State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Chloride Variance Application

Please find the mailing address for the DNR location nearest you by visiting our website
http://dnr.wi.gov/Contact/SSbyCity.html

Notice: Information requested is required for the Department to determine whether or not to grant a variance under the provisions of sections NR 106.80 through 106.96, Wis. Adm. Code. Failure to provide all of the requested information may result in denial of your application. Personal information collected will be used to administer the watershed program and may be provided to requesters as required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]

Applicant Information

Company Name: Town of Norway Sanitary Dist. #1			Contact Name: P. J. Nolan	
WPDES Permit No.: WI 0031470			Street Address: 6419 Reg Park Road	
Facility Name: Town of Norway Sanitary District #1			City: Wind Lake	State: WI / ZIP Code: 53185
Street Address: 6419 Reg Park Road			Telephone Number (include area code): (262) 895-2400	FAX Number: (262) 895-2480
City: Wind Lake	State: WI	ZIP Code: 53185	E-mail Address: tnsd1@tds.net	
Receiving Water: Waubeesee Drainage Canal				Average Discharge Flow Rate:

Capital Cost

Have you done a study to determine the capital cost of end-of-pipe chloride removal for your facility?

- ○ Yes - Please include the information with this worksheet or mail it with the signature portion of the permit application.
- ⊗ No - Please complete this estimate of relative capital cost:

Chloride Removal Capital Cost:

$1.125 x Annual Average Design Flow (in MGD) X 1,000,000 = $1,800,000.00

Chloride Removal as a Percentage of Annual Capital Cost:

$80,000 → Chloride Removal Capital Cost *(from above)* / Capital Cost of Current Wastewater Facility X 100 = 22.5 %

Operational (O&M) Cost Based on the Cost Estimate

Have you done a study to determine the annual O & M cost of end-of-pipe chloride removal for your facility?

- ○ Yes - Please include the information with this worksheet or mail it with the signature portion of the permit application.
- ⊗ No - Please complete this estimate of relative O&M cost:

Chloride Removal O&M Cost:

($1.00 x Annual Average Design Flow (in MGD) x 1000 x 365) = $584,000.00

Chloride Removal as a Percentage of Annual O&M Cost:

$11,564 → Chloride Removal O&M Cost *(from above)* / O&M Costs of Current Wastewater Facility X 100 = 50.5 %

Treatment Facility Information

Do you know of a facility that could accept the concentrated brine solution that would result from end-of-pipe chloride treatment? ○ Yes / ⊗ No

If yes, Name of Facility _____

The information in the following questions is requested to assist the permittee and the Department in determining appropriate effluent values or limitations, compliance schedules and source reduction measures.

Sample Information

Have you sampled at least eleven effluent samples for chloride over the course of at least a year? ⊗ Yes / ○ No

For Municipalities Only	Yes	No
a) Have you identified industrial contributors of chloride to your sewer system? No industrial Dischargers	○	○
b) Have you requested voluntary reductions of chloride from any industrial users to your sewer system?	○	○
c) Have you instituted sewer use ordinances regulating or limiting the discharge of chloride from significant industrial users?	○	○
d) Does your community have centralized softening of source water through a water utility? All private wells	○	⊗
e) Have you determined typical concentrations of chloride from domestic users of your sewer system?	⊗	○
f) Does your community implement a public information program on proper maintenance and improved efficiency of residential softeners?	⊗	○
g) Have you implemented local ordinances to mandate the use of efficient softeners?	○	⊗

For Industry Only	Yes	No
a) Is privately softened water, use of brine, or use of salt integral to your production process?	○	○
b) Do you operate a private softener for your industrial process?	○	○
c) Have you optimized operation of your water softener (adjustment of regeneration interval, salt dosage, replacement of backwash controller)?	○	○
d) Have you determined which industrial processes can be run without softened water?	○	○
e) Have you implemented practices to reduce or reuse any brine solutions or softened water in your industrial process?	○	○
f) Have you implemented housekeeping practices to reduce spillage of any brine solutions, or to minimize the contribution of salt to the wastewater treatment system?	○	○

Please list any contributors to the POTW in the following categories: (For industrial permittees, skip to the certification section.)

Food processors (cheese, vegetables, meat, pickles, soy sauce, etc.)

None

Metal Plating/Metal Finishing

None

Car Washes

1 carwash with 3 Manual Bays and 1 Automatic Bay

Municipal Maintenance Sheds (salt storage, truck washing, etc.)

None

Laundromats

None

Other presumed commercial or industrial chloride contributors to the POTW

None

Additional Information or Comments

We have no Industrial dischargers, 1 carwash and 9 eateries. All are on private well. All chloride is from residential users.

Certification

Based on the information provided, I believe that attainment of the applicable water quality standards for chloride may cause substantial and widespread adverse social and economic impacts in the area where this discharge is located. I understand that, as a condition of the variance, the Department and the permittee will need to agree upon an interim effluent limitation, a target value or target limitation, and a compliance schedule to implement source reduction. I understand that these conditions will be included in the WPDES permit issued to this facility. I certify that the information provided is true, accurate and complete.

Individual Submitting Request (Individual must be an Authorized Representative)	Title
Patrick J Malone	District Manager

Signature of Official [signature] Date Signed 9-18-14

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Attachment to Variance Application for Municipal Facilities
September 14, 2012

Notice: This form must be completed and submitted to the Department to request the variance. Failure to provide all requested information may result in denial of your application. Personally identifiable information collected on this form will be used to administer the watershed management program and may be provided to requestors as required by Wisconsin Open Records law [ss. 19.31, Wis. Stats.]

Facility and Permit Information

WPDES Permit No.
WI 0031470

Facility Name
Town of Norway Sanitary District #1

1. Specifically, what steps do you plan to undertake (and when) in the next 5-year permit term to reduce levels of the pollutant (mercury, chloride or other pollutant for which you request a variance) to the treatment plant? – Examples: "Inspect dental facilities to confirm proper maintenance of amalgam separators"; "Ensure community clean sweep events"; "Evaluate ordinances to require tune-ups of residential point-of-use softeners".

Continue our Chloride awareness program. Educate the public through Quarterly newsletters. Chloride information is given out with Building Permits.

2. How significant are the reductions you expect with the steps described above? – Examples: Show expected levels that can be attained over the next five years. We expect small improvements as old cottages are replaced with new homes with modern water systems. We have no industries and 6 Bars that serve Food, 1 restaurant, 1 drive-in and a gas station with a Kitchen. Until the technology to soften water without Chloride, we see no significant reductions as the ground water is very hard and has to softened.

3. What is the history of variances at your facility? – Examples: previous variances and previous permit limits, significant changes and efforts made to reduce discharges. Dates of Pollutant Minimization Plans (PMP), Source reduction Measures (SRM) or other plans. Status of annual reports. Summary of steps that have been already taken.

We have had a Chloride Target value of 680 mg/L starting in 2001 with a Variance. The variance was renewed in the 2002 - 2006 Permit. We have been over the Target Value 23 of 164 months since. 15 of the 23 overages were in the first 5 years. Since November of 2005 we have collected 4 samples per month rather than the required 1 sample and averaged them.

4. Provide trend analysis dating back to before the implementation of PMP, SRM or other variance steps. – Examples: Include influent and effluent data. For mercury include all data and show trends including sludge data. For chlorides include mass and concentration trends. Reference or attach any facility planning or evaluation study that evaluated facility performance capabilities (Note – Only include studies that are recent or otherwise applicable for the evaluation of the existing facility and current conditions).

TOWN OF NORWAY SANITARY DISTRICT # 1

6419 Heg Park Road, Wind Lake, WI 53185
Phone: Office 262-895-6400 Plant 262-895-2400 Fax 262-895-2480

Yearly Chloride Totals

Year	Average Concentration	Pounds (Daily Flow) Month	– Year	Pounds (Monthly Flow) Month	– Year	Over Target
2001	537.0 mg/L.	3,842.8	46,113.6	123,822	1,485,862	1
2002	572.5 mg/L.	3,718.8	44,625.6	110,144	1,321,726	1
2003	640.0 mg/L.	3,653.4	43,840.8	107,401	1,288,806	4
2004	580.8 mg/L.	3,872.0	46,464.2	122,912	1,474,941	4
2005	648.7 mg/L.	4,141.9	49,702.3	121,992	1,463,908	5
2006	452.0 mg/L.	4,180.9	50,170.7	130,183	1,552,377	0
2007	504.8 mg/L.	3,930.8	47,169.0	115,044	1,265,483	0
2008	491.5 mg/L.	4,259.0	51,108.1	123,926	1,363,194	1
2009	498.1 mg/L.	3,626.5	43,517.6	125,371	1,504,456	0
2010	484.6 mg/L.	3,523.6	42,282.7	121,663	1,459,961	0
2011	560.0 mg/L.	3,551.8	42,622.0	110,548	1,326,580	1
2012	638.5 mg/L.	3,437.9	41,254.6	104,559	1,254,702	5
2013	559.4 mg/L.	3,659.2	43,910.8	124,957	1,499,488	0
2014						1

Pounds = Concentration X Flow (MGD) X 8.34 (The weight of a gallon of water)

Daily flow means using the flow of only the days when samples were taken.

Monthly flow means using the flow for the entire month that the sample was taken.

Permit target value for chloride concentration = 680 mg/L.

Variance Request and Certification	
Based on the information provided, I am requesting a variance on the basis that attainment of the applicable water quality standard may cause substantial and widespread adverse social and economic impacts in the area where this discharge is located. I certify that the information provided is true, accurate and complete.	
Print or type name of individual submitting request (must be an Authorized Representative for the treatment facility) Patrick J Malone	Title District Manager
Signature of Official	Date Signed 9/18/2014