STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0105783
Owner:	Dyno Nobel
Address:	2795 East Cottonwood Parkway, Salt Lake City UT 84121
Continuing Authority:	Dyno Nobel, LOMO Plant
Address:	11025 Highway D, Louisiana MO 63353
Facility Name:	Dyno Nobel, LOMO Plant
Facility Address:	11025 Highway D, Louisiana MO 63353
Legal Description:	E ¼, SW ¼, Sec 21, T54N, R1W, Pike County
UTM Coordinates:	X = 670531, Y = 4366585
Receiving Stream:	Mississippi River P
First Classified Stream and ID:	Mississippi River (P) (3699)
USGS Basin & Sub-watershed No.:	07110004-0702

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Dyno Nobel, LOMO plant manufactures nitric acid, ammonium nitrate and ammonium nitrate (prill). The facility's previous power source was produced by Hercules Inc. via coal fired boilers. These coal fired boilers were shut down in May 2011 and replaced with a Natural Gas boiler. Sanitary waste is treated by an Imhoff anaerobic treatment unit. Filter backwash from the water treatment plant is discharged to a lagoon for settling of solids. Outfall #001 is the discharge point of all wastewater generated by this facility. Outfall #008 is an internal monitoring point at the plant out weir box. See next page.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

March 2, 2012 — Effective Date
November 5, 2014 — Modification Date

Sara Parker Pauley, Director, Department of Natural Resources

March 1, 2017 — Expiration Date

John Madras, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Legal responsibility for outfall #001 is shared as documented in the "Agreement for Responsibility for a Joint NPDES Permit" dated September 16, 1986. That document is a part of this permit's factsheet, see Appendix 1.

Outfall #001 – Shared outfall between Dyno Nobel LOMO manufacturing areas and Ashland Water Technologies (Calumet). Wastewater from the nitrogen products area is routed to an equalization lagoon where pH is adjusted before being discharged to outfall #001. Other wastes included are untreated effluent from the cooling tower blowdown, boiler blowdown, and stormwater. Hercules Incorporated Missouri Chemical Works is being removed as a shared partner of this outfall because the facility no longer discharges to waters of the state. (Description modified August 2014.)

The average flow is 0.8 MGD.
Design flow is 3.6 MGD.
Legal Description: E ¼, SW ¼, Sec 21, T54N, R1W, Pike County
UTM Coordinates X = 670531, Y = 4366585
Receiving Stream Mississippi River
First Classified Stream and ID: Mississippi River (P) (3699)
USGS Basin & Sub-watershed No.: 071100040702

Outfall 002 – This outfall formerly belonged to Hercules, Inc. (MO-0000311) and is being transferred to this permit. Imhoff Unit-Discharges treated sanitary effluent. The Average flow is 0.041 MGD.
Design flow is 0.163 MGD.
Legal Description: NW ¼, SE ¼, Sec 20, T54N, R1W, Pike County
UTM Coordinates: X = 669660, Y = 4367029
Receiving Stream Mississippi River
First Classified Stream and ID: Mississippi River (P) (3699)
USGS Basin & Sub-watershed No.: 071100040702

Outfall 003 – This outfall formerly belonged to Hercules, Inc. (MO-0000311) and is being transferred to this permit. Discharges treated filter backwash from the water treatment plant. The flow is 0.424 MGD.
Design flow is 0.967 MGD.
Legal Description: SW ¼, NW ¼, Sec 28, T54N, R1W, Pike County
UTM Coordinates: X = 670286, Y = 4365716
Receiving Stream: Buffalo Creek
First Classified Stream and ID: Buffalo Creek (P) (0014)
USGS Basin & Sub-watershed No.: 071100040702

Outfall # 004 This outfall has been closed as noted in the previous permit.

Outfall # 008 Internal Monitoring Point at the plant out weir box.
Legal Description: SW ¼, Sec 21, T54N, R1W, Pike County
UTM Coordinates X = 670195, Y = 4366408
Receiving Stream Mississippi River
First Classified Stream and ID: Mississippi River (P) (3699)
USGS Basin & Sub-watershed No.: 071100040702

Note: This entire complex was once a single plant, thus the reason for the shared outfall #001. Hercules Inc MCW Plant formerly operated outfalls #002, #003, #005, #006 and #007.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/weekday	24 hr. estimate
Biochemical Oxygen Demand$_5$	lbs/day	*		*	once/week	24 hr. comp.***
Biochemical Oxygen Demand$_5$	mg/L	*		*	once/week	24 hr. comp.***
Total Suspended Solids	lbs/day	925		283	once/week	24 hr. comp.***
Total Suspended Solids	mg/L	*		*	once/week	24 hr. comp.***
pH – Units	SU	**		**	continuous	
Ammonia as N	lbs/day	399		122	once/week	24 hr. comp.***
Ammonia as N	mg/L	*		*	once/week	24 hr. comp.***
Nitrate as N	lbs/day	893		341	once/week	24 hr. comp.***
Oil and Grease	mg/L	15		10	once/week	grab
Sulfate	mg/L	*		*	once/month	grab
Aluminum, Total Recoverable	µg/L	*		*	once/quarter****	grab
Barium, Total Recoverable	µg/L	*		*	once/quarter****	grab
Iron, Total Recoverable	µg/L	*		*	once/quarter****	grab
Delta BHC	µg/L	*		*	once/quarter****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE July 28, 2012. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

Whole Effluent Toxicity (WET) test	% Survival	See Special Conditions	Twice/year 24 hr. composite***

MONITORING REPORTS SHALL BE SUBMITTED JULY 28TH AND JANUARY 28TH; THE FIRST REPORT IS DUE July 28, 2012.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow (Effluent)	cfs	*			once/day	grab
Flow (Stream) (Note 1)	cfs	*			once/day	grab
Temperature (Stream) (Note 2)	°F	*			once/day	grab
Temperature (Effluent)	°F	*			once/day	grab
ΔT (Note 3)	°F	5°F		5°F	once/day	grab
T_{cap} (Note 4) (*Zone A)*	°F				once/day	grab
January		45		45		
February		45		45		
March		57		57		
April		68		68		
May		78		78		
June		86		86		
July		88		88		
August		88		88		
September		86		86		
October		75		75		
November		65		65		
December		52		52		
T_{max} (Note 4) (*Zone A*)	°F				once/day	grab
January		48		48		
February		48		48		
March		60		60		
April		71		71		
May		81		81		
June		89		89		
July		91		91		
August		91		91		
September		86		86		
October		78		78		
November		68		68		
December		55		55		

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE April 28, 2012. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED August 1, 2014 and March 1, 2014, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #002						
Flow	MGD	*		*	once/weekday	24 hr. estimate
Biochemical Oxygen Demand$_5$	mg/L		45	30	once/month	24 hr. comp.****
Total Suspended Solids	mg/L		45	30	once/month	24 hr. comp.****
pH – Units	SU	***		***	once/month	grab
E. coli (Note 7)	#/ 100 mL	630		126	once/week	grab
Ammonia as N	mg/L	*		*	once/quarter*****	grab
Oil and Grease	mg/L	15		10	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JANUARY 28, 2014. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #003						
Flow	MGD	*		*	once/weekday	24 hr. estimate
Settleable Solids	mL/L/hr	1.0		1.0	once/month	grab
pH-Units	SU	***		***	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE DECEMBER 28, 2013. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units. Since continuous monitoring of pH is required, the total time during which pH values are outside of the required range shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursion shall exceed 60 minutes at outfall 001 in ac

*** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5 – 9.0.

**** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.

***** Sample once per quarter in the months of March, June, September, and December. See table below for quarterly sampling.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

Note 1: Stream flow. Stream flow is the daily flow of the receiving stream – intake flow.

Note 2: Temperature (Stream). It is recommended that if the Intake structure does not adequately provide a temperature of the receiving stream, then the facility should use the receiving stream's ambient temperature.

Note 3: $\Delta T = [((Q_s/4)T_s + Q_eT_e) / ((Q_s/4) + Q_e)] - Ts$

Where:
$Q_s/4$: is the daily receiving stream's mixing zone flow in cfs minus the Intake flow in cfs.
Q_e: is the effluent's flow in cfs.
T_s: is the stream's temperature (ambient/intake temperature).
T_e: is the effluent's temperature.
ΔT: is the amount in T°F that the facility is causing the receiving stream's temperature to rise at the end of the regulatory mixing zone.

Note 4: Temperature Cap is the temperature of the receiving stream at the end of the regulatory mixing zone (if applicable). It is designated with [T_{cap}] in the equation below.

$$T_{cap} = [((Q_s/4)T_s + Q_eT_e) / ((Q_s/4) + Q_e))]$$

Where:
$Q_s/4$ = Daily receiving stream's flow divided by 4 (Mixing Consideration) in cfs minus the Intake flow in cfs.
T_s = Daily receiving stream's temperature. This can be the actual ambient temperature of the receiving stream or the intake water temperature (both in °F).
Q_e = Daily effluent flow or intake flow.
T_e = Daily effluent temperature in °F.

(a) If the T_{cap} calculated temperature value is less than the specific month's Daily Maximum or Monthly Average T_{cap}, the permittee is to report the calculated temperature value as T_{cap} and report a "No Discharge" for $T_{max.}$
(b) If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} limit, but is below the T_{max} and there is time available in Percent Deviation Allowance (**see Note 6**); then the permittee is to report in accordance with **Note 5** below.
(c) If the Tcap calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} limit but is below the T_{max}, but there is no time available in Percent Deviation Allowance (**see Note 6**); then the permittee is to report the calculated temperature value as T_{cap} and report a "No Discharge" for T_{max}.
(d) If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} and T_{max}; then the permittee is to report in accordance with **Note 5**.

Note 5: Temperature Maximum is the maximum that a facility can increase the temperature of the receiving stream by at the end of the regulatory mixing zone (if applicable. It is designated with the [T_{max}] in the equation below and is the T_{cap} monthly limit plus three (+3°F).

$$T_{max} = [((Q_s/4)T_s + Q_eT_e) / ((Q_s/4) + Q_e))]$$

Where:
$Q_s/4$ = Daily receiving stream's flow divided by 4 (Mixing Consideration) in cfs minus the Intake flow in cfs.
T_s = Daily receiving stream's temperature. This can be the actual ambient temperature of the receiving stream or the intake water temperature (both in °F).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Q_e = Daily effluent flow or intake flow.
T_e = Daily effluent temperature in °F.

(a) If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} limit, but is below the T_{max} and there is time available in Percent Deviation Allowance (**see Note 6**); then the permittee is to report the calculated temperature value as T_{max} and report a "No Discharge" for $T_{cap.}$
(b) If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} and T_{max}; then the permittee is to report the calculated temperature value as T_{max} and report a "No Discharge" for $T_{cap.}$

Note 6 – Missouri's Water Quality Standards allows permittees to exceed their applicable criteria for 1% of the year in Zone A in the Mississippi River. Percent Deviation Allowance shall be tracked in hours per year (please see **Special Condition 6 – Percent Deviation Allowance**).

Note 7 - Final limitations and monitoring requirements for E. coli are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for E. coli is expressed as a geometric mean.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.

3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.

4. Water Quality Standards
   (a) To the extent required by law, discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
   (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
      (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
      (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
      (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
      (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
      (5) There shall be no significant human health hazard from incidental contact with the water;
      (6) There shall be no acute toxicity to livestock or wildlife watering;
      (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
      (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

C. SPECIAL CONDITIONS (continued)

5. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

(a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
   (1) One hundred micrograms per liter (100 µg/L);
   (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
   (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
   (4) The level established in Part A of the permit by the Director.

(b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

6. Report as no-discharge when a discharge does not occur during the report period.

7. Percent Deviation Allowance

Site-specific temperature criteria for the thermal discharges to the Mississippi River allow the permittee to exceed their applicable temperature criteria for 1% of the year for Zone A. This facility discharges to Zone A of the Mississippi River. Therefore, the permittee is authorized to exceed their Temperature Cap effluent limitation for 88 hours in one (1) calendar year. However, the permittee is not authorized to exceed their Temperature Max limitation at any time.

   (1) The permittee shall document the time in hours to the nearest minute that their calculated temperature values exceeded a specific month's Daily Maximum T_{cap} effluent limit. This time is to be subtracted from 88 hours to the nearest minute.
   (2) The permittee shall submit an annual report on January 28th of each year that includes the number of hours that the facility exceeded their Temperature Cap effluent limits for each month during the previous calendar year.
   (3) If the permittee exceeds their maximum allowed Percent Deviation Allowance of 88 hours prior to the end of the calendar year, then the permittee shall submit a Maximum Percent Deviation Exceeded Report to the Northeast Regional Office within 15 days of notice.
   (4) Percent Deviation Allowance is not applicable to the permit parameter of Temperature Maximum.

8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

9. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be kept on-site. The SWPPP must be reviewed and updated, if needed, every year or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators, (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009.
The SWPPP must include the following:

(a) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water. Minimum BMPs are listed in SPECIAL CONDITIONS #10 below.
(b) The SWPPP must include a schedule for once per month site inspections and brief written reports. These reports must be kept on file with the SWPPP at the facility. The inspections must include observation and evaluation of BMP effectiveness, noting any deficiencies. Deficiencies must be documented within 24 hours of discovery. Corrective action to address deficiencies must be documented within fourteen (14) days and shall be included with the written report. Any corrective measure that necessitates major construction may also need a construction permit. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to DNR personnel upon request.
(c) A provision for designating an individual to be responsible for environmental matters.
(d) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.

C. SPECIAL CONDITIONS (continued)

10. Permittee shall adhere to the following minimum Best Management Practices:

a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMP's such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
d) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.
f) Try to prevent storm water from coming into contact with polluting materials. This is generally more effective, and less costly, than trying to remove pollutants from stormwater
g) You must divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff, to minimize pollutants in your discharges.

11. Flow measurements during flood events
When the Mississippi River exceeds flood stage and flow measurement at the primary measuring device for outfall 001 is precluded due to flooding, the permittee shall make an acceptable estimate based on flow measurements taken at outfalls 006 (Ashland Hercules outfall) and 008 and analysis of a quantifiable parameter. The Permittee shall maintain record of estimates and the calculation work sheet.

12. Whole Effluent Toxicity (WET) Test shall be conducted as follows:

SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT							
OUTFALL	AEC		FREQUENCY		SAMPLE TYPE		Dates
001	10%		Semi-Annual		24 hr. composite***		May 15th and December 15th
Dilution Series							
AEC%= 10%	40% effluent	20% effluent	10% effluent	5% effluent	2.5% effluent	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

(a) Test Schedule and Follow-Up Requirements
(1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department's WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
(a) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
(b) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analysis performed upon any other effluent concentration.
(c) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
(2) The WET test will be considered a failure if mortality observed in effluent concentrations equal to or less than the AEC is significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available, synthetic laboratory control water may be used.

C. SPECIAL CONDITIONS (continued)

(3) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.

(4) If the effluent fails the test at outfall 001, a multiple dilution test shall be performed in conjunction with Ashland Hercules at outfall 001. The facilities shall test for BOTH species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met: Note: Written request regarding single species multiple dilution accelerated testing will be address by THE WATER PROTECTION PROGRAM on a case by case basis.

(i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.

(ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

(5) Follow-up tests do not negate an initial failed test.

(6) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.

(7) Additionally, the following shall apply upon failure of the third follow up MULTIPLE DILUTION test The permittee should contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact THE WATER PROTECTION PROGRAM upon the third follow up test failure, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of the automatic trigger or DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

(8) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.

(9) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.

(10) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.

(11) Submit a concise summary in tabular format of all WET test results with the annual report.

(b) Test Conditions

(1) Test Type: Acute Static non-renewal

(2) All tests, including repeat tests for previous failures, shall include both test species listed below unless approved by the department on a case by case basis.

(3) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

(4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.

(5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.

(6) Tests will be run with 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent, and reconstituted water.

(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

(8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

(9) Whole-effluent-toxicity test shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF MODIFICATION
OF
MO-0105783
DYNO NOBEL, LOMO FACILITY

This is an addendum to the fact sheet dated October 2011 and supersedes the sections addressed below in the previous fact sheet. Discharges associated with Hercules have been removed within the permit and should be disregarded in the older fact sheets. Numerical values associated with the modified discharges should also be disregarded in the older versions of the fact sheets.

This 2014 modification reflects the cessation of production by Hercules thereby distributing the allowable effluent limitations out of outfall #001 between two companies (Dyno Nobel and Calumet) instead of three (Dyno Nobel, Calumet, and Hercules). Calculations performed in the previous permit were also incorrect. The parameters where limitations were changed were total suspended solids, and ammonia as N. Values were changed as follows:

	Daily Maximum		Monthly Average	
Parameter	Previous Permit	Current Permit	Previous Permit	Current Permit
Total Suspended Solids (pounds per day)	1096	925	345	283
Ammonia as N (pounds per day)	447	399	148	122

OUTFALL #001 DERIVATION AND DISCUSSION OF MODIFIED LIMITS

TOTAL SUSPENDED SOLIDS (TSS)

The total suspended solids monitoring and limitations are continued in this permit based on the effluent guidelines based on facility SIC codes 2869 (industrial organic chemicals), 2873 (agricultural chemicals), 2819 (industrial inorganic chemicals), and 2899 (miscellaneous chemical products). SIC code 2869 applies to 40 CFR Part 414 Subpart G. TSS best practicable control technology currently available effluent limitations from the table in §414.71 are 159 mg/L maximum for any one day and 49 mg/L maximum monthly average.

The limits were calculated as follows:
Milligrams per liter were converted to pounds per day using the multiplier 8.34.
Technology Based Permit Limit = (Guideline Limit)(Process Flow in MGD)(8.34)

Dyno Nobel's Process Wastewater

0.65 MGD from neutralization and 14 gpm (0.02016 MGD) from electrodialysis
Daily Max = (159 mg/L)(0.67016 MGD)(8.34) = 888.67 pounds
Monthly Average = (49 mg/L)(0.67016 MGD)(8.34) = 273.86 pounds

Stormwater allotment for TSS shared between the two facilities was calculated as follows:

Daily Maximum = (45 mg/L)(0.036 MGD)(8.34) = 13.51 pounds
Monthly Average = (30 mg/L)(0.009 MGD)(8.34) = 2.25 pounds

Calumet (figures supplied from their permit MO-0137243)

Daily Maximum = (183 mg/L)(0.015 MGD)(8.34) = 22.89
Monthly Average = (57 mg/L)(0.015 MGD)(8.34) = 7.13

TOTAL:
Daily Maximum = 888.67 + 13.51 + 22.89 = (925.07 rounded to) 925 pounds
Monthly Average = 273.86 + 2.25 + 7.13 = (283.24 rounded to) 283 pounds

AMMONIA AS N

The ammonia monitoring and limitations are continued from the previous permit but updated as follows to reflect production cessation at Hercules. The categorical standards for Dyno Nobel are obtained from 40 CFR 418.52 (Subpart E) for nitric acid and 40 CFR 418.43 (Subpart D) for ammonium nitrate.

The Technology based permit limits = (categorical limit [pounds per 1000 pounds])(production [tons])(2000 [pounds per ton])
Tons of production was transformed to pounds using the multiplier 2000 [pounds per ton].

57 % Nitric Acid

Daily Maximum = ((0.08 lbs)/(1000 lbs))(1000 tons)(2000 lbs/ton) = 160 lbs

30 Consecutive Day Average Maximum = (0.008 lbs)/(1000 lbs)(1000 tons)(2000 lbs/ton) = 16 lbs

67% & 83% Nitric Acid

Daily Maximum = ((0.08 lb)/(1000 lbs))(81 tons)(2000 lbs/ton) = 13.0 lbs

30 Consecutive Day Average Maximum = (0.008 lb)/(1000 lbs)(81 tons)(2000 lbs/ton) = 1.3 lbs

98% Nitric Acid

Daily Maximum = ((0.08 lbs)/(1000 lbs))(90 tons)(2000 lbs/ton) = 14.4 lbs

30 Consecutive Day Average Maximum = (0.008 lb)/(1000 lbs)(90 tons)(2000 lbs/ton) = 1.44 lbs

Ammonium Nitrate

Daily Maximum = ((0.08 lb)/(1000 lb))(960 tons)(2000 pounds per ton) = 153.6 lbs

30 Consecutive Day Average Maximum = ((0.04 lb)/(1000 lb))(960 tons)(2000 pounds per ton) = 76.8 lbs

Best Professional Judgment for Ammonia as N

Intake credit

Daily Maximum = (0.4 mg/L)(l.4 MGD)(8.34) = 4.7 lbs

30 Consecutive Day Average Maximum = (0.27 mg/L)(l.4 MGD)(8.34) = 3.2 lbs

Cooling Tower Blowdown

Daily Maximum = 43.5 lbs

30 Consecutive Day Average Maximum = 17.9 lbs

Shipping Losses

Daily Maximum = 8.25 lbs

30 Consecutive Day Average Maximum = 5.5 lbs

Stormwater

Daily Maximum = (3.75 mg/L)(0.036 MGD)(8.34) = 1.125 lb

TOTAL for Ammonia as N

Daily Maximum = (160 + 13 + 14.4 + 153.6 + 4.7 + 43.5 + 8.25 + 1.125 = 398.575 rounded to) 399 pounds

30 Consecutive Day Average Maximum = (16 + 1.3 + 1.44 + 76.8 + 3.2 + 17.9 + 5.5 = 122.14 rounded to) 122 pounds

Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

The Public Notice period for this operating permit modification ended October 20, 2014; no comments were received.

DATE OF MODIFICATION: AUGUST 28, 2014

MODIFIED BY:

PAM HACKLER, ENVIRONMENTAL SPECIALIST
WATER PROTECTION PROGRAM
INDUSTRIAL PERMITS UNIT
(573) 526-3386
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Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF MODIFICATION
OF
MO-0105783
DYNO NOBEL, LOMO FACILITY

The purpose of this modification is to transfer outfalls 002 & 003 from Hercules, Inc. (MO-0000311) to this permit.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Industrial Facility ☒

Part I – Facility Information

Facility Type: INDUSTRIAL
Facility SIC Code(s) discharging at outfall 001: 2869, 2873, 2819, 2899

2013 Modification – Transferred outfalls 002 and 003 to Dyno Nobel from neighboring Hercules/Ashland facility.

Facility Description:
The Dyno Nobel Inc. facility known as the LOMO plant is a bulk manufacturer of nitrogen based chemicals. Anhydrous ammonia is received via an underground pipeline and is the raw material from the manufacturing of 56% nitric acid by the oxidation of anhydrous ammonia over a platinum alloy catalyst. A portion of the 56% nitric acid is further concentrated to 98% nitric acid in a unique distillation process. Nitric acid at 56%, 67%, 83% and 98% is supplied to markets where the product is used for etching and nitrating. The remainder of the 56% nitric acid is neutralized with ammonia for the production of ammonium nitrate solution. Ammonium nitrate solution is shipped into the explosive manufacturing market and is a raw material for the production of emulsion explosives for the mining industry. The remaining ammonium nitrate solution is concentrated and processed into a low density, industrial grade prill, which is a basic raw material for the production of industrial explosives for the mining industry. Categorical standards 40 CFR 418 subpart D, "Ammonium Nitrate," 40 CFR 414 subpart E, "Nitric Acid," applies to the facility.

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?
☒ - Yes; Slight changes have occurring in the volume of products produced since the previous permit cycle. See Appendix 3

Application Date: 01/28/2011
Expiration Date: 07/27/2011
Last Inspection: 07/11/2011 In Compliance ☒;

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	5.58	Primary	Process Wastewater	0.0
002	0.25	Primary, Imhoff	Domestic	0.0
003	1.5	Primary	Water Treatment	0.0
008	Internal Monitoring Location			

Receiving Water Body's Water Quality & Facility Performance History:
Outfall #001 discharges treated effluent from the Missouri Chemical Works and untreated effluent from the Dyno Nobel manufacturing areas, cooling tower blow down, and storm water. This entire complex was once a single plant, thus the reason for the shared outfall #001. Wastewater from the nitrogen products area is routed to an equalization lagoon where pH is adjusted before being discharged to outfall #001. Average flow rate is listed as 0.8 MGD. Outfall 001 discharges directly to the Mississippi River. Outfall #008 is an internal monitoring point at the Dyno Nobel plant out weir box. This outfall discharges through outfall #001.

Part II – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:
As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Missouri or Mississippi River [10 CSR 20-7.015(2)]: ☒
Lake or Reservoir [10 CSR 20-7.015(3)]: ☐
Losing [10 CSR 20-7.015(4)]: ☐
Metropolitan No-Discharge [10 CSR 20-7.015(5)]: ☐
Special Stream [10 CSR 20-7.015(6)]: ☐
Subsurface Water [10 CSR 20-7.015(7)]: ☐
All Other Waters [10 CSR 20-7.015(8)]: ☐

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Mississippi River	P	3699	LWW, AQL, DWS, IND, WBC(A)***	07110004	Central Plains/ Cuivre/ Salt

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery(CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).
** - Ecological Drainage Unit
*** - UAA has not been conducted.

Receiving Stream(s) Low-Flow Values Table:

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Mississippi River (P)	18,900	22,449	26,009

MIXING CONSIDERATIONS TABLE: MISSISSIPPI RIVER BASED ON EFFLUENT DESIGN FLOW OF OUTFALL 001

MIXING ZONE (CFS) [10 CSR 20-7.031(4)(B)(III)(a)]		ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(4)(B)(III)(b)]	
7Q10	30Q10	1Q10	7Q10
5612	6502	55.8	55.8

Part III – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:
As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Not Applicable ☒;
The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:
A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

☒ - Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

ANTIDEGRADATION:
In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

☒ - Renewal no degradation proposed and no further review necessary.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:
As per [10 CSR 20-6.010(3)(B)], …An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS & SEWAGE SLUDGE:
Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: http://dnr.mo.gov/env/wpp/pub/index.html, items WQ422 through WQ449.

☒ Not applicable;
This condition is not applicable to the permittee for this facility.

COMPLIANCE AND ENFORCEMENT:
Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Not Applicable ☒;
The permittee/facility is not currently under Water Protection Program enforcement action.

REASONABLE POTENTIAL ANALYSIS (RPA):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

Applicable ☒;
A RPA was conducted for outfall 001 see appendix 2.

SCHEDULE OF COMPLIANCE (SOC):
A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Not Applicable ☒;

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):
In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities: (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

Applicable ☒;
A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

VARIANCE:
As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ☒;
This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:
As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)}$$ (EPA/505/2-90-001, Section 4.5.5)

Where C = downstream concentration
Cs = upstream concentration
Qs = upstream flow
Ce = effluent concentration
Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Number of Samples "n":
Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

Not Applicable ☒;
Wasteload allocations were not calculated.

WATER QUALITY STANDARDS:
Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:
A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Applicable ☒;
Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(3)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc…); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by all facilities meeting the following criteria:

☐ Facility is a designated Major.
☐ Facility continuously or routinely exceeds its design flow.
☒ Facility (industrial) that alters its production process throughout the year.
☒ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
☐ Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH_3)
☐ Facility is a municipality or domestic discharger with a Design Flow ≥ 22,500 gpd.
☐ Other – please justify.

Basis for Whole Effluent Toxicity (WET) Monitoring Basis for Whole Effluent Toxicity (WET)

Monitoring and limits for whole effluent toxicity are required in accordance with the Technical Support Document for Water Quality-based Toxic Control (EPA 505/2-90-001 PB91-127415, March, 1991), Chapter 3. The Acceptable Effluent Concentration (AEC) requirement is based on Missouri regulation, 10 CSR 20-7.031(4) 4.B.

Mississippi River at Grafton, IL 7Q10 = 22,449 cfs . Mixing Zone = 22,449 X 0.25 = 5,612 cfs

Zone of Initial dilution (ZID) = 5,612 X 0.1 = 561 cfs.

Outfall 001 design flow = 3.6 MGD = 5.6 cfs

5.6 / (561 + 5.6) =0.01 = 1.0 %, so 10% default AEC applies.

40 CFR 122.41(M) - BYPASSES:
The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from "bypassing" untreated or partially treated sewage (wastewater) beyond the headworks. A bypass is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri's Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

☒ - Not Applicable, this facility does not bypass.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):
Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Not Applicable ☒;
This facility does not discharge to a 303(d) listed stream.

Part IV – Effluent Limits Determination

1) Overview of Permit Requirements
When developing effluent limits for a NPDES permit, MDNR considers limits based on both the technology available to treat the pollutants (technology based effluent limits) and limits that are protective of the designated use of the receiving water (water quality based effluent limits). Technology based effluent limits for industrial facilities, such as Dyno Nobel, are derived from effluent guidelines. The intent of effluent guidelines is to require a minimum level of treatment for industrial point sources based on currently available treatment technology. Water quality based effluent limits are developed by the State of Missouri to protect the beneficial uses of the receiving waters, such as Mississippi River. Comparing the technology based limits to the water quality based limits and choosing the more stringent developed the permit limits,

2) Technology Based Effluent Limits
Effluent guidelines are national regulations that control the discharge of pollutants to surface waters and to publicly owned treatment works (POTWs). Effluent guidelines are specific to an industry. Dyno Nobel is covered by 40 CFR part 415 Subpart D and E. A waste stabilization lagoon and Electro Dialysis Reversal (EDR) are used to treat various wastewater streams prior to discharge.

3) Water Quality Based Effluent Limits
Water quality monitoring and limitations are included in the permit to protect the receiving stream from the discharge of toxic substances in toxic amounts.

4) Outfall 001, and 008- Basis for Monitoring and Limitations
Effluent from the Dyno Nobel outfalls is discharged to the Mississippi River after being treated by a lagoon wastewater treatment system, or Electro Dialysis Reversal. The treatment facility is operated and maintained to meet the water quality requirements of the Clean Water Act. The basis for the permit monitoring requirements and limitations are specified below.

3) Basis for the pH Discharge Limits
The hydrogen ion concentration of the effluent discharge is expressed as pH. pH range of 6.5 to 9.0 S.U. is to ensure water quality protection for aquatic life in the receiving waters, according to the regulations set forth in MDNR Title 10. Since continuous monitoring of pH is required, the total time during which pH values are outside of the required range shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursion shall exceed 60 minutes.

6) Best Professional Judgment Limit Definitions
The storm water is commingled with the industrial wastewater discharged by the facility. An allotment for storm water needed to be given for TSS. See Hercules Inc permit and fact sheet for more detail. An allotment was also given for ammonia and nitrate. The concentration of ammonia found in rainwater is 3.75 mg/L and 160 mg/L of nitrate, according to TRI data. The flow used to derive the maximum storm water allotment is 0.03 MGD, as provided by the facility. Intake credit was given for ammonia and nitrate. Both Hercules and Dyno Nobel use the Mississippi River as the source of process water. The average concentration of ammonia in the intake water is 0.27 mg/L with a maximum concentration of 0.4 mg/L. The average concentration of nitrate in the intake water is 2.0 mg/L with a maximum concentration of 3.0 mg/L. Between the two facilities the average intake flow is 1.4 MGD. An allotment was given due to shipping losses. The facility has made improvements to the shipping area.

***Outfall #001*- Combined outfall consisting of Hercules Inc. Outfall#006 and Dyno Noble Outfall # 001**
Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	9	*		*	NO	*
BOD_5	MG/L	1	*		*	YES	****
BOD_5	LBS/DAY	1	*		*	NO	*
TSS	MG/L	1	*		*	YES	****
TSS	LBS/DAY	1	1,096		345	NO	1,096/345
PH	SU	1	6.5-9.0		6.5-9.0	YES	6.0-9.0
AMMONIA	MG/L	9	*		*	YES	****
AMMONIA	LBS/DAY	9	447		148	YES	*
OIL & GREASE (MG/L)	MG/L	1	15		10	YES	20/15
T_{cap} (*Zone A)*							
January	ºF	1	45		45	YES	100
February			45		45		
March			57		57		
April			68		68		
May			78		78		
June			86		86		
July			88		88		
August			88		88		
September			86		86		
October			75		75		
November			65		65		
December			52		52		
T_{max} (*Zone A*)							
January	ºF	1	48		48	YES	100
February			48		48		
March			60		60		
April			71		71		
May			81		81		
June			89		89		
July			91		91		
August			91		91		
September			86		86		
October			78		78		
November			68		68		
December			55		55		
NITRATE (N)	lbs/day	1	893		341	YES	901/343
Delta BHC	µg/L	1	*		*	YES	****
SULFATE	mg/L	1	*		*	YES	****
ALUMINUM, TOTAL RECOVERABLE	µg/L	1	*		*	YES	****
BARIUM, TOTAL RECOVERABLE	µg/L	1	*		*	YES	****
IRON, TOTAL RECOVERABLE	µg/L	1	*		*	YES	****
WHOLE EFFLUENT TOXICITY (WET) TEST	% Survival	11	Please see WET Test in the Derivation and Discussion Section below.			YES	PASS/FAIL

* - Monitoring requirement only.
*** - # of colonies/100mL; the Monthly Average for *E. coli* is a geometric mean.
**** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Lagoon Policy
5. Ammonia Policy
6. Antidegradation Review
7. Antidegradation Policy
8. Water Quality Model
9. Best Professional Judgment
10. TMDL or Permit in lieu of TMDL
11. WET Test Policy

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.

- **Biochemical Oxygen Demand (BOD_5).** BOD monitoring has been retained from the previous permit. Since Ashland Hercules (AH) Outfall 006 discharges via Outfall 001, A BOD limitation has been established in the Ashland Hercules permit for Outfall 006. However, since AH 006 discharges to 001 a monitoring only requirement for BOD has been retained.

- **Total Suspended Solids (TSS).** The Total Suspended Solids (TSS) monitoring and limitations are continued in the permit based on best professional judgment. Hercules' contribution to outfall 00 1 is covered by the effluent guidelines set forth in 40 CFR Part 414, subpart G, F and H. The limits for TSS are calculated as follows:

  Steam System Blow down (limits continued from pervious permit)
  30 day average = (242 mg/L)*(0.102 MGD) *8.34= 205.9 lbs
  Daily Maximum = (242 mg/L)*(0.102 MGD)*8.34= 205.9 lbs
  Nitrogen Lagoon
  30 day average = (15 mg/L)*(0.0576 MGD) *8.34= 7.2 lbs
  Daily Maximum = (15 mg/L)*(0.0576 MGD)*8.34= 7.2 lbs
  Hercules Incorporated Contribution
  30 day average = 277.8 lbs
  Daily Maximum = 941.8 lbs
  Total
  30 day average = 491 lbs
  Daily Maximum = 1155 lbs

  Previous Permit
  30 day average = 345 lbs
  Daily Maximum = 1096 lbs

  Monitoring requirements and limitations for TSS are listed in Table A in the Permit. These limitations reflect those of the previous permit to avoid backsliding.

- **pH**. The hydrogen ion concentration of the effluent discharge is expressed as pH. A pH range of 6.5 to 9.0 S.U. has been included in the permit to ensure water quality protection for aquatic life in the receiving waters, according to the regulations set forth in MDNR Title 10. Since continuous monitoring of pH is required, the total time during which pH values are outside of the required range shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursion shall exceed 60 minutes.

- **Ammonia.** The ammonia monitoring and limitations are continued m the permit based on the effluent guidelines set forth in 40 CFR part 4 18, subpart D and E and best professional judgment (BPJ). The limits for ammonia are calculated as follows:

  Technology Based Permit Limit = (Guideline limit)*(Production) *(2000 lb/ton)

  57 % Nitric Acid -

  30 day average = (0.008 lbs)/(1000 lbs)*(1000 tons) *(2000 lbs/ton)= 16 lbs
  Daily Maximum = (0.08 lbs)/(1000 lbs)*(1000 tons) *(2000 lbs/ton)= 160 lbs

  67% & 83% Nitric Acid

  30 day average = (0.008 lbs)/(1000 lbs)*(81 tons) *(2000 lbs/ton)= 1.3 lbs
  Daily Maximum = (0.08 lbs)/(1000 lbs)*(81 tons) *(2000 lbs/ton)= 13.0 lbs

  98% Nitric Acid

  30 day average = (0.008 lbs)/(1000 lbs)*(90 tons) *(2000 lbs/ton)= 1.44 lbs
  Daily Maximum = (0.08 lbs)/(1000 lbs)*(90 tons) *(2000 lbs/ton)= 14.4 lbs

  Ammonia Nitrate-Prill

  30 day average = (0.04 lbs)/(1000 lbs)*(960 tons) *(2000 lbs/ton)= 76.8 lbs
  Daily Maximum = (0.08 lbs)/(1000 lbs)*(960 tons) *(2000 lbs/ton)= 153.6 lbs

  BPJ

  Intake Credit

  30 day average = (0.27 mg/L)*(l.4 MGD)*(8.34)= 3.2 lbs
  Daily Maximum = = (0.4 mg/L)*(l.4 MGD)*(8.34)= 4.7 lbs

  Cooling Tower Blowdown (continued from pervious permit)

  30 day average = 17.9 lbs
  Daily Maximum = 43.5 lbs

  Shipping Losses (half of pervious permit, improvements to area were made)

  30 day average =5.5 lbs
  Daily Maximum = 8.25 lbs

  Stormwater

  Daily Maximum =(3.75 mg/L)*(0.03 MGD)*(8.34)= 1 lbs

  Hercules Inc. Contribution

  30 day average = 24.7 lbs
  Daily Maximum = 48.5 lbs

  Total at 001

  30 day average = 148 lbs
  Daily Maximum = 447 lbs

  Monitoring requirements and limitations for TSS are listed in Table 1 in the Permit.

- **Oil & Grease**. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum. 10 CSR 7.031 Table A

- **Temperature.** Limitation established to insure compliance with 10 CSR 20-7.031(4)(D).

- **Nitrate.** Basis for Nitrate Limits

The nitrate monitoring and limitations are continued in the permit based on the effluent guidelines set forth in 40 CFR part 4 18, subpart D and E and BPJ. The limits for nitrate are calculated as follows:

Technology Based Permit Limit = (Guideline limit)*(Production) *(2000 lbs/ton)

57 % Nitric Acid -

30 day average = (0.023 lbs)/(1000 lbs)*(1000 tons) *(2000 lbs/ton)= 46.0 lbs

Daily Maximum = (0.17 lbs)/(1000 lbs)*(1000 tons) *(2000 lbs/ton)= 340 lbs

67% & 83% Nitric Acid

30 day average = (0.023 lbs)/(1000 lbs)*(81 tons) *(2000 lbs/ton)= 3.7 lbs

Daily Maximum = (0.17 lbs)/(1000 lbs)*(81 tons) *(2000 lbs/ton)= 27.5 lbs

98% Nitric Acid

30 day average = (0.023 lbs)/(1000 lbs)*(90 tons) *(2000 lbs/ton)= 4.1 lbs

Daily Maximum = (0.17 lbs)/(1000 lbs)*(90 tons) *(2000 lbs/ton)= 30.6 lbs

Ammonia Nitrate-Prill

30 day average = (0.07 lbs)/(1000 lbs)*(960 tons) *(2000 lbs/ton)= 134.4 lbs

Daily Maximum = (0.12 lbs)/(1000 lbs)*(960 tons) *(2000 lbs/ton)= 230.4 lbs

BPJ

Cool/Boiler blow down (limits continued from pervious permit)

30 day average = (1025 mg/L)*(0.0124 MGD)*8.34= 106 lbs

Daily Maximum = (1625 mg/L)*(0.0124 MGD)*8.34= 168 lbs

Intake Credit

30 day average = (2 mg/L)*(1.4 MGD)*(8.34) = 23.4 lbs

Daily Maximum = (3 rng/L)*(1.4 MGD)*(8.34) = 35.2 lbs

Shipping Losses (half of pervious permit, improvements to area were made)

30 day average =5.5 lbs

Daily Maximum = 8.25 lbs

BOD Clarifier (limits continued From pervious permit)

30 day average = 8.0 lbs

Daily Maximum = 13.0 lbs

Stormwater

30 day average = (160 mg/L)*(0.0075 MGD)*(8.34) = 10 lbs

Daily Maximum = (160 mg/L)*(0.03 MGD)*(8.34) = 40 lbs

Total at 00 1

30 day average = 341 lbs

Daily Maximum = 893 lbs

Monitoring requirements and limitations for Nitrate are listed in Table A in the Permit.

- **WET Test**. WET Testing schedules and intervals are established in accordance with the Department's Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring.* It is recommended that WET testing be conducted during the period of lowest stream flow.

☒ Acute

☒ No less than **TWICE/YEAR:**

- ☒ Facility is subject to production processes alterations throughout the year.
- ☒ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
- ☐ Facility has been granted seasonal relief of numeric limitations.

Classified P with Mixing Considerations, the AEC% is determined as follows:.

Acute AEC% = $((5.58_{cfs} + 55.8_{7Q10}) / 5.58)^{-1}$ x 100 = 9.1% Default AEC of 10% applies

- **Delta BHC** Expanded effluent testing required during the renewal application process of this permit indicates the presences of Delta BHC. The testing indicated a concentration of 0.3 µg/L. The Missouri Water Quality standard for Delta BHC discharged in waters classified for Human Health Protection – Fish Consumption is 0.0074 µg/L. The Mississippi River for which Outfall 001 discharges has the Drinking Water Supply stream classification. Given that this criterion is Chronic and taking into consideration the mixing zone flow of the Mississippi, a monitoring only requirement is applicable to evaluate this pollutant over the next five years.

- **Sulfate.** Expanded effluent testing required during the renewal application process of this permit indicates the presence of sulfate. The testing indicated a concentration of 160 mg/L. The Missouri Water Quality standard for sulfate discharged waters classified for Drinking Water Supply is 250 mg/L. The Mississippi River for which Outfall 001 discharges has the Drinking Water Supply stream classification. A monitoring requirement has been established in this permit to determine upon next renewal if reasonable potential exists to exceed the Missouri Water Quality standards for Sulfate.

- **Aluminum, Total Recoverable.** Expanded effluent testing required during the renewal application process of this permit indicates the presence of aluminum. The testing indicated a concentration of 180 µg/L. The Missouri Water Quality standard for aluminum discharged in waters classified for aquatic life protection is 750 µg/L. The Mississippi River for which Outfall 001 discharges has the aquatic life protection stream classification. A monitoring requirement has been established in this permit to determine upon next renewal if reasonable potential exists to exceed the Missouri Water Quality standards for Aluminum.

- **Barium, Total Recoverable.** Expanded effluent testing required during the renewal application process of this permit indicates the presence of barium. The testing indicated a concentration of 82 µg/L. The Missouri Water Quality standard for barium discharged in waters classified for Drinking Water Supply is 2,000 µg/L. The Mississippi River for which Outfall 001 discharges has the Drinking Water Supply stream classification. A monitoring requirement has been established in this permit to determine upon next renewal if reasonable potential exists to exceed the Missouri Water Quality standards for barium.

- **Iron, Total Recoverable** Expanded effluent testing required during the renewal application process of this permit indicates the presence of iron. The testing indicated a concentration of 170 µg/L. The Missouri Water Quality standard for aluminum discharged in waters classified for aquatic life protection is 1,000 µg/L. The Mississippi River for which Outfall 001 discharges has the aquatic life protection stream classification. A monitoring requirement has been established in this permit to determine upon next renewal if reasonable potential exists to exceed the Missouri Water Quality standards for iron.

***Outfall #002*- Sanitary Effluent**

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE
FLOW	GPD	9	*		*
BOD_5	MG/L	1	45	30	*
TSS	MG/L	1	45	30	*
PH	SU	1	6.5-9.0		6.5-9.0
AMMONIA	MG/L	9	*		*
OIL & GREASE (MG/L)	MG/L	1	15		10
E. COLI***	#/100 ml	1	630		126

* - Monitoring requirement only.
*** - # of colonies/100mL; the Monthly Average for *E. coli* is a geometric mean.
**** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Lagoon Policy
5. Ammonia Policy
6. Antidegradation Review
7. Antidegradation Policy
8. Water Quality Model
9. Best Professional Judgment
10. TMDL or Permit in lieu of TMDL
11. WET Test Policy

OUTFALL #002 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.

- **Biochemical Oxygen Demand (BOD_5).** Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

- **Total Suspended Solids (TSS).** Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

- **pH**. The hydrogen ion concentration of the effluent discharge is expressed as pH. A pH range of 6.5 to 9.0 S.U. has been included in the permit to ensure water quality protection for aquatic life in the receiving waters, according to the regulations set forth in MDNR Title 10.

- **Ammonia.** A water quality standard for ammonia exists therefore an ammonia monitoring requirement has been established for outfall 002. Data from the previous permit cycle was in sufficient to perform a reasonable potential analysis.

- **Oil & Grease**. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

- ***Escherichia coli (E. coli)***. Monthly average of 126 per 100 ml as a geometric mean and Daily Maximum of 630 during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (A) designated use of the receiving stream, as per 10 CSR 20-7.031(4)(C). Daily Maximum effluent variability will be evaluated in development of a future effluent limit. An effluent limit for both monthly average and daily maximum is required by 40 CFR 122.45(d).

***Outfall #003*- Treated Filter Back Wash**

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE
FLOW	GPD	9	*		*
pH	SU	1	6.5-9.0		6.5-9.0
SETTLEABLE SOLIDS	mg/L	9	1.0		1.0

* - Monitoring requirement only.
*** - # of colonies/100mL; the Monthly Average for *E. coli* is a geometric mean.
**** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Lagoon Policy
5. Ammonia Policy
6. Antidegradation Review
7. Antidegradation Policy
8. Water Quality Model
9. Best Professional Judgment
10. TMDL or Permit in lieu of TMDL
11. WET Test Policy

OUTFALL #003 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.

- **pH**. The hydrogen ion concentration of the effluent discharge is expressed as pH. A pH range of 6.5 to 9.0 S.U. has been included in the permit to ensure water quality protection for aquatic life in the receiving waters, according to the regulations set forth in MDNR Title 10.

- **Settleable Solids.** The settleable solids limitation has been retained to evaluate the effectiveness of the treatment being discharged at Outfall 003.

Part V – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PUBLIC NOTICE:

☒ - This permit modification is simply a transfer of outfalls. No public notice is required.

Date of Fact Sheet: October 24, 2011

COMPLETED BY:

CHRIS WIEBERG, ENVIRONMENTAL SPECIALIST
NPDES PERMITS UNIT
PERMITTING AND ENGINEERING SECTION
WATER PROTECTION PROGRAM
(573) 526-5781
CHRIS.WIEBERG@DNR.MO.GOV

DATE OF MODIFICATION: SEPTEMBER 4, 2013

MODIFIED BY:

ALAN MOREAU, ENVIRONMENTAL SPECIALIST
INDUSTRIAL PERMITS UNIT
(573) 522-2553
alan.moreau@dnr.mo.gov

Part VI – Appendices APPENDIX # 1 – AGREEMENT OF RESPONSIBILITY FOR JOINT NPDES PERMIT

AGREEMENT OF RESPONSIBILITY
FOR JOINT NPDES PERMIT

This agreement is made this 16th day of September, 1986, by and between IRECO Incorporated ("IRECO"), a Delaware corporation, and Hercules Incorporated ("Hercules"), a Delaware corporation.

WHEREAS IRECO has acquired from Hercules, effective 10 June 1985, certain facilities ("IRECO plant") at Hercules' Missouri Chemical Works (MCW) in Louisiana, Missouri, and Hercules has retained other facilities ("Hercules plant"), at MCW;

WHEREAS the IRECO plant and Hercules plant discharge wastewater through an industrial sewer, at an outfall into the Mississippi River designated 001 ("Outfall 001") in permit number MO 0000311 issued 7 July 1978, to Hercules Incorporated; and

WHEREAS the Missouri Department of Natural Resources ("MDNR") intends to issue an NPDES permit jointly to IRECO and Hercules, setting forth effluent limitations and conditions applicable to the combined effluent from Outfall 001;

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, and upon the condition precedent that the MDNR issues an NPDES permit as described in the preceding paragraph, IRECO and Hercules agree as follows:

1. IRECO and Hercules shall be jointly and severally liable for compliance with all effluent limitations and permit conditions applicable to outfall 001.

2. IRECO and Hercules shall jointly conduct monitoring, sampling, analysis and reporting for effluent from Outfall 001 as required by permit, regulation or other law.

3. If requested by MDNR or other authority with jurisdiction over wastewater discharge from Outfall 001, IRECO and Hercules shall provide MDNR or other authority with all monitoring, sampling and analytical data in their possession relating to excursions from permit limitations or violation of permit conditions.

4. The term of this Agreement shall be the term of the new NPDES permit issued on or after 1 November 1985, including any extension, by regulation or otherwise, prior to issuance of any subsequent permit for outfall 001; or until either party, after not less than six months' written

notice to the other party and to MDNR, discontinues to discharge wastewaters through Outfall 001.

5. This Agreement shall not be deemed to govern liabilities, allocation of costs, expenses or damages of any kind as between Hercules and IRECO.

6. This Agreement shall not be deemed to create a partnership, joint venture, agency relationship, or employer/employee relationship between the parties or their officers, employees or agents, and shall not be deemed an admission of actual or potential liability except as specifically set forth herein.

IN WITNESS HEREOF, the parties hereto cause this agreement to be executed by their duly authorized officers or representatives.

IRECO Incorporated

By J.H. Bell
Its Vice President-Marketing & Production

Hercules Incorporated

By David S. Hellingsmith
Its Vice Chairman

Date: September 16, 1986

R1866

APPENDIX # 2– RPA RESULTS:

Outfall	Symbol	Analyte	CMC	RWC Acute	CCC	RWC Chronic	Reasonable Potential	n	CV
#001	NH3	Total Ammonia as Nitrogen (Summer) in mg/L	12.1	0.73	1.5	0.05	NO	26	0.644336308
#001	NH3	Total Ammonia as Nitrogen (Winter) in mg/L	12.1	0.36	3.1	0.03	NO	24	0.469571906

N/A – Not Applicable
* - Units are (µg/L) unless otherwise noted.
** - If the number of samples is greater than 10, then the CV value must be used in the WQBEL for the applicable constituent.
*** - Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.
RWC – Receiving Water Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).
n – Is the number of samples.
MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.
RP – Reasonable Potential. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.

APPENDIX # 3 Dyno Nobel Production Values

Ammonium Nitrate prill 960 tons per day

57% nitric acid 1,000 tons per day

67% nitric acid 80 tons per day

98% nitric acid 90 tons per day

83% nitric acid is one day per month at 25 tons

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
Revised
October 1, 1980

PART I - GENERAL CONDITIONS
SECTION A - MONITORING AND REPORTING

1. **Representative Sampling**
   a. Samples and measurements taken as required herein shal be representative of the nature and volume, respectively, of the monitored discharge. All samples shall be taken at the outfall(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
   b. Monitoring results shall be recorded and reported on forms provided by the Department, postmarked no later than the 28th dayof the month following the completed reporting period. Signed copies of these, and all other reports required herein, shal be submitted to the respective Department Regional Office, the Regional Office address is indicated in the cover letter transmitting the permit.

2. **Schedule of Compliance**
   No later than fourteen (14) calendar days following each date identified in the "Schedule of Compliance", the permittee shall submit to the respective Department Regional Office as required therein, either a repot of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements, or if there are no more scheduled requirements, when such noncompliance will be corrected. The Regional Office address is indicated in the cover letter transmitting he permit.

3. **Definitions**
   Definitions as set forth in the Missouri Clean Water Law and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 shall apply to terms used herein.

4. **Test Procedures**
   Test procedures for the analysis of pollutant shall be in accordance with the Missouri Clean Water Commission Effluent Regulation 10 CSR 20-7015.

5. **Recording of Results**
   a. For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:
      (i) the date, exact place, and time of sampling or measurements;
      (ii) the individual(s) who performed the sampling or measurements;
      (iii) the date(s) analyses were performed;
      (iv) the individual(s) who performed the analyses;
      (v) the analytical techniques or methods used; and
      (vi) the results of such analyses.
   b. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate anymonitoring device or method required to be maintained under this permit shall, upon conviction, be punished bya fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or both.
   c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

6. **Additional Monitoring by Permittee**
   If the permittee monitors any pollutant at the location(s) designated herein more frequently than required bythis permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monitoring Report Form. Such increased frequencyshall also be indicated.

7. **Records Retention**
   The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

SECTION B - MANAGEMENT REQUIREMENTS

1. **Change in Discharge**
   a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant not authorized by this permit or any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.
   b. Any facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants shall be reported by submission of a new NPDES application at least sixty (60) days before each such changes, or, if they will not violate the effluent limitations specified in the permit, by notice to the Department at least thirty (30) days before such changes.

2. **Noncompliance Notification**
   a. If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Department with the following information, in writing within five (5) days of becoming aware of such conditions:
      (i) a description of the discharge and cause of noncompliance, and
      (ii) the period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps beingtaken to reduce, eliminate and prevent `recurrence of the noncomplying discharge.
   b. Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally with 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided with five (5) days of the time the permittee becomes aware of the circumstances. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

3. **Facilities Operation**
   Permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions. Operators or supervisors of operations at publicly owned or publicly regulated wastewater treatment facilities shall be certified in accordance with 10 CSR 209.020(2) and any other applicable law or regulation. Operators of other wastewater treatment facilities, water contaminant source or point sources, shall, upon request by the Department, demonstrate that wastewater treatment equipment and facilities are effectively operated and maintained by competent personnel.

4. **Adverse Impact**
   The permittee shall take all necessary steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit or set forth in the Missouri Clean Water Law and Regulations (hereinafter the Law and Regulations), including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

a. Any bypass or shut down of a wastewater treatment facility and tributary sewer system or any part of such a facility and sewer system that results in a violation of permit limits or conditions is prohibited except:
   (i) where unavoidable to prevent loss of life, personal injury, or severe property damages; and
   (ii) where unavoidable excessive storm drainage or runoff would catastrophically damage any facilities or processes necessary for compliance with the effluent limitations and conditions of this permit;
   (iii) where maintenance is necessaryto ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance.

b. The permittee shall notify the Department in writing of all bypasses or shut down that result in a violation of permit limits or conditions. This section does not excuse any person from liability, unless such relief is otherwise provided by the statute.

6. **Removed Substances**
Solids, sludges, filter backwash, or any other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from entering waters of the state unless permitted by the Law, and a permanent record of the date and time, volume and methods of removal and disposal of such substances shal be maintained by the permittee.

7. **Power Failures**
In order to maintain compliance with the effluent limitations and other provisions of this permit, the permittee shall either:
a. in accordance with the "Schedule of Compliance", provide an alternative power source sufficient to operate the wastewater control facilities; or,
b. if such alternative power source is not in existence, and no date for its implementation appears in the Compliance Schedule, halt or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

8. **Right of Entry**
For the purpose of inspecting, monitoring, or sampling the point source, water contaminant source, or wastewater treatment facility for compliance with the Clean Water Law and these regulations, authorized representatives of the Department, shall be allowed by the permittee, upon presentation of credentials and at reasonable times;
a. to enter upon permittee's premises in which a point source, water contaminant source, or wastewater treatment facility is located or in which any records are required to be kept under terms and conditions of the permit;
b. to have access to, or copy, any records required to be kept under terms and conditions of the permit;
c. to inspect any monitoring equipment or method required in the permit;
d. to inspect any collection, treatment, or discharge facility covered under the permit; and
e. to sample any wastewater at any point in the collection system or treatment process.

9. **Permits Transferable**
a. Subject to Section (3) of 10 CSR 20-6.010 an operating permit may be transferred upon submission to the Department of an application to transfer signed by a new owner. Until such time as the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
b. The Department, within thirty (30) days of receipt of the application shall notify the new permittee of its intent to revoke and reissue or transfer the permit.

10. **Availability of Reports**
Except for data determined to be confidential under Section 308 of the Act, and the Law and Missouri Clean Water Commission Regulation for Public Participation, Hearings and Notice to Governmental Agencies 10 CSR 20-6.020, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by statute, effluent data shall not be considered confidential. Knowingly making any false statement on any such report shall be subject to the imposition of criminal penalties as provided in Section 204.076 of the Law.

a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
   (i) violation of any terms or conditions of this permit or the Law;
   (ii) having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
   (iii) a change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge, or
   (iv) any reason set forth in the Law and Regulations.
b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

12. **Permit Modification - Less Stringent Requirements**
If any permit provisions are based on legal requirements which are lessened or removed, and should no other basis exist for such permit provisions, the permit shall be modified after notice and opportunity for a hearing.

13. **Civil and Criminal Liability**
Except as authorized by statute and provided in permit conditions on "Bypassing" (Standard Condition B-5) and "Power Failures" (Standard Condition B-7) nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

14. **Oil and Hazardous Substance Liability**
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act, and the Law and Regulations. Oil and hazardous materials discharges must be reported in compliance with the requirements of the Federal Clean Water Act.

15. **State Laws**
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state statute or regulations.

16. **Property Rights**
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, no does it authorize any injury to private property or any invasion of personal rights, nor any infringement of or violation of federal, state or local laws or regulations.

17. **Duty to Reapply**
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit 180 days prior to expiration of this permit.

18. **Toxic Pollutants**
If a toxic effluent standard, prohibition, or schedule of compliance is established, under Section 307(a) of the Federal Clean Water Act for a toxic pollutant in the discharge of permittee's facility and such standard is more stringent than the limitations in the permit, then the more stringent standard, prohibition, or schedule shall be incorporated into the permit as one of its conditions, upon notice to the permittee.

19. **Signatory Requirement**
All reports, or information submitted to the Director shall be signed (see 40 CFR-122.6).

20. **Rights Not Affected**
Nothing in this permit shall affect the permittee's right to appeal or seek a variance from applicable laws or regulations as allowed by law.

21. **Severability**
The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
AUGUST 15, 1994

PART III – SLUDGE & BIOSOLIDS FROM DOMESTIC WASTEWATER TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation and incorporates applicable federal sludge disposal requirements under 40 CFR 503. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFS 503 until such time as Missouri is delegated the new EPA sludge program. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Sludge and Biosolids Use and Disposal Practices.
    a. Permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
    b. Permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
    c. Permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
    d. A separate operating permit is required for each operating location where sludge or biosolids are generated, stored, treated, or disposed, unless specifically exempted in this permit or in 10 CSR 20, Chapter 6 regulations. For land application, see section H, subsection 3 of these standard conditions.
4. Sludge Received From Other Facilities
    a. Permitees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
    b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge.
    c. Sludge received from out-of-state generators shall receive prior approval of the permitting authority and shall be listed in the facility description or special conditions section of the permit.
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after du process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RsMo.
8. In addition to the STANDARD CONDITIONS, the department may include sludge limitations in the special conditions portion or other sections of this permit.
9. Alternate Limits in Site Specific Permit.
   Where deemed appropriate, the department may require an individual site specific permit in order to authorize alternate limitations:
    a. An individual permit must be obtained for each operating location, including application sites.
    b. To request a site specific permit, an individual permit application, permit fees, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the department, as follows:
    a. The department will prepare a permit modification and follow permit public notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owners of property located adjacent to each land application site, where appropriate.
    b. Exceptions cannot be grated where prohibited by the federal sludge regulations under 40 CFR 503.
11. Compliance Period
    Compliance shall be achieved as expeditiously as possible but no later than the compliance dates under 40 CFR 503.2.

SECTION B – DEFINITIONS

1. Biosolids means an organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge. Untreated sludge or sludge that does not conform to the pollutants and pathogen treatment requirements in this permit is not considered biosolids.
2. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
3. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
4. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
5. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a public owned treatment works (POTW) or privately owned facility.
6. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include unaerated wastewater treatment lagoons and constructed wetlands for wastewater treatment.
7. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
8. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the next growing season after biosolids application.
9. Sinkhole is a depression in the land surface into which surface water flows to join an underground drainage system.
10. Site Specific Permit is a permit that has alternate limits developed to address specific site conditions for each land application site or storage site.
11. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks.
12. Sludge lagoon is an earthen basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
13. Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamp, marshes, bogs, and similar areas. Wetlands do not include constructed wetlands used for wastewater treatment.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Sludge shall be routinely removed from the wastewater treatment facilities and handled according to the permit facility description and sludge conditions in this permit.
2. The permittee shall operate the facility so that there is no sludge loss into the discharged effluent in excess of permit limits, no sludge bypassing, and no discharge of sludge to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR CONTRACT HAULER

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the hauler has a separate permit for sludge or biosolids disposal issued by the department; or the hauler transports the sludge to another permitted treatment facility.
3. The permittee shall require documentation from the contractor of the disposal methods used and permits obtained by the contractor.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility.

SECTION E – WASTEWATER TREATMENT LAGOONS AND STORMWATER RETENTION BASINS

1. Sludge that is retained within a wastewater treatment lagoon is subject to sludge disposal requirements when the sludge is removed from the lagoon or when the lagoon ceases to receive and treat wastewater.
2. If sludge is removed during the year, an annual sludge report must be submitted.
3. Storm water retention basins or other earthen basins, which have been used as sludge storage for a mechanical treatment system is considered a sludge lagoon and must comply with Section G of this permit.

SECTION F – INCINERATION OF SLUDGE

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous waste, shall be disposed in accordance with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored; and ash use or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.
4. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions sections of this permit.

SECTION G – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

1. Surface disposal sites shall comply with the requirements in 40 CFR 503 Subpart C, and solid waste disposal regulations under 10 CSR 80.
2. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions section of this permit.
3. Effective February 19, 1995, a sludge lagoon that has been in use for more than two years without removal of accumulated sludge, or that has not been properly closed shall comply with one of the following options:
    a. Permittee shall obtain a site specific permit to address surface disposal requirements under 40 CFR 503, ground water quality regulations under 10 CSR 20, Chapter 7 and 8, and solid waste management regulations under 10 CSR 80;
    b. Permittee shall clean out the sludge lagoon to remove any sludge over two years old and shall continue to remove accumulated sludge at least every two years or an alternate schedule approved under 40 CFR 503.20(b). In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the department; or
    c. Permittee shall close the lagoon in accordance with Section 1.

SECTION H – LAND APPLICATION

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the Facility Description or special conditions section of the permit.
2. This permit replaces and terminates all previous sludge management plan approvals by the department for land application of sludge or biosolids.
3. Land application sites within a 20 mile radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless a site specific permit is required under Section A, Subsection 9.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
    a. This permit does not authorize the land application of sludge except when sludge meets the definition of biosolids.
    b. This permit authorizes “Class A or B” biosolids derived from domestic wastewater sludges to be land applied onto grass land, crop land, timber land or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
5. Public Contact Sites.
    Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the department. Applications for approval shall be in the form of an engineering report and shall address priority pollutants and dioxin concentrations. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site-specific permit.

6. Agricultural and Silvicultural Sites.
   In addition to specified conditions herein, this permit is subject to the attached Water Quality Guides numbers WQ 422 through 426 published by the University of Missouri, and herby incorporated as though fully set forth herein. The guide topics are as follows:
   - WQ 422 Land Application of Septage
   - WQ 423 Monitoring Requirements for Biosolids Land Application
   - WQ 424 Biosolids Standards for Pathogens and Vectors
   - WQ 425 Biosolids Standards for Metals and Other Trace Substances
   - WQ 426 Best Management Practices for Biosolids Land Applications

SECTION I – CLOSURE REQUIREMENTS

1. This section applies to all wastewater treatment facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees who plan to cease operation must obtain department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids, and ash. Permittee must maintain this permit until the facility is properly closed per 10 CSR 20-6.010 and 10 CSR 20-6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure shall not exceed the agricultural loading rates as follows:
   a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
   b. If a wastewater treatment lagoon has been in operation for 15 years or more, the sludge in the lagoon qualifies for Class B with respect to pathogens (see WQ 424, Table 3), and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B limitations. Se WQ 423 and 424.
   c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. See WQ 426 for calculation procedures. For a grass cover crop, the allowable PAN is 300 pounds/acre.
4. When closing a wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered “septage” under the similar treatment works” definition. See WQ 422. Under the septage category, residuals may be left in place as follows:
   a. Testing for metals or fecal coliform is not required.
   b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at the rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
   c. The amount of sludge that may be left in the lagoon shall be based on the plan available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If more than 100 dry tons/acre will be left in the lagoon, test for nitrogen and determine the PAN in accordance with WQ 426. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berms shall be demolished, and the site shall be graded and vegetated so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoon closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed five acres in accordance with 10 CSR 20-6.200.
7. If sludge exceeds agricultural loading rates under Section H or I, a landfill permit or solid waste disposal permit shall be obtained to authorize on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

SECTION J – MONITORING FREQUENCY

1. At a minimum, sludge or biosolids shall be tested for volume and percent total solids on a frequency that will accurately respresent sludge quantities produced and disposed.
2. Testing for land application is listed under Section H, Subsection 6 of these standard conditions (see WQ 423). Once per year is the minimum test frequency. Additional testing shall be performed for each 100 dry tons of sludge generated or stored during the year.
3. Additional testing may be required in the special conditions or other sections of the permit. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the department.
4. Monitoring requirements shall be performed in accordance with, “POTW Sludge Sampling and Analysis Guidance Document”, United States Environmental Protection Agency, August 1989, and subsequent revisions.

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in these Standard Conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting Period
   a. By January 28th of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
   b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the department or equivalent forms approved by the department.
4. Report shall be submitted as follows:
   Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the department and EPA. Other facilities need to report only to the department. Reports shall be submitted to the addresses listed as follows:

   DNR regional office listed in your permit
   (See cover letter of permit)

   EPA Region VII
   Water Compliance Branch (WACM)
   Sludge Coordinator
   901 N 5th Street
   Kansas City, KS 66101

5. Annual Report Contents. The annual report shall include the following:
   a. Sludge/biosolids testing performed. Include a copy or summary of all test results, even if not required by this permit.
   b. Sludge or Biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at end of year, and the quantity used or disposed.
   c. Gallons and % solids data used to calculate the dry ton amounts.
   d. Description of any unusual operating conditions.
   e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
      (1) This must include the name, address and permit number for the hauler and the sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name and permit number of that facility.
      (2) Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
   f. Contract Hauler Activities.
      If contract hauler, provide a copy of a signed contract or billing receipts from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate sludge disposal or biosolids use permit.
   g. Land Application Sites.
      (1) Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as legal description for nearest ¼, ¼, Section, Township, Range, and County, or as latitude and longitude.
      (2) If biosolids application exceeds 2 dry tons/acre/year, report biosolids nitrogen results. Plant Available Nitrogen (PAN) in pounds/acre, crop nitrogen requirement, available nitrogen in the soil prior to biosolids application, and PAN calculations for each site.
      (3) If the "Low Metals" criteria is exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative loading which has been reached at each site.
      (4) Report the method used for compliance with pathogen and vector attraction requirements.
      (5) Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.

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Ms. Amanda Sappington
Missouri Department of Natural Resources
P.O. Box 76
Jefferson City, MO 65102

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11025 Highway D
Louisiana, Missouri
63353 USA
Telephone: 573-754-4501
Fax: 573-754-6525
www.dynonobel.com

Date: 27 June 2014

Re: NPDES Permit Modification (Outfall 001 per MDNR request)

Dear Ms. Sappington:

Per MDNR letter dated April 29, 2014, please find enclosed a completed application for the Dyno Nobel LOMO Plant Outfall 001 modification. This application is based on the referenced letter from MDNR to address reduced/eliminated production from the former Ashland/Hercules facility (shared Outfall 001) to modify NPDES Permit #MO0105783.

This application package includes Form A, Form C, and Form D as well as required support documentation and a check for fees associated with the permit activity ($1,250).

Regards

Brian L. Gregory
573 754-4501 Ex.3023
Brian.gregory@am.dynonobel.com

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM A – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY	
CHECK NUMBER 1102 4891	
DATE RECEIVED 4/26/14	FEE SUBMITTED $1250.00

Note ► PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:

- ☐ An operating permit and antidegradation review public notice
- ☐ A construction permit following an appropriate operating permit and antidegradation review public notice
- ☐ A construction permit and concurrent operating permit and antidegradation review public notice
- ☐ A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required)
- ☐ An operating permit for a new or unpermitted facility — Construction Permit # _____
- ☐ An operating permit renewal: permit # MO- _____ — Expiration Date _____
- ☑ An operating permit modification: permit # MO- 0105783 — Reason: MDNR request

1.1 Is the appropriate fee included with the application? (See instructions for appropriate fee) ☑ YES ☐ NO

2. FACILITY

NAME		TELEPHONE WITH AREA CODE
DYNO NOBEL, LOMO PLANT		(573) 754-4501
		FAX (573) 754-6265
ADDRESS (PHYSICAL)	CITY	STATE / ZIP CODE
11025 HIGHWAY D	LOLIISIANA	MO 63353

3. OWNER

NAME	E-MAIL ADDRESS	TELEPHONE WITH AREA CODE
DYNO NOBEL Inc.		(800) 364-4800
		FAX
ADDRESS (MAILING)	CITY	STATE / ZIP CODE
2795 East Cottonwood Parkway	SALT LAKE CITY	UT 84121

3.1 Request review of draft permit prior to public notice? ☑ YES ☐ NO

4. CONTINUING AUTHORITY

NAME		TELEPHONE WITH AREA CODE
DYNO NOBEL, LOMO PLANT		(573) 754-4501
		FAX (573) 754-6525
ADDRESS (MAILING)	CITY	STATE / ZIP CODE
11025 HIGHWAY D	LOUISIANA	MO 63353

5. OPERATOR

NAME	CERTIFICATE NUMBER	TELEPHONE WITH AREA CODE
DYNO NOBEL, LOMO PLANT	NA	(573) 754-4501
		FAX (573) 754-6525
ADDRESS (MAILING)	CITY	STATE / ZIP CODE
11025 HIGHWAY D	LOUISIANA	MO 63353

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE WITH AREA CODE
BRIAN GREGORY	ENVIRONMENTAL COORDINATOR	(573) 754-4501
		FAX (573) 754-6525

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)

001 E ¼ SW ¼ Sec 21 T 54 R 1W PIKE County
UTM Coordinates Easting (X): 670531 Northing (Y): 4366585
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 ____ ¼ ____ ¼ Sec ____ T ____ R ____ ____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

003 ____ ¼ ____ ¼ Sec ____ T ____ R ____ ____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

004 ____ ¼ ____ ¼ Sec ____ T ____ R ____ ____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

001 – SIC 2892 and NAICS 325920 002 – SIC _____ and NAICS _____
003 – SIC _____ and NAICS _____ 004 – SIC _____ and NAICS _____

8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION
(Complete all forms that are applicable.)

A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C (unless storm water only, then complete U.S. Environmental Protection Agency Form 2F per Item C below).	YES ☑	NO ☐
B.	Is your facility considered a "Primary Industry" under EPA guidelines: If yes, complete Forms C and D.	YES ■	NO ☐
C.	Is application for storm water discharges only? If yes, complete EPA Form 2F.	YES ☐	NO ☑
D.	Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.		
E.	Is wastewater land applied? If yes, complete Form I.	YES ☐	NO ☑
F.	Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? If yes, complete Form R.	YES ☐	NO ☑

9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions.
(PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).

NAME			
MISSISSIPPI RIVER - US Army Corps of Engineers			
ADDRESS	**CITY**	**STATE**	**ZIP CODE**
1222 Spruce Street	St. Louis	MO	63103

10. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law to the Missouri Clean Water Commission.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE WITH AREA CODE
Sam J. Correnti Jr. - PLANT MANAGER	(573) 754-4501
SIGNATURE	**DATE SIGNED**
Samuel J. Correnti Jr.	09 JUNE 2014

MO 780-1479 (01-09)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

Submittal of an incomplete application may result in the application being returned.

HAVE YOU INCLUDED:

- ☑ Appropriate Fees?
- ☑ Map at 1" = 2000' scale?
- ☑ Signature?
- ☑ Form C, if applicable?
- ☑ Form D, if applicable?
- ☐ Form 2F, if applicable?
- ☐ Form I (Irrigation), if applicable?
- ☐ Form R (Sludge), if applicable?

INSTRUCTIONS FOR COMPLETING FORM A
APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT

1. Check which option is applicable. **Do not check more than one item.** Construction and operating permit refer to permits issued by the Department of Natural Resources' Water Protection Program, Water Pollution Control Branch. Effective Sept. 1, 2008, a facility will be required to use ***MISSOURI'S ANTIDEGRADATION RULE AND IMPLEMENTATION PROCEDURE.*** For more information, this document can be reviewed at www.dnr.mo.gov/env/wpp/docs/aip-cwc-appr-050708.pdf. This procedure will be applicable to new and expanded wastewater facilities and requires the proposed discharge to a water body to undergo a level of Antidegradation Review, which documents that the use of a water body's available assimilative capacity is justified.

1.1 An operating permit and antidegradation review public notice requires a Water Quality/Antidegradation Review Sheet to be submitted with the application (No fee required).

CONSTRUCTION PERMIT FEES

A. $750 for a sewage treatment facility with a design flow of less than 500,000 gallons per day.
B. $2,200 for a sewage treatment facility with a design flow of 500,000 gallons per day or more.

Different application and construction fees are applicable if only sewer and/or lift stations are to be constructed.

OPERATING PERMIT FEES

If the application is for a site-specific permit re-issuance, send no fees.. You will be invoiced separately by the department.

Discharges covered by section 644.052.4 RSMo. (Primary or Categorical Facilities)

$3,500 for a design flow under 1 mgd
$5,000 for a design flow of 1 mgd or more

A. Discharges covered by section 644.052.5 RSMo. (Secondary or Non-Categorical Facilities).

$1,500 for a design flow under 1 million gallons per day (mpg)
$2,500 for a design flow of 1 mgd or more

SITE-SPECIFIC STORM WATER DISCHARGE FEES

A. $1,350 for a design flow under 1 mgd.
B. $2,350 for a design flow of 1 mgd or more.

OPERATING PERMIT MODIFICATIONS, including transfers, are subject to the following fees:

A. Municipals - $200 each.
B. All others - 25 percent of annual fee.

Note: Facility name and address changes where owner, operator and continuing authority remain the same are not considered transfers.

Incomplete permit applications and/or related engineering documents will be returned by the department if they are not completed in the time frame established in a comment letter from the department to the owner. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

2. Facility - Provide the name by which this facility is known locally. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Also include the street address or location of the facility. If the facility lacks a street name or route number, give the names of the closest intersection, highway, county road, etc.

3. Owner - Provide the legal name and address of owner.

3.1 Prior to submitting a permit to public notice, the department shall provide the permit applicant 10 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice. Check YES to review the draft permit prior to public notice. Check NO to waive the process and expedite the permit.

4. Continuing Authority - Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is available at www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf or contact the appropriate Department of Natural Resources Regional Office.

5. Operator - Provide the name, certificate number and telephone number of the person operating the facility.

6. Provide the name, title and work telephone number of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department, if necessary.

7.1 An outfall is the point at which wastewater is discharged. Outfalls should be given in terms of the legal description of the facility. Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used at the outfall pipe and the displayed coordinates submitted. If access to a GPS receiver is not available, please use a mapping system to approximate the coordinates; the department's mapping system is available at www.dnr.mo.gov/internetmapviewer/.

7.2 List only your primary Standard Industrial Classification, or SIC, and North American Industry Classification System code for each outfall. The SIC system was devised by the U.S. Office of Management and Budget to cover all economic activities. To find the correct SIC code, an applicant may check his or her unemployment insurance forms or contact the Missouri Division of Employment Security,

7.3 573-751-3215. The primary SIC code is that of the operation that generates the most revenue. If this information is not available, the number of employees or, secondly, production rate may be used to determine your SIC code. Additional information is on the Web for Standard Industrial Codes at www.osha.gov/pls/imis/sicsearch.html and for the North American Industry Classification System at www.census.gov/naics or contact the appropriate Department of Natural Resources Regional Office.

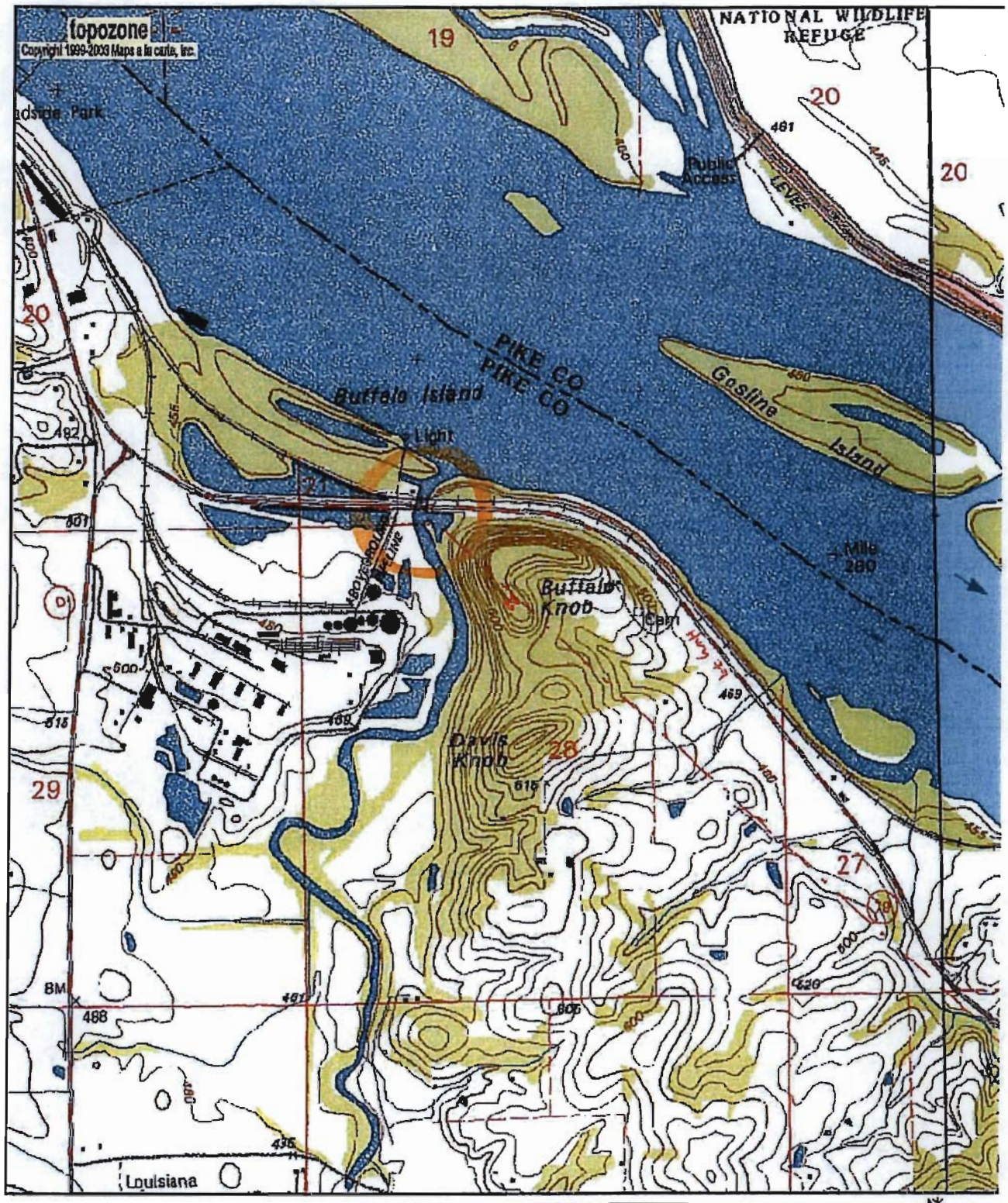
INSTRUCTIONS FOR COMPLETING FORM A
APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT
(CONTINUED)

8. If you answer yes to A, B, C, D, E or F, then you must complete and file the supplementary form(s) indicated. A U.S. Geological Survey 1" = 2,000' scale map must be submitted with the permit application showing all outfalls, the receiving stream and the location of the downstream property owners. This type of map is available on the Web at www.dnr.mo.gov/internetmapviewer/ or from the Missouri Department of Natural Resources' Division of Geology and Land Survey in Rolla at 573-368-2125.

9. Please provide the name and address of the first downstream landowner, different from that of the permitted facility, through whose property the discharge will flow. Also, please indicate the location on the map. For discharges that leave the permitted facility and flow under a road or highway, or along the right-of-way, the downstream property owner is the landowner that the discharge flows to after leaving the right-of-way. For no discharge facilities, provide this information for the location where discharge would flow if there was one. For land application sites, include the owners of the land application sites and all adjacent landowners.

10. Signature - All applications must be signed as follows and the signature must be **original**:
    A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
    B. For a partnership or sole proprietorship, by a general partner or the proprietor.
    C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

This completed form, along with the applicable permit fees, should be submitted to the appropriate Regional Office. Submittal of an incomplete application may result in the application being returned. A map of the department's regional offices with addresses and phone numbers can be viewed on the Web at www.dnr.mo.gov/regions/ro-map.pdf. If there are any questions concerning this form, contact the appropriate Regional Office or the Department of Natural Resources' Water Protection Program, Water Pollution Control Branch, Permits and Engineering Section at 573-751-6825.



0 0.3 0.6 0.9 1.2 1.5 km

0 0.2 0.4 0.6 0.8 1 mi

UTM 15 670721E 4365909N (NAD27)

Buffalo Knob, USGS Louisiana (MO,IL) Quadrangle

Projection is UTM Zone 15 NAD83 Datum

M=0.239
G=1.26

RECEIVED

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH

FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL, MINING, SILVICULTURE OPERATIONS, PROCESS AND STORMWATER

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY

Dyno Nobel Inc. - LOMO Plant

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER

MO-0105783

1.20 THIS IS A NEW FACILITY AND WAS CONSTRUCTED UNDER MISSOURI CONSTRUCTION PERMIT NUMBER (COMPLETE ONLY IF THIS FACILITY DOES NOT HAVE AN OPERATING PERMIT).

2.00 LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES APPLICABLE TO YOUR FACILITY (FOUR DIGIT CODE)

A. FIRST 2873 B. SECOND

C. THIRD D. FOURTH

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) E 1/4 SW 1/4 SEC 21 T 54 R 1W PIKE COUNTY

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST)	RECEIVING WATER
OO1	Mississippi River

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS

Inorganic chemical manufacturing.

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, public sewers and outfalls. If a water balance cannot by determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of 1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water and storm water runoff. 2. The average flow contributed by each operation. 3. The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
(LIST)	A. OPERATION (LIST)	B. AVERAGE FLOW (INCLUDE UNITS) (MAXIMUM FLOW)	A. DESCRIPTION	B. LIST CODES FROM TABLE A
001	Process Water	0.65 mgd (1.0 mgd)	Neutralization	2-K
001	Process Water	14 gpm (18 gpm)	Electrodialysis	1-E

2.40 CONTINUED

C. EXCEPT FOR STORM RUNOFF, LEAKS OR SPILLS, ARE ANY OF THE DISCHARGES DESCRIBED IN ITEMS A OR B INTERMITTENT OR SEASONAL?

☐ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☑ **NO** *(GO TO SECTION 2.50)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(S) CONTRIBUTING FLOW *(list)*	3. FREQUENCY		4. FLOW				C. DURATION *(in days)*
				A. FLOW RATE *(in mgd)*		B. TOTAL VOLUME (specify with units)		
		A. DAYS PER WEEK *(specify average)*	B. MONTHS PER YEAR *(specify average)*	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	

2.50 MAXIMUM PRODUCTION

A. DOES AN EFFLUENT GUIDELINE LIMITATION PROMULGATED BY EPA UNDER SECTION 304 OF THE CLEAN WATER ACT APPLY TO YOUR FACILITY?

☑ **YES** *(COMPLETE B.)* ☐ **NO** *(GO TO SECTION 2.60)*

B. ARE THE LIMITATIONS IN THE APPLICABLE EFFLUENT GUIDELINES EXPRESSED IN TERMS OF PRODUCTION (OF OTHER MEASURE OF OPERATION)?

☐ **YES** *(COMPLETE c.)* ☑ **NO** *(GO TO SECTION 2.60)*

C. IF YOU ANSWERED "YES" TO B. LIST THE QUANTITY THAT REPRESENTS AN ACTUAL MEASUREMENT OF YOUR MAXIMUM LEVEL OF PRODUCTION, EXPRESSED IN THE TERMS AND UNITS USED IN THE APPLICABLE EFFLUENT GUIDELINE AND INDICATE THE AFFECTED OUTFALLS.

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS *(list outfall numbers)*
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	

2.60 IMPROVEMENTS

A. ARE YOU NOW REQUIRED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY TO MEET, ANY IMPLEMENTATION SCHEDULE FOR THE CONSTRUCTION, UPGRADING OR OPERATION OF WASTEWATER TREATMENT EQUIPMENT OR PRACTICES OR ANY OTHER ENVIRONMENTAL PROGRAMS THAT MAY AFFECT THE DISCHARGES DESCRIBED IN THIS APPLICATION? THIS INCLUDES, BUT IS NOT LIMITED TO, PERMIT CONDITIONS, ADMINISTRATIVE OR ENFORCEMENT ORDERS, ENFORCEMENT COMPLIANCE SCHEDULE LETTERS, STIPULATIONS, COURT ORDERS AND GRANT OR LOAN CONDITIONS.

☐ **YES** *(COMPLETE THE FOLLOWING TABLE)* ☑ **NO** *(GO TO 3.00)*

1. IDENTIFICATION OF CONDITION AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
				A. REQUIRED	B. PROJECTED

B. OPTIONAL: YOU MAY ATTACH ADDITIONAL SHEETS DESCRIBING ANY ADDITIONAL WATER POLLUTION CONTROL PROGRAMS *(OR OTHER ENVIRONMENTAL PROJECTS WHICH MAY AFFECT YOUR DISCHARGES)* YOU NOW HAVE UNDER WAY OR WHICH YOU PLAN. INDICATE WHETHER EACH PROGRAM IS NOW UNDER WAY OR PLANNED, AND INDICATE YOUR ACTUAL OR PLANNED SCHEDULES FOR CONSTRUCTION.

☐ **MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED.**

3.00 INTAKE AND EFFLUENT CHARACTERISTICS

A. & B. SEE INSTRUCTIONS BEFORE PROCEEDING – COMPLETE ONE TABLE FOR EACH OUTFALL – ANNOTATE THE OUTFALL NUMBER IN THE SPACE PROVIDED.
NOTE: TABLE 1 IS INCLUDED ON SEPARATE SHEETS NUMBERED FROM PAGE 6 TO PAGE 7.

C. USE THE SPACE BELOW TO LIST ANY OF THE POLLUTANTS LISTED IN PART B OF THE INSTRUCTIONS, WHICH YOU KNOW OR HAVE REASON TO BELIEVE IS DISCHARGED OR MAY BE DISCHARGED FROM ANY OUTFALL. FOR EVERY POLLUTANT YOU LIST, BRIEFLY DESCRIBE THE REASONS YOU BELIEVE IT TO BE PRESENT AND REPORT ANY ANALYTICAL DATA IN YOUR POSSESSION.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
NONE KNOWN			

3.10 BIOLOGICAL TOXICITY TESTING DATA

DO YOU HAVE ANY KNOWLEDGE OR REASON TO BELIEVE THAT ANY BIOLOGICAL TEST FOR ACUTE OR CHRONIC TOXICITY HAS BEEN MADE ON ANY OF YOUR DISCHARGES OR ON RECEIVING WATER IN RELATION TO YOUR DISCHARGE WITHIN THE LAST THREE YEARS?

☑ YES (IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW.) ☐ NO (GO TO 3.20)

Semi-annual Whole Effluent Toxicity testing. The outfall has always passed the required Pimephales promelas acute toxicity and Ceriodaphnia acute toxicity tests - 48-hour survival.

3.20 CONTRACT ANALYSIS INFORMATION

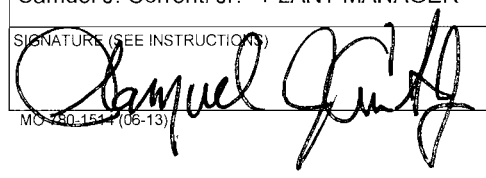
WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

☑ **YES** *(LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW.)* ☐ **NO** *(GO TO 3.30)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*
Environmental Analysis South	4000 east Jackson Blvd. Jackson, MO 63755	573-204-8817	Acute toxicity (48-hour survival)
PDC Laboratories	3278 N. Lindbergh Blvd.	314-432-0550	BOD Metals Delta BHC (pesticides)

3.30 CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS APPLICATION AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Samuel J. Correnti Jr. - PLANT MANAGER	(573) 754-4501
SIGNATURE (SEE INSTRUCTIONS)	DATE SIGNED
	09 June 2014

PLEASE PRINT OR TYPE. You may report some or all of this information on separate sheet *(Use the same format)* instead of completing these pages.
SEE INSTRUCTIONS

FORM C
TABLE 1 FOR 3.00 ITEM A AND B

INTAKE AND EFFLUENT CHARACTERISTICS

OUTFALL NO. 001

PART A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT							3. UNITS *(specify if blank)*		4. INTAKE *(optional)*		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand (BOD)	28	28	20	99			5	ppd	pounds			
B. Chemical Oxygen Demand (COD)	628		443		214		46	ppm				
C. Total organic Carbon (TOC)	55						1	mg/l				
D. Total Suspended Solids (TSS)	458	458	111	554			5	ppd	pounds			
E. Ammonia *(as N)*	126	126	111	554			5	ppd	pounds			
F. Flow	VALUE 0.71 mgd		VALUE 0.37 mgd		VALUE		30	mgd		VALUE		
G. Temperature *(winter)*	VALUE 30		VALUE 25		VALUE		31	°C		VALUE		
H. Temperature *(summer)*	VALUE 39		VALUE 35		VALUE		31	°C		VALUE		
I. pH	MINIMUM 6.5	MAXIMUM 7.6	MINIMUM 6.5	MAXIMUM 8.5			30	STANDARD UNITS				

PART B – Mark "X" in column 2A for each pollutant you know or have reason to believe is present. Mark "X" in column 2B for each pollutant you believe to be absent. If you mark column 2A for any pollutant, you must provide the results for at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS														
A. Bromide (24959-67-9)		X												
B. Chlorine, Total Residual		X												
C. Color		X												
D. Fecal Coliform		X												
E. Fluoride (16984-48-8)		X												
F. Nitrate - Nitrate *(as N)*	X		197	197	157	157			5	ppd	pounds			

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
G. Nitrogen, Total Organic *(as N)*	X		3.35						1	ppm				
H. Oil and Grease	X		2.0		2.0		2.0			mg/l				
I. Phosphorus *(as P)*, Total (7723-14-0)		X												
J. Sulfate *(as SO^4)* (14808-79-8)	X		325							ppm				
K. Sulfide *(as S)*		X												
L. Sulfite (as SO^3) (14265-45-3)		X												
M. Surfactants		X												
N. Aluminum, Total (7429-90-5)	X		0.15						1	mg/l				
O. Barium, Total (7440-39-3)	X		0.068						1	mg/l				
P. Boron, Total (7440-42-8)		X												
Q. Cobalt, Total (7440-48-4)		X												
R. Iron, Total (7439-89-6)	X		0.2						1	mg/l				
S. Magnesium, Total (7439-95-4)		X												
T. Molybdenum, Total (7439-98-7)		X												
U. Manganese, Total (7439-96-5)		X												
V. Tin, Total (7440-31-5)		X												
W. Titanium, Total (7440-32-6)		X												

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS														
1M. Antimony, Total (7440-36-9)		X												
2M. Arsenic, Total (7440-38-2)		X												
3M. Beryllium, Total (7440-41-7)		X												
4M. Cadmium, Total (7440-43-9)		X												
5M. Chromium III (16065-83-1)		X												
6M. Chromium VI (18540-29-9)		X												
7M. Copper, Total (7440-50-8)		X												
8M. Lead, Total (7439-92-1)		X												
9M. Mercury, Total (7439-97-6)		X												
10M. Nickel, Total (7440-02-0)		X												
11M. Selenium, Total (7782-49-2)		X												
12M. Silver, Total (7440-22-4)		X												
13M. Thallium, Total (7440-28-0)		X												
14M. Zinc, Total (7440-66-6)		X												
15M. Cyanide, Amenable to Chlorination		X												
16M. Phenols, Total		X												
RADIOACTIVITY														
(1) Alpha Total		X												
(2) Beta Total		X												
(3) Radium Total		X												
(4) Radium 226 Total		X												

INSTRUCTIONS FOR FILLING OUT APPLICATION FOR DISCHARGE PERMIT FORM C – MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS.

All blanks must be filled in when the application is submitted to the appropriate regional office (see map). The form must be signed as indicated.

This application is to be completed only for wastewater facilities with a discharge. Include any facility with possibility of discharge, even if normally there is no discharge. If this form is not adequate for you to describe your existing operation, then sufficient information should be attached so that an evaluation of the discharge can be made.

1.00 Name of Facility – By what title or name is this facility known locally?

1.10 and 1.20 Self-explanatory.

2.00 List in descending order of significance the four digit Standard Industrial Classification (SIC) codes that best describe your facility in terms of the principal products or services you produce or provide. Also, specify each classification in words.

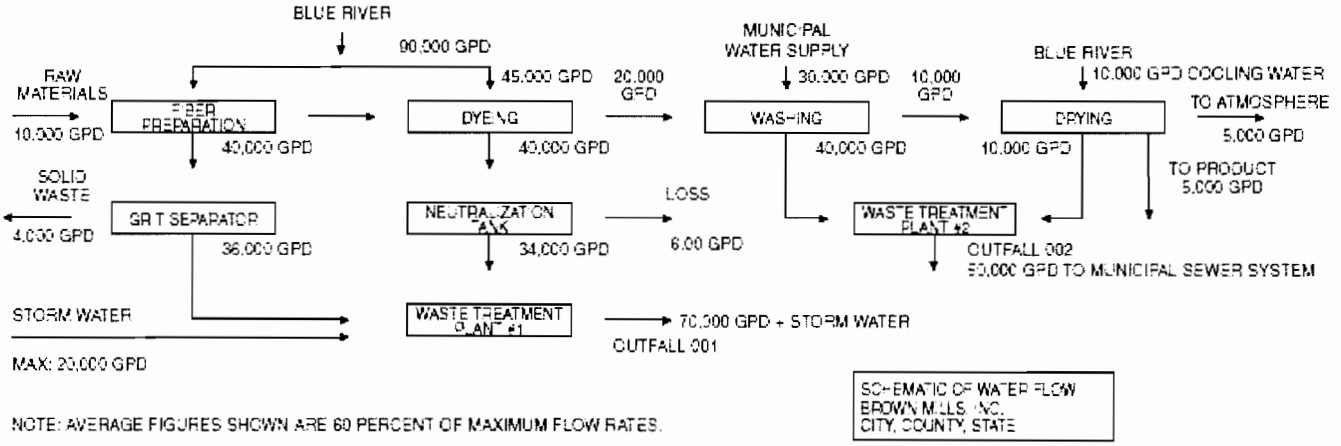
SIC code numbers are descriptions that may be found in the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget, that is available from the Government Printing Office, Washington, D.C. Use the current edition of the manual. If you have any questions concerning the appropriate SIC code for your facility, contact the Missouri Department of Natural Resources Regional office in your area (see map).

2.10 Point of discharge should be given in terms of the legal description of the waste treatment plant, location or sufficient information so that it may be located.

2.20 Receiving Water – the name of the stream to which the discharge is directed and any subsequent tributary until a continuous flowing stream is reached.

2.30 Self-explanatory.

2.40 A. The line drawing should show generally the route taken by water in your facility from intake to discharge. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water and storm water runoff. You may group similar operations into a single unit labeled to correspond to the more detailed listing. The water balance should show average and maximum flows. Show all significant losses of water to products, atmosphere, discharge and public sewer systems. You should use actual measurements whenever available; otherwise, use your best estimate. An example of any acceptable line drawing appears below.



B. List all sources of wastewater to each outfall. Operations may be described in general terms (for example, "dye-making reactor" or a distillation tower"). You may estimate the flow contributed by each source if no data is available, and for storm water, you may use any reasonable measure of duration, volume or frequency. For each treatment unit, indicate its size, flow rate and retention time, and describe the ultimate disposal of any solid or liquid wastes not discharged. Treatment units should be listed in order and you should select the proper code from Table A to fill in column 3B for each treatment unit. Insert "XX" into column 3B if no code corresponds to a treatment unit you list.

TABLE A – CODES FOR TREATMENT UNITS

PHYSICAL TREATMENT PROCESSES

1-A	Ammonia Stripping	1-M	Grit Removal
1-B	Dialysis	1-N	Microstraining
1-C	Diatomaceous Earth Filtration	1-O	Mixing
1-D	Distillation	1-P	Moving Bed Filters
1-E	Electrodialysis	1-Q	Multimedia Filtration
1-F	Evaporation	1-R	Rapid Sand Filtration
1-G	Flocculation	1-S	Reverse Osmosis (Hyperfiltration)
1-H	Flotation	1-T	Screening
1-I	Foam Fractionation	1-U	Sedimentation (Settling)
1-J	Freezing	1-V	Slow Sand Filtration
1-K	Gas-Phase Separation	1-W	Solvent Extraction
1-L	Grinding (Comminutors)	1-X	Sorption

CHEMICAL TREATMENT PROCESSES

2-A	Carbon Absorption	2-G	Disinfection (Ozone)
2-B	Chemical Oxidation	2-H	Disinfection (Other)
2-C	Chemical Precipitation	2-I	Electrochemical Treatment
2-D	Coagulation	2-J	Ion Exchange
2-E	Dechlorination	2-K	Neutralization
2-F	Disinfection (Chlorine)	2-L	Reduction

BIOLOGICAL TREATMENT PROCESSES

3-A	Activated Sludge	3-E	Pre-Aeration
3-B	Aerated Lagoons	3-F	Spray Irrigation/Land Application
3-C	Anaerobic Treatment	3-G	Stabilization Ponds
3-D	Nitrification-Denitrification	3-H	Trickling Filtration

OTHER PROCESSES

4-A	Discharge to Surface Water	4-C	Reuse/Recycle of Treated Effluent
4-B	Ocean Discharge Through Outfall	4-D	Underground Injection

SLUDGE TREATMENT AND DISPOSAL PROCESSES

5-A	Aerobic Digestion	5-M	Heat Drying
5-B	Anaerobic Digestion	5-N	Heat Treatment
5-C	Belt Filtration	5-O	Incineration
5-D	Centrifugation	5-P	Land Application
5-E	Chemical Conditioning	5-Q	Landfill
5-F	Chlorine Treatment	5-R	Pressure Filtration
5-G	Composting	5-S	Pyrolysis
5-H	Drying Beds	5-T	Sludge Lagoons
5-I	Elutriation	5-U	Vacuum Filtration
5-J	Flotation Thickening	5-V	Vibration
5-K	Freezing	5-W	Web Oxidation
5-L	Gravity Thickening		

2.40 C. A discharge is intermittent unless it occurs without interruption during the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes or other similar activities. A discharge is seasonal if it occurs only during certain parts of the year. Fill in every applicable column in this item for each source of intermittent or seasonal discharges. Base your answers on actual data whenever available; otherwise, provide your best estimate. Report the highest daily value for flow rate and total volume in the "Maximum Daily" columns. Report the average of all daily values measures during days when discharge occurred within the last year in the "Long Term Average" columns.

2.50 A. All effluent guidelines promulgated by EPA appear in the Federal Register and are published annually in 40 CPR Subchapter N. A guideline applies to you if you have any operations contributing process wastewater in any subcategory covered by BPT, BCT, or BAT guidelines. If you are unsure whether you are covered by a promulgated effluent guideline, check with your Missouri Department of Natural Resources' Regional Office. You must check yes if an applicable effluent guideline has been promulgated, even if the guideline limitations are being contested in court. If you believe that a promulgated effluent guideline has been remanded for reconsideration by a court and does not apply to your operations, you may check no.

B. An effluent guideline is expressed in terms of production (or other measure of operation) if the limitations are expressed as mass of pollutant per operational parameter; for example, "pounds of BOD per cubic foot of logs from which bark is removed," or "pounds of TSS per megawatt hour of electrical energy consumed by smelting furnace." An example of a guideline not expressed in terms of a measure of operation is one which limits the concentration of pollutants.

C. This item must be completed only if you checked yes to item B. The production information requested here is necessary to apply effluent guidelines to your facility and you may not claim it as confidential. However, you do not have to indicate how the reported information was calculated.

Report quantities in the units of measurement used in the applicable effluent guideline. The figures provided must be a measure of actual operation over a one month period, such as the production for the highest month during the last twelve months, or the monthly average production for the highest year of the last five years, or other reasonable measure of actual operation, but may not be based on design capacity or on predictions of future increases in operation.

2.60 A. If you check yes to this question, complete all parts of the chart, or attach a copy of any previous submission you have made containing the same information.

B. You are not required to submit a description of future pollution control projects if you do not wish to or if none is planned.

3.00 These items require you to collect and report data on the pollutants discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following general instructions apply to the entire item.

GENERAL INSTRUCTIONS. Part A requires you to report at least one analysis for each pollutant. Part B requires you to mark "X" in either the "Believe Present" column or the "Believe Absent" column (column 2A or 2B, Part B) based on you best estimate, and test for those which you believe to be present. Part C requires you to list any of a group of pollutants which you believe to be present, with a brief explanation of why you believe it to be present. (See specific instructions on the form and below Parts A through C).

Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, maintenance chemicals, intermediate and final products and byproducts, and any previous analyses known to you of your effluent or of any similar effluent. (For example, if you manufacture pesticides, you should expect those pesticides to be present in contaminated storm water runoff.) If you would expect a pollutant to be present solely as a result of its presence in your intake water, you must mark "Believe Present" but you are not required to analyze for that pollutant. Instead, mark an "X" in the "Intake" column.

REPORTING. All levels must be reported as a concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper. (Use the following abbreviations in the columns headed "Units" (column 3, Part A, and column 4, Part B).

CONCENTRATION		MASS	
ppm	parts per million	lbs	pounds
mg/L	milligrams per liter	ton	tons (English tons)
ppb	parts per billion	mg	Milligrams
ug/L	micrograms per liter	g	grams
		kg	kilograms
		T	tonnes (metric tons)

If you measure only one daily value, complete only the "Maximum Daily Values" columns and insert "1" into the "number of analyses" columns (columns 2A and 2B, Part A, and columns 3A and 3D, Part B). The Missouri Department of Natural Resources may require you to conduct additional analyses to further characterize your discharges.

For composite samples, the daily value is the total mass or average concentration found in a complete sample taken over the operating hours of the facility during a 24 hour period; for grab samples, the daily value is the arithmetic or flow-weighted total mass or average concentration found in a series of at least four grab samples taken over the operating hours of the facility during a 24 hour period.

If you measure more than one daily value for a pollutant, determine the average of all values within the last year and report the concentration and mass under the "Long Term Average Values" columns (column 2C, Part A, and column 3C, Part B), and the total number of daily values under the "Number of Analyses" columns (column 2D, Part A, and column 3D, Part B). Also, determine the average of all daily values taken during each calendar month, and report the highest average of all daily values taken during each calendar month, and report the highest average under the "Maximum 30 Day Values" columns (column 2B, Part A, and column 3B, Part B).

SAMPLING. The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater. You may contact your Missouri Department of Natural Resources' Regional Office for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative of your normal operation, to the extent feasible, with all processes which contribute wastewater in normal operation and with your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit or at any site adequate for the collection of a representative sample.

Grab and composite samples are defined as follows:

GRAB SAMPLE. An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

COMPOSITE SAMPLE. A combination of at least eight sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

ANALYSIS. You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding times, preservation techniques and the quality control measures which you used.

If you have two or more substantially identical outfalls, you may request permission from the Missouri Department of Natural Resources to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the Missouri Department of Natural Resources, on a separate sheet attached to the application form, identify which outfall you did test and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

REPORTING OF INTAKE DATA. You are not required to report data under the "Intake" columns unless you wish to demonstrate your eligibility for a "net" effluent limitation for one or more pollutants, that is, an effluent limitation adjusted by subtracting the average level of the pollutant(s) present in your intake water. National Pollutant Discharge Elimination System (NPDES) regulations allow net limitations only in certain circumstances. To demonstrate your eligibility, under the Intake columns report the average of the results of analyses on your intake water (if your water is treated before use, test the water after it is treated), and attach a separate sheet containing the following for each pollutant:

1. A statement that the intake water is drawn from the body of water into which the discharge is made. (Otherwise, you are not eligible for net limitations.)

2. A statement of the extent to which the level of the pollutant is reduced by treatment of your wastewater. (Your limitations will be adjusted only to the extent that the pollutant is not removed.)

3. When applicable, a demonstration of the extent to which the pollutants in the intake vary physically, chemically, or biologically from the pollutants contained in your discharge. For example, when the pollutant represents a class of compounds. Your limitations will be adjusted only to the extent that the intake pollutants do not vary from the discharged pollutants.

3.00 Part A must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff. However, at your request, the Missouri Department of Natural Resources may waive the requirements to test for one or more of these pollutants, upon a determination that testing for the pollutant(s) is not appropriate for your effluent.

Use composite samples for all pollutants in this part, except use grab samples for pH and temperature. See discussion in instructions above for definitions of the columns in Part A. The "Long Term Average Values" column (column 2C) and "Maximum 30 Day Values" column (column 2B) are not compulsory but should be filled out if data is available.

3.00 Part B must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water or storm runoff.

Use composite samples for all pollutants you analyze for in this part, except use grab samples for residual chlorine, oil and grease and fecal coliform. The Long Term Average Values column (column 3C) and Maximum 30 Day Values column (column 3B) are not compulsory but should be filled out if data is available.

3.00 List any pollutants in Table B that you believe to be present and explain why you believe them to be present in part C. No analysis is required, but you have analytical, you must report it.

TABLE B – TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED BY APPLICANTS IF EXPECTED TO BE PRESENT

TOXIC POLLUTANT

Asbestos

HAZARDOUS SUBSTANCES

Acetaldehyde
Allyl alcohol
Allyl chloride
Amyl acetate
Aniline
Benzonitrile
Benzyl chloride
Butyl acetate
Butylamine
Captan

HAZARDOUS SUBSTANCES

Dichlorvos
Diethylamine
Dimethylamine
Dintrobenzene
Diquat
Disulfoton
Diuron
Epichlorohydrin
Ethion
Ethylene diamine
Ethylene dibromide
Formaldehyde
Furfural
Guthion

HAZARDOUS SUBSTANCES

Nalad
Napthenic acid
Nitrotoluene
Parathion
Phenolsulfonate
Phosgene
Propargite
Propylene oxide
Pyrethrins
Quinoline
Resorcinol
Strontium
Strychnine
Sytrene

TABLE B – (continued)

HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES
Carbaryl	Isoprene	2, 4, 5-T (2,4,5-Trichloro-phenoxyacetic acid)
Carbofuran	Isopropanolamine	TDE (Tetrachlorodiphenyl ethane)
Carbon disulfide	Kelthane	2, 4, 5-TP (2-(2,4,5-Trichloro-phenoxy) propanoic acid)
Chlorpyrifos	Kepone	Trichlorofon
Coumaphos	Malathion	Triethanolamine
Cresol	Mercaptodimethur	Triethaylamine
Crotonaldehyde	Methoxychlor	Uranium
2,4-D (2,4-Dichloro-Phenoxyacetic acid)	Methyl mercaptan	Vanadium
Diazinon	Methyl parathion	Vinyl acetate
Dicamba	Mevinphos	Xylene
Dichlobenil	Mexacarbate	Xylenol
2,2-Dichloropropionic acid	Monethyl amine	Zirconium
	Monomethyl amine	

3.10 Self-explanatory. Additional information may be requested by the Missouri Department of Natural Resources.

3.20 Self-explanatory.

3.30 The Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(c)(2) of the Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application . . . shall upon conviction, be punished by a fine of no more $10,000 or by imprisonment for not more than six months, or both.

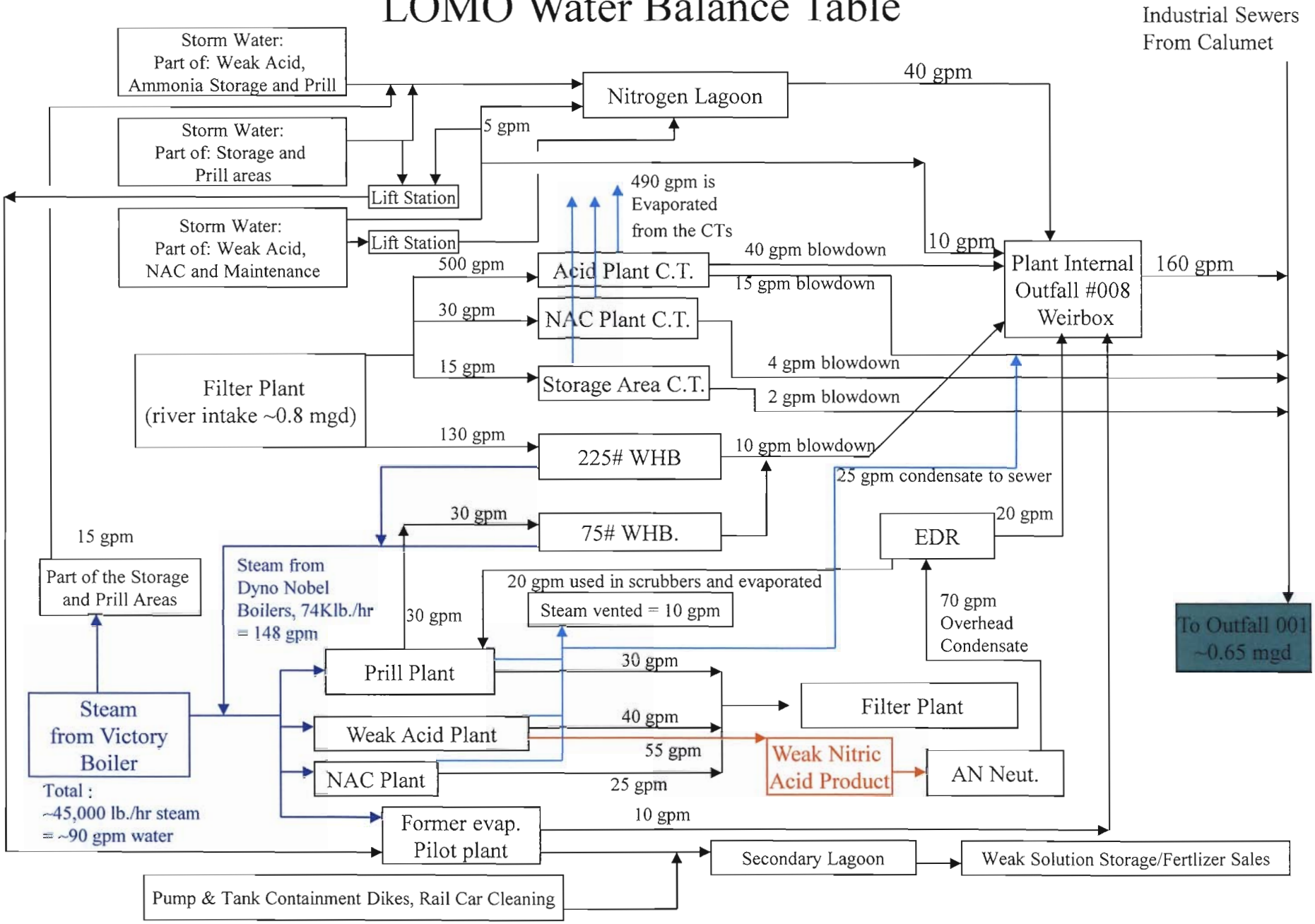
All applications must be signed as follows and the signature must be original.

A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.

B. For a partnership or sole proprietorship, by a general partner or the proprietor.

C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

LOMO Water Balance Table



All indicated flowrates are estimated average flowrates.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH

FORM D – APPLICATION FOR DISCHARGE PERMIT – PRIMARY INDUSTRIES

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY
Dyno Nobel Inc. - LOMO Plant

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER
MO - 0105783

This form is to be filled out in addition to forms A and C "Application for Discharge Permit" for the Industries listed below:

INDUSTRY CATEGORY

- Adhesives and sealants
- Aluminum forming
- Auto and other laundries
- Battery manufacturing
- Coal mining
- Coil coating
- Copper forming
- Electric and electronic compounds
- Electroplating
- Explosives manufacturing
- Foundries
- Gum and wood chemicals
- Inorganic chemicals manufacturing
- Iron and steel manufacturing
- Leather tanning and finishing
- Landfill
- Mechanical products manufacturing
- Nonferrous metals manufacturing
- Ore mining
- Organic chemicals manufacturing
- Paint and ink formulation
- Pesticides
- Petroleum refining
- Pharmaceutical preparations
- Photographic equipment and supplies
- Plastic and synthetic materials manufacturing
- Plastic processing
- Porcelain enameling
- Printing and publishing
- Pulp and paperboard mills
- Rubber processing
- Soap and detergent manufacturing
- Steam electric power plants
- Textile mills
- Timber products processing

APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES

TABLE II

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO-0105783	001

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (*all seven pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TEST-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-9)			✓												
2M. Arsenic, Total (7440-38-2)			✓												
3M. Beryllium, Total (7440-41-7)			✓												
4M. Cadmium, Total (7440-43-9)			✓												
5M. Chromium III (16065-83-1)			✓												
6M. Chromium VI (18540-29-9)			✓												
7M. Copper, Total (7440-50-8)			✓												
8M. Lead, Total (7439-92-1)			✓												
9M. Magnesium Total (7439-95-4)			✓												
10M. Mercury, Total (7439-97-6)			✓												
11M. Molybdenum Total (7439-98-7)			✓												
12M. Nickel, Total (7440-02-0)			✓												
13M. Selenium, Total (7782-49-2)			✓												
14M. Silver, Total (7440-22-4)			✓												
15M. Thallium, Total (7440-28-0)			✓												
16M. Tin Total (7440-31-5)			✓												
17M. Titanium Total (7440-32-6)			✓												
18M. Zinc, Total (7440-66-6)			✓												

CONTINUED FROM PAGE 3

19M. Cyanide, Amenable to Chlorination			✓												
20M. Phenols, Total			✓												
DIOXIN															
2,3,7,8 – Tetra – chlorodibenzo-P-Dioxin (1764-01-6)			✓	**DESCRIBE RESULTS**											

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			✓												
2V. Acrylonitrile (107-13-1)			✓												
3V. Benzene (71-43-2)			✓												
4V. Bis (*Chloromethyl*) Ether (542-88-1)			✓												
5V. Bromoform (75-25-2)			✓												
6V. Carbon Tetrachloride (56-23-5)			✓												
7V. Chlorobenzene (108-90-7)			✓												
8V. Chlorodibromomethane (124-48-1)			✓												
9V. Chloroethane (75-00-3)			✓												
10V. 2-Chloroethylvinyl Ether (110-75-8)			✓												
11V. Chloroform (67-66-3)			✓												
12V. Dichlorobromomethane (75-27-4)			✓												
13V. Dichloro-difluoromethane (75-71-8)			✓												
14V. 1,1 – Dichloroethane (75-34-3)			✓												
15V. 1,2 – Dichloroethane (107-06-2)			✓												
16V. 1,1 – Dichloroethylene (75-35-4)			✓												
17V. 1,3 – Dichloropropane (78-87-5)			✓												
18V. 1,2 –Dichloropropylene (542-75-6)			✓												
19V. Ethylbenzene (100-41-4)			✓												
20V. Methyl Bromide (74-83-9)			✓												
21V. Methyl Chloride (74-87-3)			✓												

CONTINUE ON PAGE 4

CONTINUED FROM THE FRONT

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO-0105783	001

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC.MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			✓												
23V. 1,1,2,2 – Tetra-chloroethane (79-34-5)			✓												
24V. Tetrachloroethylene (127-18-4)			✓												
25V. Toluene (108-88-3)			✓												
26V. 1,2 – Trans Dichloroethylene (156-60-5)			✓												
27V. 1,1,1 – Tri – chloroethane (71-55-6)			✓												
28V. 1,1,2 – Tri-chloroethane (79-00-5)			✓												
29V. Trichloro – ethylene (79-01-6)			✓												
30V. Trichloro – fluoromethane (75-69-4)			✓												
31V. Vinyl Chloride (75-01-4)			✓												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2 – Chlorophenol (95-57-8)			✓												
2A. 2,4 – Dichloro – phenol (120-83-2)			✓												
3A. 2,4 – Dimethyl – phenol (105-67-9)			✓												
4A. 4,6 – Dinitro - O-Cresol (534-52-1)			✓												
5A. 2,4 – Dinitro – phenol (51-28-5)			✓												
6A. 2-Nitrophenol (88-75-5)			✓												
7A. 4-Nitrophenol (100-02-7)			✓												
8A. P – Chloro – M Cresol (59-50-7)			✓												
9A. Pentachloro – phenol (87-86-5)			✓												
10A. Phenol (108-952)			✓												
11A. 2,4,6 – Trichloro-phenol (88-06-2)			✓												
12A. 2 - methyl – 4,6 dinitrophenol (534-52-1)			✓												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			✓												
2B. Acenaphtylene (208-96-8)			✓												
3B. Anthracene (120-12-7)			✓												
4B. Benzidine (92-87-5)			✓												
5B. Benzo (a) Anthracene (56-55-3)			✓												
6B. Benzo (a) Pyrene (50-32-8)			✓												
7B. 3,4 – Benzofluoranthene (205-99-2)			✓												
8B. Benzo (ghi) Perylene (191-24-2)			✓												
9B. Benzo (k) Fluoranthene (207-08-9)			✓												
10B. Bis (2-Chloroethoxy) Methane (111-91-1)			✓												
11B. Bis (2-Chloroethyl) Ether (111-44-4)			✓												
12B. Bis (2-Chloroisopropyl) Ether (39638-32-9)			✓												
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)			✓												
14B. 4-Bromophenyl Phenyl Ether (101-55-3)			✓												
15B. Butyl Benzyl Phthalate (85-68-7)			✓												
16B. 2-Chloronaphthalene (91-58-7)			✓												
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)			✓												
18B. Chrysene (218-01-9)			✓												
19B. Dibenzo (a.h) Anthracene (53-70-3)			✓												
20B. 1,2 – Dichlorobenzene (95-50-1)			✓												
21B. 1,3 – Dichlorobenzene (541-73-1)			✓												

CONTINUE ON PAGE 6

CONTINUED FROM PAGE 5

NPDES # *(IF ASSIGNED)*	OUTFALL NUMBER
MO-0105783	001

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE *(if available)*		C. LONG TERM AVRG. VALUE *(if available)*		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1, 4-Dichlorobenzene (106-46-7)			✓												
23B. 3, 3'-Dichlorobenzidine (91-94-1)			✓												
24B. Diethyl Phthalate (84-66-2)			✓												
25B. Dimethyl Phthalate (131-11-3)			✓												
26B. Di-N-butyl Phthalate (84-74-2)			✓												
27B. 2,4-Dinitrotoluene (121-14-2)			✓												
28B. 2,6-Dinitrotoluene (606-20-2)			✓												
29B. Di-N-Octyphthalate (117-84-0)			✓												
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			✓												
31B. Fluoranthene (206-44-0)			✓												
32B. Fluorene (86-73-7)			✓												
33B. Hexachlorobenzene (87-68-3)			✓												
34B. Hexachlorobutadiene (87-68-3)			✓												
35B. Hexachloro-cyclopentadiene (77-47-4)			✓												
36B. Hexachloroethane (67-72-1)			✓												
37B. Indeno (1,2,3-c-d) Pyrene (193-39-5)			✓												
38B. Isophorone (78-59-1)			✓												
39B. Naphthalene (91-20-3)			✓												
40B. Nitrobenzene (98-95-3)			✓												
41B. N-Nitro-sodimethylamine (62-75-9)			✓												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT						D. NO. OF ANALYSES	4. UNITS		5. INTAKE (*optional*)		
	A. TES-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)			A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
42B. N-Nitroso N-Propylamine (621-64-7)	☐	☐	☑												
43B. N-Nitro-sodiphenylamine (86-30-6)	☐	☐	☑												
44B. Phenanthrene (85-01-8)	☐	☐	☑												
45B. Pyrene (129-00-0)	☐	☐	☑												
46B. 1,2,4-Tri chlorobenzene (120-82-1)	☐	☐	☑												
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☑												
2P. α-BHC (319-84-6)	☑	☐	☐	<0.05						3	ug/l				
3P. β-BHC (319-84-6)	☑	☐	☐	<0.05						3	ug/l				
4P. γ-BHC (58-89-9)	☑	☐	☐	<0.05						3	ug/l				
5P. δ-BHC (319-86-8)	☑	☐	☐												
6P. Chlordane (57-74-9)	☐	☐	☑												
7P. 4,4'-DDT (50-29-3)	☐	☐	☑												
8P. 4,4'-DDE (72-55-9)	☐	☐	☑												
9P. 4,4'-DDD (72-54-8)	☐	☐	☑												
10P. Dieldrin (60-57-1)	☐	☐	☑												
11P. α-Endosulfan (115-29-7)	☐	☐	☑												
12P. β-Endosultan (115-29-7)	☐	☐	☑												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☑												
14P. Endrin (72-20-8)	☐	☐	☑												
15P. Endrin Aldehyde (7421-93-4)	☐	☐	☑												
16P. Heptachlor (76-44-8)	☐	☐	☑												

CONTINUED ON PAGE 8

CONTINUED FROM PAGE 7

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO-0105783	001

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICISES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			✓												
18P. PCB-1242 (53469-21-9)			✓												
19P. PBC-1254 (11097-69-1)			✓												
20P. PCB-1221 (11104-28-2)			✓												
21P. PCB-1232 (11141-16-5)			✓												
22P. PCB-1248 (12672-29-6)			✓												
23P. PCB-1260 (11096-82-5)			✓												
24P. PCB-1016 (12674-11-2)			✓												
25P. Toxaphene (8001-35-2)			✓												
J. RADIOACTIVITY															
(1) Alpha Total			✓												
(2) Beta Total			✓												
(3) Radium Total			✓												
(4) Radium 226 Total			✓												

2.00 POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

A. IS ANY POLLUTANT LISTED IN ITEM 1.30 A SUBSTANCE OR A COMPONENT OF A SUBSTANCE WHICH YOU DO OR EXPECT THAT YOU WILL OVER THE NEXT FIVE YEARS USE OR MANUFACTURE AS AN INTERMEDIATE OR FINAL PRODUCT OR BYPRODUCT?

☐ **YES** *(LIST ALL SUCH POLLUTANTS BELOW)* ■ **NO** *(GO TO B)*

B. ARE YOUR OPERATIONS SUCH THAT YOUR RAW MATERIALS, PROCESSES OR PRODUCTS CAN REASONABLE BE EXPECTED TO VARY SO THAT YOUR DISCHARGES OF POLLUTANTS MAY DURING THE NEXT FIVE YEARS EXCEED TWO TIMES THE MAXIMUM VALUES REPORTED IN ITEM 1.30?

☐ **YES** *(COMPLETE C BELOW)* ■ **NO** *(GO TO SECTION 3.00)*

C. IF YOU ANSWERED "YES" TO ITEM B, EXPLAIN BELOW AND DESCRIBE IN DETAIL THE SOURCES AND EXPECTED LEVELS OF SUCH POLLUTANTS THAT YOU ANTICIPATE WILL BE DISCHARGED FROM EACH OUTFALL OVER THE NEXT FIVE YEARS, TO THE BEST OF YOUR ABILIITY AT THIS TIME. CONTINUE ON ADDITIONAL SHEETS IF YOU NEED MORE SPACE.

3.00 CONTRACT ANALYSIS INFORMATION

WERE ANY OF THE ANALYSES REPORTED IN 1.30 PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

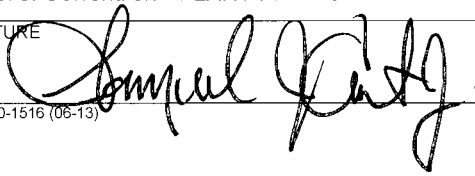
■ **YES** *(LIST THE NAME, ADDRESS, AND TELEPHONE NUMBER OF, AND ANALYZED BY, EACH SUCH LABORATORY OR FIRM BELOW)*

☐ **NO** *(GO TO SECTION 4.00)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*
PDC Labs	3278 N. Lindbergh Blvd.	(314) 432-0550	delta BHC - pesticide

4.00 CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	PHONE NUMBER (AREA CODE AND NUMBER)
Samuel J. Correnti Jr. - PLANT MANAGER	(573) 754-4501
SIGNATURE 	DATE SIGNED 09 June 2014

INSTRUCTIONS FOR FILLING OUT APPLICATION FOR DISCHARGE PERMIT FORM D – PRIMARY INDUSTRIES

All blanks must be filled in when the applications is submitted to the appropriate Regional Office (see map). The form **must be signed** as indicated.

This application is to be completed only for wastewater facilities from which there is a discharge. Include any facility that it is possible to discharge from even if normally there is no discharge. If this form is not adequate for you to describe your existing operation, the sufficient information should be attached so that an evaluation of the discharge can be made.

1.00 Name of Facility – By what title or name is this facility known locally?

1.10 and 1.20 Self-explanatory.

1.30 GENERAL INSTRUCTIONS. For some pollutants, you may be required to mark "X" in the "Testing Required" column (column 2-A) and test (sample and analyze) and report the levels of the pollutants in your discharge whether or not you expect them to be present in your discharge. For all others, you must mark "X" in either the "Believe Present" column or the "Believe Absent" column (column 2-B or 2-C) based on your best estimate, and test for those which you believe to be present.

Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, maintenance chemicals, intermediate and final products and byproducts and any previous analyses known to you of your effluent or of any similar effluent. (For example, if you manufacture pesticides, you should expect those pesticides to be present in contaminated storm water runoff). If you would expect a pollutant to be present solely as a result of its presence in your intake water, you must mark "Believe Present" but you are not required to analyze for that pollutant. Instead, mark an "X" in the "Intake" column.

REPORTING. All levels must be reported as concentration and as total mass. You may report some or all of the required data by attaching separate sheets of paper instead of filling out Table II if the separate sheets contain all the required information in a format which is consistent with Table II in spacing and in identification of pollutants and columns. (For example, the data system used in your GC/MS analysis may be able to print data in the proper format). Use the following abbreviations in the columns headed "Units". (column 4)

CONCENTRATION

ppm.....parts per million
mg/1.....milligrams per liter
ppb.....parts per billion
µg/1.....micrograms per liter

MASS

lbs.....pounds
ton.....tons (English tons)
mg.....milligrams
g.....grams
kg.....kilograms
T.....tonnes (metric tons)

If you measure only one daily value, complete only the "Maximum Daily Values" columns and insert "1" into the "Number of Analyses" columns (columns 3-A and 3-D). Missouri Department of Natural Resources may require you to conduct additional analyses to further characterize your discharges.

For composite samples, the daily value is the total mass or average concentration found in a composite sample taken over the operating hours of the facility during a 24 hour period; for grab samples, the daily value is the arithmetic or flow-weighted total mass or average concentration found in a series of at least four grab samples taken over the operating hours of the facility during a 24 hour period.

If you measure more than one daily value for a pollutant, determine the average of all values within the last year and report the concentration and mass under the "Long Term Average Values" column (column 3-C), and the total number of daily values under the "Number of Analyses" columns (column 3-D). Also, determine the average of all daily values taken during each calendar month, and report the highest average under the "Maximum 30 Day Value" column (column 3-B)

SAMPLING. The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater. You may contact your Missouri Department of Natural Resources' Regional Office for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative of your normal operation, to the extent feasible, with all processes that contribute wastewater in normal operation, and with your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit or at any site adequate for the collection of a representative sample.

Grab and composite samples are defined as follows:

GRAB SAMPLES. An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

COMPOSITE SAMPLE. For the purposes of this application, A combination of at least eight sample aliquots of at lease 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

ANALYSIS. You must use test methods promulgated in 40 CFR Part 136; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding times, preservation techniques and the quality control measures which you used.

If you have two or more substantially identical outfalls, you may request permission from the Missouri Department of Natural Resources to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the Missouri Department of Natural Resources, on a separate sheet attached to the application form, identify which outfall you did test and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

REPORTING OF INTAKE DATA. You are not required to report data under the "Intake" columns unless you wish to demonstrate your eligibility for a "net" effluent limitation for one or more pollutants, that is, an effluent limitation adjusted by subtracting the average level of the pollutant(s) present in your intake water. National Pollutant Discharge Elimination System (NPDES) regulations allow net limitations only in certain circumstances. To demonstrate your eligibility, under the "Intake" columns report the average of the results of analyses on your intake water (if your water is treated before use, test the water after it is treated), and attach a separate sheet containing the following for each pollutant:

1. A statement that the intake water is drawn from the body of water into which the discharge is made. (Otherwise, you are not eligible for net limitations.)

2. A statement of the extent to which the level of the pollutant is reduced by treatment of your wastewater. (Your limitations will be adjusted only to the extent that the pollutant is not removed.)

3. When applicable, a demonstration of the extent to which the pollutant in the intake vary physically, chemically or biologically from the pollutants contained in your discharge. For example, when the pollutant represents a class of compounds. Your limitations will be adjusted only to the extent that the intake pollutants do not vary from the discharged pollutants.

SPECIFIC INSTRUCTIONS. Table A lists the 34 "primary" industry categories in the left-hand column. For each outfall, if any of your processes that contribute wastewater falls into one of those categories, you must mark "X" in "Testing Required" column (column 2-A) and test for: A. All of the toxic metals, cyanide and total phenols; and B. The organic toxic pollutants contained in the gas chromatography/mass spectrometry (GS/MS) fractions indicated in Table A as applicable to your category, unless you qualify as a small business (see below). The organic toxic pollutants are listed by GC/MS fractions in Table II in 1.30. For example, the Organic Chemicals Industry has an "X" in all four

fractions; therefore, applicants in this category must test for all organic toxic pollutants in 1.30. If you are applying for a permit for a privately owned treatment works, determine your testing requirements on the basis of the industry categories of your contributors. When you determine which industry category you are in to find your testing requirements, you are not determining your category for any other purpose and you are not giving up your right to challenge your inclusion in that category (for example, for deciding whether an effluent guideline is applicable) before your permit is issued.

TABLE A – TESTING REQUIREMENTS FOR ORGANIC TOXIC POLLUTANTS INDUSTRY CATEGORY

		GC/MS FRACTION		
INDUSTRY CATEGORY	**VOLATILE**	**ACID**	**BASE/NEUTRAL**	**PESTICIDE**
Adhesives and sealants	X	X	X	-
Aluminum forming	X	X	X	-
Auto and other laundries	X	X	X	X
Battery manufacturing	X	-	X	-
Coal mining	X	X	X	X
Coil coating	X	X	X	-
Copper forming	X	X	X	-
Electric and electronic compounds	X	X	X	X
Electroplating	X	X	X	-
Explosives manufacturing	X	X	X	-
Foundries	X	X	X	-
Gum and wood chemicals	X	X	X	X
Inorganic chemicals manufacturing	X	X	X	-
Iron and steel manufacturing	X	X	X	-
Leather tanning and finishing	X	X	X	X
Mechanical products manufacturing	X	X	X	-
Nonferrous metals manufacturing	X	X	X	X
Ore Mining	X	X	X	X
Organic chemicals manufacturing	X	X	X	X
Paint and ink formulation	X	X	X	X
Pesticides	X	X	X	X
Petroleum refining	X	X	X	X
Pharmaceutical preparations	X	X	X	-
Photographic equipment and supplies	X	X	X	X
Plastic and synthetic materials mfg.	X	X	X	X
Plastic processing	X	-	-	-
Porcelain enameling	X	-	X	X
Printing and publishing	X	X	X	X
Pulp and paperboard mills	X	X	X	X
Rubber processing	X	X	X	-
Soap and detergent manufacturing	X	X	X	-
Stream electric power plants	X	X	X	-
Textile mills	X	X	X	X
Timber products	X	X	X	X

1 The pollutants in each fraction are listed in Item 1.30
X = Testing required
- = Testing not required

For all other cases (nonprocess wastewater outfalls and nonrequired GC/MS fractions), you must mark "X" in either the "Believed Present" column (column 2-B) or the "Believed Absent" column (column 2-C) for each pollutant, and test for those you believe present (those marked "X" in column 2-B. If you qualify as a small business (see below) you are exempt from testing for the organic toxic pollutants, listed in Table II. For pollutants in intake water, see discussion above. The "Long Term Average Values" column (column 5-2) are not compulsory but should be filled out if data is available.

Use composite samples for all pollutants in this part, except use grab samples for total phenols and cyanide.

You are required to mark "Testing Required" for dioxin if you use or manufacture one of the following compounds:

1. 2,4,5-trichlorophenocy acetic acid (2,4,5-T);
2. 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP);
3. 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon;
4. O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel);
5. Hexachlorophene (HCP).

If you mark "Testing Required" or "Believe Present," you must perform a screening analysis for dioxins, using gas chromatography with an electron capture detector. A TCDD standard for quantification is not required. Describe the results of this analysis in the space provided; for example, "no measurable baseline deflection at the retention time of TCDD" or "a measurable peak within the tolerances of the retention time of TCDD." The permitting authority may require you to perform a quantitative analysis if you report a positive result.

The Effluent Guidelines Division of EPA has collected and analyzed samples from some plants for the pollutants listed in Part C in the course of its BAT guidelines development program. If your effluents were sampled and analyzed as part of this program in the last three years, you may use this data to answer provided that the Missouri Department of Natural Resources approves, and provided that no process change or change in raw materials or operating practices has occurred since the samples were taken that would make the analyses unrepresentative of your current discharge.

SMALL BUSINESS EXEMPTION. If you qualify as a "small business" you are exempt from the reporting requirements for the organic toxic pollutants, listed in Table II. If your facility is a coal mine, and if your probable total annual production is less than 100,000 tons per year, you may submit past production data or estimated future production (such as a schedule of estimated total production under 30 CFR Section 795.14(c)) instead of conducting analysis for the organic toxic pollutants. If your facility is not a coal mine, and if your gross total annual sales for the most recent three years average less than $100,000 per year, in second quarter 1980 dollars, you may submit sales data for those years instead of conducting analyses for the organic toxic pollutants.

The production or sales data must be for the facility that is the source of the discharge. The data should not be limited to production or sales for the process or processes which contribute to the discharge, unless those are the only processes at your facility. For sales data, in situations involving intra-corporate transfers of goods and services, the transfer price per unit should approximate market prices for those goods and services as closely as possible. Sales figures for years after 1980 should be indexed to the second quarter of 1980 by using the gross national product price deflator (second quarter of 1980 = 100). This index is available in "National Income and Product Accounts of the United States" (Department of Commerce, Bureau of Economic Analysis).

2.00 A. You may not claim this information as confidential; however, you do not have to distinguish between use or production of the pollutants or list the amounts. Under NPDES regulations your permit will contain limits to control all pollutants you report in answer to this question, as well as all pollutants reported in item 1.30 to 2.00 B at levels exceeding the technology-based limits appropriate to your facility. Your permit will also require you to report to Missouri Department of Natural Resources if you, in the future, begin or expect that you will begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which you did not report here. Your permit may be modified at that time if necessary to control that pollutant.

B. For this item, consider only those variations which may result in concentrations of pollutants in effluents which may exceed two times the maximum values you reported in 1.30. These variations may be part of your routine operations or part of your regular cleaning cycles.

Under NPDES regulations your permit will contain limits to control any pollutant you report in answer to this question at levels exceeding the technology-based limits appropriate to your facility. Your permit will also require you to report to the Missouri Department of Natural Resources if you know or have reason to believe that any activity has occurred or will occur which would make your discharge of any toxic pollutant five times the maximum values reported in 1.30 or in this item, and your permit may be modified at that time if necessary to control the pollutant.

Do not consider variations which are the result of bypasses or upsets. Increased levels of pollutants that are discharged as a result of bypasses or upsets are regulated separately under NPDES regulations.

C. Examples of the types of variations to be described here include:

Changes in raw or intermediate materials;
Changes in process equipment or materials;
Changes in product lines;
Significant chemical reactions between pollutants in waste streams; and
Significant variation in removal efficiencies of pollution control equipment.

You may indicate other types of variations as well, except those which are the result of bypasses or upsets. Missouri Department of Natural Resources may require you to further investigate or document variations you report here.

Base your prediction of expected levels of these pollutants upon your knowledge of your processes, raw materials, past and projected product ranges, etc., or upon any testing conducted upon your effluents that indicates the range of variability that can be expected in your effluent over the next five years.

EXAMPLE: Outfall 001 discharges water used to clean six 500 gallon tanks. These tanks are used for formulation of dispersions of synthetic resins in water (adhesives). Use of toxic pollutants that can be expected in the next five years is:

1. Copper acetate inhibitor, ½, lb. per tank;
2. Dibutyl phthalate, 50 lbs. per tank;
3. Toulene, 5 lbs. per tank; and
4. Antimony oxide, 1 lb. per tank.

Based on normal cleaning an average of 1 percent and a maximum of 3 percent of the contents of each tank is collected and discharged once every two weeks in the 150 gallons of water used for cleaning. Treatment (pH adjustment, flocculation, filtration) removes 85 percent of metals and 50 percent of organic compounds.

3.00 Self-explanatory.

4.00 The Federal Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(c)(2) of the Federal Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application..... shall upon conviction, be punished by a fine of no more than $10,000 or by imprisonment for not more than six months, or both."

STATE REGULATIONS REQUIRE THE CERTIFICATION TO BE SIGNED AS FOLLOWS

1. For a corporation, by an officer of at least the level of plant manager;
2. For a partnership or sole proprietorship, by a general partner or the proprietor; or
3. For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking public official.