ate, Xylene, Me	N/A	Vacuum Service: Exempt	Vacuum Service: Exempt	Mass Balance/Vacuum Service
HX536	Shell & Tube Heat Exchanger	AR 63:020/ 40 CFR subp	ate, Xylene, Me	N/A	N/A	See Appendix A	Mass Balance/ Test with a VOC monitoring instrument
VR002	Stainless Steel Vacuum Receiver	401 KAR 63:020	ate, Xylene, Me	N/A	Vacuum Service: Exempt	Vacuum Service: Exempt	Mass Balance/Vacuum Service
HX3011	MAPO Condenser	401 KAR 63:020	ate, Xylene, Me	N/A	Vacuum Service: Exempt	See Appendix A	Mass Balance/Vacuum Service
TK503	IBIB/Xylene Tank	401 KAR 63:020/ 40 CFR	Xylene/IBIB	N/A	N/A		Test with a VOC
TK3000	MeCl Tank	401 KAR 63:020/ 40 CFR	MeCL	N/A	N/A		Test with a VOC

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
TK3001	MeCL Tank	AR 63:020/ 40 CFR subp	MeCL	N/A	N/A		Test with a VOC monitoring instrument

Section V.2: Monitoring Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
RX915	Stainless Steel Reactor	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	Product Amount	Continously during production
VP001	Nash Vacuum Pump	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	Continously during production
VP518	Busch Vacuum Pump	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	Continously during production
HX536	Shell & Tube Heat Exchanger	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	See Appendix A	Continously during production
VR002	Stainless Steel Vacuum Receiver	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	Continously during production
HX3011	MAPO Condenser	Methylene Chloride	401 KAR 63:020	See Appendix A	Continously during production
TK503	IBIB/Xylene Tank	IBIB, Xylene	401 KAR 63:020	Product Amount	Test the periphery of all interfaces with a VOC monitoring instrument.
TK3000	MeCl Tank	Methylene Chloride	401 KAR 63:020	Product Amount	Test the periphery of all interfaces with a VOC monitoring instrument.
TK3001	MeCl Tank	Methylene Chloride	401 KAR 63:020	Product Amount	Test the periphery of all interfaces with a VOC monitoring instrument.

Section V.3: Recordkeeping Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
RX915	Stainless Steel Reactor	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	Monthly log of amount and composition of all materials used and hours of operation.
VP001	Nash Vacuum Pump	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	Monthly log of amount and composition of all materials used and hours of operation.
VP518	Busch Vacuum Pump	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	Monthly log of amount and composition of all materials used and hours of operation.
HX536	Shell & Tube Heat Exchanger	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	See Appendix A	See Appendix A
VR002	Stainless Steel Vacuum Receiver	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	Monthly log of amount and composition of all materials used and hours of operation.
HX3011	MAPO Condenser	Methylene Chloride	401 KAR 63:020	See Appendix A	See Appendix A
TK503	IBIB/Xylene Tank	IBIB, Xylene	401 KAR 63:020	N/A	Daily Walkthrough Log/ LDAR Log
TK3000	MeCl Tank	Methylene Chloride	401 KAR 63:020	N/A	Daily Walkthrough Log/ LDAR Log
TK3001	MeCl Tank	Methylene Chloride	401 KAR 63:020	N/A	Daily Walkthrough Log/ LDAR Log

Section V.4: Reporting Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
RX915	Stainless Steel Reactor	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	N/A
VP001	Nash Vacuum Pump	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	N/A
VP518	Busch Vacuum Pump	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	N/A
HX536	Shell & Tube Heat Exchanger	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	See Appendix A	See Appendix A
VR002	Stainless Steel Vacuum Receiver	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	N/A
HX3011	MAPO Condenser	Methylene Chloride	401 KAR 63:020	See Appendix A	See Appendix A
TK503	IBIB/Xylene Tank	IBIB, Xylene	401 KAR 63:020	N/A	N/A
TK3000	MeCl Tank	Methylene Chloride	401 KAR 63:020	N/A	N/A
TK3001	MeCl Tank	Methylene Chloride	401 KAR 63:020	N/A	N/A

Section V.5: Testing Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
RX915	Stainless Steel Reactor	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	N/A
VP001	Nash Vacuum Pump	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	N/A
VP518	Busch Vacuum Pump	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	N/A
HX536	Shell & Tube Heat Exchanger	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	See Appendix A	See Appendix A
VR002	Stainless Steel Vacuum Receiver	IBIB, Xylene, Methylene Chloride	401 KAR 63:020	N/A	N/A
HX3011	MAPO Condenser	Methylene Chloride	401 KAR 63:020	See Appendix A	See Appendix A
TK503	IBIB/Xylene Tank	IBIB, Xylene	401 KAR 63:020	<10,000ppm	Monthly: Test the periphery of all interfaces with a VOC monitoring instrument.
TK3000	MeCl Tank	Methylene Chloride	401 KAR 63:020	<10,000ppm	Monthly: Test the periphery of all interfaces with a VOC monitoring instrument.
TK3001	MeCl Tank	Methylene Chloride	401 KAR 63:020	<10,000ppm	Monthly: Test the periphery of all interfaces with a VOC monitoring instrument.

Section V.6: Notes, Comments, and Explanations
The stainless steel reactor (RX915), MAPO condenser (HX3011), and vacuum receiver (VR002) all operate under vacuum service.
Ths form was completed to determine the applicability of 40 CFR subpart VV. Currently our GAP and MAPO processes have some components that are not under vacuum service and fall under the subpart VV regulations.

Critical Operational Parameters	MAPO Process Design Parameters	MAPO Process Operating Limitations	Control Point Location, Type and ID Tag	Recordkeeping Frequency
Shell Side Coolant Inlet Temperature	35 - 40°F	40°F Maximum	Process Area Chiller Outlet Temperature Indicator (TI37)	Continuously throughout the batch
Shell Side Coolant Outlet Temperature	50 - 60°F	60°F Maximum	Process Area Heat Exchanger Outlet Temperature Indicator (TI38)	Continuously throughout the batch
Coolant Flow Rate	17.3 - 30.0 gpm	17.3 gpm minimum	Process Area Rotameter (RM1055)	Hourly throughout the batch
Tube Side Reactor Vapor Inlet Temperature	75 - 105°F	105°F Maximum	MRF Reactor Vapor Outlet Thermocouple (TE24)	Continuously throughout the batch
Tube Side Heat Exchanger Vapor Oulet Temperature	50 - 70°F	70°F Maximum	Process Area Heat Exchanger Outlet Temperature Indicator (TI36)	Continuously throughout the batch
Pressure Drop Range	0.5 - 1.0 in H2O	≥ 0.5 in H2O	Process Area Inlet / Outlet on Heat Exchanger Differential Pressure Gauge (PR5016)	Hourly throughout the batch

Note: "Continuously throughout the batch" readings are intended as readings that are taken manually and recorded every 30 minutes.

ɛ Tube Heat Exchanger (HX536) EP 10-17

Critical Operational Parameters	MAPO Process Design Parameters	MAPO Process Operating Limitations	Control Point Location, Type and ID Tag	Recordkeeping Frequency
Shell Side Coolant Inlet Temperature	35 - 40°F	40°F Maximum	Mechanical Room Chiller Outlet Thermocouple (TE35)	Continuously throughout the batch
Shell Side Collant Outlet	50 - 60°F	60°F Maximum	Vacuum Pump Room Heat Exchanger Outlet Thermocouple (TE29)	Continuously throughout the batch
Coolant Flow Rate	11.7 - 30.0 gpm	11.7 gpm minimum	Heat exchanger in Vacuum Pump Room Rotameter (RM1054)	Hourly throughout the batch
Tube Side ReactorVapor Inlet Temperature	75 - 105°F	105°F Maximum	MRF Reactor Vapor Outlet Thermocouple (TE24)	Continuously throughout the batch
Tube Side Heat Exchanger Vapor Oulet Temperature	60 - 90°F	90°F Maximum	Vacuum Pump Room Heat Exchanger Outlet Thermocouple (TE34)	Continuously throughout the batch
Pressure Drop Range	0.5 - 1.0 in H2O	≥ 0.5 in H2O	Vacuum Pump Room Building Inlet / Outlet on Heat Exchanger Differential Pressure Gauge (PR5015)	Hourly throughout the batch

Note: "Continuously throughout the batch" readings are intended as readings that are taken manually and recorded every 30 minutes.

GAP Shell & Tube Exchanger (HX536) EP 10-25

Critical Operational Parameters	Operating Limitation	Control Point Location, Type and ID Tag	Recordkeeping Frequency
Shell Side Coolant Inlet Temperature	40°F (4°C) Maximum	Mechanical Room Chiller Outlet Thermocouple (TE35)	Continuously throughout the batch
Shell Side Coolant outlet Temperature	60°F (16°C) Maximum	Vacuum Pump Room Heat Exchanger Outlet Thermocouple (TE29)	Continuously throughout the batch
Coolant Flow Rate	11.7 gpm Minimum	Mechanical Room Chiller Outlet Rotameter (RM251)	Hourly throughout the batch
Tube Side Reactor Vapor Inlet Temperature	300°F (148°C) Maximum	MRF Reactor Vapor Outlet Thermocouple (TE24)	Continuously throughout the batch
Tube Side Reactor Vapor Outlet Temperature	104°F (40°C) Maximum	Vacuum Pump Room Heat Exchanger Outlet Thermocouple (TE33)	Continuously throughout the batch
Pressure drop range	> 1.0 in H_2O	Vacuum Pump Room Building Inlet/Outlet on Heat Exchanger Differential Pressure Gauge (P108)	Hourly throughout the batch

Note: Continuous readings are intended as readings that are taken manually and recorded every 30 minutes

Division for Air Quality

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DEP7007J

Volatile Liquid Storage

- [X] Section J.1: General Information
- [ ] Section J.2: Tank Description
- [ ] Section J.3: Gasoline Plants and Terminals
- [ ] Section J.4: Loading Rack(s)
- [ ] Section J.5: Equipment Leaks
- [X] Section J.6: Notes, Comments, and Explanations

Additional Documentation

___ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.

___ SDS attached

Source Name: **Ensign Bickford Aerospace & Defense Co.**

KY EIS (AFS) #: **21- 17700079**

Permit #: **F-24-047**

Agency Interest (AI) ID: **40689**

Date: **10/23/2024**

Section J.1: General Information

Emission Unit #	Emission Unit Name	Emission Unit Description	Proposed/Actual Date of Construction Commencement *(MM/YYYY)*	Date of modification/ reconstruction	Control Device ID	Stack ID
8	EP 8MTF6 (TK3001)	MRF 99% MeCL Raw Storage Tank	N/A			
8	EP 8MTF7 (TK3000)	MRF 99% MeCL Recovery Tank	N/A			

Section J.6: Notes, Comments, and Explanations

TK3001 will be identified as TK601 going forward as we have updated the ID's of this tank. It also should be changed to 1,400 gallons instead of 5,000. This was a clerical error that was not previously corrected. Emissions data matches the criteria for the other tank that is listed at 1,400 gallons.

TK3000 will be identified as TK600 going forward due to the reason stated above.