



PART 70 PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth here in.

Operating Permit Number: OP2007-066

Expiration Date: DEC 2 2012

Installation ID: 097-0007

Project Number: 2003-07-129

Installation Name and Address

Dyno Nobel, Inc. Carthage Plant
17562 Gum Road
Carthage, MO 64836
Jasper County

Parent Company's Name and Address

Dyno Nobel, Inc.
2650 Decker Lake Boulevard
Suite 300
Salt Lake City, UT 84119

Installation Description:

Dyno Nobel, Inc. manufactures explosive material at the Carthage facility. The manufacturing processes include the following: continuous nitrate ester manufacture; dynamite manufacture; chub and paperwrap emulsion manufacture; Ammonium nitrate production; cast PETN/TNT booster manufacture; sulfuric/nitric acid mixing; and spent nitration acid recovery. Emission units include the following: three boilers; a wastewater thermal treatment unit; four emergency generators; open burning of explosive material; storage, blending, holding, catch and scale tanks; storage bins; ingredient mixing and conveying; maintenance painting, welding, and carpentry; and two underground gasoline storage tanks.

DEC 3 2007

Effective Date

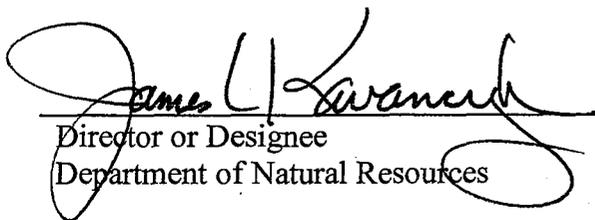

Director or Designee
Department of Natural Resources

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I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

Dyno Nobel, Inc. manufactures explosive material at the Carthage facility. The manufacturing processes include the following: continuous nitrate ester manufacture; dynamite manufacture; chub and paperwrap emulsion manufacture; Ammonium nitrate production; cast PETN/TNT booster manufacture; sulfuric/nitric acid mixing; and spent nitration acid recovery. Emission units include the following: three boilers; a wastewater thermal treatment unit; four emergency generators; open burning of explosive material; storage, blending, holding, catch and scale tanks; storage bins; ingredient mixing and conveying; maintenance painting, welding, and carpentry; and two underground gasoline storage tanks.

Reported Air Pollutant Emissions, tons per year							
Year	Particulate Matter ≤ Ten Microns (PM-10)	Sulfur Oxides (SO _x)	Nitrogen Oxides (NO _x)	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2006	5.38	0.05	12.85	1.45	2.87	0.00	0.00
2005	5.51	0.05	12.80	1.45	2.87	0.00	0.00
2004	5.60	0.05	13.51	1.46	3.07	0.00	0.00
2003	4.71	0.05	13.33	1.45	3.06	0.00	0.00
2002	4.84	0.44	14.29	1.47	3.29	0.00	0.00
2001	4.83	0.05	13.25	1.52	3.03	0.00	0.00

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation, which emits air pollutants and which is identified as having unit-specific emission limitations.

Emission Unit #	Description of Emission Unit	Emission Point
EU0010	Superior Boiler	EP-02
EU0020	Keeler Boiler	EP-03
EU0030	Kewanee Boiler	EP-08
EU0040	Wastewater Thermal Treatment Unit	EP-14
EU0050	Evaporator/Demister	EP-04
EU0060	Kettle Crystallizer 1	EP-05
EU0070	Kettle Crystallizer 2	EP-05
EU0080	Kettle Crystallizer 3	EP-05
EU0090	Kettle Crystallizer 4	EP-05
EU0100	Kettle Crystallizer 5	EP-05
EU0110	Kettle Crystallizer 6	EP-05
EU0120	Kettle Crystallizer 7	EP-05
EU0130	Kettle Crystallizer 8	EP-05
EU0140	Kettle Crystallizer 9	EP-05
EU0150	Kettle Crystallizer 10	EP-05
EU0160	Chub Emulsion Facility	NA
EU0170	Paperwrap Emulsion Facility	NA
EU0180	Continuous Nitrator System	NA

<u>Emission Unit #</u>	<u>Description of Emission Unit</u>	<u>Emission Point</u>
EU0190	Soda Ash Transfer	NA
EU0200	Cast Explosive Booster Facility	EP-16
EU0210	PETN Facility	EP-17
EU0220	Ammonium Nitrate Plant (NAL)	EP-18
EU0230	Emergency Generator 1	NA
EU0240	Emergency Generator 2	NA
EU0250	Emergency Generator 3	NA
EU0260	Emergency Generator 4	NA

EMISSION UNITS WITHOUT LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

<u>Description of Emission Source</u>	<u>Emission Point</u>
Open burning of explosive material	EP-01
Nitric acid recovery, batch process	EP-06
Nitric acid recovery, continuous process	EP-07
Fuel oil tank #1: 55,000-gallon diesel (No. 2), installed 1966-1967	EP-09
Fuel oil tank #2: 9,000-gallon diesel (No. 2), installed 1966-1967	EP-09
Fuel oil tank #3: 550-gallon diesel (No. 2), installed 1999	EP-09
Fuel oil tank #4: 500-gallon diesel (No. 2), installed 2002	EP-09
Fuel oil tank #5: 500-gallon diesel (No. 2), installed 1989	EP-09
Fuel oil tank #6: 2,000-gallon diesel (No. 2), installed 2006	EP-09
Fuel oil tank #7: 300-gallon diesel (No. 2), installed 2005	EP-09
Fuel oil tank #8: 500-gallon diesel (No. 2), installed 2006	EP-09
Glycol/glycerin blend tank #G1: 8,610-gallon, installed pre-1964	EP-10
Glycol/glycerin blend tank #G2: 8,610-gallon, installed pre-1964	EP-10
Glycol/glycerin blend tank #G3: 13,098-gallon, installed pre-1964	EP-10
Glycol/glycerin blend tank #G4: 16,532-gallon, installed pre-1964	EP-10
Glycerin blend tank #G5: 8,767-gallon, installed pre-1964	EP-10
Glycol/glycerin blend tank #G6: 8,416-gallon, installed pre-1964	EP-10
Two underground gasoline storage tanks: 2,000-gallons (EU-103, 104)	EP-11
Dry Ingredient (DOPE) Blending	EP-19
Two 85% ammonium nitrate storage tanks at Crystallizer (EU-1, 2)	
Ammonium nitrate pneumatic conveyor at Soda Warehouse (EU-5)	
Sodium nitrate prill bulk storage in super sacks at Warehouse (EU-7)	
Prewash tank at Continuous Nitrator (EU-20)	
Nitroglycerin storage tanks at No. 2 Store House (EU-23, 24)	
Inside catch tanks at No. 1 and No. 2 Store Houses (EU-25, 31)	
Outside catch tanks at No. 1 and No. 2 Store Houses (EU-26, 32)	
Nitroglycerin/metriol trinitrate storage tanks at No. 1 and No. 2 Store Houses (EU-27 through 30)	
Nitroglycerin/metriol trinitrate weighing tank at No. 1 Store House (EU-36)	
Mixed acid storage tanks (EU-37 through 39)	
Sodium hydroxide storage tank (EU-41)	

<u>Description of Emission Source</u>	<u>Emission Point</u>
Nitration waste water tanks (EU-42, 43, 141)	
Spent acid storage tank at Nitric Acid Recovery (NAR) (EU-46)	
Dinitrated sulfuric acid storage tank (EU-49)	
Weak nitric acid neutralization tank at NAL (EU-109A)	
Ventilation dust scrubbers at No. 1 and No. 2 Mix Houses (EU-57, 58)	
TV Cartridge packer (EU-59, 189, 63)	
Gelatin cartridge packer (EU-60, 190, 61, 191, 63, 192, 65, 196, 109, 110)	
Hall cartridge packer (EU-64, 193)	
Utility house (dynamite rip house) (EU-66)	
Explosive storage magazines (EU-67 through 70)	
Ireflo mixing tank (EU-71)	
Ireflo scale tank (EU-72)	
Ireflo canning operation (EU-73)	
Ireflo catch tank (EU-74)	
Trimethylolethane delumper (EU-75)	
Trimethylolethane/diethylene glycol dissolver (EU-76)	
Trimethylolethane/diethylene glycol blend storage tank (EU-77)	
Paraffin storage tanks at Shell House (EU-101, 102)	
Acid laboratory (EU-112, 113)	
Powder laboratory (EU-114)	
Ventilation fans in Crystallizer bldg (EU-158, 171)	
Paraffin tunnel stacks at Shell House (EU-184, 185)	
Roof vents at Shell House (EU-186)	
Exhaust fans (3) at Dope House (EU-187, 188, 314)	
Explosive magazines (detonator, caps and fuses) (EU-190B)	
Dinitrated sulfuric acid truck loading (EU-50)	
Weak nitric acid storage tank (EU-51)	
Ammonia solution storage tank (EU-52)	
Wet scrubber on neutralizer and process tank at NAL (EU-250)	
Mixed acid mixing tank (EU-251)	
Sulfuric acid storage tank at Mixed Acid (EU-252)	
Acid fume wet scrubber at Mixed Acid (EU-253)	
Weak sulfuric acid storage tank at NAR (EU-254)	
Sodium nitrate bin, at Dope House and Chub Emulsion (EU-256, 284)	
Five natural gas building heaters, total heat input 0.765 MMBtu/hr (EU-257 through 259)	
Parts washers (EU-261)	
Welders and cutting torches in maintenance area (EU-262)	
Carpenter shop (EU-263)	
Paint booth at Paint Shop (EU-264)	
Flashing oven, electric, at maintenance area (EU-265)	
Spent acid storage tanks at Continuous Nitrator (EU-268 through 270)	
Catch tanks at Continuous Nitrator (EU-271 through 275)	
Tuthill room ventilation (acid and blend rooms) (EU-276, 277)	
Air compressor at Continuous Nitrator (EU-278)	

<u>Description of Emission Source</u>	<u>Emission Point</u>
Catch tanks at Prewash (EU-279 through 283)	
Oxidizer blend & holding tanks at Chub Emulsion: 80,000 lbs each, installed 1990 (EU-285 through 289)	
Mineral oil storage tank at Chub Emulsion: 10,000-gal, installed 1990 (EU-290)	
Kaydol oil storage tank at Chub Emulsion: 10,000-gal, installed 1990 (EU-291)	
Amber wax storage tank at Chub Emulsion: 10,000-gal, installed 1990 (EU-292)	
Paraffin wax storage tank at Chub Emulsion: 10,000-gal, installed 1990 (EU-293)	
Fuel oil blending tank at Chub Emulsion: 250-gal, installed 1990 (EU-294)	
Fuel blend holding tanks at Chub Emulsion: 250-gal each, installed 1990 (EU-295 through 298)	
Ammonium nitrate storage bin at Chub Emulsion: 90,000 lbs, installed 1990 (EU-299)	
PETN Nitrator Scrubber	
Spent nitric acid storage tank at Cast Booster (EU-303)	
Oxidizer storage tanks at Paperwrap Emulsion (EU-304 - 306)	
Amber wax storage tank at Paperwrap Emulsion (EU-307)	
Paraffin wax storage tank at Paperwrap Emulsion (EU-308)	
Kaydol oil storage tank at Paperwrap Emulsion (EU-309)	
Fuel blending and holding tanks at Paperwrap Emulsion (EU-310 through 313)	

DOCUMENTS INCORPORATED BY REFERENCE

These documents have been incorporated by reference into this permit.

- 1) Construction Permit 0587-007, issued May 13, 1987
- 2) Construction Permit 1187-003A, issued November 5, 1987
- 3) Construction Permit 0889-014, issued August 30, 1989
- 4) Construction Permit 0290-011, issued February 6, 1990
- 5) Construction Permit 0491-012, issued April 26, 1991
- 6) Construction Permit 1292-009, issued December 9, 1992
- 7) Construction Permit 0395-006, issued February 15, 1995
- 8) Construction Permit 0997-036, issued September 23, 1997

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

None

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

EU0010 – SUPERIOR BOILER			
Emission Unit	Description	Manufacturer/Model #	2004 EIQ Reference #
EU0010	Superior Boiler: primary fuel - natural gas; secondary fuel - No. 2 fuel oil; MHDR 25.2 MMBtu/hr; installed 1990	Superior Boiler Works/ 5-DC-5222	EP-02

<p style="text-align: center;">PERMIT CONDITION EU0010-001 10 CSR 10-6.070 New Source Performance Regulations 40 CFR Part 60, Subpart A General Provisions and Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</p>
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Emission Limitations:

- 1) When combusting oil, the permittee shall not cause to be discharged into the atmosphere from Superior Boiler (EU0010) any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/million Btu) heat input; or, as an alternative, the permittee shall not combust oil that contains greater than 0.5 weight percent sulfur. [§60.42c(d)]
- 2) Compliance with the emission limits or fuel oil sulfur limits shall be determined on a 30-day rolling average basis. [§60.44c(g)]
- 3) The fuel oil sulfur limit applies at all times, including periods of startup, shutdown, and malfunction. [§60.42c(i)]

Operational Limitation:

Superior Boiler (EU0010) shall be limited to burning either natural gas or distillate fuel oil that contains not more than 0.5 weight percent sulfur on a 30-day rolling average basis.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain documentation supporting that the fuel used in Superior Boiler (EU0010) for any given time period is either natural gas or distillate fuel oil that contains not more than 0.5 weight percent sulfur on a 30-day rolling average basis.
- 2) Compliance with the emission limits or fuel oil sulfur limits may be determined based on certification from the fuel supplier. Fuel supplier certification for distillate oil shall include the following information: [§60.44c(h)]
 - a) The name of the oil supplier; and [§60.48c(f)(1)(i)]
 - b) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c. [§60.48c(f)(1)(ii)]
- 3) The permittee shall record and maintain records of the amounts of each fuel oil combusted during each calendar month.

If at any time the facility burns fuel oil that exceeds 0.5% sulfur or other liquid or gaseous fuels with potential sulfur emissions rates greater than 140 ng/J (0.32 lb/MMBtu) heat input, the facility shall maintain records of the amounts of fuel combusted during each day. [§60.48c(g)]

- 4) As an alternative to maintaining records of the amounts of fuel combusted in this unit the permittee may elect to record and maintain records of the total amount of each fuel delivered to the facility during each calendar month. [§60.48c(g)(3)]
- 5) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall submit quarterly reports to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. These reports shall be postmarked by the 30th day following the end of the reporting period. These reports shall include the following information, as applicable. [§60.48c(e) and 60.48c(i)]
 - a) Calendar dates covered in the reporting period. [§60.48c(e)(1)]
 - b) Each 30-day average SO₂ emission rate (nj/J or lb/million Btu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken. [§60.48c(e)(2)]
 - c) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described in 2) of *Monitoring/Record Keeping*. [§60.48c(e)(11)]
 - d) In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the responsible official that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. [§60.48c(e)(11)]
 - e) Records of the amounts of each fuel combusted during each calendar month. If at any time the facility burns fuel oil that exceeds 0.5% sulfur or other liquid or gaseous fuels with potential sulfur emissions rates greater than 140 ng/J (0.32 lb/MMBtu) heat input, the facility shall maintain records of the amounts of fuel combusted during each day. [§60.48c(g)]
- 2) The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V of this permit.

EU0020 AND EU0030 – KEELER AND KEWANEE BOILERS

Emission Unit	Description	Manufacturer/Model #	2004 EIQ Reference #
EU0020	Keeler Boiler: primary fuel - natural gas; secondary fuel - No. 2 fuel oil; MHDR 50 MMBtu/hr; installed 1953	Keeler/ NB2372	EP-03
EU0030	Kewanee Boiler: primary fuel - natural gas; secondary fuel - No. 2 fuel oil; MHDR 4 MMBtu/hr; installed 1990	Kewanee/ MO32469	EP-08

PERMIT CONDITION (EU0020 and EU0030)-001

10 CSR 10-3.060 Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment
 Used for Indirect Heating

Emission Limitations:

- 1) The permittee shall not emit particulate matter from Keeler Boiler (EU0020) in excess of 21.0 pounds per hour (0.42 lb/MMBtu).
 - a) This emission rate was calculated using the following equation:

$$E = 0.90Q^{-0.174}$$
 Where:
 E = maximum allowable PM emission rate in lb/MMBtu of heat input
 Q = the installation's total heat input in millions of Btu/hr
- 2) The permittee shall not emit particulate matter from Kewanee Boiler (EU0030) in excess of 1.2 pounds per hour (0.30 lb/MMBtu).
 - a) This emission rate was calculated using the following equation:

$$E = 1.31Q^{-0.338}$$
 Where:
 E = maximum allowable PM emission rate in lb/MMBtu of heat input
 Q = the installation's total heat input in millions of Btu/hr

Operational Limitation:

These emission units shall be limited to burning pipeline grade natural gas or No. 2 fuel oil.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain documentation supporting that the fuel used in these emission units is pipeline grade natural gas or No. 2 fuel oil.
- 2) The permittee will be in compliance with this regulation as long as these emission units burn only natural gas or No. 2 fuel oil. Calculations demonstrating this are in Attachments A and B. The permittee shall keep Attachments A and B with this permit.

Reporting:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V of this permit.

PERMIT CONDITION (EU0020 and EU0030)-002
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitations:

- 1) The permittee shall not cause or permit emissions to be discharged into the atmosphere from Keeler Boiler (EU0020), an existing source (installed or under construction prior to February 24, 1971), any visible emissions with an opacity greater than 40%.
- 2) The permittee shall cause or permit emissions to be discharged into the atmosphere from Kewanee Boiler (EU0030), a new source (installed or under construction on or after February 24, 1971), any visible emissions with an opacity greater than 20%.
- 3) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on Keeler and Kewanee Boilers (EU0020 and EU0030) using the procedures contained in Test Method 22 in Appendix A of 40 CFR part 60. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct an observation using the procedures contained in Test Method 9 in Appendix A of 40 CFR part 60.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency. If the source has already performed the weekly and biweekly monitoring and is monitoring in compliance with a previous permit, the weekly and biweekly monitoring do not need to be repeated.

Recordkeeping:

- 1) The permittee shall maintain records of all Method 22 observations (See Attachment C-1 or C-2.), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions that result in visible emissions. (See Attachment D.)

- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment E.)
- 4) Attachments C-1, C-2, D and E are forms satisfying these recordkeeping requirements. These forms, or equivalent forms created by the permittee, must be used to certify compliance with this requirement.
- 5) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test, that either emission unit exceeded its opacity limit.
- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

PERMIT CONDITION (EU0020 and EU0030)-003
 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds

Emission Limitations:

- 1) No person shall cause or allow emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight pounds of sulfur dioxide per million BTUs actual heat input averaged on any consecutive three hour time period.
- 2) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m ³	1-hour average not to be exceeded more than once in any 2 consecutive days

Operational Limitation:

The emission units EU0020 and EU0030 shall be limited to burning either pipeline grade natural gas or fuel oil with a sulfur content of 0.5 percent by weight or less.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain an accurate record of the sulfur content of fuel oil used. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and sulfur content will be acceptable.
- 2) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 3) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification

Reporting:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V of this permit.

EU0040 – WASTEWATER THERMAL TREATMENT UNIT

Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0040	Wastewater Thermal Treatment Unit: process heater; MHDR 0.75 MMBtu ton/hr; primary fuel - natural gas, secondary fuel - propane; installed 1998	NA	EP-14

PERMIT CONDITION EU0040-001

10 CSR 10-3.060 Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating

Emission Limitation:

- 1) The permittee shall not emit particulate matter from Wastewater Thermal Treatment Unit (EU0040) in excess of 0.2 pounds per hour (0.30 lb/MMBtu).
 - a) This emission rate was calculated using the following equation:

$$E = 1.31Q^{-0.338}$$
 Where:
 E = maximum allowable PM emission rate in lb/MMBtu of heat input
 Q = the installation's total heat input in millions of Btu/hr

Operational Limitation:

This emission unit shall be limited to burning either pipeline grade natural gas or liquid petroleum gas or any combination of these fuels.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain documentation supporting that the fuel used in this emission unit is either pipeline grade natural gas or liquid petroleum gas or any combination of these fuels.
- 2) The permittee will be in compliance with this regulation as long as this emission unit burns only natural gas or liquid petroleum gas or any combination of these fuels. Calculations demonstrating compliance are in Attachment F. The permittee shall keep Attachment F with this permit.

Reporting:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V of this permit.

PERMIT CONDITION EU0040-002

10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitations:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any new source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Operational Limitation:

This emission unit shall be limited to burning pipeline grade natural gas or liquefied petroleum gas or any combination of these fuels.

Monitoring/Recordkeeping/Reporting:

The monitoring, record keeping and reporting requirements required to demonstrate compliance with Permit Condition EU0040-001 also suffices to demonstrate compliance with this permit condition. No additional monitoring, record keeping, or reporting is required for this permit condition.

<p align="center">PERMIT CONDITION EU0040-003</p>
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<p align="center">10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds</p>

Emission Limitation:

No person shall cause or allow emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight pounds of sulfur dioxide per million BTUs actual heat input averaged on any consecutive three hour time period.

Operational Limitation:

This emission unit shall be limited to burning either pipeline grade natural gas or liquid petroleum gas or any combination of these fuels.

Monitoring/Recordkeeping/Reporting:

The monitoring, record keeping and reporting requirements required to demonstrate compliance with Permit Condition EU0040-001 also suffices to demonstrate compliance with this permit condition. No additional monitoring, record keeping or reporting is required for this permit condition.

EU0050 – EVAPORATOR/DEMISTER			
Emission Unit	Description	Manufacturer/Model #	2004 EIQ Reference #
EU0050	Evaporator/demister: a continuous evaporator with a demister used to concentrate ammonium nitrate solution for the ammonium nitrate graining operation; MHDR 3.9 ton/hr; equipped with venturi scrubber (CD-1)	NA	EP-04

<p align="center">PERMIT CONDITION EU0050-001 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants</p>
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Emission Limitations:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on Evaporator/Demister (EU0050) using the procedures contained in Test Method 22 in Appendix A of 40 CFR part 60. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct an observation using the procedures contained in Test Method 9 in Appendix A of 40 CFR part 60.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency. If the source has already performed the weekly and biweekly monitoring and is monitoring in compliance with a previous permit, the weekly and biweekly monitoring do not need to be repeated.

Recordkeeping:

- 1) The permittee shall maintain records of all Method 22 observations (See Attachment C-1 or C-2.), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,

- b) All emission units from which visible emissions occurred, and
- c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions that result in visible emissions. (See Attachment D.)
- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment E.)
- 4) Attachments C-1, C-2, D and E are forms satisfying these record keeping requirements. These forms, or equivalent forms created by the permittee, must be used to certify compliance with this requirement.
- 5) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test, that the emission unit exceeded the opacity limit.
- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

PERMIT CONDITION EU0050-002

10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes

Emission Limitations:

- 1) Particulate matter shall not be emitted from Evaporator/Demister (EU0050) in excess of 10.20 lb/hr.
 - a) This emission rate was calculated using the following equation:
$$E = 4.10(P)^{0.67}$$
Where:
E = rate of emission in lb/hr
P = process weight rate in ton/hr
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

Monitoring/Recordkeeping/Reporting:

The permittee is assumed always to be in compliance with this regulation. Calculations demonstrating compliance are in Attachment G. The permittee shall keep this attachment with this permit. No monitoring, additional record keeping or reporting is required for this permit condition.

EU0060 THROUGH EU0150 – KETTLE CRYSTALLIZERS			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0060 through EU0130	Kettle Crystallizers 1 through 8: a batch process in which ammonium nitrate solution is filled into kettle crystallizers which are six foot diameter bowls with stirrers; MHDR 0.39 ton/hr per kettle; installed 1960 - 1963	Alloy Mfg and General Ionics/ various models	EP-05
EU0140 and EU0150	Kettle Crystallizers 9 and 10: a batch process in which ammonium nitrate solution is filled into kettle crystallizers which are six foot diameter bowls with stirrers; MHDR 0.39 ton/hr per kettle; installed 1997	Alloy Mfg and General Ionics/ various models	EP-05

PERMIT CONDITION (EU0060 through EU0150)-001
 10 CSR 10-6.060 Construction Permits Required
 Construction Permit 0997-036, issued on September 23, 1997

Emission Limitation:

Dyno Nobel, Inc. shall not emit more than 15 tons of particulate matter less than ten microns (PM₁₀) from Kettle Crystallizers (EU0060 through EU0150) in any consecutive 12-month period. [Permit 0997-036, Condition 1]

Monitoring/Recordkeeping/Reporting:

- 1) The permittee is assumed to always be in compliance with the emission limitation of 15 tons PM₁₀ in any consecutive 12-month period for Kettle Crystallizers (EU0060 through EU0150). Calculations demonstrating compliance are in Attachment H. The permittee shall keep this attachment with this permit. No monitoring, additional record keeping or reporting is required for this emission limitation.
- 2) If in the opinion of the director, the presence of PM₁₀ in the ambient air exists in quantities and durations that directly or proximately cause or contribute to injury to human, plant, or animal life or health, or to property, or that unreasonably interferes with the enjoyment of life or the use of property, the director may require the Permittee to submit a corrective action plan adequate to timely and significantly mitigate the emission of PM₁₀. The Permittee shall implement any such plan immediately upon its approval by the director. Failure to either submit or implement such a plan shall be a violation of the permit. [Permit 0997-036, Condition 4]
- 3) If in the opinion of the director, the continuing situation of demonstrated nuisance odors exists in violation of 10 CSR 10-3.090, the Director may require Dyno Nobel, Inc. to submit a corrective action plan adequate to timely and significantly mitigate the odors. Dyno Nobel, Inc. shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of the permit. [Permit 0997-036, Condition 5]

PERMIT CONDITION (EU0060 through EU0150)-002
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitations:

- 1) The permittee shall not cause or permit emissions to be discharged into the atmosphere from Kettle Crystallizers 1 through 8 (EU0060 through EU0130) any visible emissions with an opacity greater than 40%.
- 2) The permittee shall not cause or permit emissions to be discharged into the atmosphere from Kettle Crystallizers 9 and 10 (EU0140 and EU0150) any visible emissions with an opacity greater than 20%.
- 3) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on Kettle Crystallizers (EU0060 through EU0150) using the procedures contained in Test Method 22 in Appendix A of 40 CFR part 60. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct an observation using the procedures contained in Test Method 9 in Appendix A of 40 CFR part 60.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency. If the source has already performed the weekly and biweekly monitoring and is monitoring in compliance with a previous permit, the weekly and biweekly monitoring do not need to be repeated.

Recordkeeping:

- 1) The permittee shall maintain records of all Method 22 observations (See Attachment C-1 or C-2.), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions that result in visible emissions. (See Attachment D.)
- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment E.)

- 4) Attachments C-1, C-2, D and E are forms satisfying these record keeping requirements. These forms, or equivalent forms created by the permittee, must be used to certify compliance with this requirement.
- 5) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test, that the emission unit(s) exceeded the opacity limit.
- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

EU0160 – CHUB EMULSION FACILITY			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0160	Chub Emulsion Facility: emulsion manufacturing and packaging; MHDR 12 ton/hr; installed 1990	Dyno Nobel	NA

PERMIT CONDITION EU0160-001
10 CSR 10-6.060 Construction Permits Required
Construction Permit 0290-011, issued February 6, 1990

Emission Limitation:

Emulsion production at this facility shall not exceed 60,000 tons per year under the authority granted by Construction Permit 0290-011. Should a production increase be desired, a new permit application must be submitted in accordance with 10 CSR 10-6.060(6), “*General Permit Requirements for Construction Or Emissions Increase Greater Than De Minimis Levels.*” [Permit 0290-011, Condition 1]

Monitoring/Recordkeeping:

- 1) Records shall be kept of the amount of emulsion produced monthly for the previous 60-month period and these records shall be available to Missouri Department of Natural Resources personnel upon request. [Permit 0290-011, Condition 2]
- 2) All records must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 3) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined that the emission unit exceeded the emission limitation listed above.
- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

PERMIT CONDITION EU0160-002
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitations:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any new source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on Chub Emulsion Facility (EU0160) using the procedures contained in Test Method 22 in Appendix A of 40 CFR part 60. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct an observation using the procedures contained in Test Method 9 in Appendix A of 40 CFR part 60.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency. If the source has already performed the weekly and biweekly monitoring and is monitoring in compliance with a previous permit, the weekly and biweekly monitoring do not need to be repeated.

Recordkeeping:

- 1) The permittee shall maintain records of all Method 22 observations (See Attachment C-1 or C-2.), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions that result in visible emissions. (See Attachment D.)
- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment E.)
- 4) Attachments C-1, C-2, D and E are forms satisfying these record keeping requirements. These forms, or equivalent forms created by the permittee, must be used to certify compliance with this requirement.
- 5) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test, that the emission unit(s) exceeded the opacity limit.

- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

EU0170 – PAPERWRAP EMULSION FACILITY			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0170	Paperwrap Emulsion Facility: emulsion manufacturing and packaging; MHDR 5.25 ton/hr; installed 1993	Dyno Nobel	NA

<p>PERMIT CONDITION EU0170-001 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants</p>
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Emission Limitations:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any new source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on Paperwrap Emulsion Facility (EU0170) using the procedures contained in Test Method 22 in Appendix A of 40 CFR part 60. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct an observation using the procedures contained in Test Method 9 in Appendix A of 40 CFR part 60.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency. If the source has already performed the weekly and biweekly monitoring and is monitoring in compliance with a previous permit, the weekly and biweekly monitoring do not need to be repeated.

Recordkeeping:

- 1) The permittee shall maintain records of all Method 22 observations (See Attachment C-1 or C-2.), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.

- 2) The permittee shall maintain records of any equipment malfunctions that result in visible emissions. (See Attachment D.)
- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment E.)
- 4) Attachments C-1, C-2, D and E are forms satisfying these record keeping requirements. These forms, or equivalent forms created by the permittee, must be used to certify compliance with this requirement.
- 5) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test, that the emission unit exceeded the opacity limit.
- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

EU0180 AND EU0190 – CONTINUOUS NITRATOR SYSTEM AND SODA ASH TRANSFER			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0180	Continuous Nitrator System: continuous nitrator system for nitroglycerin production; MHDR 1.25 ton/hr; installed 1989	Biazzi & Dyno Nobel, Inc.	NA
EU0190	Soda Ash Transfer: soda ash is transferred into a 3,000-gallon soda water tank; equipped with bin top dust collector; installed 1989	NA	NA

PERMIT CONDITION (EU0180 and EU0190)-001
10 CSR 10-6.060 Construction Permits Required
Construction Permit 0889-014, issued August 30, 1989

Emission Limitation:

- 1) Nitroglycerin production at this facility shall not exceed 6,500 tons per year. Should a production increase be desired, a new permit must be obtained in accordance with 10 CSR 10-6.060(6), “General Permit Requirements for Construction Or Emissions Increase Greater Than De Minimis Levels.” [Permit 0889-014, Condition 1]
- 2) The permittee shall comply with all solid and hazardous waste laws, rules and permits enforced by the Department of Natural Resources’ Waste Management Program. [Permit 0889-014, Condition 5]

Monitoring:

The bin top dust collector claimed in the permit application (located at Soda Ash Transfer (EU0190)) shall be maintained and operated as prescribed by the manufacturer during all times this facility is in operation. [Permit 0889-014, Condition 3]

Recordkeeping:

- 1) Records shall be kept of the amount of nitroglycerin produced monthly for the previous 60-month period and these records shall be available to Missouri Department of Natural Resources personnel upon request. [Permit 0889-014, Condition 2]
- 2) All records must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 3) These records shall be made available immediately for inspection to the Department of Natural Resources’ personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall obtain approval from the city of Carthage, if required, and the Missouri Department of Natural Resources’ Springfield Regional Office (SRO) for the wastewater flow generated by this facility. In addition, the permittee shall also contact SRO regarding potential changes to their National Pollutant Discharge Elimination System (NPDES) permit. [Permit 0889-014, Condition 4]
- 2) The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the permittee determined that the emission unit(s) exceeded the emission limitation listed above.

- 3) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

PERMIT CONDITION EU0190-002

10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitations:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on Soda Ash Transfer (EU0190) using the procedures contained in Test Method 22 in Appendix A of 40 CFR part 60. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct an observation using the procedures contained in Test Method 9 in Appendix A of 40 CFR part 60.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency. If the source has already performed the weekly and biweekly monitoring and is monitoring in compliance with a previous permit, the weekly and biweekly monitoring do not need to be repeated.

Recordkeeping:

- 1) The permittee shall maintain records of all Method 22 observations (See Attachment C-1 or C-2.), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions that result in visible emissions. (See Attachment D.)
- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment E.)

- 4) Attachments C-1, C-2, D and E are forms satisfying these recordkeeping requirements. These forms, or equivalent forms created by the permittee, must be used to certify compliance with this requirement.
- 5) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test, that the emission unit exceeded the opacity limit.
- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

EU0200 – CAST EXPLOSIVE BOOSTER FACILITY

Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0200	Cast Explosive Booster Facility: the plant consists of four 200-gal melt kettles configured to empty into 2 booster cup filling machines. The kettles are filled with either Pentolite or comp-B. The booster cups are transported on a conveyor through a cooling tunnel; MHDR 1.54 ton/hr; equipped with spray tower scrubber (CD-11) to control PM generated during melting process; installed 1997	NA	EP-16

PERMIT CONDITION EU0200-001

10 CSR 10-6.060 Construction Permits Required
 Construction Permit 0395-006, issued February 15, 1995

Operational Limitation:

The booster plant scrubber (identified as CD-11 in 2004 EIQ) associated with the production of pentolite and comp-B boosters shall be maintained in proper working order, and shall be operated at all times that melting and molding operations are conducted at this facility. [Permit 0395-006, Condition 2]

Reporting:

- 1) If in the opinion of the director, a continuous situation of demonstrated nuisance odors exists for the neighbors of the facility, the director may require Dyno Nobel, Inc. to submit a corrective action plan adequate to timely and significantly mitigate the odors. Dyno Nobel, Inc. shall implement any such plan immediately upon its approval by the director. Failure to either submit or implement such a plan shall be a violation of the permit. [Permit 0395-006, Condition 1]
- 2) Reports of any deviations from the requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

PERMIT CONDITION EU0200-002

10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitations:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on the Cast Explosive Booster Facility (EU0200) using the procedures contained in Test Method 22 in Appendix A of 40 CFR part 60. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water.

Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct an observation using the procedures contained in Test Method 9 in Appendix A of 40 CFR part 60.

- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency. If the source has already performed the weekly and biweekly monitoring and is monitoring in compliance with a previous permit, the weekly and biweekly monitoring do not need to be repeated.

Recordkeeping:

- 1) The permittee shall maintain records of all Method 22 observations (See Attachment C-1 or C-2.), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions that result in visible emissions. (See Attachment D.)
- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment E.)
- 4) Attachments C-1, C-2, D and E are forms satisfying these record keeping requirements. These forms, or equivalent forms created by the permittee, must be used to certify compliance with this requirement.
- 5) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test, that the emission unit exceeded the opacity limit.
- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

PERMIT CONDITION EU0200-003

10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes

Emission Limitations:

- 1) Particulate matter shall not be emitted from Cast Explosive Booster Facility (EU0200) in excess of 5.48 lb/hr.
 - a) This emission rate was calculated using the following equation:
$$E = 4.10(P)^{0.67}$$
Where:
E = rate of emission in lb/hr
P = process weight rate in ton/hr
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

Monitoring/Recordkeeping/Reporting:

The permittee is assumed always to be in compliance with this regulation. Calculations demonstrating compliance are in Attachment I. The permittee shall keep this attachment with this permit. No monitoring, additional record keeping or reporting is required for this permit condition.

EU0210 – PETN FACILITY			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0210	PETN Facility: pentaerythritol tetranitrate (PETN) is prepared by the nitration of pentaerythritol (PE) with 98% nitric acid (HNO ₃); MHDR 0.315 ton/hr; equipped with a spray tower scrubber (CD-12); installed 1997	NA	EP-17

PERMIT CONDITION EU0210-001
10 CSR 10-6.060 Construction Permits Required
Construction Permit 0395-006, issued February 15, 1995

Operational Limitation:

The PETN plant scrubber (identified as CD-12 in 2004 EIQ) associated with the nitration operation shall be maintained in proper working order, and shall be operated at all times that nitration operations are conducted at this facility. [Permit 0395-006, Condition 3]

Reporting:

- 1) If in the opinion of the director, a continuous situation of demonstrated nuisance odors exists for the neighbors of the facility, the director may require Dyno Nobel, Inc. to submit a corrective action plan adequate to timely and significantly mitigate the odors. Dyno Nobel, Inc. shall implement any such plan immediately upon its approval by the director. Failure to either submit or implement such a plan shall be a violation of the permit. [Permit 0395-006, Condition 1]
- 2) Reports of any deviations from the requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

PERMIT CONDITION EU0210-002
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitations:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on PETN Facility (EU0210) using the procedures contained in Test Method 22 in Appendix A of 40 CFR part 60. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required.

For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct an observation using the procedures contained in Test Method 9 in Appendix A of 40 CFR part 60.

- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency. If the source has already performed the weekly and biweekly monitoring and is monitoring in compliance with a previous permit, the weekly and biweekly monitoring do not need to be repeated.

Recordkeeping:

- 1) The permittee shall maintain records of all Method 22 observations (See Attachment C-1 or C-2.), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions that result in visible emissions. (See Attachment D.)
- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment E.)
- 4) Attachments C-1, C-2, D and E are forms satisfying these record keeping requirements. These forms, or equivalent forms created by the permittee, must be used to certify compliance with this requirement.
- 5) All records shall be maintained for the most recent five (5) years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test, that the emission unit exceeded the opacity limit.
- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

PERMIT CONDITION EU0210-003

10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes

Emission Limitations:

- 1) Particulate matter shall not be emitted from PETN Facility (EU0210) in excess of 1.89 lb/hr.
 - a) This emission rate was calculated using the following equation:
$$E = 4.10(P)^{0.67}$$
Where:
E = rate of emission in lb/hr
P = process weight rate in ton/hr
- 2) The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

Monitoring:

The permittee shall calibrate, maintain and operate the wet scrubber (identified as CD-12 in 2004 EIQ) according the manufacturer's specifications and recommendations.

Recordkeeping:

- 1) The permittee shall maintain an operating and maintenance log for the scrubber which shall include the following: (see Attachment D.)
 - a) Incident of malfunction, with impact on emission, duration of event, probably cause, and corrective actions; and
 - b) Maintenance activities, with inspection schedule, repair actions and replacements, etc.
- 2) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 3) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined that the emission unit exceeded the manufacturer's recommended pressure drop range and/or liquid flow rates.
- 2) Reports of any deviations from monitoring other than the pressure drop range and/or liquid flow rates, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

EU0220 – Ammonium Nitrate Plant (NAL)			
Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0220	Ammonium Nitrate Plant: nitric acid (HNO ₃) and ammonia (NH ₃) react to form nitrate of ammonium liquor (NAL); MHDR 1.1 ton/hr; equipped with a spray tower scrubber (CD-13); installed 1997	NA	EP-18

<p>PERMIT CONDITION EU0220-001 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants</p>
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Emission Limitations:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on Ammonium Nitrate Plant (NAL) (EU0220) using the procedures contained in Test Method 22 in Appendix A of 40 CFR part 60. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct an observation using the procedures contained in Test Method 9 in Appendix A of 40 CFR part 60.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency. If the source has already performed the weekly and biweekly monitoring and is monitoring in compliance with a previous permit, the weekly and biweekly monitoring do not need to be repeated.

Recordkeeping:

- 1) The permittee shall maintain records of all Method 22 observations (See Attachment C-1 or C-2.), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and

- c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions that result in visible emissions. (See Attachment D.)
- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment E.)
- 4) Attachments C-1, C-2, D and E are forms satisfying these record keeping requirements. These forms, or equivalent forms created by the permittee, must be used to certify compliance with this requirement.
- 5) All records shall be maintained for the most recent five years. They must be maintained onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 6) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test, that the emission unit exceeded the opacity limit.
- 2) Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section V of this permit.

PERMIT CONDITION EU0220-002

10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes

Emission Limitations:

- 1) The permittee shall not emit particulate matter from the Ammonium Nitrate Plant (EU0220) in excess of the correctly calculated allowable emission rate on Attachment J.
- 2) The permittee shall not emit particulate matter from the Ammonium Nitrate Plant (EU0220) in a concentration exceeding 0.30 grains per cubic foot of exhaust gases.

Operational Limitation:

The permittee shall calibrate, maintain and operate the wet scrubber (identified as CD-13 in 2004 EIQ) according to the manufacturer's specifications and recommendations.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain an accurate record of emissions of particulate matter emitted into the atmosphere from the Ammonium Nitrate Plant (EU0220). The permittee shall record the emission rate in lb/hr and the concentration in gr/scf for this emission unit on a monthly basis.
- 2) Attachment J contains a form for these record keeping requirements. The permittee shall use this form, or an equivalent created by the permittee, for this purpose.
- 3) These records shall be maintained for five years. They shall be kept onsite for at least two years. They may be kept in either hard-copy form or on computer media.
- 4) These records shall be made available immediately for inspection to Department of Natural Resources personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which the records indicate the source exceeded either of the two emission limitations.
- 2) The permittee shall report any deviations from the monitoring, record keeping and reporting requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit.

EU0230 THROUGH EU0260 – Emergency Generators

Emission Unit	Description	Manufacturer/ Model #	2004 EIQ Reference #
EU0230	Emergency Generator 1: generator at Power House; diesel fired; MHDR 2.018 MMBtu/hr	NA	NA
EU0240	Emergency Generator 2: generator at Power House; diesel fired; MHDR 1.009 MMBtu/hr	NA	NA
EU0250	Emergency Generator 3: generator at Continuous Nitrator; diesel fired; MHDR 1.345 MMBtu/hr	NA	NA
EU0260	Emergency Generator 4: generator at Cast Booster; diesel fired; MHDR 1.682 MMBtu/hr	NA	NA

PERMIT CONDITION (EU0230 through EU0260)-001

10 CSR 10-6.260 Restriction of Emissions of Sulfur Compounds

Emission Limitations:

- 1) Emissions from any new source operation shall not contain more than five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Stack gasses shall not contain more than thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m ³	1-hour average not to be exceeded more than once in any 2 consecutive days

Monitoring/Recordkeeping/Reporting:

The permittee will always be in compliance with this regulation. Calculations demonstrating compliance are in Attachment K. The permittee shall keep this attachment with this permit. No monitoring or reporting is required for this permit condition.

IV. Core Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days, in writing, the following information:
 - a) Name and location of installation;
 - b) Name and telephone number of person responsible for the installation;
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
 - d) Identity of the equipment causing the excess emissions;
 - e) Time and duration of the period of excess emissions;
 - f) Cause of the excess emissions;
 - g) Air pollutants involved;
 - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and
 - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the paragraph 1 information list to the director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
- 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo.
- 4) Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
- 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.060 Construction Permits Required

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

10 CSR 10-6.065 Operating Permits

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months.

[10 CSR 10-6.065(6)(B)1.A(V)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065(6)(C)1.C(II)] The permittee shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request.

[10 CSR 10-6.065(6)(C)3.B]

10 CSR 10-6.110 Submission of Emission Data, Emission Fees and Process Information

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- 2) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079 to satisfy the requirements of the Federal Clean Air Act, Title V.
- 3) The fees shall be due June 1 each year for emissions produced during the previous calendar year. The fees shall be payable to the Department of Natural Resources and shall be accompanied by the EIQ form or equivalent approved by the director.

10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.170 Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director.
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.

- 3) Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
 - a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
 - b) Paving or frequent cleaning of roads, driveways and parking lots;
 - c) Application of dust-free surfaces;
 - d) Application of water; and
 - e) Planting and maintenance of vegetative ground cover.

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants

- 1) The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel.
- 2) The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- 3) The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-3.030 Open Burning Restrictions

- 1) The permittee shall not conduct, cause, permit or allow a salvage operation, the disposal of trade wastes or burning of refuse by open burning.
- 2) Exception - Open burning of trade waste or vegetation may be permitted only when it can be shown that open burning is the only feasible method of disposal or an emergency exists which requires open burning.
- 3) Any person intending to engage in open burning shall file a request to do so with the director. The request shall include the following:
 - a) The name, address and telephone number of the person submitting the application; The type of business or activity involved; A description of the proposed equipment and operating practices, the type, quantity and composition of trade wastes and expected composition and amount of air contaminants to be released to the atmosphere where known;
 - b) The schedule of burning operations;
 - c) The exact location where open burning will be used to dispose of the trade wastes;
 - d) Reasons why no method other than open burning is feasible; and
 - e) Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction.
- 4) Upon approval of the open burning permit application by the director, the person may proceed with the operation under the terms of the open burning permit. Be aware that such approval shall not exempt Dyno Nobel, Inc. Carthage Plant from the provisions of any other law, ordinance or regulation.
- 5) The permittee shall maintain files with letters from the director approving the open burning operation and previous Department of Natural Resources inspection reports.

10 CSR 10-3.090 Restriction of Emission of Odors

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour.

This requirement is not federally enforceable.

Title VI – 40 CFR Part 82 Protection of Stratospheric Ozone

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
 - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
 - d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
 - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
 - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
- 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

- 5) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR part 82*

10 CSR 10-6.280 Compliance Monitoring Usage

- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
- a) Monitoring methods outlined in 40 CFR Part 64;
 - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Any other monitoring methods approved by the director.
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
- a) Monitoring methods outlined in 40 CFR Part 64;
 - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
- a) Applicable monitoring or testing methods, cited in:
 - i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
 - ii) 10 CSR 10-6.040, "Reference Methods";
 - iii) 10 CSR 10-6.070, "New Source Performance Standards";
 - iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
 - b) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued,

10 CSR 10-6.065(6)(C)1.B Permit Duration

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

10 CSR 10-6.065(6)(C)1.C General Recordkeeping and Reporting Requirements

- 1) Recordkeeping
 - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
 - b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.
- 2) Reporting
 - a) All reports shall be submitted to the Air Pollution Control Program, Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all required monitoring by:
 - i) October 1st for monitoring which covers the January through June time period, and
 - ii) April 1st for monitoring which covers the July through December time period.
 - iii) Exception. Monitoring requirements which require reporting more frequently than semi annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
 - c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
 - d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
 - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.
 - ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.

- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under Section 112(r)

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

10 CSR 10-6.065(6)(C)1.F Severability Clause

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

10 CSR 10-6.065(6)(C)1.G General Requirements

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit.

Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

10 CSR 10-6.065(5)(C)1.H Incentive Programs Not Requiring Permit Revisions

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

10 CSR 10-6.065(5)(C)1.C Reasonably Anticipated Operating Scenarios

None.

10 CSR 10-6.065(6)(C)3 Compliance Requirements

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
 - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
 - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
 - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, as well as the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
 - a) The identification of each term or condition of the permit that is the basis of the certification;
 - b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;

- c) Whether compliance was continuous or intermittent;
- d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
- e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

10 CSR 10-6.065(6)(C)6 Permit Shield

- 1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
 - a) The application requirements are included and specifically identified in this permit, or
 - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- 2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
 - a) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
 - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
 - c) The applicable requirements of the acid rain program,
 - d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
 - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

10 CSR 10-6.065(6)(C)7 Emergency Provisions

- 1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
 - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
 - b) That the installation was being operated properly,
 - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
 - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

10 CSR 10-6.065(6)(C)8 Operational Flexibility

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as Environmental Protection Agency (EPA) Region VII, 901 North 5th Street, Kansas City, Kansas 66101, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), recordkeeping, reporting or compliance requirements of the permit.
 - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the Air Pollution Control Program shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the Air Pollution Control Program as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the Air Pollution Control Program as soon as possible after learning of the need to make the change.
 - b) The permit shield shall not apply to these changes.

10 CSR 10-6.065(6)(C)9 Off-Permit Changes

- 1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
 - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
 - b) The permittee must provide written notice of the change to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3.

- This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
- c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
 - d) The permit shield shall not apply to these changes.

10 CSR 10-6.020(2)(R)12 Responsible Official

The application utilized in the preparation of this permit was signed by Steven K. Burgin. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources receives notice from the EPA that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) The Department of Natural Resources or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
 - a) The permit has a remaining term of less than three years;
 - b) The effective date of the requirement is later than the date on which the permit is due to expire;or
 - c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
- 5) The Department of Natural Resources or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065(6)(E)1.C Statement of Basis

This permit is accompanied by a statement setting forth the legal and factual basis for the draft permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VI. ATTACHMENTS

Attachments follow.

ATTACHMENT A
10 CSR 10-3.060 Compliance Demonstration

This attachment may be used to demonstrate that Keeler Boiler (EU0020) is in compliance with 10 CSR 10-3.060, *Maximum Allowable Emission of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*, which is incorporated into Permit Condition EU0020-001, as long as the emission unit is limited to burning natural gas or distillate oil.

The PM emission limit is based on whether the emission unit is new or existing. In the outstate Missouri area, existing is defined as being installed or under construction on February 24, 1971. Keeler Boiler (EU0020) was installed in 1953, so it is an existing unit for the purposes on this regulation.

The PM emission limit is also based on the total heat input rate, in MMBtu/hr, of all indirect heating units at the installation (Q). The indirect heating sources at the facility and their respective heat input are as follows:

EU ID #	EU Description	Heat Input (MMBtu/hr)
EU0010	Superior Boiler	25.2
EU0020	Keeler Boiler	50
EU0030	Kewanee Boiler	4
EU0040	Wastewater Thermal Treatment	0.75
NA	Space heaters	0.765
Installation's Total Heat Input (Q)		80.715

Allowable Emission Rate (E) for Existing Sources

$$E = 0.90Q^{-0.174}$$

Where

E = maximum allowable PM emission rate in lb/MMBtu of heat input, rounded to two decimal places

Q = the installation's total heat input in millions of Btu/hr

$$E = 0.90(80.715)^{-0.174}$$

$$E = 0.42 \text{ lb/MMBtu}$$

Potential Emission Rate (PTE)

Natural Gas

PM emission factor for natural gas = 7.6 lb/10⁶ scf [US EPA document AP-42 Table 1.4-2]

Heating value of natural gas = 1020 MMBtu/10⁶ scf [US EPA document AP-42 Chapter 1.4]

Potential PM Emissions for natural gas = (7.6 lb/10⁶ scf)/(1020 MMBtu/10⁶ scf) = 0.0075 lb/MMBtu

Since the uncontrolled potential to emit rate of 0.0075 lb/MMBtu is well below the allowable emission rate of 0.42 lb/MMBtu, the unit is in compliance.

Fuel Oil No. 2

PM emission factor for fuel oil = 2.0 lb/10³ gal [US EPA document AP-42 Table 1.3-1]

Heating value of fuel oil No. 2 = 140 MMBtu/10³ gal [US EPA document AP-42 Chapter 1.3]

Potential Emission for fuel oil No. 2 = (2.0 lb/10³ gal)/(140 MMBtu/10³ gal) = 0.014 lb/MMBtu

Since the uncontrolled potential to emit rate of 0.014 lb/MMBtu is well below the allowable emission rate of 0.42 lb/MMBtu, the unit is in compliance.

ATTACHMENT B
10 CSR 10-3.060 Compliance Demonstration

This attachment may be used to demonstrate that Kewanee Boiler (EU0030) is in compliance with 10 CSR 10-3.060, *Maximum Allowable Emission of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*, which is incorporated into Permit Condition EU0030-001, as long as the emission unit is limited to burning natural gas or distillate oil.

The PM emission limit is based on whether the emission unit is new or existing. In the outstate Missouri area, existing is defined as being installed or under construction on February 24, 1971. Kewanee Boiler (EU0030) was installed in 1990, so it is a new unit for the purposes on this regulation.

The PM emission limit is also based on the total heat input rate, in MMBtu/hr, of all indirect heating units at the installation (Q). The indirect heating sources at the facility and their respective heat input rates are as follows:

EU ID #	EU Description	Heat Input (MMBtu/hr)
EU0010	Superior Boiler	25.2
EU0020	Keeler Boiler	50
EU0030	Kewanee Boiler	4
EU0040	Wastewater Thermal Treatment	0.75
NA	Space heaters	0.765
Installation's Total Heat Input (Q)		80.715

Allowable Emission Rate (E) for New Sources

$$E = 1.31Q^{-0.338}$$

Where

E = maximum allowable PM emission rate in lb/MMBtu of heat input, rounded to two decimal places

Q = the installation's total heat input in millions of Btu/hr

$$E = 1.31(80.715)^{-0.338}$$

$$E = 0.30 \text{ lb/MMBtu}$$

Potential Emission Rate (PTE)

Natural Gas

PM emission factor for natural gas = 7.6 lb/10⁶ scf [US EPA document AP-42 Table 1.4-2]

Heating value of natural gas = 1020 MMBtu/10⁶ scf [US EPA document AP-42 Table 1.4-2]

Potential PM Emissions for natural gas = (7.6 lb/10⁶ scf)/(1020 MMBtu/10⁶ scf) = 0.0075 lb/MMBtu

Since the uncontrolled potential to emit rate of 0.0075 lb/MMBtu is well below the allowable emission rate of 0.30 lb/MMBtu, the unit is in compliance.

Fuel Oil No. 2

PM emission factor for fuel oil = 2.0 lb/10³ gal [US EPA document AP-42 Table 1.3-1]

Heating value of fuel oil No. 2 = 140 MMBtu/10³ gal [US EPA document AP-42 Chapter 1.3]

Potential Emission for fuel oil No. 2 = (2.0 lb/10³ gal)/(140 MMBtu/10³ gal) = 0.014 lb/MMBtu

Since the uncontrolled potential to emit rate of 0.014 lb/MMBtu is well below the allowable emission rate of 0.30 lb/MMBtu, the unit is in compliance.

ATTACHMENT C-2
Method 22 (Outdoor) Observation Log

This record keeping sheet or an equivalent form may be used for the record keeping requirements of 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*.

Method 22 (Outdoor) Observation Log		
Emission Unit		
Observer	Date	
Sky Conditions		
Precipitation		
Wind Direction	Wind Speed	
<p>Sketch process unit: Indicate the position relative to the source and sun; mark the potential emission points and/or the observing emission points.</p> 		
Observation Clock Time	Observation Period Duration (minute: second)	Accumulative Emission Time (minute: second)
Begin Observation		
End Observation		

ATTACHMENT E
Method 9 Opacity Emissions Observations

This record keeping sheet or an equivalent form may be used for the record keeping requirements of 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*.

Method 9 Opacity Emissions Observations								
Company					Observer			
Location					Observer Certification Date			
Date					Emission Unit			
Time					Control Device			
Hour	Minute	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							
SUMMARY OF AVERAGE OPACITY								
Set Number	Time				Opacity			
	Start	End	Sum	Average				

Readings ranged from _____ to _____ % opacity.

Was the emission unit in compliance at the time of evaluation? _____
 YES NO _____
Signature of Observer

ATTACHMENT F
10 CSR 10-3.060 Compliance Demonstration

This attachment may be used to demonstrate that Wastewater Thermal Treatment Unit (EU0040) is in compliance with 10 CSR 10-3.060, *Maximum Allowable Emission of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*, which is incorporated into Permit Condition EU0040-001, as long as the emission unit is limited to burning natural gas or liquid petroleum gas (LPG).

The PM emission limit is based on whether the emission unit is new or existing. In the outstate Missouri area, existing is defined as being installed or under construction on February 24, 1971. Wastewater Thermal Treatment Unit (EU0040) was installed in 1998, so it is a new unit for the purposes on this regulation.

The PM emission limit is also based on the total heat input rate, in MMBtu/hr, of all indirect heating units at the installation (Q). The indirect heating sources at the facility and their respective heat input rates are as follows:

EU ID #	EU Description	Heat Input (MMBtu/hr)
EU0010	Superior Boiler	25.2
EU0020	Keeler Boiler	50
EU0030	Kewanee Boiler	4
EU0040	Wastewater Thermal Treatment	0.75
NA	Space heaters	0.765
Installation's Total Heat Input (Q)		80.715

Allowable Emission Rate (E) for New Sources

$$E = 1.31Q^{-0.338}$$

Where

E = maximum allowable PM emission rate in lb/MMBtu of heat input, rounded to two decimal places

Q = the installation's total heat input in millions of Btu/hr

$$E = 1.31(80.715)^{-0.338}$$

$$E = 0.30 \text{ lb/MMBtu}$$

Potential Emission Rate (PTE)

Natural Gas

PM emission factor for natural gas = 7.6 lb/10⁶ scf [US EPA document AP-42 Table 1.4-2]

Heating value of natural gas = 1020 MMBtu/10⁶ scf [US EPA document AP-42 Table 1.4-2]

Potential PM Emissions for natural gas = (7.6 lb/10⁶ scf)/(1020 MMBtu/10⁶ scf) = 0.0075 lb/MMBtu

Since the uncontrolled potential to emit rate of 0.0075 lb/MMBtu is well below the allowable emission rate of 0.30 lb/MMBtu, the unit is in compliance.

LPG

PM emission factor for LPG = 0.4 lb/10³ gal [US EPA document AP-42 Table 1.5-1]

Heating value of LPG = 91.5 MMBtu/10³ gal [US EPA document AP-42 Chapter 1.5]

Potential Emission for LPG = (0.4 lb/10³ gal)/(91.5 MMBtu/10³ gal) = 0.004 lb/MMBtu

Since the uncontrolled potential to emit rate of 0.004 lb/MMBtu is well below the allowable emission rate of 0.30 lb/MMBtu, the unit is in compliance.

ATTACHMENT G
10 CSR 10-6.400 Compliance Demonstration

This attachment may be used to demonstrate that Evaporator/Demister (EU0050) is in compliance with 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes*.

Allowable PM Emission Rate (E)

For process weight rates of 60,000 lb/hr or less:

$$E \text{ (lb/hr)} = 4.10(P)^{0.67}$$

Where:

P = process weight rate in ton/hr = 3.9 ton/hr

$$E = 4.10(3.9)^{0.67} = 10.20 \text{ lb/hr}$$

Potential Uncontrolled PM Emission Rate (PTE)

PTE = MHDR x Emission Factor

Where:

MHDR = Maximum Hourly Design Rate = 3.9 ton/hr

PM Emission Factor = 0.52 lb/ton [Source: US EPA FIRE 6.25, SCC 30102717]

PTE = Potential to Emit

$$PTE = 3.9 \text{ ton/hr} \times 0.52 \text{ lb/ton} = 2.03 \text{ lb/hr}$$

Allowable PM Concentration = 0.3 gr/scf

Potential PM Concentration

Emission rate (gr/dscf) = Emission Rate (lb/hr) x (7000 grains/lb)/Stack Flow Rate (SCFM)/60(min/hr)
 Flow rates converted from actual to standard condition using the ideal gas law.

EU #	Controlled Emission Rate (lb/hr)	Stack Temp °F	Stack Flow		Emission Rate	Allowable Emission Rate (gr/scf)
			ACFM	SCFM		
EU0050	0.20	200	2000	1600	0.015	0.3

Since the uncontrolled potential to emit rate of 2.03 lb/hr is well below the allowable emission rate of 10.20 lb/hr and the concentration of 0.015 gr/scf is well below the allowable concentration of 0.3 gr/scf, the unit is in compliance.

ATTACHMENT H
Permit Condition (EU0060 through EU0150)-001 Compliance Demonstration

This attachment may be used to demonstrate that Kettle Crystallizers (EU0060 through EU0150) do not have the potential to emit 15 tons or more of particulate matter less than ten microns in diameter (PM₁₀) in any consecutive 12-month period.

Potential Emission Rate (PTE):

$$\text{PTE} = \text{MHDR} \times \text{Emission Factor} \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lb}$$

Where:

MHDR = Maximum Hourly Design Rate = 3.9 ton/hr for total of Kettle Crystallizers (EU0060 through EU0150) based on the rate limiting step of the Evaporator/Demister (EU0050)

PM₁₀ Emission Factor = 0.2 lb PM₁₀/ton [Source: US EPA FIRE 6.25, SCC# 30102705 gives PM emission factor as 0.4 lb/ton; assume PM₁₀ is 50% PM; therefore emission factor for PM₁₀ = 0.2 lb PM₁₀/ton]

PTE = Potential to Emit

$$\text{PTE} = 3.9 \text{ ton/hr} \times 0.2 \text{ lb/ton} \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lb} = 3.42 \text{ ton/yr}$$

Since the uncontrolled potential to emit rate of 3.42 ton PM₁₀/yr is well below the allowable emission rate of 15 ton PM₁₀/yr, the unit is assumed to be always in compliance.

ATTACHMENT I
10 CSR 10-6.400 Compliance Demonstration

This attachment may be used to demonstrate that Cast Explosive Booster Facility (EU0200) is in compliance with 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes*.

Cast Explosive Booster Facility (EU0200)

Allowable PM Emission Rate (E)

For process weight rates of 60,000 lb/hr or less:

$$E \text{ (lb/hr)} = 4.10(P)^{0.67}$$

Where:

P = process weight rate in ton/hr = 1.54 ton/hr

$$E = 4.10(1.54)^{0.67} = 5.48 \text{ lb/hr}$$

Potential Uncontrolled PM Emission Rate (PTE)

$$PTE = \text{MHDR} \times \text{Emission Factor}$$

Where:

MHDR = Maximum Hourly Design Rate = 1.54 ton/hr

PM Emission Factor = 0.666 lb/ton [Source: 2004 EIQ listed the PM₁₀ emission factor as 0.333 lb/ton based on engineering calculations. Assumed the PM emission factor would be twice that of PM₁₀, 2 x 0.333 = 0.666 lb/ton.]

PTE = Potential to Emit

$$PTE = 1.54 \text{ ton/hr} \times 0.666 \text{ lb/ton} = 1.03 \text{ lb/hr}$$

$$\text{Allowable PM Concentration} = 0.3 \text{ gr/scf}$$

Potential PM Concentration

$$\text{Emission rate (gr/dscf)} = \text{Emission Rate (lb/hr)} \times (7000 \text{ grains/lb}) / \text{Stack Flow Rate (SCFM)} / 60(\text{min/hr})$$

Flow rates converted from actual to standard condition using the ideal gas law.

EU #	Controlled Emission Rate (lb/hr)	Stack Temp °F	Stack Flow		Emission Rate	Allowable Emission Rate (gr/scf)
			ACFM	SCFM		
EU0200	0.001	80	5000	4889	0.00002	0.3

Since the uncontrolled potential to emit rate of 1.03 lb PM/hr is below the allowable emission rate of 5.48 lb PM/hr and the concentration of 0.00002 gr/scf is well below the allowable concentration of 0.3 gr/scf, the unit is in compliance.

ATTACHMENT J

Monthly Particulate Matter Tracking Record for Ammonium Nitrate Plant (EU0220)

For month of _____, year of _____

Company Name: Dyno Nobel Inc. – Carthage Plant

Installation Location: 17562 Gum Rd, P.O. Box 717, Carthage, MO 54836 Jasper County Installation ID: 097-0007

(A) Total tons of process weight this month = _____

(B) Total hours of operation this month = _____

(C) Process weight rate = (A) / (B) = _____ ton/hr

(D) Allowable PM emission rate = $4.10(C)^{0.67}$ = _____ lb/hr ←

(E) PM emission factor = _____ lb/ton

If not using the maximum emission factor of 8.6 lb/ton from Table 8.3-2 in U. S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition, justify here. _____

(F) Uncontrolled PM emission rate = (C) X (E) = _____ lb/hr

(G) Overall control efficiency = _____ %

(H) Controlled PM emission rate = $(F) \left[1 - \frac{(G)}{100} \right]$ = _____ lb/hr ←

(I) Stack flow rate = _____ scf/min

(J) PM concentration = $\left(H \frac{lb}{hr} \right) \left(\frac{7000 gr}{lb} \right) \left(\frac{hr}{60 min} \right) \left(\frac{1}{Iscf / min} \right)$ = _____ gr/scf ←

If controlled PM emission rate (H) is not more than allowable PM emission rate (D) and PM concentration (J) is not more than 0.30 gr/scf, then the installation is in compliance with Permit Condition EU0220-002.

ATTACHMENT K
10 CSR 10-6.260 Compliance Demonstration

This attachment may be used to demonstrate that the Emergency Generators (EU0230 through EU0260) are always in compliance with 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds* as summarized below:

- 1) General Equation: $\text{ppmv SO}_2 = \text{SO}_2 \text{ Emission Factor (lb/MMBtu)} \div \text{F factor (wscf/MMBtu)} \div \text{Conversion Factor (lb/scf)} \times \text{Conversion Factor (ppmv/ppmw)}$
- 2) The SO₂ emission factor for diesel industrial engines = 0.29 lb/MMBtu (Source: US EPA document AP-42 Table 3.3-1)
- 3) This emission factor assumes that all of the sulfur in the fuel is converted to SO₂ emissions.
- 4) The F factor is the ratio of gas volume of products of combustion to the heat content of the fuel. For fuel oil the F factor is 10,320 wscf/MMBtu. (Source: 40 CFR Part 60 Appendix A Method 19 Table 19-2).
- 5) Conversion factor for lb/scf to ppm is 1.660E-7 lb/scf per ppm (Source: 40 CFR Part 60 Appendix A Method 19 Table 19-1).
- 6) Conversion factor for ppm weight to ppmv = 28.8/MW = 28.8/64 = 0.45 (Source: US EPA document AP-42 Appendix A)

Compliance Demonstration

$$\text{ppmv SO}_2 = \left(0.29 \text{ lb/MMBtu}\right) \left(\text{MMBtu}/10,320 \text{ ft}^3\right) \left(\text{scf}/1.667 \text{ E}^{-7} \text{ lb}\right) \left(0.45 \text{ ppmv/ppmw}\right) = 76 \text{ ppmv} < 500 \text{ ppmv}$$

Since the uncontrolled potential to emit rate of 76 ppmv is below the allowable emission rate of 500 ppmv, the units are in compliance.

STATEMENT OF BASIS

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Renewal Operating Permit Application, received July 24, 2003;
- 2) 2006 Emissions Inventory Questionnaire, Internet submittal received May 18, 2007;
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition;
- 4) Part 70 Operating Permit 1999016A, issued February 14, 2000.

Historical Notes:

- 1) OP 1999016A identified the Ecolaire incinerator as a significant activity. This incinerator was permanently removed from the facility in 1989.
- 2) OP 1999016A(I)(A)(6) identified 10 CSR 10-5.160, *Control of Odors in the Ambient Air*, as an applicable rule. This rule applies only to the St. Louis Metropolitan area and is not included. 10 CSR 10-3.090, *Restriction of Emission of Odors*, is included as a core permit requirement.
- 3) OP 1999016A(I)(A)(10) identified 10 CSR 10-3.060, *Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*, as an applicable regulation with a PM emission limitation of 0.30 lb/MMBtu for all indirect heating equipment. The PM emission limit has been changed as follows: Keeler Boiler (EU0020) is an existing emission unit and has a PM emission limitation of 0.42 lb/MMBtu. (See Attachment A.) Kewanee Boiler (EU0030) and Wastewater Thermal Treatment Unit (EU0040) are new emission units and each has a PM emission limitation of 0.30 lb/MMBtu. (See Attachments B and F.) Superior Boiler (EU0010) is not subject to 10 CSR 10-3.060.
- 4) OP 1999016A(I)(F) identified 40 CFR Part 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984* as applicable to the storage tanks associated with the Chub Emulsion Facility (EU0160). This standard applies to each storage vessel with a capacity greater than or equal to 75 cubic meters (19,800-gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. As shown in the table below, the storage tanks located at the Chub Emulsion Facility (EU0160) do not meet the volume criteria in this standard.

Tank ID	Capacity	Contents	Year of Construction
Mineral oil storage tank	10,000-gallon	Mineral oil	1990
Kaydol oil storage tank	10,000-gallon	Kaydol oil	1990
Amber wax storage tank	10,000-gallon	Amber wax	1990
Paraffin wax storage tank	10,000-gallon	Paraffin wax	1990
Fuel oil blending tank	250-gallon	Mixture of oil and waxes	1990
Fuel blend holding tanks	250-gallon each	Mixture of oil and waxes	1990
Oxidizer blend & holding tanks	~7,000-gal each	Liquor of ammonium nitrate	1990

- 5) OP 1999016A(I)(H) identified emission limitations established by Construction Permit 0587-077 as applicable to the acid mixing operation. Construction Permit 0587-077 authorized the construction of the Ecolaire incinerator, which has been removed from the facility. Construction Permit 1187-003A authorized the construction of the acid mixing facility. This permit does not established special conditions relating to the acid mixing operation.
- 6) OP 1999016A(I)(J) identified 40 CFR Part 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984* as applicable to the Fuel Oil Tanks (EP-09). This standard applies to each storage vessel with a capacity greater than or equal to 75 cubic meters (19,800-gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. As shown in the table below, the fuel oil tanks located at the facility do not meet the installation date and/or volume criteria in this standard.

Tank ID	Capacity	Contents	Year of Construction
Fuel oil tank #1	55,000-gallon	Diesel (No. 2)	1966-1967
Fuel oil tank #2	9,000-gallon	Diesel (No. 2)	1966-1967
Fuel oil tank #3	550-gallon	Diesel (No. 2)	1999
Fuel oil tank #4	500-gallon	Diesel (No. 2)	2002
Fuel oil tank #5	500-gallon	Diesel (No. 2)	1989
Fuel oil tank #6	2,000-gallon	Diesel (No. 2)	2006
Fuel oil tank #7	300-gallon	Diesel (No. 2)	2005
Fuel oil tank #8	500-gallon	Diesel (No. 2)	2006

- 7) OP 1999016A(I)(K) identified Evaporator/Demister (EU0050) as subject to 10 CSR 10-3.050, *Restriction of Emission of Particulate Matter from Industrial Processes*, with a PM emission limitation of 6.17 lb/hr. 10 CSR 10-3.050 was rescinded on March 30, 2001 and replaced by 10 CSR 10-6.400. 10 CSR 10-6.400 is included with a PM emission limitation of 10.20 lb/hr. (See Attachment G.)
- 8) The following units, which were listed as insignificant activities in OP 1999016A, have been removed from the facility and are not included:
- Sodium nitrate grinding and conveying at Soda Warehouse (EU-8)
 - Batch Nitrator (EU-15)
 - Nitroglycerin separator at Batch Nitrator (EU-16)
 - Spent nitrating acid tanks at Batch Nitrator (EU-17, 18)
 - Spent acid emergency drowning tank at Batch Nitrator (EU-19)
 - Prewash tank at Batch Nitrator (EU-20)
 - Nitroglycerin transfer gutter vents from Batch Nitrator (EU-21, 22)
 - Sour water catch tank at Batch Nitrator (EU-33)
 - Outside catch tanks at Batch Nitrator (EU-34, 35)
 - Spent acid transfer blow cases (EU-44, 45)
 - Three ingredient drying kettles at the Dope House (EU-255)
- 9) The following units, which were not listed in OP 1999016A, have been included in this permit as insignificant activities:
- Wet scrubber on neutralizer and process tank at NAL (EU-250)

- b) Mixed acid mixing tank (EU-251)
- c) Sulfuric acid storage tank at Mixed Acid (EU-252)
- d) Acid Fume wet scrubber at Mixed Acid (EU-253)
- e) Weak sulfuric acid storage tank at NAR (EU-254)
- f) Sodium nitrate bin at Chub Emulsion (EU-256)
- g) Five natural gas building heaters, total heat input 0.765 MMBtu/hr (EU-257 through 259)
- h) Sodium nitrate bin at Dope House (EU-284)
- i) Parts washers throughout plant (EU-261)
- j) Welders and cutting torches in Maintenance Area (EU-262)
- k) Carpenter shop (EU-263)
- l) Paint booth at Paint Shop (EU-264)
- m) Flashing electric oven at Maintenance Area (EU-265)
- n) Spent acid storage tanks at Continuous Nitrator (EU-268 through 270)
- o) Catch tanks at Continuous Nitrator (EU-271 through 275)
- p) Tuthill room ventilation (acid and blend rooms) (EU-276, 277)
- q) Air compressor at Continuous Nitrator (EU-278)
- r) Catch tanks at Prewash (EU-279 through 283)
- s) Five oxidizer blend & holding tanks at Chub Emulsion (EU-286 through 289)
- t) Mineral oil storage tank at Chub Emulsion, 10,000-gal, installed 1990 (EU-290)
- u) Kaydol oil storage tank at Chub Emulsion, 10,000-gal, installed 1990 (EU-291)
- v) Amber wax storage tank at Chub Emulsion, 10,000-gal, installed 1990 (EU-292)
- w) Paraffin wax storage tank at Chub Emulsion, 10,000-gal, installed 1990 (EU-293)
- x) Fuel oil blending tank at Chub Emulsion, 250-gal, installed 1990 (EU-294)
- y) Four fuel blend holding tanks at Chub Emulsion, 250-gal each, installed 1990 (EU-295 through 298)
- z) Ammonium nitrate storage bin at Chub Emulsion, 90,000 lbs, installed 1990 (EU-299)
- aa) 98% Nitric acid storage tank at Cast Booster (EU-301)
- bb) 83% Nitric acid storage tank at Cast Booster (EU-302)
- cc) Spent nitric acid storage tank at Cast Booster (EU-303)
- dd) Oxidizer storage tanks at Paperwrap Emulsion (EU-304 through 306)
- ee) Amber wax storage tank at Paperwrap Emulsion (EU-307)
- ff) Paraffin wax storage tank at Paperwrap Emulsion (EU-308)
- gg) Kaydol oil storage tank at Paperwrap Emulsion (EU-309)
- hh) Four fuel blending and holding tanks at Paperwrap Emulsion (EU-310 through 313)

Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

- 1) 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes* was marked as not applicable in the permit application. This regulation is applicable to the following emission units each of which has the potential to emit particulate matter at a rate of 0.5 lb/hr or greater:
 - a) Evaporator/Demister (EU0050)
 - b) Cast Explosive Booster Facility (EU0200)

- c) PETN Facility (EU0210)
- d) Ammonium Nitrate Plant (NAL) (EU0220)

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

- 1) 10 CSR 10-6.100, *Alternate Emission Limits* does not apply to this installation because the facility is in an ozone attainment area.
- 2) 10 CSR 10-3.050, *Restriction of Emission of Particulate Matter from Industrial Processes*, was identified as applicable in the permit application. This regulation was rescinded on March 30, 2001 and replaced by 10 CSR 10-6.400, which is included.
- 3) 10 CSR 10-3.150, *Restriction of Emissions of Sulfur Compounds from Indirect Heating Sources*, was identified as applicable in the permit application. This regulation was rescinded on July 30, 1997 and replaced by 10 CSR 10-6.260, which is included.
- 4) 40 CFR Part 60 Subpart D, *Standards of Performance for Fossil-Fuel Steam Generating*, was identified as applicable in the permit application. This standard applies to each fossil-fuel-fired steam generating unit of more than 250 MMBtu per hour that commenced construction or modification after August 17, 1971. None of the boilers (EU0010 through EU0040) meets the installation date and maximum design heat input criteria of this standard.
- 5) 40 CFR Part 60 Subpart Db, *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*, was identified as applicable in the permit application. This standard applies to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity of greater than 100 MMBtu/hour. None of the boilers (EU0010 through EU0040) meets the installation date and maximum design heat input criteria of this standard.
- 6) 40 CFR Part 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*, was identified as applicable to a group of 6 fuel oil tanks (identified as EP-9) and Chub Emulsion Facility (EU0160) in the permit application. As demonstrated above under section 4) and 6) of Historical Notes, these storage tanks do not meet the applicability requirements of this standard.

Construction Permit Revisions

The following revisions were made to construction permits for this installation:

- 1) Construction Permit 0587-007 authorized the construction of an Ecolaire incinerator. This incinerator was permanently removed from the facility in 1989.
- 2) Construction Permit 0889-014 authorized the construction of Continuous Nitrator System (EU0180) and Soda Ash Transfer (EU0190) for nitroglycerin production.

-
- a) Condition 2 required that records be kept of the amount of nitroglycerin produced for the previous 24-month period. This requirement has been increased to the previous 60-month period to comply with state operating permit requirements.
 - b) 10 CSR 10-3.080, *Restriction of Emission of Visible Air Contaminants*, was listed as an applicable rule. 10 CSR 10-3.080 was rescinded May 30, 2000 and replaced by 10 CSR 10-6.220. 10 CSR 10-6.220 is included in the operating permit.
- 3) Construction Permit 0290-011 authorized the construction of the Chub Emulsion Facility (EU0160).
- a) Condition 2 required that records be kept of the amount of emulsion produced for the previous 24-month period. This requirement has been increased to the previous 60-month period to comply with state operating permit requirements.
 - b) 10 CSR 10-3.080, *Restriction of Emission of Visible Air Contaminants*, was listed as an applicable rule. 10 CSR 10-3.080 was rescinded May 30, 2000 and replaced by 10 CSR 10-6.220. 10 CSR 10-6.220 is included in the operating permit.
 - c) 40 CFR Part 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984*, was listed as an applicable rule. However, as shown in section 4) of Historical Notes, none of the storage tanks associated with the Chub Emulsion Facility meets the volume criteria in this standard. Therefore, this standard it is not included in the operating permit.
- 4) Construction Permit 0491-012 authorized the construction of Superior Boiler (EU0010).
- a) Condition 1 required that the permittee permanently take out of service the number 68 Riley type boiler when Superior Boiler (EU0010) became operational. The Riley boiler was permanently removed from the facility and there are no ongoing requirements; therefore, this condition is not included in the operating permit.
 - b) 10 CSR 10-3.060, *Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*, was listed as an applicable rule. 10 CSR 10-3.060(3)(E) specifies that emission sources subject to the provisions of 10 CSR 10-6.070 are exempt; therefore, Superior Boiler (EU0010) is exempt from this regulation.
 - c) 10 CSR 10-3.080, *Restriction of Emission of Visible Air Contaminants*, was listed as an applicable rule. 10 CSR 10-3.080 was rescinded May 30, 2000, and replaced by 10 CSR 10-6.220. 10 CSR 10-6.220(1)(H) specifies that emission sources regulated by 40 CFR part 60 and 10 CSR 10-6.070 are exempt; therefore, Superior Boiler (EU0010) is exempt from this regulation.
 - d) 10 CSR 10-3.150, *Restriction of Emission of Sulfur Compounds from Indirect Heating Sources*, was listed as an applicable rule. 10 CSR 10-3.150 was rescinded July 30, 1997 and replaced by 10 CSR 10-6.260. 10 CSR 10-6.260(1)(A)1 specifies that emission sources subject to an applicable sulfur compound emission limit under 10 CSR 10-6.070 are exempt; therefore, Superior Boiler (EU0010) is exempt from this regulation.
- 5) Construction Permit 1292-009 authorized the construction of the Paperwrap Emulsion Facility (EU0170). This permit listed 10 CSR 10-3.080, *Restriction of Emission of Visible Air Contaminants*, as an applicable rule. 10 CSR 10-3.080 was rescinded May 30, 2000, and replaced by 10 CSR 10-6.220. 10 CSR 10-6.220 is included in the operating permit.

- 6) Construction Permit 0395-006 authorized the construction of the Cast Explosive Booster Facility (EU0200), PETN Facility (EU0210), and Ammonium Nitrate Plant (NAL) (EU0220).
 - a) This permit listed 10 CSR 10-3.080, *Restriction of Emission of Visible Air Contaminants*, as an applicable rule. 10 CSR 10-3.080 was rescinded May 30, 2000 and replaced by 10 CSR 10-6.220. 10 CSR 10-6.220 is included in the operating permit.
 - b) This permit listed 10 CSR 10-3.050, *Restriction of Emission of Particulate Matter from Industrial Processes*, as an applicable rule. 10 CSR 10-3.050 was rescinded March 30, 2001, and replaced by 10 CSR 10-6.400. 10 CSR 10-6.400 is included in the operating permit.

- 7) Construction Permit 0997-036 authorized the addition of two Kettle Crystallizers (EU0140 and EU0150) to an existing eight Kettle Crystallizers (EU0060 through EU0130).
 - a) Conditions 1, 2, and 3 limited the PM₁₀ emissions to 15 tons in any consecutive 12-month period and established record keeping and reporting requirements. The emission limitation is included in Permit Condition (EU0060 through EU0150)-001. However, compliance is now demonstrated with calculations that show that Kettle Crystallizers (EU0060 through EU0150) do not have the potential to emit 15 tons PM₁₀ or more in any consecutive 12-month period. (See Attachment H.)
 - b) This permit listed 10 CSR 10-3.080, *Restriction of Emission of Visible Air Contaminants*, as an applicable rule. 10 CSR 10-3.080 was rescinded May 30, 2000 and replaced by 10 CSR 10-6.220. 10 CSR 10-6.220 is included in the operating permit.
 - c) This permit listed 10 CSR 10-3.050, *Restriction of Emission of Particulate Matter from Industrial Processes*, as an applicable rule. 10 CSR 10-3.050 was rescinded March 30, 2001, and replaced by 10 CSR 10-6.400. The Kettle Crystallizers are exempt from 10 CSR 10-6.400 because as shown in 8) of **Other Regulatory Determinations**, they do not have the potential to emit one-half (0.5) pounds per hour or more of particulate matter.

NSPS Applicability

- 1) 40 CFR Part 60 Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, applies to a steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of less than or equal to 100 MMBtu/hr but greater than or equal to 10 MMBtu/hr.
 - a) Superior Boiler (EU0010) is subject to this rule.
 - b) Keeler Boiler (EU0020) was constructed in 1953, which is prior to the applicability date, and is not subject to this rule.
 - c) Kewanee Boiler (EU0030) has a maximum design heat capacity of less than 10 MMBtu/hr and is not subject to this rule.

- 2) 40 CFR Part 60 Subpart K, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978*, Subpart Ka, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984*, and Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*, are not applicable to this facility. None of the storage tanks at this facility meets the installation date and/or volume criteria in these standards.

None of the other NSPS standards applies to this installation

MACT Applicability

The facility does not emit any single hazardous air pollutant (HAP) in an amount greater than ten tons per year nor does the facility emit any combination of HAP in an amount greater than 25 tons per year. Therefore, MACT regulations are not applicable to this facility.

NESHAP Applicability

In the permit application and according to APCP records, there was no indication that any Missouri Air Conservation Law, Asbestos Abatement, 643.225 through 643.250; 10 CSR 10-6.080, *Emission Standards for Hazardous Air Pollutants*; Subpart M, *National Standards for Asbestos*; and 10 CSR 10-6.250, *Asbestos Abatement Projects - Certification, Accreditation, and Business Exemption* apply to this installation. The installation is subject to these regulations if they undertake any projects that deal with or involve any asbestos containing materials. None of the installation's operating projects underway at the time of this review deal with or involve asbestos containing material. Therefore, the above regulations were not cited in the operating permit. If the installation should undertake any construction or demolition projects in the future that deal with or involve any asbestos containing materials, the installation must follow all of the applicable requirements of the above rules related to that specific project.

None of the other NESHAP standards applies to this installation.

CAM Applicability

At the time of issuance, the permittee does not have any emission units subject to the applicability portion of 40 CFR Part 64 requiring submittal of a CAM plan; none of the pollutant-specific emission units uses a control device to achieve compliance with any emission limitation or standard and has precontrol emissions that exceed or are equivalent to the major source threshold.

Other Regulatory Determinations

- 1) 10 CSR 10-3.060, *Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*, §(3)(E) specifies that emission sources subject to the provisions of 10 CSR 10-6.070 are exempt; therefore Superior Boiler (EU0010) is exempt from this regulation. However, the heat input value from Superior Boiler (EU0010) is used in the calculation of the installation's total heat input (Q).
- 2) 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*, §(1)(H) specifies that emission sources regulated by 40 CFR Part 60 and 10 CSR 10-6.070 are exempt; therefore, Superior Boiler (EU0010) is exempt from this regulation.
- 3) 10 CSR 10-6.220, *Restriction of Emissions of Visible Air Contaminants*, applies to Wastewater Thermal Treatment Unit (EU0040). However, this emission unit is automatically in compliance with this regulation as long as only natural gas or liquefied petroleum gas is burned. Section 1.5.3.1 in US EPA document AP-42, states that liquefied petroleum gas does not produce visible emissions, even though it does produce a small amount of particulate matter. The same is true for natural gas. (See note (a) on Table 1.5.1 of AP-42.). Therefore, this regulation is included as a permit condition for this emission unit, but the only monitoring, record keeping, and reporting requirements are to demonstrate that the unit burns natural gas and LPG exclusively.

- 4) 10 CSR 10-6.220, *Restriction of Emissions of Visible Air Contaminants*, applies to the Evaporator/Demister (EU0050). The date of construction of EU0050 was not provided to the MDNR by the permittee. It was assumed that the emission unit was a new source (installed or constructed after February 24, 1971) to determine the applicable opacity limitation established by this regulation.
- 5) 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*, §(1)(A)1 specifies that emission sources subject to an applicable sulfur compound emission limit under 10 CSR 10-6.070 are exempt; therefore, Superior Boiler (EU0010) is exempt from this regulation.
- 6) 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*, does not apply to Wastewater Thermal Treatment Unit (EU0040) as long as the unit burns only pipeline grade natural gas or liquefied petroleum gas. This exemption is not in the State Implementation Plan (SIP) yet. However, as long as an emission unit burns exclusively pipeline grade natural gas or liquefied petroleum gas or any combination of these fuels, its emission rate for sulfur compounds will be in compliance with the SIP limitations. Therefore, this regulation is included as a permit condition, but the only monitoring, record keeping, and reporting requirements are to demonstrate that this emission unit burns pipeline grade natural gas or liquefied petroleum gas exclusively.
- 7) 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes* §(1)(B)(6) specifies that the burning of fuel for indirect heating is exempt; therefore, the Superior Boiler (EU0010), Keeler Boiler (EU0020), Kewanee Boiler (EU0030) and Wastewater Thermal Treatment Unit (EU0040) are exempt from this regulation.
- 8) 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes*, §(1)(B)(11) specifies that emission units that at maximum design capacity have a potential to emit less than one-half (0.5) pounds per hour of particulate matter are exempt. The following calculations verify that the specified emission units emit less than 0.5 lb PM/hr and therefore are exempt from this regulation.

PM Emission Rate

Emission Rate (lb/hr) = Maximum Hourly Design Rate (MHDR) x PM Emission Factor

EU #	EU Description	MHDR	PM Emission Factor	Emission Factor Source	PM Emission Rate (lb/hr)
EU0060-EU0150	Kettle Crystallizers	0.39 ton/hr/kettle	0.40 lb/ton	FIRE SCC #30102705	0.16
EU0160	Material Transfer at Chub Emulsion Facility	3 exchanges/hr	0.8 lb/exchange	See Note 1.	0.24
EU0190	Soda Ash Transfer	6.0 ton/hr	0.0041 lb/ton	EPA document AP-42, Table 8.12-2	0.02

Notes:

1. Both sodium nitrate and phenolic resin microballoons are received in super sacks (approximately 1 cubic yard per sack) at the Chub Emulsion Facility (EU0160). The material is released from the sacks using an iris valve and then augured to the point of consumption. The material is always enclosed except when exchanging the iris valve on the super sacks. The facility experimentally determined the PM emission rate for one valve exchange as 0.8 lb. The MHDR is 3 exchanges per hour.

- 9) 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes*, is applicable to PETN Facility (EU0210). The following calculations verify that EU0210 is in compliance with both the PM Emission Rate and the PM Concentration provided that the required control device is in operation and working properly:

Emission Rate Limit

Emission Rate Limit (lb/hr) $E = 4.10 (P)^{0.67}$

Where P = process weight rate (ton/hr)

PM Emission Rate

Emission Rate (lb/hr) = MHDR (ton/hr) x PM Emission Factor (lb/ton)

EU #	EU Description	MHDR (ton/hr)	PM Emission Factor (lb/ton)	Emission Factor Source	Overall Control Efficiency (%)	Controlled Emission Rate (lb/hr)	Allowable Emission Rate (lb/hr)
EU0210	PETN Facility	0.315	11.16	See Note 1.	90	0.35	1.89

Notes:

1 - The 2004 EIQ listed the PM₁₀ emission factor for EU0210 as 5.58 lb/ton. It was assumed that the PM emission factor would be twice that of PM₁₀, 2 x 5.58 = 11.16 lb/ton.

PM Concentration

Emission rate (gr/dscf) = Emission Rate (lb/hr) x (7000 grains/lb)/Stack Flow Rate (SCFM)/60(min/hr)

Flow rates converted from actual to standard condition using the ideal gas law.

EU #	Controlled Emission Rate (lb/hr)	Stack Temp °F	Stack Flow		Emission Rate	Allowable Emission Rate (gr/scf)
			ACFM	SCFM		
EU0210	0.35	80	550	538	0.08	0.3

This regulation is included in this permit, but only for the purpose of verifying that the required control devices are in operation and operating correctly.

- 10) Dry Ingredient (DOPE) Blending (EP-19)
 a) The emissions from this unit do not exhaust through a stack. Since there are no stacks to observe, neither 10 CSR 10-6.220 nor 10 CSR 10-6.400 can be applied and the unit is listed as an Emission Unit Without Limitations.

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

- 1) The specific pollutant regulated by that rule is not emitted by the installation;
- 2) The installation is not in the source category regulated by that rule;
- 3) The installation is not in the county or specific area that is regulated under the authority of that rule;
- 4) The installation does not contain the type of emission unit which is regulated by that rule;
- 5) The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the APCP's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).

Prepared by:

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