

9/16/08 -
revised
MAG 25

APPENDIX 5

Suggested Form for Notice of Intent (NOI) for the Noncontact Cooling Water General Permit

1. General facility information. Please provide the following information about the facility.

a) Name of facility: The Wakefield Corporation		Type of Business: Manufacture of Metal Powder Pa
Facility Location Address : 29 Foundry Street Wakefield, MA 01880 longitude: _____ latitude: _____	Facility SIC codes: 3499655	Facility Mailing Address (if not location address)
b) Name of facility owner: David D. Clapp		Email address of owner: David@Wake.com
Owner's Tel #: 781-245-1828 Ext. 135 Owner's Fax #: 781-245-3598		Owner is (check one): 1. Federal _____ 2. State _____ 3. Tribal _____ 4. Private ☒ 4. Other _____ (Describe)
Address of owner (if different from facility address)		
Legal name of Operator, if not owner: Vyacheslav Slava Styskin		
Operator Contact Name: _____		
Operator Tel Number: 781-245-1828 ext. 134 Fax Number: 781-245-3598		
Operator's email: SStyskin@Wake.com		
Operator Address (if different from owner)		
d) Attach topographic map indicating the locations of the facility and the receiving water; all NCCW discharge points; upstream and downstream monitoring points. Map attached? ☒		
e) Check Yes or No for the following:		
1. Has a prior NPDES permit been granted for the discharge? Yes ☒ No _____ If Yes, Permit Number: W 001872		
2. Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes _____ No ☒		
3. Is the facility covered by an individual NPDES permit? Yes ☒ No _____ If Yes, Permit Number MAG250000		
4. Is there a pending application on file with EPA for this discharge? Yes _____ No ☒ If Yes, date of submittal:		

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

a) Name of receiving water into which discharge will occur: Mill River
State Water Quality Classification: _____ Freshwater: X Marine Water: _____

b) Describe the discharge activities for which the owner/applicant is seeking coverage:

c) **FOR MASSACHUSETTS FACILITIES ONLY:** Engineering Calculations: Submit the completed engineering calculation of the surface water temperature rise as shown in Attachment A of the General Permit. Check if attached: X

d) Number of outfalls 1

For each outfall:

e) What is the maximum daily and average monthly flow of the discharge? Note that EPA will use the flow reported here as the facility's permitted effluent flow limit. Max Daily Flow 0.11286 GPD Average Flow 0.09570 GPD

f) What is the maximum daily and average monthly temperature of the discharge (in degrees F)? Max Temp. 73.6 Average Temp. 73

g) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 8.1 Min pH 7.9

h) **FOR MASSACHUSETTS FACILITIES ONLY:** Is the source water of the NCCW potable water? Yes _____ No X If Yes, EPA will calculate the Total Residual Chlorine limit for facilities located in Massachusetts.

i) Is the discharge continuous? Yes X No _____ If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B) _____
If (P), number of days or months per year of the discharge _____ and the specific months of discharge _____;
If (I), number of days/year there is a discharge _____

j) Latitude and longitude of each discharge within 100 feet: outfall 1: long. _____ lat. _____; outfall 2: long. _____ lat. _____;
outfall 3: long. _____ lat. _____ (See http://www.epa.gov/tri/report/siting_tool)

k) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water .023925 Monthly cfs
Please attach any calculation sheets used to support stream flow and dilution calculations. See General Permit Attachment B for equations and additional information.

MASSACHUSETTS FACILITIES: See Part 3.4 and Appendix 1 of the General Permit for more information on ACEC.

Areas of Critical Environmental Concern (ACEC): Does the discharge occur in an ACEC? Yes _____ No X

If yes, provide the name of the ACEC: _____

3. NCCW Source Water Information. Please provide information about the NCCW source water, using separate sheets as necessary:

a) Indicate source of the NCCW (i.e., municipal water supply, private well, surface water withdrawal, groundwater): Source: <u>Private Well</u> Name of Source Water: _____ Is the source registered/permitted under MA Water Management Act or NHDES Water User Registration Rule (Env Wq 2202)? Yes _____ No _____ If yes, registration number: _____	b) If source water is surface water: i) Is it a freshwater river or stream Yes _____ No _____ ii) Is it a lake? _____ reservoir? _____ iii) Is it tidal river? _____ estuary? _____ ocean? _____ c) Is the source water groundwater? Yes <u>X</u> No _____ If yes, see Appendix 8 and submit effluent and surface water test results, as required in Part 5.4 of the General Permit. d) Does the facility use both a primary and backup source of noncontact cooling water? Yes _____ No _____ If yes, attach information that identifies and explains the primary and backup sources of noncontact cooling water for and how often the backup supply was used in last three years.
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4. Best Technology Available for CWIS

Are you subject to BTA requirements at Part 4.2 of the General Permit? (Facility's discharge is covered by this General Permit and the facility withdraws noncontact cooling water from surface source water). Yes X No _____ If No, explain:

If YES, attach the facility-specific BTA description as required in Part 4.3 of the General Permit. For additional information and guidance, see Questions 13-23 of the NCCW Fact Sheet, posted at <http://www.epa.gov/region1/npdes/nccwgp.html>. Provide a map showing the location of each CWIS intake structure; NCCW outfall(s) and any CWIS feature referred to in the BTA description.

Include in your description:

- _____ Measures to meet the General Permit Part 4.3.a general BTA requirements, including documentation that describes the facility's monitoring program for impinged fish and/or invertebrate; or the required alternative monitoring plan frequency and/or protocol
- _____ A characterization of the source water body's aquatic life habitat in the vicinity of each CWIS during the seasons when the CWIS may be in use
- _____ The attributes of the current CWIS
- _____ Design measures of the CWIS
- _____ Operation measures of the CWIS
- _____ Historical occurrence of impinged fish for the past five years
- _____ If applicable, a demonstration that the facility's intake rate is commensurate with a closed-cycle recirculation system
- _____ Other components to reduce impingement and/or entrainment of aquatic life

4. BTA FOR CWIS CONTINUED:

Provide the following information for each CWIS to support your attached facility-specific BTA description.

Design capacity of the of the CWIS N/A MGD

Maximum monthly average intake of the CWIS during the previous five years 0.1754 MGD Month in which this flow occurred 10, 11, 12/2005

Maximum through-screen design intake velocity N/A feet/second (fps)

For facilities where the CWIS is located on a freshwater river or stream, provide the following information:

The source water's annual mean flow N/A cubic feet/second (cfs) as available from USGS or other appropriate source

The design intake flow as a % of the source water's annual mean flow _____ Attach calculations if equal to or less than 5% of annual mean flow.

The source water's 7Q10 _____ cfs. See Attachment B of the General Permit for more information on 7Q10 determinations.

The design intake flow as a percent of the source water's 7Q10 _____

5. Contaminant Information

If applicable, attach a listing of all non-toxic pH neutralization and/or dechlorination chemicals used, including chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the NCCW discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC₅₀ in percent for aquatic organism(s)).

6. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix 2, Part C, Step 4, of the General Permit. In addition, respond to the following questions.

- a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes _____ No X
- b) Has any consultation with the federal services been completed? Yes _____ No X
- c) Is consultation underway? Yes _____ No X
- d) What were the results of the consultation with the U.S. Fish and Wildlife Service and/or NOAA Fisheries Service (check one):
 - a "no jeopardy" opinion _____ or written concurrence _____ on a finding that the discharges are not likely to adversely affect any endangered species or
- e) Which of the five eligibility criteria listed in Appendix 2, Section B (A,B,C,D or E) have you met? _____
- f) Attach a copy of the most current federal listing of endangered and threatened species from the USF&W web site listed in Appendices 2, 2.1 and 4

7. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

- a) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? Yes _____ No X
- b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No X If yes, attach the results of the consultation(s).
- c) Which of the three National Historic Preservation Act requirements listed in Appendix 3, Section C (1,2 o3) have you met? N/A

8. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

9. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the noncontact cooling water (NCCW) system; (2) the discharge consists solely of NCCW (to reduce temperature) and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product (other than heat) or finished product; (4) if the discharge of noncontact cooling water subsequently mixes with other wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for noncontact cooling water; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: The Wakefield Corporation

Operator signature:



Title: V.P. of Research & Engineering

Date: September 10, 2008

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

				THE WAKEFIELD CORPORATION							
				NONCONTACT COOLING WATER GENERAL PERMIT MAG250000							
				MONITORING DISCHARGE							
				AVERAGE	WATER FLOW						
					MGD:	0.09570					
Month	1999	2000	2001	2002	2003	2004	2005	2006	2007		2008
1	0.046	0.0805	0.053	0.0907	0.135	0.0854	0.0868	0.1246	0.0805		0.1162
2	0.046	0.0805	0.053	0.0907	0.135	0.0854	0.0868	0.1246	0.0805		0.1162
3	0.046	0.0805	0.053	0.0907	0.135	0.0854	0.0868	0.1246	0.0805		0.1162
4	0.053	0.0591	0.0838	0.127	0.14	0.0738	0.1058	0.1	0.0924		0.0981
5	0.053	0.0591	0.0838	0.127	0.14	0.0738	0.1058	0.1	0.0924		0.0981
6	0.053	0.0591	0.0838	0.127	0.14	0.0738	0.1058	0.1	0.0924		0.0981
7	0.039	0.0148	0.0896	0.249	0.069	0.0908	0.067	0.1137	0.133		
8	0.039	0.0148	0.0896	0.249	0.069	0.0908	0.067	0.1137	0.1233		
9	0.039	0.0148	0.0896	0.249	0.069	0.0908	0.067	0.1137	0.1233		
10	0.0379	0.136	0.183	0.158	0.0731	0.0804	0.1354	0.0797	0.085		
11	0.0379	0.136	0.183	0.158	0.0731	0.0804	0.1354	0.0797	0.085		
12	0.0379	0.136	0.183	0.158	0.0731	0.0804	0.1354	0.0797	0.085		
AVG	0.04398	0.07260	0.10235	0.15618	0.10428	0.08260	0.09875	0.10450	0.09611	0.09570	0.10715
				MAXIMUM	WATER FLOW						
					MGD:	0.11286					
Month	1999	2000	2001	2002	2003	2004	2005	2006	2007		2008
1	0.083	0.11	0.075	0.105	0.125	0.0902	0.0899	0.1403	0.0933		0.1294
2	0.083	0.11	0.075	0.105	0.125	0.0902	0.0899	0.1403	0.0933		0.1294
3	0.083	0.11	0.075	0.105	0.125	0.0902	0.0899	0.1403	0.0933		0.1294
4	0.058	0.0673	0.0953	0.142	0.146	0.0884	0.1692	0.1124	0.1036		0.1137
5	0.058	0.0673	0.0953	0.142	0.146	0.0884	0.1692	0.1124	0.1036		0.1137
6	0.058	0.0673	0.0953	0.142	0.146	0.0884	0.1692	0.1124	0.1036		0.1137
7	0.0647	0.0199	0.1247	0.363	0.0754	0.1007	0.0692	0.1259	0.1426		
8	0.0647	0.0199	0.1247	0.363	0.0754	0.1007	0.0692	0.1259	0.1426		
9	0.0647	0.0199	0.1247	0.363	0.0754	0.1007	0.0692	0.1259	0.1426		
10	0.0545	0.19	0.187	0.136	0.0734	0.0897	0.1754	0.0837	0.0933		
11	0.0545	0.19	0.187	0.136	0.0734	0.0897	0.1754	0.0837	0.0933		
12	0.0545	0.19	0.187	0.136	0.0734	0.0897	0.1754	0.0837	0.0933		
AVG	0.06505	0.09680	0.12050	0.18650	0.10495	0.09225	0.12593	0.11558	0.10820	0.11286	0.12155
									Signed:		8/20/2008

THE WAKEFIELD CORPORATION											
NONCONTACT COOLING WATER GENERAL PERMIT MAG250000											
MONITORING DISCHARGE											
DISCHARGE WATER											
MINIMUM						pH	7.9				
Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
1	8.0	9.4	9.16	6.5	7.3	6.93	7.05	7.42	7.11	7.1	
2	8.0	9.4	9.16	6.5	7.3	6.93	7.05	7.42	7.11	7.1	
3	8.0	9.4	9.16	6.5	7.3	6.93	7.05	7.42	7.11	7.1	
4	7.9	10.1	8.1	7.9	7.1	7.94	7.95	7.93	7.66	7.53	
5	7.9	10.1	8.1	7.9	7.1	7.94	7.95	7.93	7.66	7.53	
6	7.9	10.1	8.1	7.9	7.1	7.94	7.95	7.93	7.66	7.53	
7	8.0	9.16	8.9	7.4	7.76	7.85	7.6	7.65	7.9		
8	8.0	9.16	8.9	7.4	7.76	7.85	7.6	7.65	7.9		
9	8.0	9.16	8.9	7.4	7.76	7.85	7.6	7.65	7.9		
10	8.7	9.63	8.6	7.06	7.05	7.85	7.02	7.2	7.38		
11	8.7	9.63	8.6	7.06	7.05	7.33	8.02	7.2	7.38		
12	8.7	9.63	8.6	7.06	7.05	7.3	8.02	7.2	7.38		
AVG	8.1	9.6	8.7	7.2	7.3	7.6	7.6	7.6	7.5	7.9	7.3
DISCHARGE WATER											
MAXIMUM						pH	8.1				
Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
1	8.16	9.8	9.6	6.6	7.53	7.13	7.25	7.65	7.18	7.2	
2	8.16	9.8	9.6	6.6	7.53	7.13	7.25	7.65	7.18	7.2	
3	8.16	9.8	9.6	6.6	7.53	7.13	7.25	7.65	7.18	7.2	
4	8	10.3	8.5	7.93	7.3	8.1	8	8.06	7.7	7.53	
5	8	10.3	8.5	7.93	7.3	8.1	8	8.06	7.7	7.53	
6	8	10.3	8.5	7.93	7.3	8.1	8	8.06	7.7	7.53	
7	8.7	9.3	9.2	7.48	7.79	8.05	7.66	7.95	8.07		
8	8.7	9.3	9.2	7.48	7.79	8.05	7.66	7.95	8.07		
9	8.7	9.3	9.2	7.48	7.79	8.05	7.66	7.95	8.07		
10	9.7	10.3	9.2	7.76	7.21	7.45	8.11	7.4	7.63		
11	9.7	10.3	9.2	7.76	7.21	7.45	8.11	7.4	7.63		
12	9.7	10.3	9.2	7.76	7.21	7.45	8.11	7.4	7.63		
AVG	8.6	9.1	9.1	7.4	7.5	7.7	7.8	7.8	7.6	8.1	7.4
Signed:									8/20/2008		

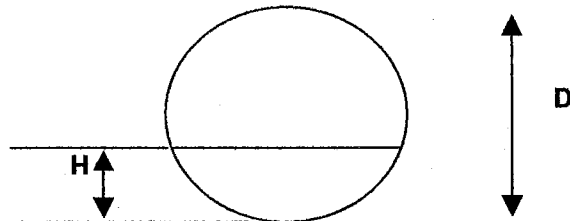
THE WAKEFIELD CORPORATION											
NONCONTACT COOLING WATER GENERAL PERMIT MAG250000											
MONITORING DISCHARGE											
DISCHARGE WATER											
AVERAGE TEMPERATURE											
° F 73											
Month	1999	2000	2001	2002	2003	2004	2005	2006	2007		2008
1	76.9	78.4	74	68.3	69.3	68.4	66	65.5	67.8		62
2	76.9	78.4	74	68.3	69.3	68.4	66	65.5	67.8		62
3	76.9	78.4	74	68.3	69.3	68.4	66	65.5	67.8		62
4	78.4	76	80.7	74	70.3	71.2	72.6	76.5	76.6		70
5	78.4	76	80.7	74	70.3	71.2	72.6	76.5	76.6		70
6	78.4	76	80.7	74	70.3	71.2	72.6	76.5	76.6		70
7	75.6	75.8	77.7	76.8	75.2	76	73.8	75.6	72.4		
8	75.6	75.8	77.7	76.8	75.2	76	73.8	75.6	72.4		
9	75.6	75.8	77.7	76.8	75.2	76	73.8	75.6	72.4		
10	74.6	78.3	74.9	70.2	67.8	70.8	63.6	70.3	67.1		
11	74.6	78.3	74.9	70.2	67.8	70.8	63.6	70.3	67.1		
12	74.6	78.3	74.9	70.2	67.8	70.8	63.6	70.3	67.1		
AVG	76.4	77.1	76.8	72.3	70.7	71.6	69.0	72.0	71.0	73.0	66.0
DISCHARGE WATER											
MAXIMUM TEMPERATURE											
° F 73.6											
Month	1999	2000	2001	2002	2003	2004	2005	2006	2007		2008
1	76.9	78.7	75	68.6	70.5	69	66.4	65.6	68		
2	76.9	78.7	75	68.6	70.5	69	66.4	65.6	68		
3	76.9	78.7	75	68.6	70.5	69	66.4	65.6	68		
4	81	77.4	81.5	74.2	71	71.3	72.6	76.6	76.6		
5	81	77.4	81.5	74.2	71	71.3	72.6	76.6	76.6		
6	81	77.4	81.5	74.2	71	71.3	72.6	76.6	76.6		
7	76	76.3	78.7	80.7	75.3	76	74.1	75.6	72.5		
8	76	76.3	78.7	80.7	75.3	76	74.1	75.6	72.5		
9	76	76.3	78.7	80.7	75.3	76	74.1	75.6	72.5		
10	75.6	78.7	76	72.3	68.3	71	63.6	70.3	67.3		
11	75.6	78.7	76	72.3	68.3	71	63.6	70.3	67.3		
12	75.6	78.7	76	72.3	68.3	71	63.6	70.3	67.3		
AVG	77.4	77.8	77.8	74.0	71.3	71.8	69.2	72.0	71.1	73.6	0.0
										Signed:	8/20/2008



WAKEFIELD CORPORATION

DICHARGE WATER FLOW COMPUTATION (EXAMPLE)

ONE MONTH PERIOD: JUNE 3-JULY 2, 2008



WATER DISCHARGE PIPE

V=velocity=1.85 ft/sec

H=2.1in=2.1/12=0.175 ft

D=8in=8/12=0.666 ft

B/H=0.175/0.666=0.263

READ C:

B=0.27

C=0.1711 (Book)

B=0.263

C=0.166

A=C*D*D=0.166*0.666*0.666=0.0739 ft.sq

VOLUMETRIC FLOW (CFS) =A*V

VF=A*V=0.0739*1.85=0.136 cu ft/sec.

cu ft/sec=448.83 gal/minute (Book)

or

0.136*448.83=61 GAL/min

61GAL/min*60 min=3660 GAL/hr

**FURNACE AND PRESSES FLOW APR. EQUAL
EACH UNIT FLOW: 3660/2=1830 GAL/HR**

FURNACE FLOW: 1830*24=43920 GAL/D

PRESSES FLOW: 1830*8=14640 GAL/D

TOTAL FLOW: 43920+14640=58560 GAL/D

AVERAGE FLOW: 50000 GAL/D

Signed: V.Styskin