

**AIR EMISSION PERMIT NO. 00300020- 001
IS ISSUED TO**

United Defense LP/US Navy

UNITED DEFENSE LP ARMAMENT SYSTEMS DIVISION

4800 East River Road
Fridley, Anoka County, Minnesota 55421

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type	Application Date
Total Facility Title V Operating Permit	June 15, 1995
Total Facility State Operating Permit	September 18, 2001

This permit authorizes the Permittees to operate and construct the stationary source at the address listed above unless otherwise noted in Table A. The Permittees must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: State; Syn Min Part 70

Issue Date: November 25, 2002

Expiration: Permit does not expire
All Title I Conditions do not expire.

“Title I Condition: SIP for SO₂ NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP)” or Title I Condition: MN State Implementation Plan (SIP); 40 CFR § 50.5” are required to go through the federal State Implementation Plan approval process before the change become effective.

Ann M. Foss
Major Facilities Section Manager
Majors and Remediation Division

for Karen A. Studders
Commissioner
Minnesota Pollution Control Agency

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NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(651) 296-6300
Outside Metro Area	1-800-657-3864
TTY	(651) 282-5332

The rules governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition.

Subject to the limitations of Minn. R. 7007.1800 and 7007.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

FACILITY DESCRIPTION:

The Naval Industrial Reserve Ordnance Plant (NIROP) is operated by United Defense, L.P. The NIROP is owned by the U.S. Navy under the cognizance of the Naval Seas System Command, Washington, D.C. The operating contractor is Armament Systems Division (ASD) of United Defense, L.P. ASD is responsible for the day to day operation of the total plant. Thus this permit application is being made by Armament Systems Division, United Defense, L.P. as operator/part owner and the U.S. Navy as part owner.

The facility covered by this permit application is a manufacturing plant divided into two distinct areas on the basis of ownership. The larger area to the north consists is owned by the U.S. Navy and covers approximately 82 acres and is occupied by buildings containing approximately 1,567,000 square feet of space. These bulidings and property (hereafter referred to as Naval Industrial Reserve Ordnance Plant) are contiguous and adjacent to buildings and property just to the south owned by United Defense, L.P. The United Defense owned buildings and property total 326,000 square feet and approximately 59 acres respectively. The two areas described above are collectively considered the total plant.

The facility designs, engineers, manufactures and tests components for advanced military weapon systems. The facility consists of boilers, diesel standby electric generators, painting and blasting booths.

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: Total Facility

What to do	Why to do it
STATE IMPLEMENTATION PLAN (SIP) REQUIREMENTS	hdr
Sulfur Content of Fuel: less than 0.05 percent by weight of No. 2 Fuel Oil and Diesel Fuel Oil	Title I Condition: SIP for SO2 NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP) for SO2
General Conditions for the SIP: The Administrative Order general conditions are still federally enforceable until US EPA REMOVES THE REQUIREMENTS FROM THE SIP	Title I Condition: SIP for SO2 NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP) for SO2
General Operating and Maintenance Requirements for the SIP: The owner or operator shall operate and maintain the process equipment described in Appendix B according to the parameters set forth in Appendix B. The parameters were used in the computer modeling performed to demonstrate that the SO2 maintenance will attain compliance with the SO2 NAAQS.	Title I Condition: SIP for SO2 NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP) for SO2
Retain all records at the stationary source for a period of five (5) years from the date of the required monitoring, sample, measurement, or report that corresponds with the MN State Implementation Plan Title I Condition.	Title I Condition: Recordkeeping for MN State Implementation Plan (SIP) for SO2
FLEXCAP REQUIREMENTS	hdr
This permit establishes limits on the facility to keep it a minor source under 40 Section 70.2 and 40 CFR Section 63.2. The Permittee cannot make any change at the source that would make the source a major source under New Source Review and NESHAPS until a major permit amendment has been issued. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments.	Title I Condition: Limit to avoid classification as a major source and modification under 40 CFR Section 52.21; and to avoid major source classification under 40 CFR Section 70.2 and 40 CFR Section 63.2
Volatile Organic Compounds: less than or equal to 90 tons/year using 12-month Rolling Sum to be calculated by the 28th day of each month for the previous 12-month period. All emission units, except those deemed to be insignificant activities under Minn. R. 7007.1300 and fuel combustion sources shall be included in this calculation. VOC contents for each VOC-containing material shall be determined as described under the Material Content Requirement.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21; 40 CFR Section 70.2; to avoid major source classification under 40 CFR Section 63.2
Nitrogen Oxides: less than or equal to 90 tons/year using 12-month Rolling Sum to be calculated by the 28th day of each month for the previous 12-month period. All emission units, except those deemed to be insignificant activities under Minn. R. 7007.1300, and those added to the facility as allowed in this permit shall be included in this calculation.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 70.2
Particulate Matter < 10 micron: less than or equal to 90 tons/year using 12-month Rolling Sum to be calculated by the 28th day of each month for the previous 12-month period as described in the permit. All particulate matter be conservatively assumed to be particulate matter less than 10 microns.	Title I Condition: Limit to avoid classification as a major source under 40 CFR 52.2; 40 CFR Section 70.2
HAP-Single: less than or equal to 9.0 tons/year using 12-month Rolling Sum to be calculated by the 28th day of each month for the previous 12-month period, not including fuel combustion HAP and emissions from Insignificant Activities listed in Minn. R. 7007.1300. HAP contents for each HAP-containing material shall be determined as described under the Material Content Requirement. The calculation of HAP usage may take into account recovered/recycled HAPs as described under the Waste Credit requirement in this permit.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 63.2; and Minn. R. 70.2
HAPs - Total: less than or equal to 24.0 tons/year using 12-month Rolling Sum to be calculated by the 28th day of each month for the previous 12-month period, not including fuel combustion HAP and emissions from Insignificant Activities listed in Minn. R. 7007.1300. HAP contents for each HAP-containing material shall be determined as described under the Material Content Requirement. The calculation of HAP usage may take into account recovered/recycled HAPs as described under the Waste Credit requirement in this permit.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 63.2; and Minn. R. 70.2
Emission Unit Labeling: The Permittee shall permanently affix a unique number to each emission unit for tracking purposes. The number shall correlate the unit to the appropriate EU or GP number used in the permit. The number can be affixed by placard, stencil, or other means. The number shall be maintained so that is readable and visible at all times from a safe distance.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Equipment Inventory List: The Permittee shall maintain a written list of each significant emission unit on site. The list shall include the type of equipment, manufacturer and model number (If available), unique ID number (assigned and affixed as required by this permit), the corresponding control equipment number used to control the unit (if applicable), and the dates of initial startup, modification, and commence construction. The Permittee shall update the list to include any replaced, modified, or added equipment prior to making the pre-authorized change. For equipment that is replaced, modified, or added, the Permittee shall complete an evaluation as detailed below and shall include a record of the evaluation as part of the equipment list.	Minn. R. 7007.0800, subp. 2
Equipment Inventory List continued: Prior to making the change, the Permittee shall determine and keep a record of the following: 1) Evaluate whether the permit contains all applicable requirements that would apply to the planned change and 2) Re-evaluate whether the facility will continue to comply with all permit limits (e.g. 90 tpy VOC limit, 9/24 HAP limits etc.) If the answer to either is "no", the Permittee shall apply for and obtain the appropriate permit amendment as required by Minn. R. ch 7007. These rule requirements may require that the permit amendment be issued prior to making the proposed change.	Minn. R. 7007.0800, subp. 2
Pre-authorized Changes: The Permittee may replace or move emission units, or add new emission units similar but not limited to the following: spray guns, spraying and coating booths, powder paint booths, abrasive blast booths, control equipment, welding booths, dip tanks, space heating units, ovens, boilers, emergency generators, make-up air units as well as coating, reagents and other solvent or material changes provided PM/PM10, NOx, VOC and HAP emissions are tracked and calculated as required by this permit. All changes must meet the requirements as listed in this section. If a proposed change triggers an applicable requirement that is not contained in this permit, the change must go through the appropriate procedure in Minn. R. ch. 7007.	Title I Condition: Limit to avoid classification as a major source and modification under 40 CFR 52.21; and to avoid major source classification under 40 CFR 63.2
OPERATIONAL REQUIREMENTS	hdr
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: Annually or per manufacturer's recommendations calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING	hdr
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
REPORTING/SUBMITTALS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Inventory Report: due 91 days after end of each calendar year following permit issuance (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

<p>Monthly Recordkeeping: By the 28th day of the month, the Permittee shall calculate and record the following using the formulas specified in this permit:</p> <p>1) The VOC, NOx, PM/PM10, total and individual HAP emissions for the previous month using the formulas specified in this permit. This record shall also include the VOC and solids contents; total and HAP contents of each material as determined by the Material Content requirement in this permit;</p> <p>2) The 12 month rolling sum VOC, NOx, PM/PM10, total and individual HAP emissions for the previous 12 month period by summing the monthly emissions data for the previous 12 months.</p>	Minn. R. 7007.0800, subps. 4 and 5
<p>Monthly Calculation - VOC emissions The Permittee shall calculate and record the total VOC emissions using the following equation below: VOC total = VOC coating</p> <p>VOCcoating = VOC Emisisions from coatings, paints and solvents VOC coating = $[(\text{Summation (AiVi)}) + (\text{Summation (BjZ)})] \times [(100 - \% \text{control}) / 100] \times 0.0005 - \text{CY}$ where: i =denotes each separate material used for painting or coating j =denotes each separate material used for cleanup Ai =amount of VOC containing materials used for painting/coating as purchased per used, gal/month Vi =VOC in Ai as applied, lb/gal Bj =amount of VOC containing materials used for cleaning as purchased per used, gal/month Zj =VOC in Bj as applied, lb/gal %control =control efficiency VOC control equipment CONTINUED 0.0005 =conversion factor, ton/lb C =amount of each VOC containing material shipped off-site as hazardous waste, tons/month Y =weight percent of VOC, as a fraction</p>	Minn. R. 7007.0800, subps. 4 and 5
<p>Monthly Calculation- NOx emissions. The Permittee shall maintain records and calculate Nitrogen Oxide emissions using the following equation:</p> <p>NOx total = NOx natgas + NOx No. 2 fuel oil</p> <p>NOx total = $[(\text{EFnat gas} \times \text{Q nat gas}) + (\text{EF fuel oil} \times \text{Q fuel oil})] \times 0.0005$ where EFnat gas = NOx emission factor, lb/cf from EPA's AP 42 Section 1.4 on natural gas combustion or most recent factors publised by EPA. Q nat gas = amount of natural gas used, (cf/month) EF fuel oil = Most recent EPA's AP-42 emission factors Q fuel oil = amount of No. 2. fuel oil used, (gal/month) 0.0005 = conversion factor, ton/lb</p>	Minn. R. 7007.0800, subps. 4 and 5
<p>Monthly Calculation-- PM/PM10 Emissions By the 28th day of the month, the Permittee shall calculate and record the following: PM/PM10 Emissions = PM/PM10 coating + PM/PM10 Blasting Total PM/PM10 Emission using the following equation:</p> <p>Total PM/PM10 = $[\text{CE}(1 - \text{TE})(\text{Summation (AiVi)})][(100 - \% \text{control})] \times 0.0005 + \text{C}$ (0.0005) where CE = 100% or 1 TE = minumum transfer efficiency of 75% or greater i =denotes each seperate material used for painting or coating Ai = amount of solid containing materials used for painting/coating as purchased, gal/month Vi = solid in Ai, as applied, lb/gal %control = 92% control efficiency Ci = PM/PM10 emissions from Blasting (lb/month) 0.0005 =conversion factor, ton/lb</p>	Minn. R. 7007.0800, subps. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Monthly Calculation-PM/PM10, NOx and VOC Emissions: For the first 12 months of operation, the Permittee shall use the following: This limit applies separately for each pollutant.	Minn. R. 7007.0800, subps. 4 and 5																																							
<table><tr><td>Month</td><td>Cumulative PM/PM10, NOx and VOC Limit</td></tr><tr><td>1</td><td>20.0</td></tr><tr><td>2</td><td>26.5</td></tr><tr><td>3</td><td>33.0</td></tr><tr><td>4</td><td>39.5</td></tr><tr><td>5</td><td>46.0</td></tr><tr><td>6</td><td>52.5</td></tr><tr><td>7</td><td>59.0</td></tr><tr><td>8</td><td>65.5</td></tr><tr><td>9</td><td>72.0</td></tr><tr><td>10</td><td>78.5</td></tr><tr><td>11</td><td>84.0</td></tr><tr><td>12</td><td>90.0</td></tr></table>	Month	Cumulative PM/PM10, NOx and VOC Limit	1	20.0	2	26.5	3	33.0	4	39.5	5	46.0	6	52.5	7	59.0	8	65.5	9	72.0	10	78.5	11	84.0	12	90.0														
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11	84.0																																							
12	90.0																																							
Monthly Calculation ---HAP Emissions. The Permittee shall calculate each significant individual HAP and total HAP emissions using the following equations: HAP Emissions (tons/month) = H-W H = (A1xB1)+(A2XB2)+(A3xB3) +.... W = ((C1xD1)+(C2xD2)+(C3xD3) +.... where H= the amount of each pollutant (either total HAP or each individual HAP), purchased, tons/month A# =Amount of each HAP containing material purchased , tons/month B# =weight percent of each individual of total in A#, as a fraction W=amount of each pollutant (either total or individual HAP) shipped in waste, tons/month C# =amount, tons/month, of each HAP containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero. D# = weight percent of total or individual HAP in C#, as a fraction	Minn. R. 7007.0800, subps. 4, 5, and 14																																							
Monthly Calculation- Individual HAP and Total HAP Emissions: For the first 12 months of operation, the Permittee shall use the following: <table><tr><td>Month</td><td colspan="2">Cumulative Individual and Total HAP Emissions</td></tr><tr><td>1</td><td>2.25</td><td>5.00</td></tr><tr><td>2</td><td>3.00</td><td>7.00</td></tr><tr><td>3</td><td>3.50</td><td>9.00</td></tr><tr><td>4</td><td>4.00</td><td>11.00</td></tr><tr><td>5</td><td>4.50</td><td>13.00</td></tr><tr><td>6</td><td>5.00</td><td>15.00</td></tr><tr><td>7</td><td>5.50</td><td>17.00</td></tr><tr><td>8</td><td>6.00</td><td>19.00</td></tr><tr><td>9</td><td>6.50</td><td>20.00</td></tr><tr><td>10</td><td>7.25</td><td>22.00</td></tr><tr><td>11</td><td>8.25</td><td>23.00</td></tr><tr><td>12</td><td>9.00</td><td>24.00</td></tr></table>	Month	Cumulative Individual and Total HAP Emissions		1	2.25	5.00	2	3.00	7.00	3	3.50	9.00	4	4.00	11.00	5	4.50	13.00	6	5.00	15.00	7	5.50	17.00	8	6.00	19.00	9	6.50	20.00	10	7.25	22.00	11	8.25	23.00	12	9.00	24.00	Minn. R. 7007.0800, subps. 4 and 5
Month	Cumulative Individual and Total HAP Emissions																																							
1	2.25	5.00																																						
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10	7.25	22.00																																						
11	8.25	23.00																																						
12	9.00	24.00																																						
Material Content: VOC, HAPs, and Solids (PM and PM<10 microns) contents in coating materials shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. When using the MSDS as the basis of calculating particulate emissions, the conservative assumption is made that PM consists entirely of PM less than 10 microns. Other alternative methods approved by the MPCA may be used to determine the VOC, HAPs, and solids contents. The Commissioner reserves the right to require the Permittee to determine the VOC, HAP, and solids contents of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.	Minn. R. 7007.0800, subps. 4 and 5																																							
Alternative Material Content Method: The Permittee may use product-specific information provided by the supplier of any material used (e.g. a certified product data sheet or certificate of analysis) for solids, VOC and HAP compliance calculations in lieu of an MSDS. If the certification is not available, the Permittee shall use the MSDS.	Minn. R. 7007.0800, subps. 4 and 5																																							

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

<p>Waste Credit: If the Permittee elects to obtain credit for HAPs, solids, and/or VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC, solids, and/or total and individual HAP content for each credited shipment.</p> <p>1) The Permittee shall analyze a composite sample of each wastestream, a minimum of once every two years or whenever there is a material change affecting the composition of the wastestream, to determine the weight content of VOC, solids, total HAP, and each individual HAP, excluding water.</p> <p>2) The Permittee may use supplier data for raw materials to determine the VOC, solids, and total and individual HAP contents of each waste stream, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC, solids, and total and individual HAP content of any of the materials.</p>	Minn. R. 7007.0800, subps. 4 and 5
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TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Subject Item: GP 001 Coating and Painting Booths

Associated Items: EU 008 24th Ave Paint Booth, 38637
EU 014 12th Ave Paint Booth, 38539
EU 021 Propulsor Abrasive Blast Booth
EU 022 Propulsor Paint Booth System
SV 032 JBI Spray Booth (24th Ave.)
SV 033 JBI Spray Booth (12th Ave)
SV 043 JBI Spray Booth (12th. Ave)
SV 044 JBI Spray Booth (24th. Ave)
SV 050 Propulsor Abrasive Blast Booth
SV 051 Propulsor Paint Booth System

What to do	Why to do it
Total Particulate Matter: less than 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. This limit applies separately to each emission unit listed in GP 001.	Minn. R. 7011.0715, subp. 1(A); Minn. R. 7011.0730; Minn. R. 7011.0735
Opacity: less than 20 percent opacity . This limit applies separately to each unit listed in GP 001.	Minn. R. 7011.0715, subp. 1(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Subject Item: GP 002 Boilers subject to NSPS**Associated Items:** EU 001 Boiler 1

EU 002 Boiler 2

EU 003 Boiler 3 (81098)

SV 026 Boiler 2 and 3

SV 027 Boiler 1

What to do	Why to do it
A. POLLUTANT LIMITS	hdr
Opacity: less than 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies separately to each unit listed in GP 002. The opacity standard do not apply during periods of startup, shutdown or malfunction.	Minn. R. 7011.0570; Minn. R. 7011.0515, subp. 2
B. OTHER LIMITS AND REQUIREMENTS	hdr
Sulfur Content of Fuel: less than 0.05 percent by weight of No. 2 fuel oil. [This limit is more stringent than the NSPS limit.]	Title I Condition: SIP for SO ₂ NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP)
Sulfur Content: By definition, distillate oil contains a maximum of 0.5% (by weight) sulfur	40 CFR Section 60.42c(d); Minn. R. 7011.0570, and ASTM definition
No. 2 Fuel Oil Certification: The owner or operator shall obtain and maintain written documentation of each shipment of No. 2 fuel oil received for the boilers. The written documentation shall include the following information: the sulfur content of the fuel and the method used to determine the sulfur content.	Title I Condition: SIP for SO ₂ NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP)
Fuel Restriction: Authorized to burn natural gas and No. 2 fuel oil only.	Title I Condition: SIP for SO ₂ NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP)
Recordkeeping: Record and maintain the type and amount of each fuel combusted in GP 002 on a monthly basis on the 28th day after the completion of the month. The record shall be in form of fuel bills or meter reading, for example.	40 CFR Section 60.13(i) and February 20, 1992 EPA memorandum to meet the requirements of 40 CFR Section 60.48c(g); Minn. R. 701.0510

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Subject Item: GP 003 Standby Generators

Associated Items: EU 016 Standby Generator - Sub 3 (w)
 EU 017 Standby Generator -Sub 3 (e)
 EU 018 Standby Generator - Sub 1
 EU 019 Standby Generator-Boiler
 EU 020 Standby Generator - Bdg 37
 SV 045 Cummins Stdby Generator-Sub 3 (w)
 SV 046 Cummins Stdby Generator-Sub 3(e)
 SV 047 Caterpillar Stdby Generator-Sub 1
 SV 048 Caterpillar Stdby Generator-Boiler Rm
 SV 049 Caterpillar Stdby Generator-Boiler Bdg 37

What to do	Why to do it
A. POLLUTANT LIMITS	hdr
Sulfur Dioxide: less than 0.5 lbs/million Btu heat input using 3-hour Rolling Average . This limit applies separately to each emission unit listed in GP 002.	Minn. R. 7011.2300, subp. 2
Opacity: less than 20 percent opacity once operating temperatures have been attained (Visible air contaminants). This limit applies separately to each unit listed in GP 002.	Minn. R. 7011.2300, subp. 1
B. OTHER LIMITS AND REQUIREMENTS	hdr
Sulfur Content of Fuel: less than 0.05 percent by weight of diesel fuel.	Title I Condition: SIP for SO2 NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP)
Diesel Fuel Oil Certification: The owner or operator shall obtain and maintain written documentation of each shipment of diesel fuel oil received for the boilers. The written documentation shall include the following information: the sulfur content of the fuel and the method used to determine the sulfur content.	Title I Condition: SIP for SO2 NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP)
Fuel Restriction: Authorized to burn diesel fuel oil only.	Title I Condition: SIP for SO2 NAAQS 40 CFR pt. 50 and MN State Implementation Plan (SIP)
Recordkeeping: The Permittee shall maintain documentation on-site that the unit is an emergency generator by design that qualifies under the EPA memorandum entitled " Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year.	Minn. R. 7007.0800, subps. 4 and 5
Recordkeeping: Record and maintain the type and amount of fuel combusted for these units on a monthly basis on the 28th day after the completion of the month.	Minn. R. 7007.0800, subps. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Subject Item: GP 004 Emission Control Equipment (Paint Booths)**Associated Items:** CE 004 Mat or Panel Filter(24th Ave)

CE 006 Mat or Panel Filter(Paint System

CE 010 Mat or Panel Filter(12th Ave)

What to do	Why to do it
Total Particulate Matter: greater than or equal to 92.0 percent control efficiency (capture efficiency of the booth x collection efficiency of the filter)	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Particulate Matter < 10 micron: greater than or equal to 92 percent control efficiency (capture efficiency of the booth x collection efficiency of the filter)	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR 70.2; 40 CFR Section 52.21; Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Operation of Pollution Control Equipment: The control equipment is considered listed control equipment under Minn. R. 7011.0060 to 7011.0080. The Permittee shall operate and maintain the fabric filter at all times that any process equipment controlled by the fabric filter is operating.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Daily Inspections: Once each operating day, the Permittee shall visually inspect the condition of each panel filter with respect to alignment, saturation, tears, holes and any other condition that may affect the filter's performance. The Permittee shall maintain a daily written record of filter inspections.	Minn. R. 7007.0800, subps. 4, 5, and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, and 14
Corrective Actions: If the fabric filter or any of its components are found during the inspections to need repair. The Permittee shall take corrective action as soon as possible. Corrective actions shall be completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subps. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Subject Item: GP 005 Emission Control Equipment (Blast Booths)**Associated Items:** CE 001 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 005 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

What to do	Why to do it
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than 99.0 percent control efficiency	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR 70.2; 40 CFR Section 52.21; Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than 99.0 percent control efficiency	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR 70.2; 40 CFR Section 52.21; Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
The Permittee shall maintain each piece of control equipment according to the manufacturer's specification, shall conduct inspections, and maintain documentation of those actions as required by Minn. R. 7011.0075, subp. 2(A) to 2(I).	Minn. R. 7011.0075, subp. 2
Pressure Drop: greater than or equal to <> inches of water column and less than or equal to <> inches of water. This carat (<>) means to input a numerical number according to the design of the fabric filter. The Permittee shall record this data in the Operation and Maintenance (O&M) Plan within 30 days after permit issuance or 30 days after installation of any new control equipment for which there are such operating parameter requirements.	Minn. R. 7007.0800, subps. 2 and 14
Recordkeeping of Pressure Drop: The Permittee shall record pressure drop once every 24 hours, if spray or blast booth in operation and whether or not the recorded pressure drop was within the range specified in the O&M plan. If it is not within the range, then it will be considered a deviation.	Minn.R. 7007.0800, subps. 4 and 5
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: 1. the recorded pressure drop is outside the required operating range; or 2. the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subps. 4, 5, and 14
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7011.0075, subp. 3

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

Subject Item: EU 023 Firetube Boiler (new)**Associated Items:** SV 052 Firetube Boiler

What to do	Why to do it
A. POLLUTANT LIMITS	hdr
Total Particulate Matter: less than 0.4 lbs/million Btu heat input using 3-hour Rolling Average . This limit applies separately to each emission unit listed in GP 002	Minn. R. 7011.0515, subp. 1; Minn. R. 7011.0550
Sulfur Dioxide: less than 2.0 lbs/million Btu heat input using 3-hour Rolling Average . This limit applies separately to each emission unit listed in GP 002.	Minn. R. 7011.0515, subp. 1; Minn. R. 7011.0550
Opacity: less than 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies separately to each unit listed in GP 002.	Minn. R. 7011.0515, subp. 2
B. OTHER LIMITS AND REQUIREMENTS	hdr
Fuel Restriction: Authorized to burn natural gas only.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record and maintain the type and amount of the fuel combusted on a monthly basis on the 28th day after the completion of the month.	Minn. R. 7007.0800, subps. 4 and 5

TABLE B: SUBMITTALS

11/25/02

Facility Name: United Defense LP
Permit Number: 00300020 - 003

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

Permit Technical Advisor
Permit Section
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

Supervisor
Compliance Determination Unit
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

What to send	When to send	Portion of Facility Affected
Notification	due 30 days after Permit Issuance The owner or operator shall certify that the boilers/generators have discontinued burning all waste oils.	Total Facility

TABLE B: RECURRENT SUBMITTALS

11/25/02

Facility Name: United Defense LP

Permit Number: 00300020 - 003

What to send	When to send	Portion of Facility Affected
Quarterly Report	due 30 days after end of each calendar quarter following Initial Performance Test. Each subsequently quarterly report shall be postmarked by the 30th day following the end of the reporting period. Submit reports quarterly which must include the following: 1. Fuel supplier certifications and 2. A certified statement that the records of the fuel supplier certifications submitted represent all of the fuel combusted in that quarter.	GP002
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Annual Report	due 30 days after end of each calendar year following Permit Issuance. The Permittee shall submit an annual report by January 30th each year that describes the changes made at the facility during the previous calendar year using the latest MPCA application forms (GI-04 and GI-05 series). The report shall document any equipment that was replaced, modified, added or changed. The report shall be submitted with the Annual Compliance Certification listed in Table B. As part of the Annual Report, the Permittee shall verify and certify that the facility has maintained non-major source status under 40 CFR Section 63.2 and 40 CFR Section 70.2.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted to the Commissioner on a form approved by the Commissioner. This report covers all deviations experienced during the calendar year.	Total Facility
Equipment List	due 30 days after end of each calendar year following Permit Issuance (January 30). If there are no changes to the facility, the Permittee shall submit the list stating no changes were made to my facility.	Total Facility

APPENDIX MATERIAL**Facility Name: United Defense LP****Permit Number: 00300020-001****Appendix C
Insignificant Emission Units and Applicable Requirements**

Minn. R. 7007.1300, subpart	Description of the Activity	Likely Applicable Requirement
3 (I)	Chem Lab Hood No.1 Chem Lab Hood No. 2	Minn. R. 7011.0710/0715
3(I)	Composite Labs (6); See Enclosure 2 for a detailed description attached.	Minn. R. 7011.0710/0715
3(I)	Electrical Assy (8); See Enclosure 2 for a detailed description attached dated 8/27/2002.	Minn. R. 7011.0710/0715
3(I)	Machine Shops (2); See Enclosure 2 for a detailed description attached dated 8/27/2002.	Minn. R. 7011.0710/0715
3(I)	Natural Gas Space Heaters (38); See Enclosure 2 for a detailed description attached dated 8/27/2002.	Minn. R. 7011.0515
3(D)	Propulsor Dept- ESAB & Welders (14); See Enclosure 2 for a detailed description attached dated 8/27/2002.	Minn. R. 7011.0710/0715
3(H)	Weld Dept. –Furnaces, Blast Booths, ESAB, & Welders; See Enclosure 2 for a detailed description attached dated 8/27/2002.	Minn. R. 7011.0710/0715
3(E)	Storage tanks: These are small storage tanks (less than or equal to 300 gallons each)	Minn. R. 7011.1505
3(J)	Roads and Parking lots	Minn. R. 7011.0150

Facility Name: United Defense LP
Permit Number: 00300020-001

Appendix B
Parameters Relied Upon in Modeling

Source Name	Emission Unit Number	SV ID	Stack Height (feet)	Stack Height (m)	Stack Dia. (feet)	Stack Dia. (m)	Stack Velocity (m/s)	Exit Temp (F)	Modeled and Maximum Heat Input (million Btu/hr)	Flow Rate at Top (ACFM)
Boiler 1	001	027	139.99	42.67	6.988	2.130	3.90	325.0	6.9 3.5	29,466
Boiler 2 & 3	002 003	026	139.99	42.67	8.497	2.590	1.76	325.0	6.9	19,648
Standby Generator-Sub 3(w) and 3(e)	016 017	045 046	35.99	10.97	0.591	0.180	57.49	440.0	2.96 2.96	3,100
Standby Generator – Sub 1	018	047	24.02	7.32	0.591	0.180	54.80	440.0	3.46	2,955
Standby Generator – Boiler and Bdg 37	019 020	048 049	29.0	8.84	0.492	0.150	47.89	440	2.1 2.1	1,793

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 00300020-001

This technical support document is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 3489)
United Defense, L.P./Naval Sea Systems Command 4800 East River Road Minneapolis, MN 55421 Phone No. (763) 572-6938 Fax No. (763) 572-4901	United Defense, L.P. Armament Systems Division 4800 East River Road Minneapolis, MN 55421 Anoka County

1.2. Description of the Permit Action

Armament Systems Division (ASD) of United Defense, L.P./U.S. Navy Naval Sea Systems has submitted an application for a Total Facility Air Emission Permit as required by Minnesota Rules chapter (Minn. R. ch.) 7007. Minn. R. ch. 7007 implements Title V of the federal Clean Air Act as amended 1990. The application was received by the Minnesota Pollution Control Agency (MPCA) on June 15, 1995, in accordance with its deadline.

Previously, the facility operated under a state only Total Facility Operating Air Emission Permit, amendments, installation and operational permits, and an administrative order issued by the Minnesota Pollution Control Agency (MPCA). The last Total Facility Operating Permit was issued on June 3, 1986. Since the expiration of the Total Facility Permit Operating Permit on June 3, 1991, ASD has continued to operate its facility under the conditions of the expired permit as is required by Minn. R. 7001.0160, Continuation of Expired Permit.

The ASD's state operating permit will be a consolidation of all existing conditions from the expired total facility operating permit, amendments and the administrative order as required under the Minnesota State Implementation Plan (SIP). This state permit will incorporate more detailed specifications of the emission units, pollution control equipment and all new rules and existing regulations that will apply to ASD at the time of the issuance of this permit. The permit will also meet all requirements of Minn. R. 7007.0800 that specifies requirements for the content of state permits and will replace all existing permits issued to the facility by MPCA.

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1.3. Stationary Source Description

ASD as a co-owner and operator of a facility located in Fridley, Anoka County, in Minnesota. The facility is dedicated to the design, engineering, manufacturing, overhaul and testing of military weapons systems.

The main emissions from the stationary source are Volatile Organic Compounds (VOC), Nitrogen Oxides, (NO_x), Hazardous Air Pollutants (HAP), Particulate Matter (PM), and Particulate Matter less than 10 microns (PM₁₀). The permit limits NO_x, VOC, PM and PM₁₀ emissions to 90 tons per year based on a 12-month rolling sum; and single HAP to 9 tons per year based on a 12-month rolling sum and total HAPs to 24 tons per year based on 12-month rolling sum. This permit limits the emissions of the facility such that the facility is classified as non-major source under federal New Source Review, federal Operating Program (40 CFR pt. 70) and National Emission Standards for Hazardous Air Pollutants (NESHAPs, 40 CFR pt. 63). The Permittee will receive a state total facility operating permit.

The permit also allows operating flexibility by authorizing the installation, replacement, and removal of equipment without a permit amendment, so long as the source remains in compliance with its permit. The Permittee will not “construct or reconstruct a major source of HAPS” as defined in 40 CFR pt. 63, subp. B, without first obtaining a preconstruction permit.

1.4 Description of all amendments issued since the issuance of the last total facility permit and to be included in the State Permit.

Permit Number and Issuance Date	Action Authorized
AQD 897-86-OT-1, June 3, 1986	Permit to operate weapon facility and related air pollution control equipment.
AQD 897-86-OT-1, Amendment No. 1, May 1, 1987	Installation and operation of a Cap Gun System.
AQD 897-86-OT-1, Amendment No. 2, February 23, 1989	Installation and operation of two dust collectors and open top vapor degreaser.
AQD 897-86-OT-1, Amendment No. 3 August 30, 1989	Permit to modified the existing facility.
AQD 897-92-I/O-1, September 21, 1992	Permit to remove old boilers and to install new boilers.
AQD 897-92-I/O-2 September 23, 1992	Installation and operation of a spray and paint booth.
AQD 897-93-P-1 January 19, 1993	Permit for the removal of two 1,1,1, Trichloroethane vapor degreasers.
AQD 897-92-I/O-3,	Installation and operation of two testing ovens.

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February 10, 1993	
AQD 897-92-I/O-1, Amendment No. 1 March 26, 1993	Permit to change the schedule to remove the existing boilers and install new boilers.
AQD 897-92-I/O-1, Amendment 2 April 15, 1993	Authorized a modification to properly identify the analysis method used to determine the lead content in waste oil.
SO2 Administrative Order for the State Implementation Plan (SIP)	The MPCA based the emission limits and the operating restrictions found in the Administrative Order. It also contained compliance demonstrative requirements.
AQD 897-93-P-2 June 2, 1993	Installation and Operation of an immersion cleaning system.
AQD 897-93-P-3 June 28, 1993	Installation and operation of exhaust fans.
AQD 897-92-I/O-1, Amendment No. 3, November 18, 1993	Permit to reflexes the name change and extended stack test deadline for a NSPS source.
AQD 897-93-P-4 August 27, 1993	Permit to operate an aerosol can disposal system.
AQD 897-92-I/O-1, Amendment No. 4, July 14, 1994	Permit to change ownership name of the facility.
00300020-021, AQD 897-95-I/O-1 March 30, 1995	Installation and operation of a syntactic fill process.

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary (in tons per year):

	PM tpy	PM10 tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy	Combined Total HAPs tpy
Total Facility Limited Potential Emissions*	90.0	90.0	47.58	90.0	80.50	90.0	0.0	24.0
Total Facility Actual Emissions	1.08	1.04	0.75	12.24	9.81	4.84	0.0	Not Available

*These are the limited potential emissions from column 3 in GI-07 from Delta. They differ from those in the permit application sent by ASD in that they have been verified and corrected as need be by MPCA staff. These are the potential emissions that would appear in a public notice. Actual Emission based on 2000 emission inventory.

Table 2. Total Facility (TF) and Permit Classification

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Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
Prevention of Significant Deterioration (PSD)		PM, PM ₁₀ , VOC	CO, and SO ₂
Non Attainment Area Review (NAAR)	N/A	N/A	N/A
Part 70 Permit Program		PM ₁₀ , VOC, NO _x , HAP	CO, and SO ₂

* Refers to potential emissions that are less than those specified as major by 40 CFR § 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

2. Regulatory and/or Statutory Basis

ASD has taken limits to avoid major source classification for New Source Review (40 CFR § 52.21). However, ASD has also taken limits to avoid major source classification as a major source under the federal operation permit program (40 CFR pt. 70) and the National Emission Standards for Hazardous Air Pollutants (NESHAPs, 40 CFR pt. 63).

Regulatory Overview of Facility

* Level	Applicable Regulations	** Comments:
TF, SV 026, SV 027, SV 045-SV 049	MN SO ₂ State Implementation Plan (SIP); SIP for SO ₂ NAAQS 40 CFR pt. 50	Applicable requirements for SO ₂ associated with the total facility, Boilers and Standby Generators for the SIP. This permit now contains the conditions previously expressed in ASD's Administrative Order except to eliminate the reference to Minn. R. 7007.1250. The MPCA wrote its rules to implement Title V so that those SIP conditions have a special status and remain non-expiring. Although the format has change, ASD's state permit will ensure that the area around ASD will attain and maintain compliance with the NAAQS.
Total Facility	40 CFR § 52.21; 40 CFR pt. 70; Minn. R. 7011.0715	Title I Conditions: Prevention of Significant Deterioration (PSD), federal operating program, and Standards of Performance for Pre 1969 Industrial Equipment. Limits taken to avoid major source classification under PSD and Part 70.2 for all emissions of NO _x , VOC and PM/PM ₁₀ .

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Total Facility	Minn. R. chs. 7002, 7007, 7009, 7011, 7019, 7030	Table A contains requirements that apply to all facilities in Minnesota. Reporting and monitoring requirements are contained in Table B of the permit.
GP 001 (Coating and Painting Booths)	Minn. R. 7011.0700-7011.0735	Standards of Performance for Industrial Equipment This standard includes limits for particulate matter and opacity.
GP 003, SV 045, SV 046, SV 047, SV 048, SV 049 (Standby Generators)	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines. The rules specify a limit for opacity and sulfur dioxide
GP 001, SV 026, SV 027 (Boilers)	40 CFR pt. 60, subp. Dc; Minn. R. 7011.0515	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units that have a maximum design heat input of greater than or equal to 10 MMBtu per hour but less than 100 MMBtu per hour. This standard includes limits for sulfur dioxide, particulate matter and opacity.
GP 004 and 005 (Fabric Filters, Mat or Panel Filters)	Minn. R. 7011.0600-7011.0080	Air Pollution Control Equipment The Permittee will operate and maintain each piece of listed pollution control equipment according to the control equipment manufacturers specifications, will comply with the requirements specified in the permit.

3. Technical Information

3.1. Emission Calculations for ASD

ASD calculated emissions for each emission unit operating at 8760 hours per year and arrived at the following PTE in tons per year for the stationary source. Also, operating permit limits emissions as a 12-month rolling sum.

Criteria Pollutants	Unrestricted PTE (tpy)	Permitted PTE (tpy)	Hazardous Air Pollutants	Unrestricted PTE (tpy)	Permitted PTE (tpy)
PM	532.42	90.0	Xylenes (mixed isomers)	216.10	9.0
PM ₁₀	532.42	90.0	Ethylbenzene	143.48	9.0
SO ₂	47.58	47.58	Methyl Isobutyl Ketone	154.52	9.0
NO _x	148.11	90.0			
CO	80.50	80.50			
VOC	737.05	90.0	Total HAPs		24.0

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3.2 Pre-authorized Changes

The permit pre-authorizes certain changes that might otherwise be considered modifications under state or federal rules. The permit allows the Permittee to replace existing emission units with similar or like-kind units as long as no new applicable requirements are triggered and as long as emissions are tracked and calculated as specified in the permit. In addition, the permit authorizes the changing or modification of existing equipment.

The permit sets 12-month rolling limits for NO_x, VOC, PM/PM₁₀, and HAPs emissions, so annual emissions cannot increase due to any of the pre-authorized changes. All applicable requirements and necessary monitoring are in the permit. The replacement of existing units with similar technology and capacity units, and the changing or modification of existing units as specified in the permit, will not cause an emissions increase; so they are not modifications and can be made without the need for an amendment.

3.3. Periodic Monitoring

Under Minn. R. 7007.0800, subp. 4, the MPCA will require the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements. To achieve this objective, the MPCA staff considered all the relevant factors approved by EPA periodic monitoring requirements for permitted sources.

In evaluating the monitoring included in the permit, the MPCA considered the following:

1. the likelihood of violating the applicable requirements;
2. whether add-on controls are necessary to meet the emission limit;
3. the variability of emissions over time;
4. the type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
5. the technical and economic feasibility of possible periodic monitoring method, and
6. The kind of monitoring found on similar units.

TF/EU/GP /CE	Emission Limit (Basis)	Additional Monitoring	Discussion
Total Facility (TF), NO _x , VOC and PM/PM ₁₀ limits	a. VOC less than or equal to 90 tons per year based on a 12- month rolling sum (limit to avoid NSR and NESHAP) b. PM ₁₀ less than or	a., b. c & e Recordkeeping : Monthly records of material use, ongoing records of VOC, Solid	ASD will keep records and provide calculations of emissions on a monthly basis of the 12-month rolling sum NO _x , VOC, PM ₁₀ and HAP. A 12- month rolling sum is warranted for ASD due to

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	<p>equal to 90 tons per year based on a 12-month rolling sum (limit to avoid NSR)</p> <p>c. HAP less than or equal to 9/24 tons per year based on a 12-month rolling sum (limit to avoid NESHAP)</p> <p>d. NOx : less than or equal to 90 tons per year based on a 12-month rolling sum (limit to avoid Part 70.2)</p> <p>e. Replacement of emissions units with similar units and modifications and changes to existing units.</p>	<p>and HAP content; Monthly emission calculations.</p> <p>e. On going recordkeeping to verify and certify on an annual basis to maintain the source in a non- major status</p> <p>d. On-going record of any equipment that is replaced.</p>	<p>the substantial and unpredictable variation in their production.</p> <p>The limit on particulate matter is written for PM₁₀, but all calculations consider PM₁₀ equivalent to PM. This is a conservative assumption.</p> <p>Any replaced equipment must meet all the applicable requirements in the permit. If a changed unit would trigger a different requirement, the change cannot be made without an amendment. In addition, emissions must be tracked and calculated as required by the permit.</p> <p>The permit also requires that all units are labeled and inventoried.</p>
Coating and Painting Booths (GP 001)	<p>a. PM/PM10: variable depending on the airflow. (Minn. R. 7011.0715)</p> <p>b. Opacity ≤ 20% (Minn. R. 7011.0715)</p>	None	The likelihood of violating the PM/PM10 and opacity emission standard is impossible as long as the units are properly maintained; therefore, there is no periodic monitoring required.
Boilers (GP 002)	PM ≤ 0.4 lb/MMBtu with a 3-hour basis (Minn. R. 7011.0515, Minn. R. 7011.0550)	<p>Recordkeeping on the type of fuel</p> <p>Diesel Fuel Oil Certification</p>	<p>Written documentation of each shipment of diesel fuel oil will be retained on site.</p> <p>Since the boilers will be</p>

	<p>SO₂ ≤ 0.5 lb/MMBtu with a 3-hour basis (Minn. R. 7011.0515; Minn. R. 7011.0550)</p> <p>Opacity ≤ 20 % except for one six-minute period per hour of not more than 60 % opacity</p> <p>Sulfur Content ≤ 0.05% by weight of Diesel Oil (MN SIP)</p> <p>Fuel Restriction on the type of fuel (MN SIP)</p>		<p>fired with natural gas and diesel with sulfur content of 0.05% or less, there should be no significant PM emissions or visible emissions. Therefore, while there is an applicable requirement, the Permittee, can demonstrate that the emission unit is and will continue to operate such that the emissions are well below (< 50 percent) the emission limits by that natural gas and diesel oil are the only fuels fired in the boilers.</p>
Standby Generators (GP 003)	<p>SO₂ ≤ 0.5 lb/MMBtu with a 3-hour basis (Minn. R. 7011.2300)</p> <p>Opacity ≤ 20% (Minn. R. 7011.2300)</p> <p>Sulfur Content ≤ 0.05% by weight of Diesel Oil (MN SIP)</p>	<p>Fuel Restriction of the type of fuel burned</p> <p>Recordkeeping on the type of fuel</p> <p>Diesel Certification</p>	<p>Written documentation of each shipment of No. 2 fuel oil will be retained on site.</p> <p>This monitoring is adequate because the generators will be use on an emergency basis only.</p>
Fabric Filters (GP 005)	<p>PM/PM₁₀: Control efficiency of 99% or greater (Minn. R. 7011.0070, control equipment rule, required to remain below NSR threshold)</p>	<p>Recordkeeping :O & M Inspections</p>	<p>Monitoring based on the Minnesota Performance Standard for Control Equipment is adequate to have a reasonable assurance of compliance (daily, and periodic inspections, correction actions, O & M and pressure drop records.)</p>
Mat or	PM/PM ₁₀ : Booths	Recordkeeping	Monitoring based on the

Panel Filter (GP 004)	with panel filter systems must be maintained to achieve 92.0 % control efficiency (Minn. R. 7011.0070. control equipment rule, required to remain below NSR threshold)	: O & M Inspections and performance in accordance with the control equipment rule, if applicable	Minnesota Performance Standard for Control Equipment is adequate to have a reasonable assurance of compliance (daily, and periodic inspections, and correction actions).
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3.5. Deviations from Delta

In general, the permit meets the MPCA Delta Guidance for ordering and grouping requirements. One are where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that MPCA thinks should be trackable should be in Table A or B. The main reasons being that the appendices are word processing sections and are not part of the tracking system. Violation of the appendices will be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents, which must be generate by staff. For this permit, certain permit requirements and limits are listed in the appendices of the permit instead of Table A.

3.5. Insignificant Emission Units (IEU)

The IEU are in the Appendix C of the permit. These IEU are subject to the state general applicable requirements. It is our belief that IEU's listed in Appendix C of the permit associated with inconsequential environmental impacts and present little potential for violations of generally applicable requirements, therefore no monitoring will be required.

4. Conclusion

Based on the information provided by ASD, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 00300020-001 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:

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Attachment:

- A. Form GI-07 (Facility Emission Summary)
- B. Form CD-01 (Compliance Form)
- C. MPCA and Permittee's Emission Calculations
- D. Modeling Summary for SIP

Amrill Okonkwo, 11/15/02

ATTACHMENT A
FORM GI-07 (Facility Emission Summary)

ATTACHMENT B
FORM CD-01 (Compliance Form)

ATTACHMENT C
MPCA and Permittee' Calculations
(Paper Copy)

ATTACHMENT D
Modeling Summary for SIP
(Paper Copy)