



January 7, 2025

US EPA, Region 1  
NCCW GP Processing  
Mail Code: OEP 06-4  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

**RE: Non-Contact Cooling Water- Notice of Intent – MAG250969**

To Whom It May Concern:

Enclosed please find the Notice of Intent for Barrday Composite Solutions for our Non-Contact Cooling Water NPDES permit.

Barrday Composite Solutions operates reactors to facilitate chemical reactions necessary to manufacture phenolic resins. The heat used to produce this reaction requires the use of a closed loop cooling system, installed in December 2008, and replaced with a new system in August 2022. The prior system of using municipal water to cool the reactors remains in place as an emergency system only and has only been used six times in the past five years. All six occurring prior to/during the installation of the new system.

The Notice of Intent is being filed to allow Barrday to discharge in the event of an emergency scenario in which the closed loop cooling system goes offline during manufacturing.

Sincerely,

Jon Edson  
EH&S Specialist

Enclosures: Notice of Intent  
Topographic Map  
Water Flow Diagram  
Calculations Sheet  
Response to Section D, Question 4



6. Current permit coverage:    yes  no

- a) Has a prior NPDES permit (individual or general permit coverage) been granted for the discharge that is listed on the NOI?    yes  no     If Yes, permit number MAG250969
- b) Is the facility covered by an individual NPDES permit for other discharges?    yes  no   
If yes, Permit Number: \_\_\_\_\_
- c) Is there a pending NPDES application on file with EPA for this discharge?    yes  no   
If yes, date of submittal: \_\_\_\_\_ and permit number, if available \_\_\_\_\_

7. Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water.

**B. Map attached?  Discharge Information** (attach additional sheets as needed):

1. Name of receiving water into which discharge will occur: Blackstone River  
 Freshwater  Marine Water ;    State Water Quality Classification Class B  
 Type of Receiving Water Body (e.g., stream, river, lake, reservoir, estuary, etc.) River

2. Attach a line drawing or flow schematic showing water flow through the facility including sources of intake water, operations contributing to flow, treatment units, outfalls, and receiving water(s).

**Line drawing or flow diagram attached?**

3. Describe the discharge activities for which the owner/applicant is seeking coverage (e.g., building cooling, process line cooling, etc.) Non-contact cooling water used to cool reactors in emergency only.

4. Number of Outfalls 1 Latitude and Longitude to the nearest second for each Outfall. See EPA's siting tool at <https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools>. Attach additional pages if necessary.

Outfall # 1	Latitude <u>42.1881</u>	Longitude <u>-71.7474</u>
Outfall #	Latitude _____	Longitude _____
Outfall #	Latitude _____	Longitude _____

5. For each Outfall provide the following discharge information:

Outfall # 1

a) Maximum Daily Flow .025 MGD    Average Monthly Flow .025 MGD  
**NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.**

b) Maximum Daily Temperature 67 °F    Average Monthly Temperature 55 °F

c) Maximum Monthly pH 7.9 s.u.    Minimum Monthly pH 6.8 s.u.

d) Outfall's discharge is:    continuous     intermittent     seasonal

Outfall # \_\_\_\_\_

a) Maximum Daily Flow \_\_\_\_\_ MGD    Average Monthly Flow \_\_\_\_\_ MGD  
**NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.**

b) Maximum Daily Temperature \_\_\_\_\_ °F    Average Monthly Temperature \_\_\_\_\_ °F

c) Maximum Monthly pH \_\_\_\_\_ s.u.    Minimum Monthly pH \_\_\_\_\_ s.u.

d) Outfall's discharge is:    continuous     intermittent     seasonal

Outfall # \_\_\_\_\_

a) Maximum Daily Flow \_\_\_\_\_MGD Average Monthly Flow \_\_\_\_\_MGD

**NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.**

b) Maximum Daily Temperature \_\_\_\_\_°F Average Monthly Temperature \_\_\_\_\_°F

c) Maximum Monthly pH \_\_\_\_\_s.u. Minimum Monthly pH \_\_\_\_\_s.u.

d) Outfall's discharge is: continuous  intermittent  seasonal

6. Is the source of the NCCW potable water? yes  no

If yes, EPA will calculate a Total Residual Chlorine effluent limit for your facility.

7. Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 63 MGD  
Attach any calculation sheets used to support stream flow and/or dilution calculations.

**8. For facilities that discharge to Massachusetts surface waters:**

a) Submit the completed engineering calculation of the surface water temperature rise as shown in Attachment B of the General Permit. Calculation attached?

b) Does the discharge occur in an Area of Critical Environmental Concern (ACEC)? yes  no

If yes, provide the name of ACEC \_\_\_\_\_

c) Does the discharge occur to an Outstanding Resource Water (ORW)? yes  no

If yes, enclose antidegradation waiver approval provided by MassDEP.

**Note: See Appendix 1 of the General Permit for more information on ACEC.**

**C. Chemical Additives**

1. Are any non-toxic neutralization and/or dechlorination chemicals used in the discharge(s)? yes  no

2. If yes, attach a list of each chemical used and include the chemical name and manufacturer; maximum and average daily quantity used on a monthly basis, as well as the maximum and average daily expected concentrations (mg/L) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC<sub>50</sub> in percent for typically acceptable aquatic organism).

3. Was this list submitted with the facility's 2014 NCCWGP NOI? yes  no

**D. NCCW Source Water Information**

1. State the source of the NCCW (e.g., municipal water supply, private well, surface water withdrawal, etc.).

Source Municipal Water Name of Source Water \_\_\_\_\_

2. Is the source water registered/permitted under MA Water Management Act or NHDES User Registration Rule (ENV WQ 2202)? yes  no  If yes, registration number \_\_\_\_\_

3. If the source water is groundwater (non-municipal well water), see Appendix 9 of the General Permit and submit effluent (and receiving water hardness) test results, as required in Part 5.4 of the General Permit.

**Test results attached?**

4. Does the facility use both a primary and backup source of NCCW? yes  no  If yes, **attach information** that identifies and describes the primary and backup sources of NCCW and how often any backup supply was used in the past five years.

**E. Best Technology Available for Cooling Water Intake Structures (CWISs)**

If the facility's non-contact cooling water discharge is covered by this General Permit and the facility **withdraws water from a surface water**, it is subject to the BTA requirements at Part 4.2 of the General Permit.

1. Are you subject to the BTA requirements of the General Permit?      yes       no
- a) If no, explain We don't withdraw water from a surface water. and skip to F.
- b) If yes, submit a facility-specific BTA description that accurately describes the facility's operations and practices, including, but not limited to, the measures described in Part 5.5 of the General Permit. For additional information and guidance, see Section IV of the Fact Sheet.

Include in your description:

- a) Measures to meet the General Permit Part 4.2.1 general BTA requirements, including documentation that describes the facility's monitoring program for impinged fish and/or invertebrates; or the required alternative monitoring plan frequency and/or protocol.
- b) The attributes of the current CWIS.
- c) The design measures of the CWIS.
- d) The operational measures of the CWIS.
- e) The historical occurrence of impinged fish for the past five years.
- f) If applicable, a demonstration that the facility's intake rate is commensurate with a closed-cycle recirculation system.
- g) Other components to reduce impingement and/or entrainment of aquatic life.

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

- a) The design capacity of the of the CWIS \_\_\_\_\_MGD
- b) Maximum monthly average intake of the CWIS during the previous five years \_\_\_\_\_MGD
- c) The month and year in which this flow reported in 2.b. occurred \_\_\_\_\_
- d) The maximum through-screen design intake velocity \_\_\_\_\_feet/second (fps)

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

- a) The source water's annual mean flow in MGD as available from USGS or other appropriate source \_\_\_\_\_MGD
- b) The design intake flow as a % of the source water's annual mean flow \_\_\_\_\_%  
Attach calculations if equal to or less than 5% of annual mean flow.
- c) The source water's 7Q10 \_\_\_\_\_MGD
- d) The design intake flow as a percent of the source water's 7Q10 \_\_\_\_\_%

4. Provide a map showing the location of each cooling water intake structure; NCCW Outfall(s) and CWIS features referred to in the BTA description. **Map attached?**

**F. Endangered Species Act Eligibility Information**

If your facility is listed in Table A as one of the 37 facilities covered under the 2014 NCCW GP, check this box.  Your ESA consultation responsibilities have been satisfied by EPA. Proceed to Part G.

If your facility is not included as one of the 37 facilities covered under the 2014 NCCW GP, complete this Part.

Using the instructions in Appendix 2, Parts B(1) and B(2) of the NCCW GP, which of the following criteria apply to your facility?

United States Fish and Wildlife Service (USFWS) Criteria: A  B  C

National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) Criteria: A  B  C

1. If you selected USFWS criterion B, has consultation with the USFWS been completed? yes  no   
 If you selected NOAA Fisheries criterion B, has consultation with NOAA Fisheries been completed?  
 yes  no
2. If consultation with USFWS and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received?  
 USFWS yes  no  N/A  NOAA Fisheries yes  no  N/A
3. Attach documentation of ESA eligibility for USFWS and NOAA Fisheries as required at Appendix 2, Part C. of the General Permit. **Documentation attached?** USFWS  NOAA Fisheries
4. Please indicate if your facility **directly intakes water for non-contact cooling from, or discharges any NCCW effluent to**, any of the following waterbodies:
  - Merrimack River
  - Connecticut River
  - Westfield River
  - Deerfield River
  - Piscataqua River
  - Salmon Falls River
  - Coheco River
  - Taunton River

EPA will consult with NOAA Fisheries on any cooling water intakes or discharges covered under this permit in areas (in the above waterbodies) that overlap with the presence of shortnose sturgeon (endangered) and Atlantic sturgeon (threatened/endangered).

Please indicate if your facility **directly intakes water for non-contact cooling from, or discharges non-contact cooling water effluent to**, the Connecticut River Watershed. EPA will consult with the U.S Fish and Wildlife Service on cooling water intakes and discharges covered under this permit in areas of the Connecticut River Watershed that overlap with the presence of the dwarf wedgemussel (endangered).  
 yes  no

**G. National Historic Properties Act Eligibility**

1. Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? yes  no
2. Have any State or Tribal Historic Preservation Officers been consulted in this determination? yes  no   
 If yes, attach the results of the consultation(s).
3. Which of the three National Historic Preservation Act scenarios listed in Appendix 3, Section C has the facility met?  
 1  2  3

**H. Supplemental Information**

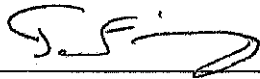
Please provide any supplemental information, including antidegradation review information applicable to new or increased discharges. Attach any analytical data used to support the application. Attach any certification(s) required by the General Permit.

**I. Signature Requirements**

The NOI must be signed by the operator in accordance with the signatory requirements of 40 CFR§ 122.22 (see below) including the following certification:

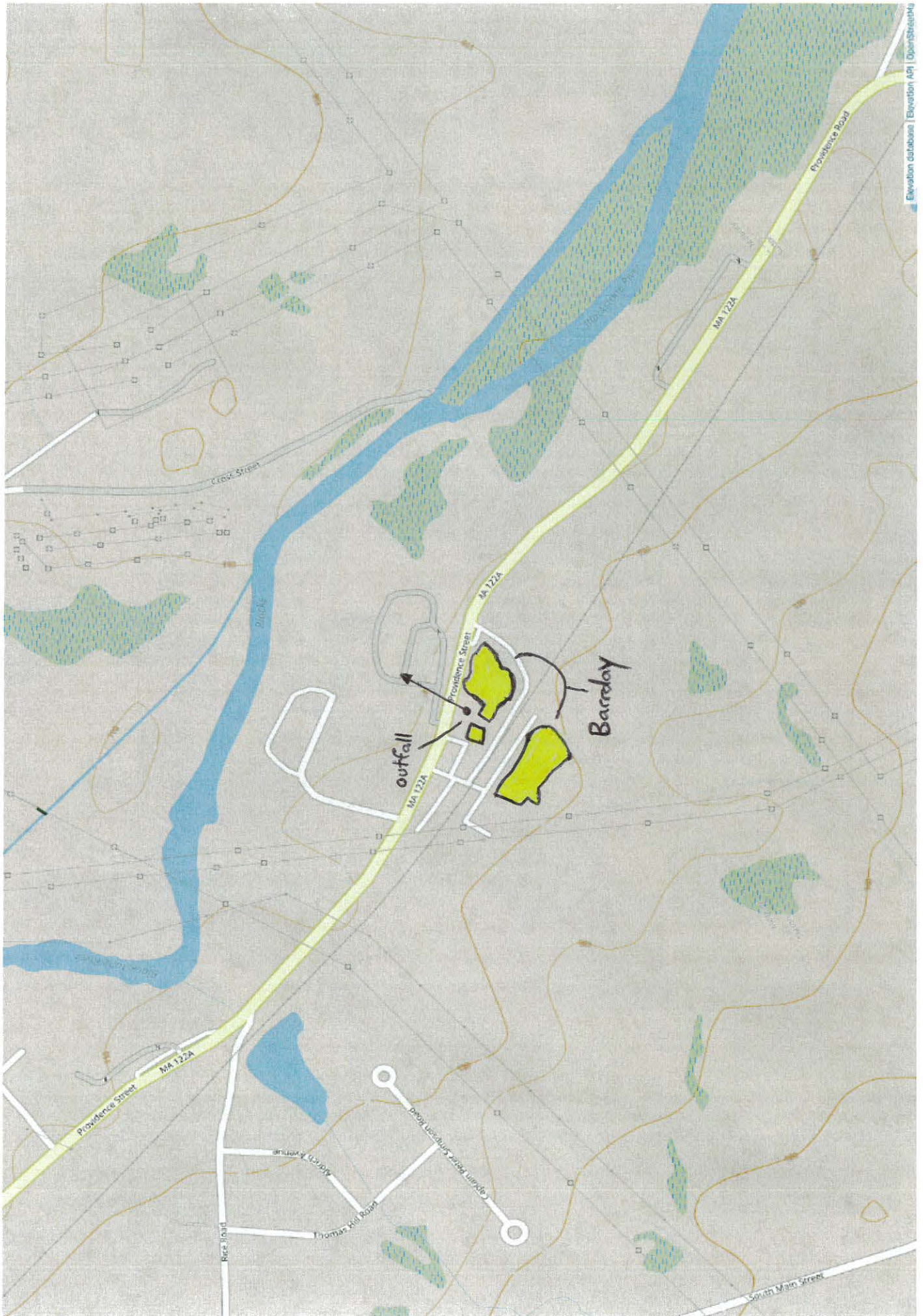
I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the noncontact cooling water (NCCW) system; (2) the discharge consists solely of NCCW (to reduce temperature) and authorized pH adjustment and/or dechlorination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

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

Signature  Date January 8, 2025  
Signer ID: WAXKEWIS613...  
Printed Name and Title Tony Fiorenzini, President

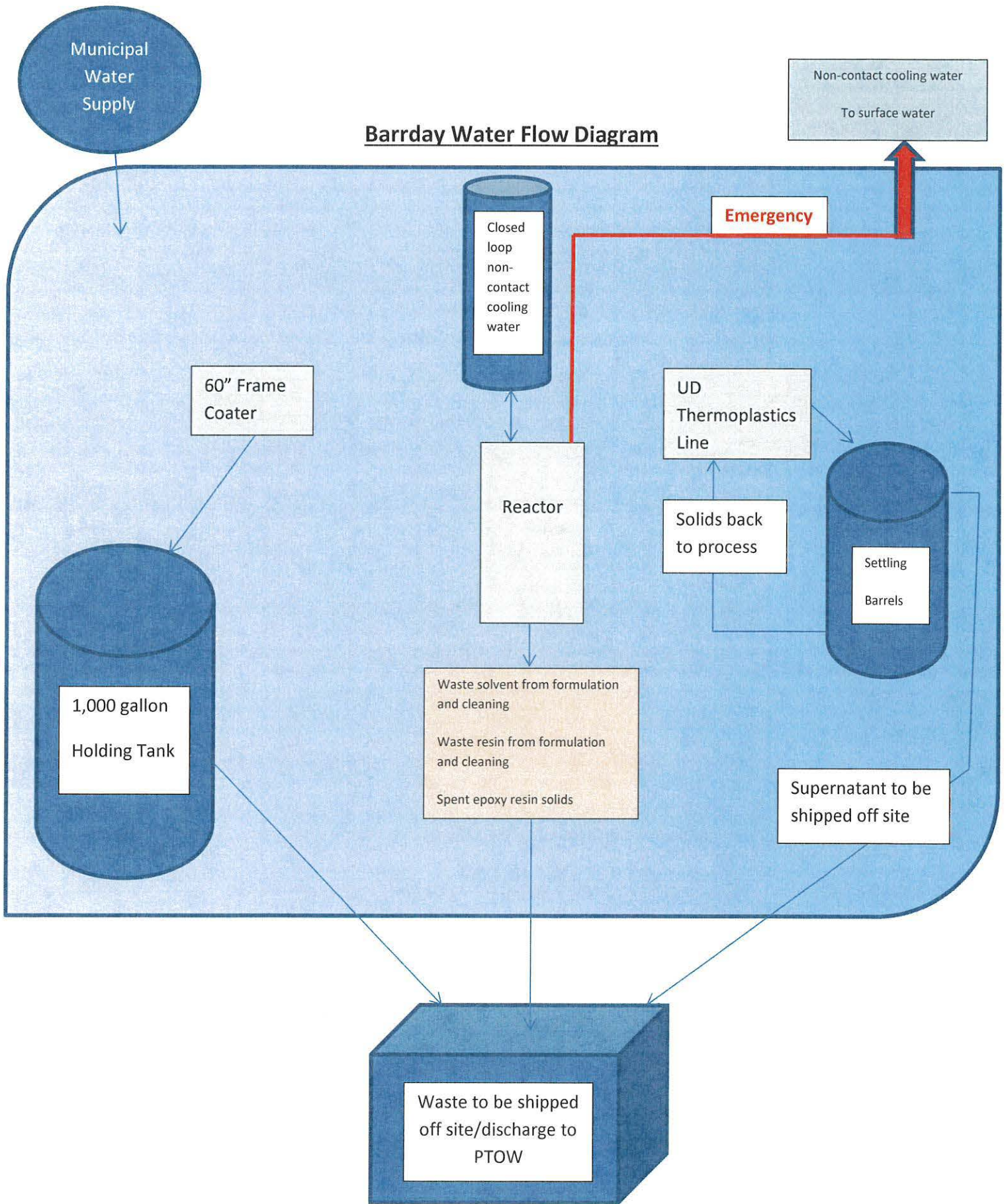
Federal regulations require this application to be signed as follows:

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





# Barrday Water Flow Diagram



Barrday Composite Solutions  
MAG250969

QR 0.025 MGD  
Qr 63 MGD

	Seasonal	Net Change	Temperatures are estimated
Winter Change Temperature	55-40 Degrees	15 F	
Calculation	$(0.025/63)*15$	0.0060	
Summer Change Temperature	70-67 Degrees	3 F	
Calculation	$(.025/63)*3$	0.0060	

DF at 25,000 gpd  
 $(.025+63/.025)$  2520 Average and Max should be the same

TRC 11ug/l\*2520 27720 ug/l  
 19ug/l\*2520 47880 ug/l  
 \*but toxics policy limited to 1mg/l

7Q10 Values

$$P = 100 * (m / (n + 1))$$

where

- P* is the exceedance probability,
- m* is the ranking, from highest to lowest, of all daily mean flows for the specified period of record,
- and
- n* is the total number of daily mean flows.

The flow rate of the Blackstone River (7Q10 vlaue) is 63 million gallons per day (MGD). The maximum recorded flow rate of the NCCW from the facility is 1 MGD. The change in temperature of the NCCW at the facility is approximately 11 degrees F. The input of these values into the above equation results in a  $\Delta tr$  value of  $1.75 \times 10^{-1}$  degree F. This data remains the same as was outlined in our 2015 NOI.

#### **D. NCCW Source Water Information**

**4. Does the facility use both a primary and backup source of NCCW? If yes, attach information that identifies and describes the primary and backup sources of NCCW and how often any backup supply was used in the past five years.**

##### **Barrday Response**

**The primary source of non-contact cooling water is municipal water fed through a closed loop cooling system with no surface water discharge. The only time non-contact cooling water is discharged is when the primary source is unavailable, and cooling is needed for the reaction process to avoid an incident. In the last five years, this emergency source has been used 6 times.**

**2020: 3 times**

**2022: 3 times**