



State of Utah

SPENCER J. COX  
Governor

DEIDRE HENDERSON  
Lieutenant Governor

Department of  
Environmental Quality

Kimberly D. Shelley  
Executive Director

DIVISION OF AIR QUALITY  
Bryce C. Bird  
Director

DAQE-IN104020059-22

September 15, 2022

Jason Wells  
ATK Launch Systems, LLC  
M/S F/1/EV  
P.O. Box 98  
Magna, UT 84044-0098  
Jason.wells@ngc.com

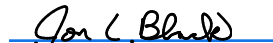
Dear Mr. Wells:

Re: Intent to Approve:  
Modification to Approval Order DAQE-AN104020057-22 to Add Equipment and Increase VOC  
Limitations  
Project Number: N104020059

The attached document is the Intent to Approve (ITA) for the above-referenced project. The ITA is subject to public review. Any comments received shall be considered before an Approval Order (AO) is issued. The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final AO.

Future correspondence on this ITA should include the engineer's name, **Ana Williams**, as well as the DAQE number as shown on the upper right-hand corner of this letter. Ana Williams, can be reached at (385) 306-6505 or [anawilliams@utah.gov](mailto:anawilliams@utah.gov), if you have any questions.

Sincerely,

  
Jon Black (Sep 7, 2022 16:15 MDT)

Jon L. Black, Manager  
New Source Review Section

JLB:AW:jg

cc: Salt Lake County Health Department

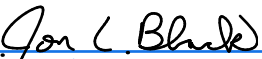
**STATE OF UTAH**  
**Department of Environmental Quality**  
**Division of Air Quality**

**INTENT TO APPROVE**  
**DAQE-IN104020059-22**  
**Modification to Approval Order DAQE-AN104020057-22**  
**to Add Equipment and Increase VOC Limitations**

**Prepared By**  
**Ana Williams, Engineer**  
**(385) 306-6505**  
**anawilliams@utah.gov**

**Issued to**  
**ATK Launch Systems, LLC - Bacchus Works - Plant 1 NIROP Bacchus West**

**Issued On**  
**September 15, 2022**

  
Jon Black (Sep 7, 2022 16:15 MDT)

**New Source Review Section Manager**  
**Jon L. Black**

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## GENERAL INFORMATION

### CONTACT/LOCATION INFORMATION

**Owner Name**

ATK Launch Systems, LLC

**Source Name**

ATK Launch Systems, LLC - Bacchus Works -  
Plant 1 NIROP Bacchus West

**Mailing Address**

M/S F/1/EV  
P.O. Box 98  
Magna, UT 84044-0098

**Physical Address**

5000 South 8400 West  
West Valley City, UT 84044

**Source Contact**

Name Jason Wells  
Phone (435) 863-6895  
Email Jason.wells@ngc.com

**UTM Coordinates**

409,700 m Easting  
4,502,100 m Northing  
Datum NAD27  
UTM Zone 12

**SIC code** 3761 (Guided Missiles & Space Vehicles)

### SOURCE INFORMATION

General Description

ATK Launch Systems, LLC (ATK) operates the Bacchus site, an existing rocket propulsion plant in West Valley City, Salt Lake County. The ATK Bacchus site manufactures solid fuel rocket motors for NASA and the Department of Defense. The manufacturing operations at this plant includes rocket case preparation buildings, cyclotetramethylene-tetranitramine (HMX) grinding and drying processes for making solid rocket fuel, propellant sampling and machining, and an open burning ground for the routine burning of explosive and flammable wastes.

NSR Classification

Minor Modification at Minor Source

Source Classification

Located in Northern Wasatch Front O3 NAA, Salt Lake City UT PM<sub>2.5</sub> NAA, Salt Lake County SO<sub>2</sub> NAA  
Salt Lake County  
Airs Source Size: SM

Applicable Federal Standards

NSPS (Part 60), A: General Provisions  
NSPS (Part 60), Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units  
NSPS (Part 60), IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines  
NSPS (Part 60), JJJJ: Standards of Performance for Stationary Spark Ignition Internal

## Combustion Engines

MACT (Part 63), A: General Provisions

MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

MACT (Part 63), CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

Title V (Part 70) Area Source

Project Description

ATK has requested a modification to Approval Order DAQE-AN104020057-22 for the following Building 2471 (Case Preparation building) changes: add two new surface coating spray booths equipped with fabric filters; install a new pulse jet baghouse to control dust generated from surface preparation activities; add one new Spray Lance Robot (SLR) booth equipped with an in-line filtration ventilation duct; and increase the existing VOC emissions limitation in Condition II.B.8.a from 6.0 TPY to 16.0 TPY. ATK has requested these modifications to accommodate an increase in rocket motor case preparation. As part of this modification, ATK has requested to add three existing SLR booths to the approved equipment list.

**SUMMARY OF EMISSIONS**

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

<b>Criteria Pollutant</b>	<b>Change (TPY)</b>	<b>Total (TPY)</b>
CO <sub>2</sub> Equivalent	0	43094.00
Carbon Monoxide	0	33.80
Nitrogen Oxides	0	52.99
Particulate Matter - PM <sub>10</sub>	0.24	51.67
Particulate Matter - PM <sub>2.5</sub>	0.20	51.60
Sulfur Dioxide	0	0.68
Volatile Organic Compounds	10	43.53

<b>Hazardous Air Pollutant</b>	<b>Change (lbs/yr)</b>	<b>Total (lbs/yr)</b>
2,4-Toluene Diisocyanate (CAS #584849)	1960	1960
Hydrochloric Acid (Hydrogen Chloride) (CAS #7647010)	0	19800
Total HAPs (CAS #THAPS)	-1960	28040
	<b>Change (TPY)</b>	<b>Total (TPY)</b>
Total HAPs	0	24.90

## PUBLIC NOTICE STATEMENT

The NOI for the above-referenced project has been evaluated and has been found to be consistent with the requirements of UAC R307. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an AO by the Director.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notification of the intent to approve will be published in the Salt Lake Tribune and Deseret News on September 18, 2022. During the public comment period the proposal and the evaluation of its impact on air quality will be available for the public to review and provide comment. If anyone so requests a public hearing within 15 days of publication, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated. The proposed conditions of the AO may be changed as a result of the comments received.

## SECTION I: GENERAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO.

I.1	All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
I.2	The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
I.3	Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
I.4	All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]
I.5	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
I.6	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]
I.7	The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]

I.8	The owner/operator shall submit documentation of the status of construction or modification of all equipment marked <b>**NEW**</b> in Condition II.A.6 to the Director within 18 months from the date of this AO. This AO may become invalid if construction is not commenced within 18 months from the date of this AO or if construction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18]
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## SECTION II: PERMITTED EQUIPMENT

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO.

### II.A THE APPROVED EQUIPMENT

II.A.1	<b>Bacchus Works: Plant 1/NIROP/Bacchus West</b> Rocket propulsion plant in West Valley City
II.A.2	<b>Building 4B</b> Ammonium Perchlorate Processing  Control: Pulse jet baghouse and HEPA filtration system Baghouse maximum flow rate: 400 acfm Baghouse pressure drop range during processing: Between 1 and 5.2 inches of H <sub>2</sub> O
II.A.3	<b>Area 32A</b> Burning Grounds
II.A.4	<b>Building 2387</b> HMX Dryer Building  HMX Dryer Control: Condenser Dryer Stack V-1 (emits IPA and water vapor)  IPA vapor ventilation hood Vents inside, listed for informational purposes only
II.A.5	<b>Building 2440</b> 3-D Carbon/Carbon  Process control: Fume incinerator, 1 MMBtu/hr rate Process control: Central vacuum system

II.A.6	<p><b>Building 2471</b> Case Preparation</p> <p>A. Surface preparation activities Control: Pulse jet baghouse (**NEW**) Baghouse maximum flow rate: 1,500 acfm Baghouse pressure drop range: Between 1 and 7 inches of H<sub>2</sub>O</p> <p>B. Two paint spray booths (**NEW**) Control: High efficiency 3-stage fabric filters</p> <p>C. Three spray lance robot booths: SLR-1, SLR-2, SLR-3 (**NEW**) Control: Fabric filters</p> <p>D. One spray lance robot booth: SLR-4 (**NEW**) Control: High efficiency 3-stage fabric filters</p>																						
II.A.7	<p><b>Building 8501</b> Powerhouse Boilers</p> <p>A. Nebraska natural gas-fired boiler - rated at 50,000 lb/hr (66 MMBtu/hr)</p> <p>B. Murray natural gas-fired boiler - rated at 50,000 lb/hr (66 MMBtu/hr)</p>																						
II.A.8	<p><b>Building 8504</b> Boilerhouse</p> <p>42 MMBtu/hr natural gas-fired boiler</p> <p>Building with associated support equipment Control: Low-NO<sub>x</sub> natural gas-fired burner Control: Flue gas recirculation NSPS Applicability: Subpart Dc</p>																						
II.A.9	<p><b>Ten (10) Diesel-Fired Emergency Generators &gt;600 Hp</b></p> <table> <thead> <tr> <th>Building Location</th><th>Maximum Hp rating</th></tr> </thead> <tbody> <tr> <td>35A</td><td>755*</td></tr> <tr> <td>55</td><td>755*</td></tr> <tr> <td>2428, AI/AP Prep</td><td>804</td></tr> <tr> <td>2444, Mix #1</td><td>1340</td></tr> <tr> <td>2449, Cast Cure #1 (south)</td><td>1005</td></tr> <tr> <td>2484, Mix #3</td><td>1474</td></tr> <tr> <td>2489(A), Cast Cure #2 (west)</td><td>1005</td></tr> <tr> <td>2489(B), Cast Cure #2 (east)</td><td>1005</td></tr> <tr> <td>2500, Mix #2A</td><td>1340</td></tr> <tr> <td>8501, Plt.#1 Powerhouse</td><td>755*</td></tr> </tbody> </table> <p>*NSPS Applicability: Subpart IIII MACT Applicability: Subpart ZZZZ (applies to all)</p>	Building Location	Maximum Hp rating	35A	755*	55	755*	2428, AI/AP Prep	804	2444, Mix #1	1340	2449, Cast Cure #1 (south)	1005	2484, Mix #3	1474	2489(A), Cast Cure #2 (west)	1005	2489(B), Cast Cure #2 (east)	1005	2500, Mix #2A	1340	8501, Plt.#1 Powerhouse	755*
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II.A.10	<p><b>Twelve Diesel-Fired Emergency Generators 100-600 Hp</b></p> <table> <thead> <tr> <th>Building Location</th><th>Maximum Hp rating</th></tr> </thead> <tbody> <tr><td>27 A</td><td>335*</td></tr> <tr><td>56, Comp.</td><td>402</td></tr> <tr><td>2430, Al-Premix</td><td>469</td></tr> <tr><td>2450, Control House</td><td>268</td></tr> <tr><td>2466, Mix Bowl Clean #2</td><td>469</td></tr> <tr><td>2498, Mix Bowl Clean #3</td><td>536</td></tr> <tr><td>2507, Subscale ReCast</td><td>469</td></tr> <tr><td>8501, Plt.#1 Powerhouse</td><td>464* (**NEW**)</td></tr> <tr><td>8503, Compressor House</td><td>268</td></tr> <tr><td>8504, Boilerhouse</td><td>168</td></tr> <tr><td>8569, Wastewater</td><td>335</td></tr> <tr><td>8695, Pumphouse #3</td><td>268</td></tr> </tbody> </table> <p>*NSPS Applicability: Subpart IIII MACT Applicability: Subpart ZZZZ (applies to all)</p>	Building Location	Maximum Hp rating	27 A	335*	56, Comp.	402	2430, Al-Premix	469	2450, Control House	268	2466, Mix Bowl Clean #2	469	2498, Mix Bowl Clean #3	536	2507, Subscale ReCast	469	8501, Plt.#1 Powerhouse	464* (**NEW**)	8503, Compressor House	268	8504, Boilerhouse	168	8569, Wastewater	335	8695, Pumphouse #3	268
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II.A.11	<p><b>Two (2) Diesel-Fired Emergency Generators &lt;100 Hp</b></p> <table> <thead> <tr> <th>Building Location</th><th>Maximum Hp rating</th></tr> </thead> <tbody> <tr><td>55, Material</td><td>72</td></tr> <tr><td>8100D, (Admin)PBX</td><td>81</td></tr> </tbody> </table> <p>MACT Applicability: Subpart ZZZZ (applies to all)</p>	Building Location	Maximum Hp rating	55, Material	72	8100D, (Admin)PBX	81																				
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II.A.12	<p><b>One (1) Natural Gas-Fired Emergency Generator</b></p> <table> <thead> <tr> <th>Building Location</th><th>Maximum Hp rating</th></tr> </thead> <tbody> <tr><td>2440, 3D Carbon</td><td>163</td></tr> </tbody> </table> <p>NSPS Applicability: Subpart JJJJ MACT Applicability: Subpart ZZZZ</p>	Building Location	Maximum Hp rating	2440, 3D Carbon	163																						
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II.A.13	<p><b>One (1) Propane-Fired Emergency Generator</b></p> <table> <thead> <tr> <th>Building Location</th><th>Maximum Hp rating</th></tr> </thead> <tbody> <tr><td>8275, Microwave Station</td><td>16</td></tr> </tbody> </table> <p>MACT Applicability: Subpart ZZZZ</p>	Building Location	Maximum Hp rating	8275, Microwave Station	16																						
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II.A.14	<p><b>Miscellaneous Buildings</b> Includes: miscellaneous operations, spray booths, baghouses, ovens, dust collectors, gasoline and diesel tanks, and other processes</p> <p>Gasoline storage tank MACT applicability: Subpart CCCCCC</p>																										

## SECTION II: SPECIAL PROVISIONS

The intent is to issue an air quality AO authorizing the project with the following recommended conditions and that failure to comply with any of the conditions may constitute a violation of the AO.

### **II.B      REQUIREMENTS AND LIMITATIONS**

<b>II.B.1</b>	<b>Plantwide Limitations and Requirements</b>
II.B.1.a	<p>The owner/operator shall not allow visible emissions from the following emission points to exceed the following values:</p> <p>A.      Diesel-fired emergency generators - 20% opacity</p> <p>B.      All other point or fugitive emissions sources, excluding the burning grounds - 10% opacity</p> <p>[R307-401-8]</p>
II.B.1.a.1	Opacity observations of emissions from stationary sources, except haul roads, shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-401-8]
II.B.1.a.2	Visible emission determinations for fugitive dust from haul roads shall use procedures similar to Method 9. The normal requirement for observations to be made at 15-second intervals over a six-minute period, however, shall not apply. Visible emissions shall be measured at the densest point of the plume but at a point not less than one-half vehicle length behind the vehicle and not less than one-half the height of the vehicle. [R307-401-8]
II.B.1.b	The owner/operator shall pave all plant roads and parking lots that are frequently used. Frequent use means any plant road or parking lot that is used on at least a weekly basis. [R307-401-8]
II.B.1.c	The owner/operator shall clean all paved plant roads and parking lots with a street vacuum equipped with a baghouse or with water flooding as necessary to minimize fugitive dust. [R307-401-8]
II.B.1.d	The owner/operator shall equip each paint spray booth with paint arrestor particulate filters, or equivalent, to control particulate emissions. All air exiting the booths shall pass through this control system before being vented to the atmosphere. [R307-401-8]
II.B.1.e	Except when in use, the owner/operator shall store all VOC- and/or HAPs-containing materials and VOC- and/or HAPs-laden rags in covered containers. [R307-401-8]
<b>II.B.2</b>	<b>HAP Requirements</b>
II.B.2.a	<p>The owner/operator shall not emit more than the following for plant-wide emissions of HAPs:</p> <p>A.      24.90 tons per rolling 12-month period for all HAPs combined</p> <p>B.      9.90 tons per rolling 12-month period for each individual HAP</p> <p>C.      0.98 tons per rolling 12-month period for 2,4 toluene diisocyanate</p> <p>[R307-401-8]</p>
II.B.2.a.1	To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the 20th day of each month using data from the previous 12 months. HAP emissions shall be determined by maintaining a record of HAP-emitting materials used, burned, or destroyed each month. [R307-401-8]

II.B.2.a.2	<p>The record of HAP-emitting materials shall include the following data for each material used:</p> <ul style="list-style-type: none"> <li>A. Name of the HAPs- emitting material used, such as: rocket propellant, paint, adhesive, solvent, thinner, reducers, chemical compounds, toxics, isocyanates, etc.</li> <li>B. Density of each HAP- emitting material used (lbs/gal)</li> <li>C. Maximum percent by weight of all HAP in each material used</li> <li>D. Gallons of each HAP- emitting material used</li> <li>E. The amount of HAP emitted monthly. The amount of HAP emitted monthly by each material used shall be calculated by the following procedure: <math display="block">\text{HAP} = (\% \text{ HAP by Weight})/100 \times [\text{Density (lb/gal)}] \times (\text{Gal Consumed}) \times (1 \text{ ton}/2,000 \text{ lb})</math> </li> <li>F. The total amount of HAP emitted monthly from all materials used</li> <li>G. The amount of HAPs reclaimed for the month shall be similarly quantified and subtracted from the quantities calculated above to provide the monthly total HAP emissions</li> </ul> <p>[R307-401-8]</p>
II.B.2.a.3	<p>The record of HAP- emitting materials shall include the following data for each material burned or destroyed:</p> <ul style="list-style-type: none"> <li>A. Name of the HAPs- emitting material burned or destroyed, such as: 1.1 rocket propellant or 1.3 rocket propellant</li> <li>B. The weight of all HAP- emitting material burned or destroyed</li> <li>C. The amount of HAP emitted monthly. The amount of HAP emitted monthly by each material burned or destroyed shall be calculated by the following procedure using the following emission factors (EF): <math display="block">\text{HAP} = (\text{EF}) \times [\text{Amount Burned or Destroyed (lbs)}] \times (1 \text{ ton}/2,000 \text{ lb})</math> <ul style="list-style-type: none"> <li>1) 1.1 propellant EFs <math display="block">\text{HCl use EF} = 0.014</math> <math display="block">\text{Cl}_2 \text{ use EF} = 3.1 \times 10^{-5}</math> </li> <li>2) 1.3 propellant EFs <math display="block">\text{HCl use EF} = 0.0032</math> <math display="block">\text{Cl}_2 \text{ use EF} = 0.0 \text{ (non-detected)}</math> </li> </ul> </li> <li>D. The total amount of HAP emitted monthly from all materials burned or destroyed</li> <li>E. The amount of HAPs reclaimed for the month shall be similarly quantified and subtracted from the quantities calculated above to provide the monthly total HAP emissions.</li> </ul> <p>[R307-401-8]</p>

II.B.2.a.4	Total plant-wide HAP emissions shall be determined by summing the total amount of HAP emitted monthly from all HAP-emitting material used with the total amount of HAP emitted monthly from all HAP-emitting material burned or destroyed. [R307-401-8]
II.B.3	<b>Fuel Requirements</b>
II.B.3.a	The owner/operator shall use only natural gas as the primary fuel in all fuel-burning furnaces, ovens, boilers, and fume incinerators, and only use fuel oil as a backup fuel in all fuel-burning boilers. [R307-401-8]
II.B.3.b	The owner/operator shall not exceed a total natural gas consumption limit of 733,000 MMBtu per rolling 12-month period for all natural gas-fired equipment on site. [R307-401-8]
II.B.3.b.1	To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the 20th day of each month using data from the previous 12 months. Natural gas consumption shall be determined by gas billing records. [R307-401-8]
II.B.3.c	The owner/operator shall limit fuel oil usage in all fuel-burning boilers to 48 hours each per rolling 12-month period for periodic testing, maintenance, or operator training. There is no time limit on the use of fuel oil in the fuel-burning boilers during periods of natural gas curtailment, gas supply interruption, or startups. [R307-401-8]
II.B.3.c.1	<p>To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the 20th day of each month using data from the previous 12 months. Records documenting fuel oil usage in each fuel-burning boiler shall be kept in a log and shall include the following:</p> <ul style="list-style-type: none"> <li>A. The date fuel oil was used</li> <li>B. The duration of operation in hours</li> <li>C. The reason for fuel oil usage</li> </ul> <p>[R307-401-8]</p>
II.B.3.d	The sulfur content of any fuel oil burned in all fuel-burning boilers on site shall not exceed 0.50% by weight. [R307-401-8]
II.B.3.d.1	The sulfur content shall be determined by the American Standard for Testing and Materials (ASTM) Method D2880-71, D-4294-89, or approved equivalent. Certification of fuel oil shall be either by the owner/operator's own testing or by test reports from the fuel oil marketer. [R307-401-8]
II.B.4	<b>Emergency Engine Requirements</b>
II.B.4.a	The owner/operator shall not operate each emergency engine on site for more than 100 hours per year during non-emergency situations. There is no time limit on the use of the engines during emergencies. [40 CFR 63 Subpart ZZZZ, R307-401-8]

II.B.4.a.1	<p>To determine compliance with a yearly total, the owner/operator shall update records documenting generator usage by January 30th for the preceding year. Records documenting the operation of each emergency engine shall be kept in a log and shall include the following:</p> <ul style="list-style-type: none"> <li>A. The date the emergency engine was used</li> <li>B. The duration of operation in hours</li> <li>C. The reason for the emergency engine usage.</li> </ul> <p>[40 CFR 63 Subpart ZZZZ, R307-401-8]</p>
II.B.4.a.2	To determine the duration of operation, the owner/operator shall install a non-resettable hour meter for each emergency engine. [40 CFR 63 Subpart ZZZZ, R307-401-8]
II.B.4.b	The owner/operator shall only use diesel fuel (e.g. fuel oil #1, #2, or diesel fuel oil additives) as fuel in each stationary diesel emergency engine. [R307-401-8]
II.B.4.b.1	The owner/operator shall only combust diesel fuel that meets the definition of ultra-low sulfur diesel (ULSD), which has a sulfur content of 15 ppm or less. [R307-401-8]
II.B.4.b.2	To demonstrate compliance with the ULSD fuel requirement, the owner/operator shall maintain records of diesel fuel purchase invoices or obtain certification of sulfur content from the diesel fuel supplier. The diesel fuel purchase invoices shall indicate that the diesel fuel meets the ULSD requirements. [R307-401-8]
II.B.5	<b>Area 32A - Burning Ground Requirements</b>
II.B.5.a	The owner/operator shall use the open burning site to destroy only scrap explosive and hazardous material. The size of the open burning site shall not exceed five acres. [R307-401-8]
II.B.5.b	The owner/operator shall not exceed a daily limit of 4,500 lbs of waste propellant and contaminated waste burned or destroyed per day. [R307-401-8]
II.B.5.b.1	To determine compliance with the daily limit, the owner/operator shall maintain a record of the quantity of waste burned or destroyed on a daily basis. [R307-401-8]
II.B.5.c	When a Salt Lake County "No Burn" order is in effect for wood-burning stoves, open burning of waste propellant and contaminated wastes shall not be performed, except as specified in Condition II.B.5.d. [R307-401-8]
II.B.5.c.1	The owner/operator shall maintain, with the record of waste burned or destroyed on a daily basis, a record of whether or not a Salt Lake County "No Burn" order was in effect for that day. [R307-401-8]
II.B.5.d	When a Salt Lake County "No Burn" order is in effect, the owner/operator is allowed to perform open burning of the most unstable wastes, including nitroglycerin wastes, laboratory-generated wastes, and unburned reactive wastes from a previous burn attempt. The open burning of unstable wastes during a Salt Lake County "No Burn" order shall not exceed 400 lbs per day. [R307-401-8]
II.B.5.d.1	The owner/operator shall maintain a record of the quantity of unstable waste burned or destroyed during a Salt Lake County "No Burn" order. The record shall include the type of waste burned or destroyed. [R307-401-8]
II.B.5.e	The owner/operator is allowed to destroy the backlog of wastes not burned during the Salt Lake County "No Burn" order up to a total of 6,000 lbs per day on the days following the burning restrictions. [R307-401-8]

II.B.5.e.1	The owner/operator shall maintain a record of the quantity of backlogged waste burned or destroyed on the days following a Salt Lake County "No Burn" order. The record shall include the date and reason for open burning. [R307-401-8]
II.B.5.f	<p>The owner/operator shall not burn wastes exceeding 5% chlorine content unless the following conditions are all met:</p> <p>A. Surface wind direction at Building 32A is less than or equal to 112 degrees or more than or equal to 270 degrees</p> <p>B. Elevated wind direction has been verified by a helium balloon</p> <p>C. Wind speed does not exceed 15 miles/hr</p> <p>[R307-401-8]</p>
II.B.5.f.1	The owner/operator shall verify and record the wind speed and direction measurements prior to the burn. The owner/operator shall not verify and record the measurements more than ten minutes before the burn. [R307-401-8]
II.B.6	<b>Building 2387 (CD3A) - HMX Dryer Building Requirements</b>
II.B.6.a	The owner/operator shall control emissions from the HMX dryer with the condenser. Emissions from the HMX dryer shall be routed to the operating condenser before being discharged to the atmosphere. [R307-401-8]
II.B.6.b	The owner/operator shall not exceed 450 drying cycles of HMX per rolling 12-month period. [R307-401-8]
II.B.6.b.1	To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the 20th day of each month using data from the previous 12 months. Drying cycles of HMX shall be determined by an operations log. [R307-401-8]
II.B.7	<b>Building 2440 - 3D Carbon Building Requirements</b>
II.B.7.a	The fume incinerator shall control carbon vapor deposition (CVD) emissions from the 3D carbon process. All CVD emissions shall be routed to the operating fume incinerator before being discharged to the atmosphere. [R307-401-8]
II.B.7.b	At all times while incinerating CVD emissions, the owner/operator shall maintain a temperature at or above 1,500 degrees Fahrenheit in the fume incinerator. [R307-401-8]
II.B.7.b.1	The owner/operator shall install, calibrate, maintain, and operate a device to monitor the operating temperature of the fume incinerator. The monitoring device shall be located such that an inspector/operator can safely read the output at any time. The operating temperature of the fume incinerator shall be recorded on a daily basis when the incinerator operates. [R307-401-8]
II.B.7.c	The owner/operator shall operate the fume incinerator at a minimum residence time of 0.5 seconds. [R307-401-8]
II.B.7.c.1	The owner/operator shall maintain the manufacturer's specifications or analysis documenting an incinerator design residence time of no less than 0.5 seconds at maximum flow rate. This documentation shall be kept on site and be readily available for inspection upon request. [R307-401-8]
II.B.7.d	The owner/operator shall equip each weaving machine's ventilation exhaust with particulate filters to control particulate emissions. All exhaust exiting the weaving machines shall pass through this control system before being vented to the atmosphere. [R307-401-8]

II.B.7.e	The owner/operator shall equip the central vacuum system with particulate filters to control particulate emissions. All air exiting the central vacuum system shall pass through this control system before being vented to the atmosphere. [R307-401-8]
II.B.8	<b>Building 2471 - Case Preparation Building Requirements</b>
II.B.8.a	The owner/operator shall not exceed 16.0 tons of VOC emissions per rolling 12-month period for all operations in Building 2471. [R307-401-8]
II.B.8.a.1	<p>To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the 20th day of each month using data from the previous 12 months. VOC emissions shall be determined by maintaining a record of VOC-emitting materials used each month. The record shall include the following data for each material used:</p> <ul style="list-style-type: none"> <li>A. Name of the VOC- emitting material, such as: paint, adhesive, solvent, thinner, reducers, chemical compounds, toxics, isocyanates, etc.</li> <li>B. Density of each VOC- emitting material used (lbs per gallon)</li> <li>C. Maximum percent by weight of all VOC in each material used</li> <li>D. Gallons of each VOC- emitting material used</li> <li>E. The emission release factor (ERF) associated with each type of VOC- emitting material</li> <li>F. The amount of VOC emitted monthly from each material used. The amount of VOC emitted monthly by each material used shall be calculated by the following procedure:   <math display="block">\text{VOC} = (\% \text{ VOC by Weight}) / 100 \times [\text{Density (lb/gal)}] \times (\text{Gal Consumed}) \times (1 \text{ ton} / 2,000 \text{ lb}) \times \text{ERF}</math> </li> <li>G. The total amount of VOC emitted monthly from all materials used</li> <li>H. The amount of VOCs reclaimed for the month shall be similarly quantified and subtracted from the quantities calculated above to provide the monthly total VOC emissions</li> </ul> <p>[R307-401-8]</p>
II.B.8.b	The owner/operator shall control surface preparation activities in the case preparation building with a baghouse. [R307-401-8]
II.B.8.c	The owner/operator shall install a manometer or magnehelic pressure gauge to measure the differential pressure across the baghouse. The baghouse shall operate within the static pressure range recommended by the manufacturer for normal operations. [R307-401-8]

II.B.8.c.1	Pressure drop readings shall be recorded at least once during each week of operation while the baghouse is operating. Records documenting the pressure drop shall be kept in a log and shall include the following:  A. Unit identification;  B. Manufacturer-recommended pressure drop for the unit;  C. Weekly pressure drop readings;  D. Date of reading.  [R307-401-8]
II.B.8.c.2	Each pressure gauge shall be located such that an inspector/operator can safely read the indicator at any time. [R307-401-8]
II.B.8.c.3	The instrument shall be calibrated in accordance with the manufacturer's instructions or recommendations or replaced at least once every 12 months. Documentation of calibrations and replacements shall be maintained. [R307-401-8]
II.B.8.d	The owner/operator shall vent all air exiting the Building 2471 spray lance robot booth SLR-1 with a stack release height of no less than 39' 3" as measured from the base of the stack. [R307-410]
II.B.9	<b>Building 4B - Ammonium Perchlorate Processing Building</b>
II.B.9.a	The owner/operator shall control emissions from the ammonium perchlorate process with a baghouse and HEPA filtration system in series. Emissions from the ammonium perchlorate process shall be routed to the operating baghouse and HEPA filtration system before being discharged to the atmosphere. [R307-401-8]
II.B.9.a.1	The owner/operator shall install and maintain a high-pressure differential interlock in the HEPA filtration system to shut down the ammonium perchlorate process when the pressure differential goes above the maximum operating set point of 5.2 inches of water column for more than 60 seconds. The ammonium perchlorate process shall not operate without the operating HEPA filtration system interlock. [R307-401-8]
II.B.9.a.2	The owner/operator shall record the pressure drop readings from the differential pressure transmitters on a daily basis. [R307-401-8]

## PERMIT HISTORY

This Approval Order shall supersede (if a modification) or will be based on the following documents:

Supersedes  
Is Derived From  
Incorporates  
Incorporates  
Incorporates

AO DAQE-AN104020057-22 dated August 24, 2022  
Notice of Intent dated September 21, 2021  
Additional Information dated October 14, 2021  
Additional Information dated June 9, 2022  
DAQE-MN104020059-22 dated June 15, 2022

## ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by Environmental Protection Agency to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent - Title 40 of the Code of Federal Regulations Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal Division of Air Quality use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - Title 40 of the Code of Federal Regulations 52.21 (b)(49)(i)
GWP	Global Warming Potential - Title 40 of the Code of Federal Regulations Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/YR	Pounds per year
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO <sub>x</sub>	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM <sub>10</sub>	Particulate matter less than 10 microns in size
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO <sub>2</sub>	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds