



October 12, 2017  
File No. 3958

Certified Mail – Return Receipt Requested

Clerk of the Board  
U. S. Environmental Protection Agency  
Environmental Appeals Board  
1200 Pennsylvania Avenue, N.W.  
(Mail Code 1103M)  
Washington, D.C. 20460-0001

**Re: Appeal of NPDES Permit  
Barnhardt Manufacturing Company  
247 Main Road, Colrain, Massachusetts 01340  
NPDES Permit No. MA0003697**

To Whom It May Concern:

Omni Environmental Group (OEG) has prepared this cover letter and attached document on behalf of Mr. Lewis Barnhardt, Barnhardt Manufacturing Company, 247 Main Road, Colrain, Massachusetts (BMC) to provide for a formal appeal of the National Pollution Discharge Elimination System (NPDES) Permit No. MA0003697 issued to BMC, 247 Main Road, Colrain, Massachusetts. The subject NPDES Permit was signed by the United States Environmental Protection Agency (USEPA) and the Massachusetts Department of Environmental Protection (MassDEP) Wetlands and Wastewater Programs and dated September 19, 2017. This appeal letter been provided to USEPA and MassDEP in hard copy format prior to the 30-day filing deadline set forth under the Permit and pursuant to 40 C.F.R. 124.19(3).

Should you have any questions or if you would like to discuss this submittal, please do not hesitate to contact the undersigned at (978) 256-6766.

Sincerely,

**Omni Environmental Group**

*Gregory R. Morand*

Gregory R. Morand, LSP  
Principal

Authorization of the Permittee – Barnhardt Manufacturing Company

Signature: Lewis B. Barnhardt

Print Name: Lewis B. Barnhardt

Title: President / COO

Date: 10/12/17

cc: Massachusetts Department of Environmental Protection, NPDES Surface Water Permitting,  
Western Regional Office, 436 Dwight Street, Springfield, Massachusetts 01103

USEPA Region 1, Attention: Mr. George Papadopoulos (via electronic mail)

**BEFORE THE ENVIRONMENTAL APPEALS BOARD  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C.**

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In re:

Barnhardt Manufacturing Co.  
247 Main Road, Colrain, MA  
Permit No.: MA00003697

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**APPEAL FOR REVIEW**

Comes now the Barnhardt Manufacturing Company and Appeals the Environmental Appeals Board to review the United States Environmental Protection Agency's issuance of an NPDES Permit for the Barnhardt Manufacturing Company Facility in Colrain, Massachusetts.

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## ATTACHMENTS

Attachment 1	March 15, 2017 Draft Permit Comment Letter
Attachment 2	September 2017 Final NPDES Permit

## 1.0 INTRODUCTION

Pursuant to 40 C.F.R. §124.19(a), Barnhardt Manufacturing Company (Permittee or BMC) Appeals for review certain conditions of NPDES Permit No. MA00003697 (Permit), which was issued to BMC on September 19, 2017, by the United States Environmental Protection Agency (USEPA).

Omni Environmental Group, LLC (OEG) prepared this NPDES Appeal for the owner and operator of the Site Facility, BMC and for submittal to the Environmental Appeals Board (EAB). Mr. Lewis Barnhardt is the president of BMC and approved the preparation and submittal of this document to the USEPA and the Massachusetts Department of Environmental Protection (MassDEP) Division of Wetlands and Waterways.

Permittee contends that certain conditions under the Permit require an exercise of discretion and important policy considerations that the EAB and USEPA should, in its discretion, review.

## 2.0 THRESHOLD PROCEDURAL REQUIREMENTS

Permittee satisfies the threshold requirements for filing an Appeal for review under 40 CFR, Part 124, to wit:

- Permittee has standing to Appeal for review of the Permit decision because it participated in the public comment period on the Permit. See 40 C.F.R. §124.19(a). Copies of the Permittee's comments are included in [Attachment 1](#) to this Appeal.
- The issues raised by Permittee in its Appeal were raised during the public comment period and therefore were preserved for review.

In accordance with 40 CFR Part 124.19(d)(1)(iv), the Permittee provides a statement of compliance with the word limitation set forth under 40 CFR Part 124.19(d)(3) for this Appeal of the Permit.

## 3.0 FACTUAL AND STATUTORY BACKGROUND

The BMC Facility is located at 247 Main Road in Colrain, Massachusetts (Facility) and is a raw cotton bleachery utilizing hydrogen peroxide for the cleaning and bleaching of cotton fiber. The on-Site wastewater treatment plant manages the wastewater associated with its manufacturing operations, and further manages the sanitary wastes from greater than 20 homes in the immediate vicinity of the Facility. The subject receiving water is the North River and the Deerfield River Watershed.

On February 15, 2017, BMC received the USEPA issued a draft NPDES Permit for public comment, which would replace the Permittee's 2010 NPDES Permit. BMC submitted comments on the draft Permit, which are included as [Attachment 1](#) in this Appeal. Following the public

comment period, the USEPA issued a Final NPDES Permit to BMC, dated September 19, 2017, which is the subject of this Appeal for Review and is included as [Attachment 2](#) in this Appeal.

In the Permittee's final NPDES Permit approved and issued by the USEPA, a discharge limitation of 22 micrograms per liter ( $\mu\text{g/L}$ ) was set for total copper (average monthly and daily maximum), collected once per month as a composite sample. Total copper footnote 9 indicates that, "there will be a monitor only requirement for the period starting on the effective date of this Permit and ending three (3) years after the effective date". The Permit further states, "After this three (3) year period, the permittee shall comply with the monthly average and daily maximum total copper limits of 22  $\mu\text{g/L}$ ...".

Before the USEPA issued the Permit, BMC submitted comment on total copper under the draft Permit as [Comment No. 3](#) from the March 15, 2017 letter provided during the public comment period of the draft Permit ([Attachment 1](#)).

In the Permittee's final NPDES Permit approved and issued by the USEPA, no specific total nitrogen (TN) limit was provided. The special condition regarding "Treatment Plant Optimization for Nitrogen" states that "The permittee shall implement the recommended operational changes to maintain the existing mass discharge loading of TN, which will be measured as an annual average." However, the Permit does not state a compliance date for implementation of the operational changes or recognize that physical changes to the Facility may be required. Furthermore, a compliance schedule for implementation of changes required to conform with the annual average nitrogen load of 67.3 lbs/day was not provided for under the Permit.

Before the USEPA issued the Permit, BMC submitted comment on TN requirements under the draft Permit as [Comment No. 6](#) from the March 15, 2017 letter provided during the public comment period of the draft Permit ([Attachment 1](#)).

#### **4.0 ISSUE PRESENTED FOR APPEAL**

Under the Permit, Total Copper contains a discharge limitation of 22  $\mu\text{g/L}$  (average monthly and daily maximum), collected once per month as a composite sample. Total Copper footnote 9 indicates that, "there will be a monitor only requirement for the period starting on the effective date of this Permit and ending three (3) years after the effective date". The Permit further states, "After this three (3) year period, the permittee shall comply with the monthly average and daily maximum total copper limits of 22  $\mu\text{g/L}$ ...".

Under the Permit, no specific TN is provided. The special condition regarding "Treatment Plant Optimization for Nitrogen" states that "The permittee shall implement the recommended

operational changes to maintain the existing mass discharge loading of TN, which will be measured as an annual average.” The Permit does not state a compliance date for implementation of the operational changes or recognize that physical changes to the facility may be required. Furthermore, a compliance schedule for implementation of changes required to conform with the annual average nitrogen load of 67.3 lbs/day was not provided.

## 5.0 ARGUMENT

BMC respectfully appeals the above total copper requirements under the Permit based upon 40 CFR 124.19(4)(b), and further cites *Comment No. 3* from the March 15, 2017 letter provided during the public comment period of the draft Permit. USEPA recognized BMC’s intention to pursue a Site-specific limit for copper and provided for the requested three (3) year compliance period under the Permit. As stated above, footnote 9 of the Permit requires the permittee to comply with the monthly average and daily maximum total copper limits of 22 µg/L. Based on footnote 9, it is not clear to BMC how the total copper limit may be changed to allow modification based on Site-specific study and additional information that may justify a higher limit, without reopening the Permit.

Copper toxicity is known vary markedly due to various physicochemical characteristics of the exposure water, including: temperature, dissolved organic compounds, suspended particles, pH, and various inorganic cations and anions, including those composing hardness and alkalinity, ultimately determining copper bioavailability. Substantial scientific evidence<sup>1</sup> and published guidance<sup>2</sup> demonstrates that copper toxicity is affected by exposure conditions, much of which is likely attributed to effects of ligands and cations on copper bioavailability.

Following the three (3) year compliance period, BMC requests the opportunity to the use a BLM translator, water effect ratio (WER), or other Site-specific analysis, in accordance with USEPA guidance<sup>2</sup> and potentially other scientifically valid assessment methodologies<sup>1</sup> to consider adjustment to the 22 µg/L limit for total copper under the Permit. Furthermore, BMC requests that the total copper limit under the Permit be revised from 22 µg/L to “monitor and report” until such time that additional studies can be completed that reflect Site-specific conditions.

Alternatively, consistent with the USEPA NPDES Permit Writer’s Manual, BMC would accept a re-opener clause under the Permit to allow for Permit re-opening following the three (3) year study period to set a total copper limit when the Site-specific data have been collected, submitted and reviewed.

BMC respectfully appeals the above TN requirements under the Permit based upon 40 CFR 124.19(4)(b), and further cites *Comment No. 6* from the March 15, 2017 letter provided during the public comment period of the draft Permit. BMC anticipates that the optimization study for treatment plant TN removal may, in addition to “operational changes,” recommend physical changes to the BMC facility that will require additional time and effort to integrate and implement. Until such time that both operational and physical changes can be completed, BMC cannot assure compliance with the annual average TN load goal of 67.3 lbs/day.

1, Interim Guidance on Determination and Use of Water-Effect Ratios for Metals; Streamlined Water-Effect Ratio Procedure for Discharges of Copper; Aquatic Life Ambient Freshwater Quality Criteria – Copper; and Draft Technical Support Document: Recommended Estimates for Missing Water Quality Parameters for Application in EPA’s Biotic Ligand Model

2, Hall & Associates – Evaluation of Massachusetts Water Quality Criteria for Nutrients, Bacteria and Metals

Unofficial communications held separately with MassDEP and USEPA seem to support BMCs interpretation that existing mass discharge loading of TN is not an enforceable discharge limit for this Permit cycle. As part of this appeal, BMC requests clarification that maintenance of the existing TN mass discharge loading is not an enforceable discharge limit under the Permit.

## 6.0 CONCLUSIONS

The Permittee requests:

1. The EAB consider the Permittee's request be revised from 22 µg/L to "monitor and report" until such time that additional studies can be completed that reflect Site-specific conditions, in accordance with the information presented herein and with 40 CFR 124.19(4)(b);
2. The EAB consider the Permittee's request for an adjustment to the total copper discharge limitation following the Site-specific study, in accordance with the information presented herein and with 40 CFR 124.19(4)(b);
  - 2.b. In lieu of the above, the EAB to allow for a re-opener clause under the Permit, to set a total copper limit when the Site-specific data have been collected, submitted and reviewed; and
3. The EAB and/or USEPA to clarify that maintenance of the existing TN mass discharge loading is not an enforceable discharge limit under the Permit.



**ATTACHMENT 1**  
**March 15, 2017 DRAFT PERMIT COMMENT LETTER**



March 15, 2017  
File No. 3958

George Papadopoulos  
U. S. Environmental Protection Agency  
Five Post Office Square  
Suite 100 (OEP 06-1)  
Boston, Massachusetts 02109-3912

**Re: Comments on Draft NPDES Permit  
Barnhardt Manufacturing Company  
247 Main Road, Colrain, Massachusetts 01340  
NPDES Permit No. MA0003697**

Dear Mr. Papadopoulos:

Omni Environmental Group (OEG) has prepared this letter providing comments on behalf of Barnhardt Manufacturing Company, 247 Main Road, Colrain, Massachusetts (BMC) on the draft National Pollution Discharge Elimination System (NPDES) permit No. MA0003697 issued to Barnhardt Manufacturing Company, 247 Main Road, Colrain, Massachusetts on February 15, 2017. This draft permit was prepared by the United States Environmental Protection Agency (USEPA) in conjunction with the Massachusetts Department of Environmental Protection (MassDEP).

These comments have been provided to USEPA via electronic communication and in hard copy format prior to the March 18, 2017 deadline set forth under the draft permit.

#### **BACKGROUND**

The Barnhardt Manufacturing facility is located at 247 Main Road in Colrain, Massachusetts (the facility) and is a raw cotton bleachery utilizing hydrogen peroxide for the cleaning and bleaching of cotton fiber. The on-Site wastewater treatment plant manages the waste water associated with its manufacturing operations, and further manages the sanitary wastes from greater than 20 homes in the immediate vicinity of the manufacturing facility. The subject receiving water is the North River and the Deerfield River Watershed.

## COMMENTS ON THE DRAFT NPDES PERMIT MA0003697

1. Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, the limit for pH is listed as 6.5 to 9.0 standard units (SU) and is consistent with historical requirements and facility performance. However, footnote 6 of said part states the pH shall "not be more than 0.5 standard units outside the naturally occurring range."
  - It is unclear how the "naturally occurring range" is defined or to be determined under the draft document. This requirement is viewed to be overly restrictive and burdensome to facility operations. BMC hereby requests that pH requirement remain at 6.5 to 9.0 SU and that foot note 6 be removed from the finalized Permit.
  
2. Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, the sulfide limit of 1.0 lbs/day (average monthly) and 2.0 lbs/day (maximum daily) is based on anti-backsliding requirements and is much more restrictive than the ELG limit 10.3/20.6 lbs/day. According to the Fact Sheet, these limits were established in 1983 based on an effluent analysis. Historical data has reported values as high as 18 lbs/day, in violation of the limit.
  - Based on process changes that have occurred at the facility since 1984 and historical data cited in the draft permit Fact Sheet, BMC requests that the ELG limits for sulfide (10.3/20.6 lbs/day) be amended to the finalized Permit.
  
3. Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, a total copper limit of 22 ug/L is proposed. The current permit for the facility does not have a limit and requires monitoring and reporting. Reported values show concentrations in excess of the proposed limit and as high as 173 ug/L. It is recognized that copper readily forms complexes with organics, including naturally occurring organic compounds, which are less toxic than free copper and copper monohydroxide. In textile effluents, copper is typically complexed in dyes and finishes and demonstrates lower toxicity than would be predicted using the hardness-based water quality criteria equations. In addition, copper tends to adsorb onto solids, further reducing its toxicity.

Due to the complexation and adsorption of copper, approaches have been developed to determine facility-specific limits for copper. These include use of translators to convert total recoverable copper to soluble copper, water effect ratio studies, and the use of the Biotic Ligand Model (BLM). USEPA guidance documents currently recommends the use of the BLM for developing water quality criteria for copper. Input parameters for the BLM include temperature, pH, dissolved organic carbon (DOC), calcium, magnesium, sodium,

potassium, dissolved inorganic carbon (DIC), chloride and sulfate. The objective of the BLM is to provide a better predictor of copper concentrations in toxic forms on a site specific bases and to reduce the need for more costly and time consuming water effect ratio studies.

- Historical data indicates that the BMC facility has not been able to consistently comply with the proposed copper limit and current recommendations provided by USEPA recommend the use of the BLM for development of water quality criteria for copper. As such, BMC hereby requests a minimum three (3) year compliance schedule be established under the finalized Permit to allow for the collection of salient and representative data and studies (i.e. water effect ratio studies) facilitating the development of the BLM; to establish an appropriate copper effluent limit for the facility; and evaluate suitable means and methods for compliance. These include an evaluation of manufacturing process changes that may reduce the concentration of copper in the effluent as well as the design, construction and start-up of treatment operations at the facility, if required. During such time, BMC requests that the requirements of the current Permit should remain in effect.
4. Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, the proposed total phosphorous limit for the months of May through October is 1.26 mg/L. Historical facility discharge concentrations have ranged from 0.1 to 21 mg/L and averaged 3.1 mg/L.
- Historical data indicates that the BMC facility has not been able to consistently comply with the proposed total phosphorus limit. Similar to the above, BMC hereby requests a minimum three (3) year compliance schedule be established under the finalized Permit to allow for the evaluation of suitable alternatives for total phosphorous reduction (including how it may relate to other facility process changes proposed herein), and if needed, to design, construct and start-up treatment operations at the facility. During such time, BMC requests that the requirements of the current Permit should remain in effect.
5. Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, e-coli testing is listed at a sample frequency of 1/week.
- Historical facility effluent concentrations for 2016 demonstrated eight (8) or more successive monitoring events below current e-coli permit effluent limitations.

As such, BMC hereby requests a reduction in e-coli sampling frequency to 1/month under the finalized Permit.

6. Under Part 1 B. Special Conditions Item 2 of the draft permit, an annual total nitrogen (TN) limit of 67.3 lbs/day is proposed. This would require an average TN concentration of 19.7 mg/L at an average flow of 0.41 MGD. Data were presented in the draft permit fact sheet showing that the average TN concentration between March 2011 and March 2016 was 19.7 mg/l.

Furthermore, the Fact Sheet of the draft permit requires that a study be performed to optimize removal of nitrogen and that the results be presented within one (1) year. It also requires that recommended changes resulting from the study be implemented to maintain compliance with the 67.3 lbs/day annual limit.

- While the fact sheet indicates TN average between March 2011 and March 2016 was 19.7 mg/l, BMC notes that the average TN concentrations for the facility in 2015 and 2016 were 25.4 and 22.3 mg/L, respectively. Thus, depending of flows, the most recent facility performance data indicates that the facility may not be in compliance with the proposed annual limit. It is further noted that the 2015 TN average (~86lbs/day) would have exceeded the proposed limit.

Similar to the above, BMC hereby requests a minimum three (3) year compliance schedule be established under the finalized Permit to allow for the evaluation of suitable alternatives for nitrogen reduction (including how it may relate to other facility process changes proposed herein), implementation of suitable measures and demonstration of compliance. During such time, BMC requests that the requirements of the current Permit should remain in effect.

7. Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, a more stringent chronic toxicity (C-NOEC) limit of greater than or equal to ( $\geq$ ) 7.2% is proposed.

- While improvements to the BMC facility have resulted in a higher level of compliance with toxicity standards in recent years, failures have been reported for acute toxicity. In addition, a recent chronic test taken in October 2016 reported a NOEC of 6.5%. In order to avoid future violations of the existing acute toxicity limit and of the proposed chronic limit under the draft permit, BMC hereby requests a minimum three (3) year compliance schedule be established under the finalized Permit to allow for the identification of toxicants, an evaluation of suitable

alternatives for toxicity reduction (including how it may relate to other facility process changes proposed herein), identification of corrective actions, and if needed, to design, construct and start-up treatment operations at the facility. During such time, BMC requests that the requirements of the current Permit should remain in effect.

For those parameters identified above, BMC requests a compliance schedule to allow evaluation of alternatives that will achieve compliance, and for the design, construction and start-up of any facilities required. BMC would welcome an opportunity to discuss the draft permit and requests presented herein in a meeting at the facility with USEPA and MassDEP.

Should you have any questions or if you would like to discuss this submittal, please do not hesitate to contact the undersigned at (978) 256-6766.

Sincerely,

**Omni Environmental Group**

*Gregory R. Morand*

Gregory R. Morand, LSP  
Principal

**Authorization of the Permittee – Barnhardt Manufacturing Company**

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Date: \_\_\_\_\_

cc: Massachusetts Department of Environmental Protection, NPDES Surface Water Permitting,  
Attention Mr. Paul Nietupski, Western Regional Office, 436 Dwight Street, Springfield,  
Massachusetts 01103

**ATTACHMENTS**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1  
5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MA 02109-3912

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

**FEB 15 2017**

Lewis B. Barnhardt, President  
Barnhardt Manufacturing Company  
247 Main Road  
Colrain, MA 01340

Re: Public Notice  
NPDES Application No. MA0003697  
(for) the Barnhardt Manufacturing Company

Dear Mr. Barnhardt:

In accordance with Chapter 21, Sections 43-45 of the Massachusetts Clean Waters Act, as amended, and Section 402 of the Federal Clean Water Act (CWA), as amended, the Commonwealth of Massachusetts and the Environmental Protection Agency (EPA), Region I, intend to issue a National Pollutant Discharge Elimination System (NPDES) permit to your facility.

The enclosed draft permit, developed by this office and the Massachusetts Department of Environmental Protection (MassDEP), contains effluent limitations and conditions to assure that the discharge receives adequate treatment and will not violate State water quality standards. Also enclosed is the Fact Sheet, which briefly describes the basis for the permit conditions. You are encouraged to closely review all terms and conditions contained in this draft.

If you have any questions or concerns regarding this draft permit or if you believe the draft permit does not accurately describe your discharge or contain a reasonable compliance schedule (where appropriate), you should notify each office, in writing, no later than the last day of the public comment period.

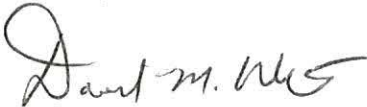
The law requires public notice to be given of the preparation of a draft permit to allow opportunity for public comments and, if necessary, a public hearing. Concurrently with this letter EPA and MassDEP have proceeded to publish the public notice of the proposed issuance of this permit. In order to preserve the right to contest provisions in a final permit, all persons, including the applicant, who believe any condition of the draft is inappropriate must raise all reasonably ascertainable issues and submit all reasonable available arguments supporting their



position by the close of the public comment period (40 Code of Federal Regulations [C.F.R.] §124.13). Following the close of the public comment period, your final permit will be issued provided no new substantial questions are raised. If new questions develop during the comment period, it may be necessary to draft a new permit, revise the Fact Sheet, and/or reopen the public comment period.

If you have any questions or would like to discuss any of the conditions contained in this draft permit, do not hesitate to contact George Papadopoulos at (617) 918-1579.

Sincerely,

A handwritten signature in black ink, appearing to read "David M. Webster". The signature is written in a cursive style with a large initial "D".

David M. Webster, Chief  
Water Permits Branch  
Office of Ecosystem Protection

Enclosures: Draft Permit and Fact Sheet

cc: Catherine Vakalopoulos, MassDEP

MASSACHUSETTS DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
COMMONWEALTH OF MASSACHUSETTS  
1 WINTER STREET  
BOSTON, MASSACHUSETTS 02108

UNITED STATES ENVIRONMENTAL  
PROTECTION AGENCY  
OFFICE OF ECOSYSTEM PROTECTION  
REGION I  
BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE  
ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO THE WATERS OF  
THE UNITED STATES UNDER SECTION 301, 316(a), AND 402 OF THE CLEAN WATER  
ACT (THE "ACT"), AS AMENDED, AND REQUEST FOR STATE CERTIFICATION  
UNDER SECTION 401 OF THE ACT.

DATE OF NOTICE: February 17, 2017 – March 18, 2017

PERMIT NUMBER: **MA0003697**

PUBLIC NOTICE NUMBER: MA-003-17

NAME AND MAILING ADDRESS OF PERMITTEE:

**Barnhardt Manufacturing Company  
P.O. Box 3  
Colrain, MA 01340**

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

**Barnhardt Manufacturing Company  
247 Main Road  
Colrain, MA 01340**

RECEIVING WATER: **North River (Deerfield River Watershed), Class B water**

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("MassDEP") have cooperated in the development of a draft permit for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure compliance with the Clean Water Act ("CWA"), 33 U.S.C. sections 1251 et seq., the Massachusetts Clean Waters Act, G.L. c. 21, §§ 26-53, 314 CMR 3.00 and State Surface Water Quality Standards at 314 CMR 4.00.

INFORMATION ABOUT THE DRAFT PERMIT:

A fact sheet or a statement of basis (describing the type of facility; type and quantities of wastes; a brief summary of the basis for the draft permit conditions; and significant factual, legal and policy questions considered in preparing this draft permit) and the draft permit may be obtained at no cost at: [http://www.epa.gov/region1/npdes/draft\\_permits\\_listing\\_ma.html](http://www.epa.gov/region1/npdes/draft_permits_listing_ma.html) or by writing or calling EPA's contact person named below:

George Papadopoulos, US EPA  
5 Post Office Square  
Suite 100 (OEP 06-1)  
Boston, MA 02109-3912  
Telephone: (617) 918-1579

The administrative record containing all documents relating to this draft permit is on file and may be inspected at the EPA Boston office mentioned above between 9:00 a.m. and 5:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of this draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by March 18, 2017, to the U.S. EPA, George Papadopoulos, 5 Post Office Square, Suite 100, Mailcode OEP 06-1, Boston, Massachusetts 02109-3912. Any person, prior to such date, may submit a request in writing to EPA and the MassDEP for a public hearing to consider this draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty (30) days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on this draft permit the Regional Administrator will respond to all significant comments and make the responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION AND APPEALS:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of the final permit decision any interested person may submit petition to the Environmental Appeals Board to reconsider or contest the final decision.

Douglas E. Fine, Assistant Commissioner  
BUREAU OF WATER RESOURCES  
MASSACHUSETTS DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

Ken Moraff, Director  
OFFICE OF ECOSYSTEM PROTECTION  
ENVIRONMENTAL PROTECTION  
AGENCY

**DRAFT AUTHORIZATION TO DISCHARGE UNDER  
THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 *et seq.*; the "CWA", and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

**Barnhardt Manufacturing Company**

is authorized to discharge from the facility located at

**Barnhardt Manufacturing Company  
247 Main Road  
Colrain, MA 01340**

to receiving water named

**North River (Deerfield River Watershed)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on the first day of the calendar month following sixty (60) days after signature. If no comments are received, this permit shall become effective upon the date of signature.

This permit expires at midnight, five years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on October 26, 2010 and expired on December 31, 2015.

This permit consists of this cover page, 13 pages in Part I including effluent limitations, monitoring requirements, reporting requirements and state permit conditions, 7 pages in Attachment A — Freshwater Chronic Toxicity Test Procedure and Protocol (March 2013), and 25 pages in Part II, the Standard Conditions.

Signed this      day of                      , 2017

\_\_\_\_\_  
Ken Moraff, Director  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
Region 1  
Boston, MA

\_\_\_\_\_  
Douglas E. Fine, Assistant Commissioner  
Bureau of Water Resources  
Department of Environmental Protection  
Commonwealth of Massachusetts  
Boston, MA

**PART I****A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated process water through **Outfall Serial Number 001** to the North River. Such discharge shall be limited and monitored by the Permittee as specified below:

Effluent Characteristic	Discharge Limitation		Monitoring Requirements <sup>1,2</sup>	
	Average Monthly	Maximum Daily	Measurement Frequency <sup>3,4</sup>	Sample Type
Flow Rate <sup>5</sup>	Report MGD	0.89 MGD	Continuous	Recorder
pH <sup>6</sup>	6.5 - 9.0 SU		1/day	Grab
Production Rate <sup>7</sup>	Report	Report	1/day	Estimate
BOD <sub>5</sub>	292 lbs/day	510 lbs/day	1/month	Composite <sup>8</sup>
Total Suspended Solids (TSS)	350 lbs/day	510 lbs/day	1/month	Composite <sup>8</sup>
COD	3640 lbs/day	7280 lbs/day	1/quarter	Composite <sup>8</sup>
Sulfide, Total	1.0 lb/day	2.0 lbs/day	1/quarter	Grab
Chromium, Total	Report lbs/day	1.1 lbs/day	1/year	Composite <sup>8</sup>
Phenols, Total	Report lbs/day	1.0 lb/day	1/quarter	Grab
Ammonia-Nitrogen (as N)	Report mg/l and lbs/day	Report mg/l and lbs/day	1/quarter	Composite <sup>8</sup>
Total Kjeldahl Nitrogen (TKN)	Report mg/l and lbs/day	Report mg/l and lbs/day	2/month	Composite <sup>8</sup>
Nitrite-Nitrate (as N)	Report mg/l and lbs/day	Report mg/l and lbs/day	2/month	Composite <sup>8</sup>
Total Nitrogen	Report lbs/day	Report lbs/day	2/month	Composite <sup>8</sup>
Total Phosphorus (May - October)	1.26 mg/l	Report mg/l	1/month	Composite <sup>8</sup>
Total Phosphorus (November-April)	Report mg/l	Report mg/l	1/month	Composite <sup>8</sup>
<i>E. Coli</i> (April 1 – October 31)	126 cfu/100 ml	409 cfu/100 ml	1/week	Grab
Copper, Total	22 µg/l	22 µg/l	1/month	Composite <sup>8</sup>
Temperature	Report °F	Report °F	1/month	Grab

See pages 5 and 6 for footnotes

## CONTINUED FROM PREVIOUS PAGE

Effluent Characteristic	Discharge Limitation	Monitoring Requirements <sup>1,2</sup>	
	Maximum Daily	Measurement Frequency <sup>3,4</sup>	Sample Type
Whole Effluent Toxicity <sup>9,10,11</sup>			
LC <sub>50</sub>	≥ 100 %	1/quarter	Composite <sup>8</sup>
Chronic C-NOEC	≥ 7.2 %	1/quarter	Composite <sup>8</sup>
Hardness	Report mg/L	1/quarter	Composite <sup>8</sup>
Total Residual Chlorine	Report mg/L	1/quarter	Grab
Alkalinity	Report mg/L	1/quarter	Composite <sup>8</sup>
pH	Report SU	1/quarter	Grab
Specific Conductance	Report μmhos/cm	1/quarter	Composite <sup>8</sup>
Total Solids	Report mg/L	1/quarter	Composite <sup>8</sup>
Ammonia	Report mg/L	1/quarter	Composite <sup>8</sup>
Total Organic Carbon	Report mg/L	1/quarter	Composite <sup>8</sup>
Cadmium, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Chromium, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Lead, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Copper, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Zinc, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Nickel, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Aluminum, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Total Dissolved Solids	Report mg/L	1/quarter	Composite <sup>8</sup>

See pages 5 and 6 for footnotes

## CONTINUED FROM PREVIOUS PAGE

During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated process water through **Outfall Serial Number 001** to the North River. The three (3) samples taken from the North River, considered to be the receiving water control, shall be monitored by the Permittee as specified below as required by the Whole Effluent Toxicity testing requirement.

Ambient Characteristic	Ambient Reporting Requirements	Monitoring Requirements <sup>1,2</sup>	
	Maximum Daily	Measurement Frequency <sup>3,4</sup>	Sample Type
Hardness	Report mg/L	1/quarter	Grab
Total Residual Chlorine	Report mg/L	1/quarter	Grab
Alkalinity	Report mg/L	1/quarter	Grab
pH	Report SU	1/quarter	Grab
Specific Conductance	Report $\mu$ mhos/cm	1/quarter	Grab
Ammonia	Report mg/L	1/quarter	Grab
Total Organic Carbon	Report mg/L	1/quarter	Grab
Cadmium, Total Recoverable	Report mg/L	1/quarter	Grab
Chromium, Total Recoverable	Report mg/L	1/quarter	Grab
Lead, Total Recoverable	Report mg/L	1/quarter	Grab
Copper, Total Recoverable	Report mg/L	1/quarter	Grab
Zinc, Total Recoverable	Report mg/L	1/quarter	Grab
Nickel, Total Recoverable	Report mg/L	1/quarter	Grab
Aluminum, Total Recoverable	Report mg/L	1/quarter	Grab

See pages 5 and 6 for footnotes

**Footnotes:**

- <sup>1</sup> The samples for Outfall 001 shall be collected at the discharge point to the North River. Samples shall be taken at a consistent location(s) and consistent times which yield data representative of the process water effluent just prior to discharge to the North River and prior to comingling with any non-process waters, if such comingling occurs. Changes in sampling location must be approved in writing by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP).
- <sup>2</sup> In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the Permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O, for the analysis of pollutants or pollutant parameters limited in this permit (except WET limits). A method is considered "sufficiently sensitive" when either (1) the method minimum level (ML) is at or below the level of the effluent limit established in this permit for the measured pollutant or pollutant parameter; or (2) the method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O for the measured pollutant or pollutant parameter. The ML is not the minimum level of detection, but rather the lowest level at which the test equipment produces a recognizable signal and acceptable calibration point for a pollutant or pollutant parameter, representative of the lowest concentration at which a pollutant or pollutant parameter can be measured with a known level of confidence. For the purposes of this permit, the detection limit (DL) is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions (i.e., the level above which an actual value is reported for an analyte, and the level below which an analyte is reported as non-detect).
- <sup>3</sup> Measurement frequency of 1/day is defined as the recording of one measurement for each 24 hour period. Measurement frequency of 1/week is defined as the sampling of one discharge event in each seven-day period. Measurement frequency of 1/month is defined as the sampling of one discharge event in each calendar month. Measurement frequency of 1/year is defined as the sampling of one discharge event which occurs during the month of May. Quarterly samples shall be collected during the second weeks in January, April, July, and October.
- <sup>4</sup> The Permittee shall submit the results to EPA of any additional testing done above that which is required herein, if it is in accordance with EPA approved methods. If no sampling result can be reported during one or more of the measurement frequencies defined above, the Permittee must report the appropriate No Data Indicator Code (e.g., "C" for "No Discharge") found in Attachment E of *NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs)*, available at <https://www3.epa.gov/region1/npdes/dmr.html>.
- <sup>5</sup> Flow rate shall be reported in million gallons per day (MGD). The flow shall be continuously measured and recorded using a flow meter. The total flow for each operating date shall be recorded and attached to each monthly DMR form.
- <sup>6</sup> The pH of the effluent shall be not less than 6.5 or greater than 9.0 standard units (s.u.) but not more than 0.5 standard units outside of the naturally occurring range. There shall be no change from natural background conditions that would impair any use assigned to the class of the receiving water.
- <sup>7</sup> Total production rate of finished goods in pounds per day.



- 8 A 24-hour composite shall consist of twenty-four (24) grab samples collected at hourly intervals during a twenty-four hour period (i.e., 0700 Monday to 0700 Tuesday), combined proportionally to flow.
- 9 The Permittee shall conduct chronic whole effluent toxicity (WET) tests once per calendar quarter following the effective date of the permit. The tests must be performed in accordance with test procedures and protocols specified in Attachment A of this permit using the daphnid, *Ceriodaphnia dubia*. LC<sub>50</sub> and C-NOEC are defined in Part II.E.3 of this permit. WET test samples shall be collected during the months of January, April, July, and October and the test results shall be submitted with the discharge monitoring reports (DMRs), no later than the 15<sup>th</sup> day of the month following the completed reporting period. For example, the WET test results for January shall be submitted with the February DMR, no later than March 15<sup>th</sup>.

WET Testing Months	Submit Results by:	Test Species	Chronic Limit	Acute Limit
January April July October	March 15 <sup>th</sup> June 15 <sup>th</sup> September 15 <sup>th</sup> December 15 <sup>th</sup>	<i>Ceriodaphnia dubia</i> (daphnid)	C-NOEC ≥ 7.2%	LC <sub>50</sub> ≥ 100%

- 10 The Permittee shall conduct the analyses specified in Attachment A, Part VI. CHEMICAL ANALYSIS, of this permit. **For 100% effluent**, the Permittee shall report results for the parameters listed on Page 3, Part I.A., Whole Effluent Toxicity, hardness through total dissolved solids, inclusive. The dilution water sample for the WET tests shall be a **receiving water control** (i.e., 0% effluent) consisting of three grab samples (defined in Part II.E.) collected from the North River at a point immediately outside of Outfall 001's zone of influence at a reasonably accessible location over a 1-hour period. For this receiving water control, the Permittee shall report results for the parameters listed on Page 4. Even where an alternate dilution water is permitted, the receiving water control (0% effluent) must still be analyzed. MLs and methods are specified in Attachment A., Part VI. CHEMICAL ANALYSIS. Sampling for any parameter required for WET may be used to satisfy any duplicative sampling required for that parameter in this permit, so long as the timing of sampling for WET coincides with the sample timing otherwise required for that parameter within this permit.
- 11 If the toxicity test uses receiving water as diluent and the receiving water is found to be toxic or unreliable, the permittee shall follow procedures outlined in Section IV (Dilution Water) of Attachment A in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in Attachment A, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. This guidance document may be found at: <https://www3.epa.gov/region1/npdes/permits/generic/Alternatedilutionwaterguidance.pdf>. If this Guidance Document is revoked, the permittee shall revert to obtaining approval as outlined in Attachment A. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in Attachment A.

**Part I.A. continued.**

2. The discharge shall not cause a violation of the water quality standards of the receiving waters.
3. The discharge shall not contain floating, suspended and settleable solids, oil and grease, petrochemicals and other volatile or synthetic organic pollutants, or *radioactive substances*.
4. The discharge shall not produce objectionable odor, color, taste, or turbidity, or result in the dominance of nuisance species.
5. The discharge shall not contain pollutants in concentrations or combinations or cause alterations that impair the existing uses of the receiving water, or interfere with the attainment of designated uses in the receiving water or downstream and adjacent waterbody segments.
6. The discharge shall not contain pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.
7. The Permittee shall properly operate and maintain the pollution control equipment.
8. The Permittee shall implement preventative maintenance procedures for the pollution control equipment.
9. The Permittee shall implement procedures and maintenance schedule for removal and disposal of solids and/or sludge.
10. The permittee shall not use fungicides or slimicides containing trichlorophenol or pentachlorophenol.
11. Any intake water that is used solely for cooling purposes shall not be directly returned to the receiving water.
12. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 C.F.R. §122.42):
  - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
    - i. 100 micrograms per liter ( $\mu\text{g/L}$ );
    - ii. 200  $\mu\text{g/L}$  for acrolein and acrylonitrile; 500  $\mu\text{g/L}$  for 2,4-dinitrophenol; and one milligram per liter ( $\text{mg/L}$ ) for antimony;

- iii. Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
  - iv. Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f) and Massachusetts regulations.
- b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
- i. 500 µg/L;
  - ii. One mg/L for antimony;
  - iii. 10 times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
  - iv. Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f) and Massachusetts regulations.
13. This permit may be modified in accordance with 40 C.F.R. Section 122.62(a)(3) if the standards or regulations on which the permit is based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit is issued in accordance with 40 C.F.R. Section 122.62(a)(3).

## B. SPECIAL CONDITIONS

### 1. Best Management Practices (BMP) Plan

The permittee shall continue to implement and maintain a Best Management Practices (BMP) Plan designed to reduce or prevent the discharge of pollutants in process water to waters of the United States. The BMP Plan shall be a written document that is consistent with the terms of the permit and identifies and describes the BMPs employed by the facility in operating process water controls.

**Within six months following the effective date of the permit**, the Permittee shall update and certify that the BMP Plan meets the requirements of this permit, and that it reduces the pollutants discharged in process water to the extent practicable. The BMP Plan and certification shall be signed in accordance with the requirements identified in 40 C.F.R. §122.22. A copy of the BMP Plan and certification shall be maintained at the Permittee’s facility and made available to EPA and MassDEP upon request.

The permittee shall amend and update the BMP Plan **within thirty (30) days** for any changes at the facility affecting the BMP Plan. Such changes may include, but are not limited to, changes in the design, construction, operation, or maintenance of the facility, which have a significant effect on the potential for the discharge of pollutants to the waters of the United States. The amended BMP Plan shall be certified as described above.

The permittee shall certify at least annually that the facility is in compliance with the requirements of the BMP Plan. If the facility is not in compliance with any aspect of the BMP Plan, the annual certification shall state the noncompliance (e.g., a selected BMP is not achieving the control necessary to meet a numeric or non-numeric effluent limitation) and the actions which were undertaken to remedy such noncompliance (e.g., the selection, design and implementation of an alternate BMP). Such annual certifications shall be signed, maintained at the facility, and made available to EPA and MassDEP as described above.

The BMP Plan shall include, at a minimum, the following items:

- a. Selection, design, installation, implementation and maintenance of control measures necessary to meet the effluent limitations in this permit, including the non-numeric limitations and conditions in Part I.A. Any control measures shall be used in accordance with good engineering practices and manufacturer's specifications.
- b. A description of the pollution control equipment and procedures used to minimize the discharge of suspended solids, floating solids, foam/scum/debris, visible oil sheen, and settleable solids to surface waters.
- c. Preventative maintenance procedures for the pollution control equipment.
- d. Procedures for handling facility wastes, including schedules for removal, handling and disposal of materials, a description of where solids removed from the pollution control equipment or appurtenances, including sludge, are stored and/or disposed of, and the control measures used to prevent the removed solids from reentering the receiving water. If facility wastes are removed from the site, describe the destination and the method of disposal and/or reuse.
- e. A record of the following information for all chemicals additives used at the facility, including all chemicals used in the treatment processes at the facility (flocculation, clarification, filtration, and disinfection), and for control of biological growth, and corrosion and scale in water pipes:
  - i. Product name, chemical formula, and manufacturer of the additive;
  - ii. Purpose or use of the additive;
  - iii. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each additive;
  - iv. The frequency (e.g., hourly, daily), duration (e.g., hours, days), quantity (e.g., maximum and average), and method of application for the additive; and
  - v. The vendor's reported aquatic toxicity, when available (NOAEL and/or LC50 in percent for aquatic organism(s)).

- f. A description of the training to be provided for employees to assure they understand the goals, objectives, and procedures of the BMP Plan, the requirements of the NPDES Permit, and their individual responsibilities for complying with the goals and objectives of the BMP Plan and the NPDES permit.
- g. Minimum documentation requirements are as follows:
  - i. Records of operational and preventive maintenance activities, equipment inspections, procedure audits, and personnel training;
  - ii. Records of the collection and analysis of samples, including, but not limited to, sample location, any calculations done at the time of sampling, any sampling or analytical methods used for samples analyzed on site, and sample results; and
  - iii. All documentation of BMP Plan activities shall be kept at the facility and provided to EPA or MassDEP upon request.

## 2. Treatment Plant Optimization for Nitrogen

The permittee shall complete an evaluation of alternative methods of operating the existing wastewater treatment facility to optimize the removal of nitrogen, and submit a report to EPA and MassDEP documenting this evaluation and presenting a description of recommended operational changes within one (1) year of the effective date of the permit. The permittee shall implement the recommended operational changes in order to maintain the existing mass discharge loading of total nitrogen. The annual average total nitrogen load from this facility (for the period of March 2011 – March 2016) is estimated to be 67.3 lbs/day. The permittee shall also submit an annual report due by January 15<sup>th</sup> of each year and submitted with the December DMR to EPA and MassDEP that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous year.

## 3. Whole Effluent Toxicity (WET) Testing Reduction

The Permittee may request a reduction in Whole Effluent Toxicity testing requirements by submitting results for a minimum of four (4) consecutive tests, all of which must be valid tests that demonstrate compliance with the WET testing requirements in this permit. Until written notice is received from EPA indicating that the WET testing requirements have been changed, the Permittee is required to continue testing as specified in this permit.

## C. REPORTING REQUIREMENTS

The monitoring program in the permit specifies sampling and analysis, which will provide continuous information on compliance and the reliability and effectiveness of the installed pollution abatement equipment. The approved analytical procedures found in 40 C.F.R. Part 136 are required unless other procedures are explicitly required in the permit. The Permittee is obligated to monitor and report sampling results to EPA and the MassDEP within the time frames specified within the permit.

Unless otherwise specified in this permit, the permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

1. Submittal of DMRs Using NetDMR

The permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and MassDEP no later than the 15th day of the month electronically using NetDMR. When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or MassDEP.

2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. Permittees shall continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP. (See Part I.C.5 for more information on state reporting.) Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15<sup>th</sup> day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR with the next DMR due following the particular report due date specified in this permit.

3. Submittal of Requests and Reports to EPA/OEP

The following requests, reports, and information described in this permit shall be submitted to the EPA/OEP NPDES Applications Coordinator in the EPA Office Ecosystem Protection (OEP).

- A. Transfer of permit notice
- B. Request for changes in sampling location
- C. Request for reduction in testing frequency
- D. Request for reduction in WET testing requirement
- E. Report on unacceptable dilution water / request for alternative dilution water for WET testing
- F. Notification of proposal to add or replace chemicals additives and bio-remedial agents including microbes

These reports, information, and requests shall be submitted to EPA/OEP electronically at [R1NPDES.Notices.OEP@epa.gov](mailto:R1NPDES.Notices.OEP@epa.gov) or by hard copy mail to the following address:

**U.S. Environmental Protection Agency  
Office of Ecosystem Protection  
EPA/OEP NPDES Applications Coordinator  
5 Post Office Square - Suite 100 (OEP06-03)  
Boston, MA 02109-3912**

4. Submittal of Reports in Hard Copy Form

The following notifications and reports shall be submitted as hard copy with a cover letter describing the submission. These reports shall be signed and dated originals submitted to EPA.

- A. Written notifications required under Part II
- B. Notice of unauthorized discharges

This information shall be submitted to EPA/OES at the following address:

**U.S. Environmental Protection Agency  
Office of Environmental Stewardship (OES)  
Water Technical Unit  
5 Post Office Square, Suite 100 (OES04-SMR)  
Boston, MA 02109-3912**

5. State Reporting

Transfer or termination of permit notices shall be submitted to:

**MassDEP  
Bureau of Water Resources  
Wastewater Management Program  
1 Winter Street, 5<sup>th</sup> Floor  
Boston, MA 02108**

Unless otherwise specified in this permit, duplicate signed copies of all reports, information, requests or notifications described in this permit, including the reports, information, requests or notifications described in Parts I.C.3 and I.C.4 shall also be submitted to the State at the following addresses:

**MassDEP – Western Region  
Bureau of Waste Prevention (Industrial)  
436 Dwight Street, Suite 402  
Springfield, MA 01103**

Copies of toxicity tests and nitrogen optimization reports only shall be submitted to:

**Massachusetts Department of Environmental Protection  
Watershed Planning Program  
8 New Bond Street  
Worcester, Massachusetts 01606**

#### 6. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to both EPA and to MassDEP. This includes verbal reports and notifications which require reporting within 24 hours. (As examples, see Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.) Verbal reports and verbal notifications shall be made to EPA's Office of Environmental Stewardship at: **617-918-1510**

### D. STATE PERMIT CONDITIONS

1. This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§26-53, and 314 C.M.R. 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 C.M.R. 3.19, are hereby incorporated by reference into this state surface water discharge permit.
2. This authorization also incorporates the state water quality certification issued by MassDEP under §401(a) of the Federal Clean Water Act, 40 CFR 124.53, M.G.L. c. 21, §27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.
3. Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.



**ATTACHMENT 2**  
**SEPTEMBER 2017 FINAL NPDES PERMIT**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1  
5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MA 02109-3912

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**  
**SEP 22 2017**

Lewis B. Barnhardt, President  
Barnhardt Manufacturing Company  
247 Main Road  
Colrain, MA 01340

Re: NPDES Permit No. MA0003697  
(for) the Barnhardt Manufacturing Company

Dear Mr. Barnhardt:

Enclosed is your final National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to the Clean Water Act (the "Federal Act"), as amended, and the Massachusetts Clean Water Act (the "State Act"), 21 M.G.L. §§43-45, as amended. Your permit will become effective on the date specified in the permit unless you file a timely petition for review with EPA's Environmental Appeals Board (EAB) pursuant to 40 C.F.R. § 124.19. *See* 40 C.F.R. §124.15 (issuance and effective date of permit).

Also enclosed is a copy of the Massachusetts State Water Quality Certification for your final permit, the EPA's response to the comments received on the draft permit, Part II Standard Conditions, and information relative to appeals and stays of NPDES permits. Should you desire to contest any provision of the permit, your petition must be submitted to the Environmental Appeals Board as outlined below and in the enclosure. If you also wish to appeal the state permit, you must file a similar request for review with the Director of the Office of Watershed Management in accordance with the provisions of the Massachusetts Administrative Procedures Act, the Division's Rules for the Conduct of Adjudicatory Proceedings and the Timely Action Schedule and Fee Provisions (see enclosure).

Please be aware that EPA has recently revised the regulations governing NPDES permit appeals at 40 C.F.R. § 124.19. These revisions took effect on March 26, 2013. A copy of the revised regulations and more specific information about appeals are enclosed for your convenience. If you do wish to appeal this permit to the Environmental Appeals Board, please refer to these new regulations and to materials on the website of the Environmental Appeals Board (<http://www.epa.gov/eab>) for information concerning procedural and substantive requirements applicable to NPDES permit appeals. Please note in particular the new provisions related to filing and service requirements set forth at 40 C.F.R. § 124.19(a) and (i), and to the content and form of briefs set forth at § 124.19(a) and (d).

Toll Free • 1-888-372-7341

Internet Address (URL) • <http://www.epa.gov/region1>

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We appreciate your cooperation throughout the development of this permit. Should you have any questions concerning the permit, feel free to contact George Papadopoulos at 617-918-1579.

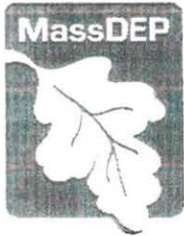
Sincerely,



David M. Webster, Chief  
Water Permits Branch  
Office of Ecosystem Protection

Enclosures: Final Permit, MA State Water Quality Certification, Response to Comments, Part II  
General Conditions, Appealing NPDES Permits

cc: MassDEP, Division of Watershed Management  
All Interested Parties



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker  
Governor

Karyn E. Polito  
Lieutenant Governor

Matthew A. Beaton  
Secretary

Martin Suuberg  
Commissioner

September 15, 2017

David Webster, Chief  
Water Permits Branch  
USEPA Region 1  
5 Post Office Square  
Mail Code: ORA01-4  
Boston, MA 02109-3912

**Re: Water Quality Certification – NPDES Permit MA0003697  
Barnhardt Manufacturing Company, Colrain, MA**

Dear Mr. Webster:

Your office has requested the Massachusetts Department of Environmental Protection (the Department) to issue a water quality certification pursuant to Section 401(a) of the Federal Clean Water Act (the "Act") and 40 CFR §124.53 for the above referenced NPDES permit. The Department has reviewed the proposed permit and has determined that the conditions of the permit and attached state conditions will achieve compliance with sections 208(e), 301, 302, 303, 306 and 307 of the Federal Act, and with the provisions of the Massachusetts Clean Waters Act, MGL c.21, §§26-53, and regulations promulgated thereunder. The permit conditions are sufficient to comply with the antidegradation provisions of the Massachusetts Surface Water Quality Standards [314 CMR 4.04] and the policy [October 21, 2009] implementing those provisions. The Department, accordingly, hereby certifies the referenced permit.

Sincerely,

Lealdon Langley, Director  
Massachusetts Wetlands and Wastewater Programs  
Bureau of Water Resources

Cc: George Papadopoulos, USEPA  
Xiaodan Ruan, MassDEP  
File

**AUTHORIZATION TO DISCHARGE UNDER  
THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA", and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

**Barnhardt Manufacturing Company**

is authorized to discharge from the facility located at

**Barnhardt Manufacturing Company  
247 Main Road  
Colrain, MA 01340**

to receiving water named

**North River (Deerfield River Watershed)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on the first day of the calendar month following sixty (60) days after signature.

This permit expires at midnight, five years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on October 26, 2010 and expired on December 31, 2015.

This permit consists of this cover page, 14 pages in Part I including effluent limitations, monitoring requirements, reporting requirements and state permit conditions, 7 pages in Attachment A — Freshwater Chronic Toxicity Test Procedure and Protocol (March 2013), and 25 pages in Part II, the Standard Conditions.

Signed this 19<sup>th</sup> day of September, 2017



Arthur V. Johnson, III, Acting Director  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
Region 1  
Boston, MA



Lealdon Langley, Director  
Massachusetts Wetlands and Wastewater Programs  
Department of Environmental Protection  
Commonwealth of Massachusetts  
Boston, MA

## PART I

## A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated process water through **Outfall Serial Number 001** to the North River. Such discharge shall be limited and monitored by the Permittee as specified below:

Effluent Characteristic	Discharge Limitation		Monitoring Requirements <sup>1,2</sup>	
	Average Monthly	Maximum Daily	Measurement Frequency <sup>3,4</sup>	Sample Type
Flow Rate <sup>5</sup>	Report MGD	0.89 MGD	Continuous	Recorder
pH <sup>6</sup>	6.5 - 9.0 SU		1/day	Grab
Production Rate <sup>7</sup>	Report	Report	1/day	Estimate
BOD <sub>5</sub>	292 lbs/day	510 lbs/day	1/month	Composite <sup>8</sup>
Total Suspended Solids (TSS)	350 lbs/day	510 lbs/day	1/month	Composite <sup>8</sup>
COD	3640 lbs/day	7280 lbs/day	1/quarter	Composite <sup>8</sup>
Sulfide, Total	1.0 lb/day	2.0 lbs/day	1/quarter	Grab
Chromium, Total	Report lbs/day	1.1 lbs/day	1/year	Composite <sup>8</sup>
Phenols, Total	Report lbs/day	1.0 lb/day	1/quarter	Grab
Ammonia-Nitrogen (as N)	Report mg/l and lbs/day	Report mg/l and lbs/day	1/quarter	Composite <sup>8</sup>
Total Kjeldahl Nitrogen (TKN)	Report mg/l and lbs/day	Report mg/l and lbs/day	2/month	Composite <sup>8</sup>
Nitrite-Nitrate (as N)	Report mg/l and lbs/day	Report mg/l and lbs/day	2/month	Composite <sup>8</sup>
Total Nitrogen	Report lbs/day	Report lbs/day	2/month	Composite <sup>8</sup>
Total Phosphorus (May – October) <sup>9</sup>	Report/1.26mg/l	Report mg/l	1/month	Composite <sup>8</sup>
Total Phosphorus (November-April)	Report mg/l	Report mg/l	1/month	Composite <sup>8</sup>
<i>E. Coli</i> (April 1 – October 31)	126 cfu/100 ml	409 cfu/100 ml	1/week	Grab
Copper, Total <sup>9</sup>	Report /22 µg/l	Report/ 22 µg/l	1/month	Composite <sup>8</sup>
Temperature	Report °F	Report °F	1/month	Grab

See pages 5 and 6 for footnotes

## CONTINUED FROM PREVIOUS PAGE

Effluent Characteristic	Discharge Limitation	Monitoring Requirements <sup>1,2</sup>	
	Maximum Daily	Measurement Frequency <sup>3,4</sup>	Sample Type
Whole Effluent Toxicity <sup>10,11,12</sup>			
LC <sub>50</sub>	≥ 100 %	1/quarter	Composite <sup>8</sup>
C-NOEC <sup>9</sup>	≥ 5 %, ≥ 7.2 %	1/quarter	Composite <sup>8</sup>
Hardness	Report mg/L	1/quarter	Composite <sup>8</sup>
Total Residual Chlorine	Report mg/L	1/quarter	Grab
Alkalinity	Report mg/L	1/quarter	Composite <sup>8</sup>
pH	Report SU	1/quarter	Grab
Specific Conductance	Report µmhos/cm	1/quarter	Composite <sup>8</sup>
Total Solids	Report mg/L	1/quarter	Composite <sup>8</sup>
Ammonia	Report mg/L	1/quarter	Composite <sup>8</sup>
Total Organic Carbon	Report mg/L	1/quarter	Composite <sup>8</sup>
Cadmium, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Lead, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Copper, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Zinc, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Nickel, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Aluminum, Total Recoverable	Report mg/L	1/quarter	Composite <sup>8</sup>
Total Dissolved Solids	Report mg/L	1/quarter	Composite <sup>8</sup>

See pages 5 and 6 for footnotes

## CONTINUED FROM PREVIOUS PAGE

During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated process water through **Outfall Serial Number 001** to the North River. The three (3) samples taken from the North River, considered to be the receiving water control, shall be monitored by the Permittee as specified below as required by the Whole Effluent Toxicity testing requirement.

Ambient Characteristic <sup>11</sup>	Ambient Reporting Requirements	Monitoring Requirements <sup>1,2</sup>	
	Maximum Daily	Measurement Frequency <sup>3,4</sup>	Sample Type
Hardness	Report mg/L	1/quarter	Grab
Alkalinity	Report mg/L	1/quarter	Grab
pH	Report SU	1/quarter	Grab
Specific Conductance	Report $\mu$ mhos/cm	1/quarter	Grab
Ammonia	Report mg/L	1/quarter	Grab
Total Organic Carbon	Report mg/L	1/quarter	Grab
Cadmium, Total Recoverable	Report mg/L	1/quarter	Grab
Lead, Total Recoverable	Report mg/L	1/quarter	Grab
Copper, Total Recoverable	Report mg/L	1/quarter	Grab
Zinc, Total Recoverable	Report mg/L	1/quarter	Grab
Nickel, Total Recoverable	Report mg/L	1/quarter	Grab
Aluminum, Total Recoverable	Report mg/L	1/quarter	Grab

See pages 5 and 6 for footnotes



**Footnotes:**

1. The samples for Outfall 001 shall be collected at the discharge point to the North River. Samples shall be taken at a consistent location(s) and consistent times which yield data representative of the process water effluent just prior to discharge to the North River and prior to comingling with any non-process waters, if such comingling occurs. Changes in sampling location must be approved in writing by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP).
2. In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the Permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O, for the analysis of pollutants or pollutant parameters limited in this permit (except WET limits). A method is considered "sufficiently sensitive" when either (1) the method minimum level (ML) is at or below the level of the effluent limit established in this permit for the measured pollutant or pollutant parameter; or (2) the method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O for the measured pollutant or pollutant parameter. The ML is not the minimum level of detection, but rather the lowest level at which the test equipment produces a recognizable signal and acceptable calibration point for a pollutant or pollutant parameter, representative of the lowest concentration at which a pollutant or pollutant parameter can be measured with a known level of confidence. For the purposes of this permit, the detection limit (DL) is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions (i.e., the level above which an actual value is reported for an analyte, and the level below which an analyte is reported as non-detect).
3. Measurement frequency of 1/day is defined as the recording of one measurement for each 24 hour period. Measurement frequency of 1/week is defined as the sampling of one discharge event in each seven-day period. Measurement frequency of 1/month is defined as the sampling of one discharge event in each calendar month. Measurement frequency of 1/year is defined as the sampling of one discharge event which occurs during the month of May. Quarterly samples shall be collected during the second weeks in January, April, July, and October.
4. The Permittee shall submit the results to EPA of any additional testing done above that which is required herein, if it is in accordance with EPA approved methods. If no sampling result can be reported during one or more of the measurement frequencies defined above, the Permittee must report the appropriate No Data Indicator Code (e.g., "C" for "No Discharge") found in Attachment E of *NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs)*.
5. Flow rate shall be reported in million gallons per day (MGD). The flow shall be continuously measured and recorded using a flow meter. The total flow for each operating date shall be recorded and attached to each monthly DMR form.
6. The pH of the effluent shall be not less than 6.5 or greater than 9.0 standard units (s.u.) but not more than 0.5 standard units outside of the naturally occurring range. There shall be no change from natural background conditions that would impair any use assigned to the class of the receiving water.
7. Total production rate of finished goods in pounds per day.
8. A 24-hour composite shall consist of twenty-four (24) grab samples collected at hourly intervals during a twenty-four hour period (i.e., 0700 Monday to 0700 Tuesday), combined proportionally to flow.

9. For the parameters total copper and total phosphorus (May through October), there will be a monitor only requirement for the period starting on the effective date of this permit and ending three (3) years after the effective date. This is consistent with the three (3) year compliance schedule outlined in Part I.B.4 of the final permit. After this 3 year period, the permittee shall comply with the monthly average and daily maximum total copper limits of 22 µg/l as well as the seasonal, monthly average total phosphorus limit of 1.26 mg/l. For the chronic-no observed effect concentration (C-NOEC), the prior permit limit of ≥ 5% will be in effect for the first three (3) years of the permit as specified above in this footnote. After this 3 year period, the revised limit of ≥ 7.2 % will go into effect. See Part I.B for additional requirements regarding the compliance schedule.
10. The Permittee shall conduct chronic whole effluent toxicity (WET) tests once per calendar quarter following the effective date of the permit. The tests must be performed in accordance with test procedures and protocols specified in Attachment A of this permit using the daphnid, *Ceriodaphnia dubia*. LC<sub>50</sub> and C-NOEC are defined in Part II.E.3 of this permit. WET test samples shall be collected during the months of January, April, July, and October and the test results shall be submitted with the discharge monitoring reports (DMRs), no later than the 15<sup>th</sup> day of the month following the completed reporting period. For example, the WET test results for January shall be submitted with the February DMR, no later than March 15<sup>th</sup>.

WET Testing Months	Submit Results by:	Test Species	Chronic Limit	Acute Limit
January April July October	March 15 <sup>th</sup> June 15 <sup>th</sup> September 15 <sup>th</sup> December 15 <sup>th</sup>	<i>Ceriodaphnia dubia</i> (daphnid)	C-NOEC ≥ 7.2%	LC <sub>50</sub> ≥ 100%

11. The Permittee shall conduct the analyses specified in Attachment A, Part VI. CHEMICAL ANALYSIS, of this permit. **For 100% effluent**, the Permittee shall report results for the parameters listed on Page 3, Part I.A., Whole Effluent Toxicity, hardness through total dissolved solids, inclusive. The dilution water sample for the WET tests shall be a **receiving water control** (i.e., 0% effluent) consisting of three grab samples (defined in Part II.E.) collected from the North River at a point immediately upstream, outside of Outfall 001's zone of influence at a reasonably accessible location and taken over a 1-hour period. For this receiving water control, the Permittee shall report results for the parameters listed on Page 4. Even where an alternate dilution water is permitted, the receiving water control (0% effluent) must still be analyzed. MLs and methods are specified in Attachment A., Part VI. CHEMICAL ANALYSIS. Sampling for any parameter required for WET may be used to satisfy any duplicative sampling required for that parameter in this permit, so long as the timing of sampling for WET coincides with the sample timing otherwise required for that parameter within this permit.
12. If the toxicity test uses receiving water as diluent and the receiving water is found to be toxic or unreliable, the permittee shall follow procedures outlined in Section IV (Dilution Water) of Attachment A in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in Attachment A, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. This guidance document may be found at: <https://www3.epa.gov/region1/npdes/permits/generic/Alternatedilutionwaterguidance.pdf>. If this Guidance Document is revoked, the permittee shall revert to obtaining approval as outlined in Attachment A. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in Attachment A.

**Part I.A. continued.**

2. The discharge shall not cause a violation of the water quality standards of the receiving waters.
3. The discharge shall not contain floating, suspended and settleable solids, oil and grease, petrochemicals and other volatile or synthetic organic pollutants.
4. The discharge shall not produce objectionable odor, color, taste, or turbidity.
5. The discharge shall not contain pollutants in concentrations or combinations or cause alterations that impair the existing uses of the receiving water, or interfere with the attainment of designated uses in the receiving water or downstream and adjacent waterbody segments.
6. The discharge shall not contain pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.
7. The Permittee shall properly operate and maintain the pollution control equipment.
8. The Permittee shall implement preventative maintenance procedures for the pollution control equipment.
9. The Permittee shall implement procedures and maintenance schedule for removal and disposal of solids and/or sludge.
10. The permittee shall not use fungicides or slimicides containing trichlorophenol or pentachlorophenol.
11. Any intake water that is used solely for cooling purposes shall not be directly returned to the receiving water.
12. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 C.F.R. §122.42):
  - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
    - i. 100 micrograms per liter ( $\mu\text{g}/\text{L}$ );
    - ii. 200  $\mu\text{g}/\text{L}$  for acrolein and acrylonitrile; 500  $\mu\text{g}/\text{L}$  for 2,4-dinitrophenol; and one milligram per liter ( $\text{mg}/\text{L}$ ) for antimony;
    - iii. Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

- iv. Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f) and Massachusetts regulations.
    - b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
      - i. 500 µg/L;
      - ii. One mg/L for antimony;
      - iii. 10 times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
      - iv. Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f) and Massachusetts regulations.
13. This permit may be modified in accordance with 40 C.F.R. Section 122.62(a)(3) if the standards or regulations on which the permit is based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit is issued in accordance with 40 C.F.R. Section 122.62(a)(3).

## B. SPECIAL CONDITIONS

### 1. Best Management Practices (BMP) Plan

The permittee shall continue to implement and maintain a Best Management Practices (BMP) Plan designed to reduce or prevent the discharge of pollutants in process water to waters of the United States. The BMP Plan shall be a written document that is consistent with the terms of the permit and identifies and describes the BMPs employed by the facility in operating process water controls.

**Within six months following the effective date of the permit**, the Permittee shall update and certify that the BMP Plan meets the requirements of this permit, and that it reduces the pollutants discharged in process water to the extent practicable. The BMP Plan and certification shall be signed in accordance with the requirements identified in 40 C.F.R. §122.22. A copy of the BMP Plan and certification shall be maintained at the Permittee’s facility and made available to EPA and MassDEP upon request.

The permittee shall amend and update the BMP Plan **within thirty (30) days** for any changes at the facility affecting the BMP Plan. Such changes may include, but are not limited to, changes in the design, construction, operation, or maintenance of the facility, which have a significant effect on the potential for the discharge of pollutants to the waters of the United States. The amended BMP Plan shall be certified as described above.

The permittee shall certify at least annually that the facility is in compliance with the requirements of the BMP Plan. If the facility is not in compliance with any aspect of the

BMP Plan, the annual certification shall state the noncompliance (e.g., a selected BMP is not achieving the control necessary to meet a numeric or non-numeric effluent limitation) and the actions which were undertaken to remedy such noncompliance (e.g., the selection, design and implementation of an alternate BMP). Such annual certifications shall be signed, maintained at the facility, and made available to EPA and MassDEP as described above.

The BMP Plan shall include, at a minimum, the following items:

- a. Selection, design, installation, implementation and maintenance of control measures necessary to meet the effluent limitations in this permit, including the non-numeric limitations and conditions in Part I.A. Any control measures shall be used in accordance with good engineering practices and manufacturer's specifications.
- b. A description of the pollution control equipment and procedures used to minimize the discharge of suspended solids, floating solids, foam/scum/debris, visible oil sheen, and settleable solids to surface waters.
- c. Preventative maintenance procedures for the pollution control equipment.
- d. Procedures for handling facility wastes, including schedules for removal, handling and disposal of materials, a description of where solids removed from the pollution control equipment or appurtenances, including sludge, are stored and/or disposed of, and the control measures used to prevent the removed solids from reentering the receiving water. If facility wastes are removed from the site, describe the destination and the method of disposal and/or reuse.
- e. A record of the following information for all chemicals and additives used at the facility, including all chemicals used in the treatment processes at the facility (flocculation, clarification, filtration, and disinfection), and for control of biological growth, and corrosion and scale in water pipes:
  - i. Product name, chemical formula, and manufacturer of the additive;
  - ii. Purpose or use of the additive;
  - iii. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each additive;
  - iv. The frequency (e.g., hourly, daily), duration (e.g., hours, days), quantity (e.g., maximum and average), and method of application for the additive; and
  - v. The vendor's reported aquatic toxicity, when available (NOAEL and/or LC50 in percent for aquatic organism(s)).
- f. A description of the training to be provided for employees to assure they understand the goals, objectives, and procedures of the BMP Plan, the requirements of the NPDES Permit, and their individual responsibilities for complying with the goals and objectives of the BMP Plan and the NPDES permit.

g. Minimum documentation requirements are as follows:

- i. Records of operational and preventive maintenance activities, equipment inspections, procedure audits, and personnel training;
- ii. Records of the collection and analysis of samples, including, but not limited to, sample location, any calculations done at the time of sampling, any sampling or analytical methods used for samples analyzed on site, and sample results; and
- iii. All documentation of BMP Plan activities shall be kept at the facility and provided to EPA or MassDEP upon request.

## 2. Treatment Plant Optimization for Nitrogen

The permittee shall complete an evaluation of alternative methods of operating its existing wastewater treatment facility to optimize the removal of nitrogen, and submit a report to EPA and MassDEP documenting this evaluation. This report shall present a description of recommended operational changes within one (1) year of the effective date of the permit. The permittee shall implement the recommended operational changes in order to maintain the existing mass discharge loading of total nitrogen, which will be measured as an annual average. The annual average total nitrogen load from this facility (for the period of March 2011 – March 2016) is estimated to be 67.3 lbs/day. The permittee shall submit an annual report due by January 15<sup>th</sup> of each year and submitted with the December DMR that summarizes activities related to optimizing the effectiveness of nitrogen removal methods. The report shall also include documentation of the annual nitrogen discharge load from the facility and how that load compares to previous years.

## 3. Whole Effluent Toxicity (WET) Testing Reduction

The Permittee may request a reduction in Whole Effluent Toxicity testing requirements by submitting results for a minimum of four (4) consecutive tests, all of which must be valid tests that demonstrate compliance with the WET testing requirements in this permit. Until written notice is received from EPA indicating that the WET testing requirements have been changed, the Permittee is required to continue testing as specified in this permit.

## 4. Compliance Schedule

The Permittee shall have up to three (3) years to comply with the new effluent limits for total copper and seasonal total phosphorus, and the more stringent C-NOEC limit. For the period starting on the effective date of this permit and ending three (3) years after the effective date, the permittee is required to monitor only and report monthly for total copper and total phosphorus for the seasonal period of May through October. After this initial three (3) year period, the permittee shall comply with the monthly average and daily maximum total copper limits of 22 µg/l as well as the seasonal, monthly average total phosphorus limit

of 1.26 mg/l. For the chronic-no observed effect concentration (C-NOEC), the limit of  $\geq 5\%$  will be in effect for the first three (3) years of the permit. After this three (3) year period, the revised limit of  $\geq 7.2\%$  will go into effect.

The permittee shall submit an annual report due by January 15<sup>th</sup> of each of the first three (3) years of the permit which will detail its progress towards meeting the final permit limits for the parameters listed above. This annual report shall be submitted with the December DMR.

### C. REPORTING REQUIREMENTS

The monitoring program in the permit specifies sampling and analysis, which will provide continuous information on compliance and the reliability and effectiveness of the installed pollution abatement equipment. The approved analytical procedures found in 40 C.F.R. Part 136 are required unless other procedures are explicitly required in the permit. The Permittee is obligated to monitor and report sampling results to EPA and the MassDEP within the time frames specified within the permit.

Unless otherwise specified in this permit, the permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

#### 1. Submittal of DMRs Using NetDMR

The permittee shall continue to submit its monthly monitoring data in discharge monitoring reports (DMRs) to EPA and MassDEP no later than the 15<sup>th</sup> day of the month electronically using NetDMR. When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or MassDEP.

#### 2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. Permittees shall continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP. (See Part I.C.5 for more information on state reporting.) Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15<sup>th</sup> day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR with the next DMR due following the particular report due date specified in this permit.

#### 3. Submittal of Requests and Reports to EPA/OEP

The following requests, reports, and information described in this permit shall be submitted to the EPA/OEP NPDES Applications Coordinator in the EPA Office Ecosystem Protection (OEP).

- A. Transfer of permit notice
- B. Request for changes in sampling location

- C. Request for reduction in testing frequency
- D. Request for reduction in WET testing requirement
- E. Report on unacceptable dilution water / request for alternative dilution water for WET testing
- F. Notification of proposal to add or replace chemicals additives and bio-remedial agents including microbes
- G. Evaluation of Alternative Methods for Nitrogen Removal Report
- H. Annual Nitrogen Removal Optimization Reports
- I. Annual Compliance Schedule Reports for Copper, Phosphorus, and WET

These reports, information, and requests shall be submitted to EPA/OEP electronically at [R1NPDES.Notices.OEP@epa.gov](mailto:R1NPDES.Notices.OEP@epa.gov) or by hard copy mail to the following address:

**U.S. Environmental Protection Agency  
Office of Ecosystem Protection  
EPA/OEP NPDES Applications Coordinator  
5 Post Office Square - Suite 100 (OEP06-03)  
Boston, MA 02109-3912**

4. Submittal of Reports in Hard Copy Form

The following notifications and reports shall be submitted as hard copy with a cover letter describing the submission. These reports shall be signed and dated originals submitted to EPA.

- A. Written notifications required under Part II
- B. Notice of unauthorized discharges

This information shall be submitted to EPA/OES at the following address:

**U.S. Environmental Protection Agency  
Office of Environmental Stewardship (OES)  
Water Technical Unit  
5 Post Office Square, Suite 100 (OES04-SMR)  
Boston, MA 02109-3912**

5. State Reporting

Transfer or termination of permit notices shall be submitted to:

**MassDEP  
Bureau of Water Resources  
Wastewater Management Program  
1 Winter Street, 5<sup>th</sup> Floor  
Boston, MA 02108**



Unless otherwise specified in this permit, duplicate signed copies of all reports, information, requests or notifications described in this permit, including the reports, information, requests or notifications described in Parts I.C.3 and I.C.4 shall also be submitted to the State at the following addresses:

**MassDEP – Western Region  
Bureau of Water Resources  
436 Dwight Street, Suite 402  
Springfield, MA 01103**

Except that, copies of toxicity tests and annual nitrogen optimization reports shall be submitted to:

**Massachusetts Department of Environmental Protection  
Watershed Planning Program  
8 New Bond Street  
Worcester, Massachusetts 01606**

#### 6. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to both EPA and to MassDEP. This includes verbal reports and notifications which require reporting within 24 hours. (As examples, see Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.) Verbal reports and verbal notifications shall be made to EPA's Office of Environmental Stewardship at: **617-918-1510**

#### **D. STATE PERMIT CONDITIONS**

1. This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§26-53, and 314 C.M.R. 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 C.M.R. 3.19, are hereby incorporated by reference into this state surface water discharge permit.

2. This authorization also incorporates the state water quality certification issued by MassDEP under §401(a) of the Federal Clean Water Act, 40 CFR 124.53, M.G.L. c. 21, §27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.

3. Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

**Response to Public Comments**  
**Reissuance of NPDES Permit No. MA0003697**

Barnhardt Manufacturing Company  
247 Main Road  
Colrain, MA 01340

The U.S. Environmental Protection Agency's New England Region (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) are issuing a Final National Pollutant Discharge Elimination System (NPDES) Permit for Barnhardt Manufacturing Company (BMC or the "Permittee") located in Colrain, Massachusetts. This permit is being issued under the Federal Clean Water Act (CWA), 33 U.S.C., §§ 1251 et. seq., and the Massachusetts Clean Water Act, M.G.L. Ch. 21, §§ 26-35.

In accordance with the provisions of 40 CFR §124.17, this document presents EPA's responses to comments (RTC) received on the Draft NPDES Permit, #MA0003697, issued for BMC. The RTC explains and supports EPA's determinations that form the basis of the Final Permit. From February 17, 2017 through March 18, 2017, EPA and MassDEP (together, the "Agencies") solicited public comments on the Draft Permit, which was developed to regulate the discharge of treated process wastewater and sanitary wastewater from outfall serial number 001 to the North River in Colrain, Massachusetts.

Although EPA's decision-making process has benefitted from the comments submitted, the information and arguments presented did not raise any substantial new questions concerning the permit. The Final Permit is substantially identical to the Draft Permit that was available for public comment, with the exception of the compliance schedule discussed below.

The Final Permit includes a three (3) year compliance schedule to allow for the Permittee to come into compliance with certain new and revised permit limits. The addition of the compliance period was granted in consideration of the comments submitted by the Permittee requesting such a schedule. This is not considered a change warranting the Agencies to exercise their discretion to reopen the public comment period under 40 C.F.R. § 124.14(b).

As discussed in more detail below, the compliance schedule is included in Part I.B.4 of the Final Permit and requires that the Permittee monitor, for the first three years of the permit term, total copper and total phosphorus with no effluent limit. In addition, for the first three years, the C-NOEC limit reflects the limit from the prior permit. These interim requirements are noted in footnote 9 on page 6 of the Final Permit.

Copies of the Final Permit may be obtained by writing or calling George Papadopoulos of EPA's Industrial Permits Branch (OEP 06-1), Office of Ecosystem Protection, 5 Post Office Square, Suite 100, Boston, MA 02109-3912; Telephone: (617) 918-1579.

**Comments submitted by Gregory Morand of the Omni Environmental Group, on behalf of the Permittee:**

**Comment 1:**

Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, the limit for pH is listed as 6.5 to 9.0 standard units (SU) and is consistent with historical requirements and facility performance. However, footnote 6 of said part states the pH shall "not be more than 0.5 standard units outside the naturally occurring range."

It is unclear how the "naturally occurring range" is defined or to be determined under the draft document. This requirement is viewed to be overly restrictive and burdensome to facility operations. BMC hereby requests that pH requirement remain at 6.5 to 9.0 SU and that foot note 6 be removed from the finalized Permit.

**Response to Comment 1:**

EPA acknowledges the Permittee's comment. However, the footnote remains in the Final Permit because this language reflects the Massachusetts Surface Water Quality Standards (MA SWQS) for pH. In situations when the effluent pH is outside of the permitted range of 6.5 to 9.0 S.U., the Permittee may conduct upstream sampling of the receiving water to provide evidence that a change in pH is not due to the facility's discharge.

**Comment 2:**

Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, the sulfide limit of 1.0 lbs/day (average monthly) and 2.0 lbs/day (maximum daily) is based on anti-backsliding requirements and is much more restrictive than the ELG limit 10.3/20.6 lbs/day. According to the Fact Sheet, these limits were established in 1983 based on an effluent analysis. Historical data has reported values as high as 18 lbs/day, in violation of the limit.

Based on process changes that have occurred at the facility since 1984 and historical data cited in the draft permit Fact Sheet, BMC requests that the ELG limits for sulfide (10.3/20.6 lbs/day) be amended to the finalized Permit.

**Response to Comment 2:**

As explained in the fact sheet accompanying the Draft Permit, the effluent limits for sulfide, although more stringent than the technology based effluent guideline limits (TBELs), were based on a prior permit and have been retained due to the anti-backsliding provisions at 40 C.F.R. §122.44(l)(1). These provisions state "interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or

revocation and reissuance under §122.62.)” Therefore, the limits for sulfide have been retained in the Final Permit since there are no circumstances that have materially and substantially changed since the last permit to warrant a change to these limits.

**Comment 3:**

Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, a total copper limit of 22 ug/L is proposed. The current permit for the facility does not have a limit and requires monitoring and reporting. Reported values show concentrations in excess of the proposed limit and as high as 173 ug/L. It is recognized that copper readily forms complexes with organics, including naturally occurring organic compounds, which are less toxic than free copper and copper monohydroxide. In textile effluents, copper is typically complexed in dyes and finishes and demonstrates lower toxicity than would be predicted using the hardness-based water quality criteria equations. In addition, copper tends to adsorb onto solids, further reducing its toxicity.

Due to the complexation and adsorption of copper, approaches have been developed to determine facility-specific limits for copper. These include use of translators to convert total recoverable copper to soluble copper, water effect ratio studies, and the use of the Biotic Ligand Model (BLM). USEPA guidance documents currently recommends the use of the BLM for developing water quality criteria for copper. Input parameters for the BLM include temperature, pH, dissolved organic carbon (DOC), calcium, magnesium, sodium, potassium, dissolved inorganic carbon (DIC), chloride and sulfate. The objective of the BLM is to provide a better predictor of copper concentrations in toxic forms on a site specific bases and to reduce the need for more costly and time consuming water effect ratio studies.

Historical data indicates that the BMC facility has not been able to consistently comply with the proposed copper limit and current recommendations provided by USEPA recommend the use of the BLM for development of water quality criteria for copper. As such, BMC hereby requests a minimum three (3) year compliance schedule be established under the finalized Permit to allow for the collection of salient and representative data and studies (i.e. water effect ratio studies) facilitating the development of the BLM; to establish an appropriate copper effluent limit for the facility; and evaluate suitable means and methods for compliance. These include an evaluation of manufacturing process changes that may reduce the concentration of copper in the effluent as well as the design, construction and start-up of treatment operations at the facility, if required. During such time, BMC requests that the requirements of the current Permit should remain in effect.

**Response to Comment 3:**

The Massachusetts regulations at 314 C.M.R. 4.03(1)(b) (Compliance Schedules) provide that “[a] permit may, when appropriate, specify a schedule leading to compliance with the Massachusetts and Federal Clean Water Acts and regulations.” Accordingly, EPA and

MassDEP may include a schedule of compliance in a permit at the time of permit reissuance or modification where the permittee cannot immediately comply with such permit requirements. A schedule of compliance must require compliance at the earliest practicable time and include dates for specified tasks or activities leading to compliance. *See* 40 C.F.R. §122.47.

Based on prior monitoring EPA acknowledges that, upon the effective date of the permit, the new effluent copper limits may not be able to be complied with consistently. EPA also acknowledges BMC's intention to pursue a site-specific water quality standard for copper. Therefore, as requested by the Permittee, the Final Permit allows for a compliance period of three (3) years for the Permittee to come into compliance with the new copper limits. From the effective date of the permit through three (3) full years, there will be a monitor only requirement for total copper at a monthly frequency.

Compliance schedules that are longer than one (1) year in duration must include interim requirements and dates for their achievement. *See* 40 C.F.R. §122.47(a)(3). Thus, the Final Permit requires an annual report be submitted by the Permittee to the Agencies by January 15<sup>th</sup> which provide a description of the Permittee's efforts and progress towards meeting the Final Permit limits for copper.

**Comment 4:**

Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, the proposed total phosphorous limit for the months of May through October is 1.26 mg/L. Historical facility discharge concentrations have ranged from 0.1 to 21 mg/L and averaged 3.1 mg/L.

Historical data indicates that the BMC facility has not been able to consistently comply with the proposed total phosphorus limit. Similar to the above, BMC hereby requests a minimum three (3) year compliance schedule be established under the finalized Permit to allow for the evaluation of suitable alternatives for total phosphorous reduction (including how it may relate to other facility process changes proposed herein), and if needed, to design, construct and start-up treatment operations at the facility. During such time, BMC requests that the requirements of the current Permit should remain in effect.

**Response to Comment 4:**

The Agencies acknowledge that the Permittee may not be able to consistently comply with the new effluent phosphorus limit and that treatability and process modification options need to be evaluated. Therefore, as requested by the Permittee, the Final Permit allows for a compliance period of three (3) years to come into compliance with the new, monthly average phosphorus limit, which will apply seasonally from May through October. From the effective date of the permit through three (3) full years, there will be a monthly, monitor only requirement for total phosphorus for the period of May through October.

See the response to Comment 3 above for a discussion of the regulatory basis for this compliance schedule.

As indicated above for copper, compliance schedules that are longer than one year in duration must include interim requirements and dates for their achievement. *See* 40 C.F.R. §122.47(a)(3). Thus, the Final Permit requires an annual report be submitted by the Permittee to the Agencies by January 15th. The reports must provide a description of the Permittee's efforts and progress towards meeting the Final Permit limits for phosphorus.

**Comment 5:**

Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, e-coli testing is listed at a sample frequency of 1/week.

Historical facility effluent concentrations for 2016 demonstrated eight (8) or more successive monitoring events below current *E. Coli* permit effluent limitations. As such, BMC hereby requests a reduction in *E. Coli* sampling frequency to 1/month under the finalized Permit.

**Response to Comment 5:**

The Final Permit has retained the draft (and current) permit's weekly monitoring frequency for *E. Coli*. The influent wastewater contains domestic wastewater and the results of the previous 5 years of *E. Coli* data were often variable. Weekly sampling reflects the inclusion of domestic wastewater and can serve to more quickly alert plant personnel of elevated levels of *E. Coli* that could be investigated and responded to expeditiously.

**Comment 6:**

Under Part 1 B. Special Conditions Item 2 of the draft permit, an annual total nitrogen (TN) limit of 67.3 lbs/day is proposed. This would require an average TN concentration of 19.7 mg/L at an average flow of 0.41 MGD. Data were presented in the draft permit fact sheet showing that the average TN concentration between March 2011 and March 2016 was 19.7 mg/1.

Furthermore, the Fact Sheet of the draft permit requires that a study be performed to optimize removal of nitrogen and that the results be presented within one (1) year. It also requires that recommended changes resulting from the study be implemented to maintain compliance with the 67.3 lbs/day annual limit.

While the fact sheet indicates TN average between March 2011 and March 2016 was 19.7 mg/1, BMC notes that the average TN concentrations for the facility in 2015 and

2016 were 25.4 and 22.3 mg/L, respectively. Thus, depending of flows, the most recent facility performance data indicates that the facility may not be in compliance with the proposed annual limit. It is further noted that the 2015 TN average (~86 lbs/day) would have exceeded the proposed limit.

Similar to the above, BMC hereby requests a minimum three (3) year compliance schedule be established under the finalized Permit to allow for the evaluation of suitable alternatives for nitrogen reduction (including how it may relate to other facility process changes proposed herein), implementation of suitable measures and demonstration of compliance. During such time, BMC requests that the requirements of the current Permit should remain in effect.

**Response to Comment 6:**

Part I.B.2 of the Draft Permit requires the Permittee to optimize its treatment plant for the removal of total nitrogen, in order to maintain the existing mass discharge loading of total nitrogen, which was estimated at 67.3 lbs/day. The 2010 permit required the Permittee to submit a plan for nitrogen optimization within one (1) year of the permit's effective date as well as an annual report summarizing activities related to this optimization effort.

EPA could not locate any submittals from the Permittee regarding the consideration of alternative methods of treatment to reduce nitrogen loading from the facility as required by the 2010 permit. In an email dated May 25, 2016, the Permittee noted that it could not find any documented studies regarding improved nitrogen removal at the facility. The Permittee also said that the aeration system was in a state of deterioration between 2013 through 2015 and concluded that odor control issues were a greater concern during that time period. The aeration system was replaced in 2015. The Permittee has noted that operations since the replacement of the aeration system have resulted in improved settleability of solids and reduced nitrogen loading in the effluent.

Although the Permittee requested a three (3) year compliance period to comply with the nitrogen requirements of the Final Permit, this compliance period will not be granted. The requirement for the Permittee to take measures to optimize its treatment plant for the removal of nitrogen has been effect since the issuance of the 2010 permit. Further, the total nitrogen load target is the estimated existing annual average mass loading of total nitrogen discharged from the facility, so modification to the treatment facilities, operations, or other measures should be minimal, or, if necessary, should not take long to implement. Therefore, the Final Permit has retained the requirement in Part I.B.2 for the Permittee to evaluate alternative operations to optimize the removal of nitrogen in order to maintain the existing discharge annual average mass loading, which is estimated to be 67.3 lbs/day. The derivation of this value is explained in the Fact Sheet. This condition goes into effect upon the effective date of the Final Permit.

In conjunction with this limit, the Permittee is required to submit a report to the Agencies within one (1) year of the effective date of the permit presenting a description of recommended operational changes regarding its nitrogen optimization efforts as well as an annual report due each January 15<sup>th</sup> which summarizes activities related to optimizing



nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous year.

Further, as mentioned in the Fact Sheet, EPA is currently developing a downstream total nitrogen threshold and associated waste load allocation to ensure that total nitrogen loading from the Connecticut River watershed does not cause or contribute to eutrophication related impairments in the Connecticut River estuary of Long Island Sound (LIS). This waste load allocation may result in the establishment of water quality based total nitrogen limits for individual point source discharges in the Connecticut River watershed. In the interim, permittees are required to optimize the operation of their treatment plants for nitrogen removal. See the following webpage for further information regarding EPA's strategy for the LIS estuary.

[https://www.epa.gov/sites/production/files/2015-09/documents/2009\\_05\\_28\\_estuaries\\_inaction\\_effective\\_longisland.pdf](https://www.epa.gov/sites/production/files/2015-09/documents/2009_05_28_estuaries_inaction_effective_longisland.pdf)

**Comment 7:**

Under Part I A. Effluent Limitations and Monitoring Requirements of the draft permit, a more stringent chronic toxicity (C-NOEC) limit of greater than or equal to ( $\geq$ ) 7.2% is proposed.

While improvements to the BMC facility have resulted in a higher level of compliance with toxicity standards in recent years, failures have been reported for acute toxicity. In addition, a recent chronic test taken in October 2016 reported a NOEC of 6.5%. In order to avoid future violations of the existing acute toxicity limit and of the proposed chronic limit under the draft permit, BMC hereby requests a minimum three (3) year compliance schedule be established under the finalized Permit to allow for the identification of toxicants, an evaluation of suitable alternatives for toxicity reduction (including how it may relate to other facility process changes proposed herein), identification of corrective actions, and if needed, to design, construct and start-up treatment operations at the facility. During such time, BMC requests that the requirements of the current Permit should remain in effect.

**Response to Comment 7:**

As pointed out in the fact sheet, the Permittee has experienced ongoing violations with the whole effluent toxicity (WET) testing permit limits and has spent considerable effort to determine the sources of such toxicity. Although the Permittee has managed to reduce its frequency of WET permit violations, it has not eliminated them. Therefore, to provide additional time to evaluate treatability, source reduction, and other measures to reduce the toxicity of its effluent, the final permit allows for a compliance schedule of up to three (3) years for the Permittee to meet the more stringent C-NOEC limit of  $\geq$  7.2%. For the first three (3) years of the permit term, the C-NOEC limit of  $\geq$  5% will remain in effect, reflecting the limit in the prior permit. See the response to Comment 3 above for a discussion of the regulatory basis for this compliance schedule.

EPA also notes that there were several incorrect values presented in the WET results table of the Fact Sheet (Attachment 4, Page 9). Since the Fact Sheet is a final document and cannot be modified, this RTC document provides a means of correcting and/or clarifying any inconsistencies between the Fact Sheet and the Final Permit. A revised table is attached at the end of this document, with the corrected figures bolded and italicized. This corrected information is not attributable to any changes to the Final Permit from the Draft Permit.

As indicated above for copper and phosphorus, compliance schedules that are longer than one year in duration must include interim requirements and dates for their achievement. See 40 C.F.R. §122.47(a)(3). Thus, the Final Permit requires an annual report be submitted by the Permittee to the Agencies by January 15th. The reports must provide a description of the Permittee's efforts and progress towards meeting the Final Permit limits for WET.

**Comment 8:**

For those parameters identified above, BMC requests a compliance schedule to allow evaluation of alternatives that will achieve compliance, and for the design, construction and start-up of any facilities required. BMC would welcome an opportunity to discuss the draft permit and requests presented herein in a meeting at the facility with USEPA and MassDEP.

**Response to Comment 8:**

As EPA and MassDEP have allowed for a three (3) year compliance period during which it can be determined how to achieve compliance with these new or revised permit limits for total copper, total phosphorus, and chronic NOEC, it was deemed not necessary to convene a meeting to discuss these matters at this time.

**Comments submitted by Andrea Donlon of the Connecticut River Watershed Council:**

**Comment 1:**

The protection of existing uses is required under 40 CFR 131.12(a)(1). The North River is used for fishing, swimming, and possibly occasional agricultural irrigation. Trout are stocked in the North River and the West Branch of the North River in Colrain by the MA Department of Fish and Game (<http://www.mass.gov/eea/agencies/dfg/dfw/hunting-fishing-wildlife-watching/fishing/ct-valley-district-waters.html>).

**Response to Comment 1:**

EPA acknowledges the comment and notes these facts for the record.

**Comment 2:**

CRWC supports EPA's rationale to strengthen the permit limits for flow, BOD, TSS, and COD. We also support the new permit limits for total phosphorus and total copper.

**Response to Comment 2:**

EPA acknowledges the comment. The new permit limits for total phosphorus and total copper have been retained in the Final Permit. As noted above, the Permittee has requested and has been granted a three (3) year compliance schedule during which it can determine how it will meet the new permit limits for total copper and total phosphorus. After three years, the Permittee must meet the Final Permit limits for phosphorus and copper.

**Comment 3:**

CRWC notes the change from quarterly to annual testing of total chromium. Footnote 3 to Part I.A of the permit indicates the annual test is to occur in May. According to Attachment 4 of the Fact Sheet, Barnhardt has been sampling in January of each year since 2014. This would be a change to May. Looking at the years when sampling was more frequent, it appears January tends to be a lower month for chromium than other months, and so CRWC is supportive of a change to annual sampling in May.

**Response to Comment 3:**

EPA acknowledges the comment and also notes that the sampling month was changed from January to May. In addition to the reason provided by the commenter, it is preferable to avoid sampling in the winter due to icing conditions that are often difficult and/or dangerous.

**Comment 4:**

The existing permit required the permittee to complete an evaluation of alternative methods of operating the existing wastewater treatment facility to optimize the removal of nitrogen, and submit a report to EPA and MassDEP within one year of the effective date of the permit. The report was to present recommended operational changes and an annual report was required to summarize activities related to optimizing nitrogen. At that time (2010), the annual total nitrogen load was estimated to be 66 lbs/day. The draft permit requires a similar evaluation of nitrogen removal options. Now, the annual average total nitrogen load is estimated to be 67.3 lbs/day, higher than seven years ago. The Fact Sheet gives no indication of the previous nitrogen optimization efforts resulting from the existing permit requirements, but clearly either the efforts were not done or were ineffective. CRWC does not agree with the draft permit allowing the increased annual total nitrogen load. The effective limit should be the 66 lbs/day of the existing permit.

**Response to Comment 4:**

As mentioned in the response to Permittee's Comment 6 above, EPA could not locate any submittals from the Permittee regarding the consideration of alternative methods of treatment to reduce nitrogen loading from the facility as required by the 2010 permit. The mass loading figure of 67.3 lbs/day was used in this permit to reflect the more recent timeframe of facility operations.

**Comment 5:**

Section I.B of the permit describes special conditions of the permit, including a best management practices (BMP) plan. CRWC recommends that the BMP Plan include some of the language from the 2010 permit, requiring the permittee to develop and implement BMPs to reduce or eliminate the toxicity of the discharge. As the Fact Sheet in section O explains, there have been eight violations of the LC<sub>50</sub> limit, and the permittee has not yet completely identified the source of the toxicity, although they have managed to reduce its use of several process chemicals.

**Response to Comment 5:**

As noted in the Fact Sheet, the Permittee has made considerable efforts to determine the cause of toxicity in its effluent. Although process and chemical changes have reduced the resulting violations of WETT permit limits, there is still occasional toxicity exhibited in the effluent. See Section V.O. of the Fact Sheet for a discussion of measures the Permittee has taken to reduce the toxicity of its effluent. As part of a three (3) year compliance schedule, the Final Permit allows time for the Permittee to meet the more stringent C-NOEC limit of > 7.2%. The Permittee has noted in its comments that it plans to evaluate other options to decrease the toxicity of its effluent and come into compliance with the more stringent C-NOEC limit. The compliance schedule, found in Part I.B.4 of the Final Permit, requires the Permittee to provide annual reports during the first three (3) years of the permit term that describe efforts it has undertaken progressing towards meeting the revised C-NOEC limit of  $\geq 7.2\%$ .

**Comment 6:**

The Flow Balance provided in Attachment 2 of the Fact Sheet indicates that the town sewer flow is not routed to the wastewater treatment plant at the facility. Instead, the town sewer goes to wet wells, screens, and then lagoons. Perhaps that is the reason why E. coli levels have spiked high, as opposed to turtles congregating in the lagoons.

**Response to Comment 6:**

The commenter is correct. However, what is not shown in Attachment 2, is that the sewerage received by the Permittee undergoes screening, disinfection, and sludge removal processes prior to being mixed in with the process wastewater flows that are routed to the treatment lagoons, followed by clarifiers. The Permittee has been treating for bacteria effectively with sodium hydroxide and has generally been in compliance with the *E. Coli* limits, with the exception of those instances mentioned in the Fact Sheet, where the Permittee believes that high levels of effluent bacteria were attributable to turtles that were nesting in its lagoon system.

**Comment 7:**

Given that MassDEP cooperates in the development of draft NPDES permits (see the public notice on the first page), CRWC is surprised the Fact Sheet cited data and an assessment for the North River from the 2000 Deerfield water quality assessment and nothing else. Even though DEP has not updated its water quality assessment reports, CRWC has been told in meetings that the DEP has a database of more recent sampling rounds that have been quality checked. It is sad that the DEP is not able to supply EPA with data/assessments more recent than from samples collected 17 years ago.

**Response to Comment 7:**

The commenter is correct that MassDEP has collected more recent data on the North River. EPA and MassDEP have evaluated the more recent data since the time the Draft Permit was developed. Chemical and biological samples from the North River were collected in 2005 and 2012 between May and September. These data have been validated by the MassDEP Division of Watershed Management Watershed Planning Program. Both of the sampling locations were downstream of the facility outfall.

The *E. Coli* results for 2005 ranged from 26 to 770 colony forming units (CFU)/100mL with an average of 335 CFU/100mL; and the results for 2012 ranged from 40 to 816 MPN/100 mL with an average of 264 most probable number (MPN)/100 mL. The results of total nitrogen and total phosphorus for 2012 ranged from 0.25-0.49 mg/L and 0.012-0.054 mg/L, respectively. Given that the permit already contains limits for *E. Coli* and phosphorus that are consistent with Massachusetts Surface Water Quality Standards, consideration of these more recent data does not warrant any changes to the Final Permit.

**Comment 8:**

According to section IV of the Fact Sheet, process water used at the facility is withdrawn from the North River and run through filters prior to use. As stated in the Fact Sheet, the intake is not a cooling water intake structure, which would subject the Permittee to the requirements of the CWA 316(b) Rule. Nevertheless, are there any requirements related to entraining or impinging fish or other aquatic organisms?

**Response to Comment 8:**

As noted in Section IV of the Fact Sheet, all cooling water used at the facility is recycled back into the process water stream. Barnhardt is prohibited from using any intake water from the North River solely for cooling purposes and discharging it directly back into the river. Any such use of intake water would subject the Permittee to the requirements of the CWA 316(b) Rule. Since this intake is not considered a cooling water intake structure (CWIS), this Permittee is not subject to the CWA §316(b) regulations pertaining to CWISs.

August 25, 2017

**Correction to WET Results from DMR Attachment to Fact Sheet**

Barnhardt Manufacturing Co. - MA0003697 Outfall Serial Number 001 Whole Effluent Toxicity (WET) Testing Chemical Analysis Results						
WET Testing Month	LC50	C-NOEC	Hardness	Total Ammonia Nitrogen	Total Residual Chlorine	Total Cadmium
	%	%	mg/l CaCO <sub>3</sub>	mg/l	mg/l	mg/l
Jan-11	<del>66</del> <b>72.2</b>	12.5	92.7	1.2	<0.02	0.001
Apr-11	<del>400</del> <b>65.9</b>	12.5	45.4	0.69	0.1	0.0004
Jul-11	100	5	62	0.2	0.2	0.004
Oct-11	>100	12.5	93	1.05	<0.02	0.0007
Jan-12	<del>---</del> <b>&gt;100</b>	<del>25</del> <b>5</b>	65.4	0.95	<0.02	0.0005
Apr-12	>100	<del>25</del> <b>12.5</b>	100	7.6	<0.02	0.0007
Jul-12	>100	25	73.4	1.03	<0.02	0.0005
Oct-12	>100	12.5	79.8	0.96	<0.02	0.0005
Jan-13	>100	12.5	52.9	0.47	<0.02	0.0002
Apr-13	>100	<del>400</del> <b>6.25</b>	76	1.64	<0.02	0.0003
Jul-13	8.8	5	97.9	2.1	<0.02	0.0006
Oct-13	21.8	12.5	75.6	1.4	<0.02	0.0006
Jan-14	>100	<del>12.5</del> <b>6.25</b>	80.5	0.61	<0.02	0.0006
Apr-14	61.6	5	108	1.68	<0.02	0.0006
Jul-14	18.95	<del>12.5</del> <b>6.25</b>	68.5	1.05	<0.02	0.0003
Oct-14	70.7	12.5	94.4	0.68	<0.02	0.0002
Jan-15	>100	12.5	56.2	0.97	<0.02	0.0003
Apr-15	>100	25	75.4	0.82	<0.02	0.0004
Jul-15	18.95	12.5	79.9	0.46	<0.02	0.0004
Oct-15	>100	12.5	72.9	0.2	<0.02	0.0004
Jan-16	70.7	12.5	63.6	0.4	<0.02	0.0004
Apr-16	>100	25	60.8	0.28	<0.02	ND
Jul-16	>100	25	79.8	0.23	0.04	ND
2010 Permit Limits	≥ 100%	≥ 5%	Report	Report	Report	Report
Minimum	8.8	5	45.4	0.2	<0.02	<0.0002
Maximum	100	<del>400</del> <b>25</b>	108	7.6	0.2	0.001
Average	79	<del>19</del> <b>12.4</b>	76.2	1.16	0.023	0.0006