

DATE: 9 May 2018

TO: Kevin Kirsch – WQ/3

FROM: Pat Oldenburg – Eau Claire

SUBJECT: Anticipated economic impact of site-specific criteria for Petenwell, Castle Rock and Lake Wisconsin on the municipal and industrial wastewater dischargers

This is in response to your request for an evaluation of the anticipated economic impact of site-specific criteria for Petenwell, Castle Rock and Lake Wisconsin on the municipal and industrial wastewater dischargers. This memo outlines the analysis approach and results based on the recommended site-specific criteria (SSC) and resultant wasteload allocations (WLAs) outlined in the February 21, 2018 Draft Total Maximum Daily Load for Total Phosphorus in the Wisconsin River Basin. The draft report outlines the recommended SSC in Appendix C, the WLAs based on the current criteria in Appendix J and the WLAs based on the recommended SSC in Appendix K.

Because this analysis is being done at a screening level several simplifying assumptions were made. These simplifying assumptions are outlined below.

The economic impact of the SSC was not included in the analysis for several facilities due to lack of facility-specific cost differences at the fine scale (detailed in Table 1, attached):

- Facilities that are currently capable of meeting effluent limits based on either set of WLAs were not included (n = 19).
- Facilities which have already committed to construction of advanced treatment systems capable of meeting effluent limits based on either set of WLAs (n = 3).
- The economic impact on facilities where the both sets of WLAs were within 20% of one another (n = 39).
- Other site-specific conditions (n = 5).

For the remaining 36 municipal and 7 industrial facilities, the cost estimates are based on the incremental difference between the capital and operation and maintenance (O&M) costs needed to achieve the two limitations. These assumptions were based on the cost curves developed by Arcadis as part of the Economic Impact Analysis Supporting Report developed for the Department of Administration in support of Wisconsin's phosphorus multi-discharger variance (MDV) determination. Generally speaking, the Arcadis work developed cost curves based on the following assumptions:

The assumed treatment process to achieve >0.5 to 1 mg/L TP was multi-point chemical precipitation of phosphorus with alum and with clarification (Cost Curve A). To achieve >0.1 to 0.5 mg/L TP, it was assumed that multi-point chemical precipitation with clarification and sand filtration was required (Cost Curve B). Multi-point chemical precipitation with clarification and dual-stage sand filtration are the processes required to achieve TP less than or equal to 0.1 mg/L (Cost Curve C).

Arcadis developed cost curves (capital and O&M) for 755 municipal and industrial facilities across the state for the three levels of treatment technologies outlined above. Since the Arcadis work was based on concentration targets rather than mass the WLAs were translated into an equivalent concentration:

$$\text{Equivalent Effluent Concentration (mg/L)} = \frac{\text{WLA (lbs/yr)}}{365.25 \text{ days/yr} * \text{baseline flow (MGD)} * 8.34}$$

Where: WLA - Wasteload allocation from Appendix K or J depending (lbs/yr)
 Baseline flow - Baseline flow from Appendix F (MGD)
 8.34 – conversion factor

The following general assumptions were used for the next step of analysis.

- The assumed treatment process to achieve 1.0 mg/L equivalent TP was not changed from the Arcadis report (capital cost curve A, O&M cost curve A).
- The assumed treatment process to achieve 0.36 mg/L equivalent TP for activated-sludge treatment systems was multi-point chemical precipitation of phosphorus with alum and with clarification (capital cost curve A, O&M average of cost curves A&B). This estimate is based on the observation that multiple activated-sludge treatment systems are capable of meeting these more restrictive limits without sand filtration, however it likely results in increased operation and maintenance costs.
- The assumed treatment process to achieve 0.36 mg/L equivalent TP for lagoons and recirculating sand filters was multi-point chemical precipitation with clarification and sand filtration (capital cost curve B, O&M cost curve B) as these facilities will likely need major upgrades to meet either set of limits.
- The assumed treatment process to achieve 0.20 mg/L equivalent TP for all facilities was multi-point chemical precipitation with clarification and sand filtration was not changed from the Arcadis report (capital cost curve B, O&M cost curve B).

To determine the impact of the SSC the estimated capital and O&M costs were tallied and compared for the individual facilities (detailed in Tables 2-5, attached). Of these 43 facilities, it was determined that an additional 7 municipal lagoon and recirculating sand filter facilities would have similar treatment costs with or without SSC. For the remaining facilities, present worth was calculated based on a 20-year period and a discount rate of 3.20% for industries and 1.76% for municipalities.

A summary of the impacts is outlined below:

| Municipal Discharges | | | | | |
|-----------------------|---------------|--------------|------------------|-------------|---------------|
| Rule Impact | Capital Costs | | Annual O&M Costs | | Present Worth |
| | # Facilities | Total \$ | # Facilities | Total \$ | Total \$ |
| Reduced Costs | 19 | \$73,245,709 | 16 | \$1,217,211 | \$93,617,625 |
| Increased Costs | 6 | \$4,092,445 | 10 | \$290,339 | \$8,951,719 |
| No Change | 11 | \$0 | 10 | \$0 | |
| Industrial Discharges | | | | | |
| Rule Impact | Capital Costs | | Annual O&M Costs | | Present Worth |
| | # Facilities | Total \$ | # Facilities | Total \$ | Total \$ |
| Reduced Costs | 5 | \$41,787,261 | 5 | \$3,034,909 | \$86,115,333 |
| Increased Costs | 2 | \$5,496,430 | 2 | \$140,934 | \$7,554,925 |
| No Change | 0 | \$0 | 0 | \$0 | |

Table 1. Facilities not included as part of the economic impact analysis:

| Facility Name | Permit Number | Baseline Flow (MGD) | Current Criteria | | Site-Specific Criteria | | Net change due to SSC (lbs/yr) | % Change due to SSC | Comment |
|---|---------------|---------------------|------------------|------------------------|------------------------|------------------------|--------------------------------|---------------------|--|
| | | | WLA (lbs/yr) | Equiv. TP Conc. (mg/L) | WLA (lbs/yr) | Equiv. TP Conc. (mg/L) | | | |
| ABBOTSFORD WASTEWATER TREATMENT FACILITY | 0023141 | 0.323 | 160 | 0.16 | 160 | 0.16 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| ABBYLAND FOODS INC ABBOTSFORD PLANT | 0057436 | 0.4 | 198 | 0.16 | 198 | 0.16 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| ADAMS WASTEWATER TREATMENT FACILITY | 0023159 | 0.436 | 1328 | 1.00 | 474 | 0.36 | -854 | -64% | Currently meeting likely limits based on either set of draft WLAs. |
| ARPIN WASTEWATER TREATMENT FACILITY | 0031267 | 0.05 | 42 | 0.28 | 42 | 0.28 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| AUBURNDALE WASTEWATER TREATMENT FACILITY | 0022411 | 0.173 | 104 | 0.20 | 112 | 0.21 | 8 | 8% | WLA and resultant limits not impacted by SSC proposal. |
| BARABOO WASTEWATER TREATMENT FACILITY | 0020605 | 2.23 | 6793 | 1.00 | 2424 | 0.36 | -4369 | -64% | Can meet either set w/continued optimization |
| CAMBRIA WASTEWATER TREATMENT FACILITY | 0023523 | 0.126 | 164 | 0.43 | 137 | 0.36 | -27 | -16% | Cannot estimate difference in capital and O&M costs at the screening level due to minor difference in WLAs |
| CAZENOVIA WASTEWATER TREATMENT FACILITY | 0031801 | 0.035 | 36 | 0.34 | 36 | 0.34 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| CHILI WASTEWATER TREATMENT FACILITY | 0030961 | 0.05 | 46 | 0.30 | 46 | 0.30 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| COLBY CITY WWTF | 0023655 | 0.4 | 168 | 0.14 | 168 | 0.14 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| CROCKETT'S RESORT | 0061263 | 0.00838 | 26 | 1.02 | 9 | 0.35 | -17 | -65% | System is not in operation other than to store wastewater prior to hauling to another facility. No discharge since 2015. |
| EAGLE RIVER CITY OF | 0022004 | 0.517 | 310 | 0.20 | 562 | 0.36 | 252 | 81% | Can meet either set w/continued optimization |
| ELROY WASTEWATER TREATMENT FACILITY | 0023931 | 0.215 | 236 | 0.36 | 234 | 0.36 | -2 | -1% | Cannot estimate difference in capital and O&M costs at the screening level due to minor difference in WLAs |
| ERCO WORLDWIDE (USA) INC - PORT EDWARDS | 0003565 | 6.557 | 1998 | 0.10 | 1998 | 0.10 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| EXCEPTIONAL LIVING CENTERS - BETHEL | 0031313 | 0.018 | 20 | 0.36 | 20 | 0.36 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| EXPERA SPECIALTY SOLUTIONS, LLC | 0003671 | 10.797 | 6478 | 0.20 | 11734 | 0.36 | 5256 | 81% | Currently meeting likely limits based on either set of draft WLAs. |
| EXPERA SPECIALTY SOLUTIONS, LLC-RHINELANDER | 0003026 | 6.886 | 4131 | 0.20 | 7484 | 0.36 | 3353 | 81% | Currently meeting likely limits based on either set of draft WLAs. |
| FENWOOD WASTEWATER TREATMENT FACILITY | 0031411 | 0.015 | 7 | 0.15 | 7 | 0.15 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| FOREMOST FARMS USA COOP ROTHSCHILD | 0003875 | 0.581 | 349 | 0.20 | 631 | 0.36 | 282 | 81% | Currently meeting likely limits based on either set of draft WLAs. |
| FOREMOST FARMS USA REEDSBURG | 0000035 | 0.277 | 45 | 0.05 | 45 | 0.05 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV. | 0050547 | 0.043 | 25 | 0.19 | 10 | 0.08 | -15 | -60% | Currently meeting likely limits based on either set of draft WLAs. |
| HEWITT SANITARY DISTRICT WWTP | 0031275 | 0.114 | 54 | 0.16 | 54 | 0.16 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| HILL POINT SANITARY DISTRICT WWTF | 0035483 | 0.017 | 11 | 0.21 | 11 | 0.21 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| HILLSBORO WASTEWATER TREATMENT FACILITY | 0020583 | 0.185 | 128 | 0.23 | 128 | 0.23 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| HUSTLER WASTEWATER TREATMENT FACILITY | 0032085 | 0.021 | 10 | 0.16 | 10 | 0.16 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| KENDALL WASTEWATER TREATMENT FACILITY | 0020516 | 0.07 | 53 | 0.25 | 53 | 0.25 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| LIGNOTECH USA, INC. | 0003450 | 0.607 | 185 | 0.10 | 185 | 0.10 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| LIME RIDGE WASTEWATER TREATMENT FACILITY | 0036447 | 0.015 | 8 | 0.18 | 8 | 0.18 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| LODI CANNING CO | 0002658 | 0.058 | 2 | 0.01 | 2 | 0.01 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| LODI WASTEWATER TREATMENT FACILITY | 0022918 | 0.542 | 1427 | 0.86 | 589 | 0.36 | -838 | -59% | Currently meeting likely limits based on either set of draft WLAs. |
| LOGANVILLE WASTEWATER TREATMENT FACILITY | 0029114 | 0.162 | 101 | 0.20 | 101 | 0.20 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| MARSHFIELD WASTEWATER TREATMENT FACILITY | 0021024 | 4.63 | 2195 | 0.16 | 2195 | 0.16 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| MAUSTON WASTEWATER TREATMENT FACILITY | 0024635 | 1.5 | 4570 | 1.00 | 1630 | 0.36 | -2940 | -64% | Currently meeting likely limits based on either set of draft WLAs. |
| MILAN S D WASTEWATER TREATMENT FACILITY | 0031500 | 0.3 | 148 | 0.16 | 148 | 0.16 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| MULLINS CHEESE INC | 0054127 | 1.2 | 720 | 0.20 | 1304 | 0.36 | 584 | 81% | Built MBR system which can meet likely limits based on either set of draft WLAs. |
| MULLINS CHEESE INC MARSHFIELD | 0053694 | 0.21 | 126 | 0.20 | 157 | 0.25 | 31 | 25% | Built MBR system which can meet likely limits based on either set of draft WLAs. |
| NASONVILLE DAIRY INC | 0040312 | 0.142 | 67 | 0.15 | 67 | 0.15 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| NEENAH PAPER INC WHITING MILL | 0003611 | 2.541 | 1524 | 0.20 | 2761 | 0.36 | 1237 | 81% | Currently meeting likely limits based on either set of draft WLAs. |
| NEWPAGE CORPORATION - WATER QUALITY CENTER | 0037991 | 28.885 | 17331 | 0.20 | 31392 | 0.36 | 14061 | 81% | Currently meeting likely limits based on either set of draft WLAs. |

| Facility Name | Permit Number | Baseline Flow (MGD) | Current Criteria | | Site-Specific Criteria | | Net change due to SSC (lbs/yr) | % Change due to SSC | Comment |
|--|---------------|---------------------|------------------|------------------------|------------------------|------------------------|--------------------------------|---------------------|--|
| | | | WLA (lbs/yr) | Equiv. TP Conc. (mg/L) | WLA (lbs/yr) | Equiv. TP Conc. (mg/L) | | | |
| PITTSVILLE WATER AND SEWER DEPT WWTF | 0020494 | 0.174 | 49 | 0.09 | 49 | 0.09 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| POYNETTE WASTEWATER TREATMENT FACILITY | 0021091 | 0.47 | 914 | 0.64 | 511 | 0.36 | -403 | -44% | Currently meeting likely limits based on either set of draft WLAs. |
| RIO WASTEWATER TREATMENT FACILITY | 0020117 | 0.115 | 350 | 1.00 | 125 | 0.36 | -225 | -64% | May not need WLA-based limits due to wetland discharge |
| ROZELLVILLE SANITARY DISTRICT NO 1 | 0029076 | 0.021 | 8 | 0.13 | 8 | 0.13 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| SAPUTO CHEESE USA INC REEDSBURG | 0059404 | 0.073 | 14 | 0.06 | 14 | 0.06 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| SARTORI COMPANY | 0032794 | 0.06 | 9 | 0.05 | 9 | 0.05 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| SENECA FOODS CORPORATION CAMBRIA | 0003891 | 0.064 | 36 | 0.18 | 27 | 0.14 | -9 | -25% | Same capital and O&M investment to meet likely limits based on either set of draft WLAs (eliminate use of p-based additives) |
| SPENCER WASTEWATER TREATMENT FACILITY | 0021521 | 0.52 | 280 | 0.18 | 280 | 0.18 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| STETSONVILLE, VILLAGE OF | 0060216 | 0.088 | 44 | 0.16 | 44 | 0.16 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| STRATFORD WASTEWATER TREATMENT FACILITY | 0025569 | 0.235 | 116 | 0.16 | 116 | 0.16 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| THREE LAKES SANITARY DISTRICT #1 | 0022853 | 0.067 | 40 | 0.20 | 73 | 0.36 | 33 | 83% | May not need WLA-based limits due to wetland discharge |
| TOMAH WASTEWATER TREATMENT FACILITY | 0021318 | 2.28 | 1185 | 0.17 | 1185 | 0.17 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| UNION CENTER WASTEWATER TREATMENT FACILITY | 0025640 | 0.043 | 55 | 0.42 | 47 | 0.36 | -8 | -15% | Cannot estimate difference in capital and O&M costs at the screening level due to minor difference in WLAs |
| UNITED WISCONSIN GRAIN PRODUCERS LLC | 0062502 | 0.094 | 123 | 0.43 | 102 | 0.36 | -21 | -17% | Can meet either set w/continued optimization (eliminate use of p-based additives) |
| UNITY WASTEWATER TREATMENT FACILITY | 0060526 | 0.045 | 16 | 0.12 | 16 | 0.12 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| VERSO MINNESOTA WISCONSIN LLC - WATER RENEWAL CENTER | 0003468 | 2.868 | 1721 | 0.20 | 3117 | 0.36 | 1396 | 81% | Currently meeting likely limits based on either set of draft WLAs. |
| VESPER WASTEWATER TREATMENT FACILITY | 0030309 | 0.103 | 59 | 0.19 | 59 | 0.19 | 0 | 0% | WLA and resultant limits not impacted by SSC proposal. |
| WARRENS WASTEWATER TREATMENT FACILITY | 0060259 | 0.211 | 241 | 0.37 | 229 | 0.36 | -12 | -5% | Cannot estimate difference in capital and O&M costs at the screening level due to minor difference in WLAs |
| WI AIR NATIONAL GUARD | 0023078 | 0.2 | 609 | 1.00 | 217 | 0.36 | -392 | -64% | Can meet either set w/continued optimization |
| WIDELLS LK DELTON SEWERAGE COMMISSION WWTF | 0031402 | 2.73 | 8317 | 1.00 | 2967 | 0.36 | -5350 | -64% | Currently meeting likely limits based on either set of draft WLAs. |
| WIDNR ART OEHMCKE STATE FISH HATCHERY | 0058271 | 0.562 | 128 | 0.07 | 129 | 0.08 | 1 | 1% | Cannot estimate difference in capital and O&M costs at the screening level due to minor difference in WLAs |
| WIDNR DEVILS LAKE STATE PARK | 0060241 | 0.66 | 1043 | 0.52 | 717 | 0.36 | -326 | -31% | WQ Trading being utilized currently, number and cost of additional credits needed (if any) unclear |
| WISCONSIN POWER & LIGHT CO COLUMBIA | 0002780 | - | - | - | - | - | - | - | Facility is not contributing P beyond that which is present in the intake, therefore no P reductions are necessary to meet TMDL targets. |
| WISCONSIN PUBLIC SERVICE CORP WESTON 1 & 2 | 0003131 | - | - | - | - | - | - | - | Facility is not contributing P beyond that which is present in the intake, therefore no P reductions are necessary to meet TMDL targets. |
| WISCONSIN PUBLIC SERVICE CORP WESTON 3 & 4 | 0042765 | - | - | - | - | - | - | - | Facility is not contributing P beyond that which is present in the intake, therefore no P reductions are necessary to meet TMDL targets. |
| WISCONSIN DAIRY STATE CHEESE, INC. | 0055751 | 0.25 | 150 | 0.20 | 272 | 0.36 | 122 | 81% | Building MBR system which can meet likely limits based on either set of draft WLAs. |
| WONEWOC WASTEWATER TREATMENT FACILITY | 0029688 | 0.142 | 182 | 0.42 | 154 | 0.36 | -28 | -15% | Cannot estimate difference in capital and O&M costs at the screening level due to minor difference in WLAs |

Table 2. Municipal facilities significantly impacted by SSC proposal.

| Facility Name | Permit Number | Baseline Flow (MGD) | Current Criteria | | Site-Specific Criteria | | Net change due to SSC (lbs/yr) | % Change due to SSC |
|--|---------------|---------------------|------------------|------------------------|------------------------|------------------------|--------------------------------|---------------------|
| | | | WLA (lbs/yr) | Equiv. TP Conc. (mg/L) | WLA (lbs/yr) | Equiv. TP Conc. (mg/L) | | |
| ANTIGO CITY OF | 0022144 | 1.68 | 1008 | 0.20 | 1826 | 0.36 | 818 | 81% |
| ATHENS WASTEWATER TREATMENT FACILITY | 0022365 | 0.187 | 112 | 0.20 | 203 | 0.36 | 91 | 81% |
| BLENKER SHERRY SANITARY DISTRICT WWTF | 0031950 | 0.028 | 17 | 0.20 | 30 | 0.35 | 13 | 76% |
| BROKAW WASTEWATER TREATMENT FACILITY | 0022136 | 0.036 | 22 | 0.20 | 39 | 0.36 | 17 | 77% |
| EDGAR WASTEWATER TREATMENT FACILITY | 0021784 | 0.5 | 300 | 0.20 | 490 | 0.32 | 190 | 63% |
| GOETZ COMPANIES INC (PORTAGE PETRO TRAVEL P) | 0035998 | 0.041 | 125 | 1.00 | 45 | 0.36 | -80 | -64% |
| JUNCTION CITY WASTEWATER TREATMENT FACILITY | 0028070 | 0.109 | 65 | 0.20 | 118 | 0.36 | 53 | 82% |
| LA VALLE WASTEWATER TREATMENT FACILITY | 0028878 | 0.057 | 174 | 1.00 | 62 | 0.36 | -112 | -64% |
| LAKE TOMAHAWK TOWNSHIP SANITARY DISTRICT 1 | 0036374 | 0.054 | 32 | 0.19 | 59 | 0.36 | 27 | 84% |
| LAKELAND SANITARY DISTRICT | 0022837 | 0.75 | 450 | 0.20 | 815 | 0.36 | 365 | 81% |
| LYNDON STATION WASTEWATER TREATMENT FACILITY | 0060488 | 0.063 | 170 | 0.89 | 68 | 0.35 | -102 | -60% |
| MARATHON WATER & SEWER DPT WW TREATMNT PLANT | 0020273 | 0.352 | 211 | 0.20 | 383 | 0.36 | 172 | 82% |
| MERRILL CITY OF | 0020150 | 3.06 | 1836 | 0.20 | 3326 | 0.36 | 1490 | 81% |
| MILLADORE WASTEWATER TREATMENT FACILITY | 0022381 | 0.14 | 84 | 0.20 | 140 | 0.33 | 56 | 67% |
| NECEDAH WASTEWATER TREATMENT FACILITY | 0020133 | 0.25 | 762 | 1.00 | 272 | 0.36 | -490 | -64% |
| NEKOOSA WASTEWATER TREATMENT FACILITY | 0020613 | 0.428 | 257 | 0.20 | 465 | 0.36 | 208 | 81% |
| NEW LISBON WASTEWATER TREATMENT FACILITY | 0020699 | 0.381 | 1161 | 1.00 | 414 | 0.36 | -747 | -64% |
| NORTH FREEDOM WASTEWATER TREATMENT FACILITY | 0028011 | 0.07 | 213 | 1.00 | 76 | 0.36 | -137 | -64% |
| OAKDALE WASTEWATER TREATMENT FACILITY | 0031259 | 0.07 | 176 | 0.83 | 76 | 0.36 | -100 | -57% |
| O'DELL'S BAY SANITARY DISTRICT NO. 1 | 0036536 | 0.063 | 192 | 1.00 | 68 | 0.35 | -124 | -65% |
| PHELPS SANITARY DISTRICT #1 | 0029050 | 0.115 | 69 | 0.20 | 125 | 0.36 | 56 | 81% |
| PLOVER WASTEWATER TREATMENT FACILITY | 0027995 | 1.8 | 1080 | 0.20 | 1956 | 0.36 | 876 | 81% |
| PORT EDWARDS WASTEWATER TREATMENT FACILITY | 0020451 | 0.538 | 321 | 0.20 | 584 | 0.36 | 263 | 82% |
| PORTAGE WASTEWATER TREATMENT FACILITY | 0020427 | 2.102 | 6404 | 1.00 | 2284 | 0.36 | -4120 | -64% |
| REEDSBURG WASTEWATER TREATMENT FACILITY | 0020371 | 2.65 | 8073 | 1.00 | 2878 | 0.36 | -5195 | -64% |
| RHINELANDER CITY OF | 0020044 | 1.543 | 926 | 0.20 | 1677 | 0.36 | 751 | 81% |
| RIB LAKE VILLAGE OF | 0029017 | 0.2 | 120 | 0.20 | 217 | 0.36 | 97 | 81% |
| RIB MOUNTAIN METRO SEWAGE DISTRICT WWTF | 0035581 | 4.27 | 2562 | 0.20 | 4641 | 0.36 | 2079 | 81% |
| ROCK SPRINGS WASTEWATER TREATMENT FACILITY | 0029041 | 0.076 | 232 | 1.00 | 83 | 0.36 | -149 | -64% |
| RUSSELL SANITARY DISTRICT #1 TOWN OF | 0029319 | 0.048 | 29 | 0.20 | 52 | 0.36 | 23 | 79% |
| STEVENS POINT WASTEWATER TREATMENT FACILITY | 0029572 | 4.55 | 2730 | 0.20 | 4945 | 0.36 | 2215 | 81% |
| TOMAHAWK CITY OF | 0021946 | 0.6 | 360 | 0.20 | 652 | 0.36 | 292 | 81% |
| WAUSAU WATER WORKS WW TREATMENT FACILITY | 0025739 | 8.2 | 4917 | 0.20 | 8910 | 0.36 | 3993 | 81% |
| WHITING WASTEWATER TREATMENT FACILITY | 0021636 | 0.67 | 402 | 0.20 | 728 | 0.36 | 326 | 81% |
| WIDOC LINCOLN HILLS SCHOOL | 0026701 | 0.075 | 45 | 0.20 | 82 | 0.36 | 37 | 82% |
| WISCONSIN RAPIDS WWTF | 0025844 | 3.54 | 2124 | 0.20 | 3847 | 0.36 | 1723 | 81% |

Table 3. Cost estimates for municipal significantly facilities impacted by SSC proposal.

| Facility Name | Permit Number | Current Criteria | | Site-Specific Criteria | | Savings (additional cost) | | Comment |
|--|---------------|---------------------|---------|------------------------|---------|---------------------------|-----------|--|
| | | Treatment Cost (\$) | | Treatment Cost (\$) | | due to SSC Adoption (\$) | | |
| | | Capital | O&M | Capital | O&M | Capital | O&M | |
| ANTIGO CITY OF | 0022144 | 6,387,685 | 330,375 | 829,161 | 230,988 | 5,558,524 | 99,386 | |
| ATHENS WASTEWATER TREATMENT FACILITY | 0022365 | 1,772,315 | 37,901 | 1,772,315 | 37,901 | 0 | 0 | Lagoon treatment system. Significant upgrade needed with or without SSC. |
| BLENKER SHERRY SANITARY DISTRICT WWTF | 0031950 | 553,451 | 9,697 | 100,529 | 8,500 | 452,922 | 1,198 | |
| BROKAW WASTEWATER TREATMENT FACILITY | 0022136 | 634,851 | 9,025 | 113,161 | 7,955 | 521,690 | 1,070 | |
| EDGAR WASTEWATER TREATMENT FACILITY | 0021784 | 2,670,352 | 92,239 | 390,745 | 69,247 | 2,279,607 | 22,992 | |
| GOETZ COMPANIES INC (PORTAGE PETRO TRAVEL P) | 0035998 | 118,918 | 12,700 | 672,443 | 19,052 | (553,525) | (6,352) | Lagoon treatment system. Significant upgrade needed with SSC. |
| JUNCTION CITY WASTEWATER TREATMENT FACILITY | 0028070 | 1,162,427 | 32,751 | 190,681 | 26,274 | 971,747 | 6,476 | |
| LA VALLE WASTEWATER TREATMENT FACILITY | 0028878 | 641,757 | 14,465 | 1,478,411 | 19,095 | (836,653) | (4,630) | Lagoon treatment system. Significant upgrade needed with SSC. |
| LAKE TOMAHAWK TOWNSHIP SANITARY DISTRICT 1 | 0036374 | 792,169 | 17,006 | 792,169 | 17,006 | 0 | 0 | Lagoon treatment system. Significant upgrade needed with or without SSC. |
| LAKELAND SANITARY DISTRICT | 0022837 | 3,332,072 | 87,976 | 472,969 | 66,236 | 2,859,103 | 21,740 | |
| LYNDON STATION WASTEWATER TREATMENT FACILITY | 0060488 | 147,288 | 12,031 | 147,288 | 14,932 | 0 | (2,902) | |
| MARATHON WATER & SEWER DPT WW TREATMNT PLANT | 0020273 | 2,204,668 | 79,218 | 331,208 | 60,025 | 1,873,461 | 19,193 | |
| MERRILL CITY OF | 0020150 | 7,180,172 | 513,962 | 917,178 | 351,500 | 6,262,995 | 162,461 | |
| MILLADORE WASTEWATER TREATMENT FACILITY | 0022381 | 1,332,652 | 21,022 | 1,332,652 | 21,022 | 0 | 0 | Lagoon treatment system. Significant upgrade needed with or without SSC. |
| NECEDAH WASTEWATER TREATMENT FACILITY | 0020133 | 0 | 0 | 281,909 | 26,767 | (281,909) | (26,767) | Facility can meet limitations based on current criteria without specific phosphorus treatment. |
| NEKOOSA WASTEWATER TREATMENT FACILITY | 0020613 | 2,197,820 | 95,080 | 330,320 | 71,250 | 1,867,500 | 23,830 | |
| NEW LISBON WASTEWATER TREATMENT FACILITY | 0020699 | 343,791 | 53,795 | 343,791 | 82,348 | 0 | (28,553) | |
| NORTH FREEDOM WASTEWATER TREATMENT FACILITY | 0028011 | 689,603 | 19,125 | 1,601,740 | 26,584 | (912,138) | (7,460) | Lagoon treatment system. Significant upgrade needed with SSC. |
| OAKDALE WASTEWATER TREATMENT FACILITY | 0031259 | 912,756 | 20,633 | 912,756 | 20,633 | 0 | 0 | Recirculating sand filter system. Significant upgrade needed with or without SSC. |
| O'DELL'S BAY SANITARY DISTRICT NO. 1 | 0036536 | 147,288 | 18,112 | 861,729 | 29,381 | (714,441) | (11,269) | Lagoon treatment system. Significant upgrade needed with SSC. |
| PHELPS SANITARY DISTRICT #1 | 0029050 | 1,943,910 | 27,414 | 1,943,910 | 27,414 | 0 | 0 | Lagoon treatment system. Significant upgrade needed with or without SSC. |
| PLOVER WASTEWATER TREATMENT FACILITY | 0027995 | 5,374,150 | 266,787 | 714,352 | 188,619 | 4,659,798 | 78,167 | |
| PORT EDWARDS WASTEWATER TREATMENT FACILITY | 0020451 | 2,779,317 | 96,882 | 404,461 | 72,518 | 2,374,856 | 24,363 | |
| PORTAGE WASTEWATER TREATMENT FACILITY | 0020427 | 768,491 | 124,374 | 768,491 | 216,372 | 0 | (91,998) | |
| REEDSBURG WASTEWATER TREATMENT FACILITY | 0020371 | 857,092 | 136,279 | 857,092 | 240,518 | 0 | (104,239) | |
| RHINELANDER CITY OF | 0020044 | 4,940,589 | 215,352 | 664,353 | 154,012 | 4,276,236 | 61,341 | |
| RIB LAKE VILLAGE OF | 0029017 | 1,619,173 | 48,108 | 253,784 | 37,620 | 1,365,390 | 10,488 | |
| RIB MOUNTAIN METRO SEWAGE DISTRICT WWTF | 0035581 | 8,612,804 | 389,157 | 1,073,026 | 269,830 | 7,539,778 | 119,327 | |
| ROCK SPRINGS WASTEWATER TREATMENT FACILITY | 0029041 | 160,895 | 12,479 | 954,674 | 18,649 | (793,779) | (6,170) | Lagoon treatment system. Significant upgrade needed with SSC. |
| RUSSELL SANITARY DISTRICT #1 TOWN OF | 0029319 | 742,829 | 11,623 | 742,829 | 11,623 | 0 | 0 | Lagoon treatment system. Significant upgrade needed with or without SSC. |
| STEVENS POINT WASTEWATER TREATMENT FACILITY | 0029572 | 8,916,721 | 523,831 | 1,105,610 | 357,920 | 7,811,111 | 165,911 | |
| TOMAHAWK CITY OF | 0021946 | 2,641,058 | 125,133 | 387,045 | 92,262 | 2,254,014 | 32,871 | |
| WAUSAU WATER WORKS WW TREATMENT FACILITY | 0025739 | 12,299,100 | 577,462 | 1,459,100 | 392,719 | 10,840,000 | 184,743 | |
| WHITING WASTEWATER TREATMENT FACILITY | 0021636 | 3,133,053 | 102,879 | 448,497 | 76,732 | 2,684,556 | 26,147 | |
| WIDOC LINCOLN HILLS SCHOOL | 0026701 | 1,645,424 | 104,215 | 1,645,424 | 104,215 | 0 | 0 | Lagoon treatment system. Significant upgrade needed with or without SSC. |
| WISCONSIN RAPIDS WWTF | 0025844 | 7,774,755 | 494,016 | 982,334 | 338,511 | 6,792,421 | 155,506 | |

Table 4. Industrial facilities significantly impacted by SSC proposal.

| Facility Name | Permit Number | Baseline Flow (MGD) | Current Criteria | | Site-Specific Criteria | | Net change due to SSC (lbs/yr) | % Change due to SSC |
|----------------------------------|---------------|---------------------|------------------|------------------------|------------------------|------------------------|--------------------------------|---------------------|
| | | | WLA (lbs/yr) | Equiv. TP Conc. (mg/L) | WLA (lbs/yr) | Equiv. TP Conc. (mg/L) | | |
| DOMTAR - NEKOOSA | 0003620 | 16.236 | 9685 | 0.20 | 17621 | 0.36 | 7936 | 82% |
| DOMTAR PAPER CO LLC | 0026042 | 8.265 | 4956 | 0.20 | 8981 | 0.36 | 4025 | 81% |
| FOREMOST FARMS USA COOP PLOVER | 0003859 | 0.751 | 318 | 0.14 | 549 | 0.24 | 231 | 73% |
| GRANDE CHEESE CORP WYOCENA | 0051764 | 0.09 | 62 | 0.23 | 26 | 0.09 | -36 | -58% |
| LAKESIDE FOODS INC. - REEDSBURG | 0057738 | 0.162 | 494 | 1.00 | 176 | 0.36 | -318 | -64% |
| MCCAIN FOODS USA, INC., PLOVER | 0054518 | 1.738 | 1043 | 0.20 | 1889 | 0.36 | 846 | 81% |
| PACKAGING CORPORATION OF AMERICA | 0002810 | 11.745 | 5186 | 0.14 | 7955 | 0.22 | 2769 | 53% |

Table 5. Cost estimates for industrial facilities significantly impacted by SSC proposal.

| Facility Name | Permit Number | Current Criteria Treatment Cost (\$) | | Site-Specific Criteria Treatment Cost (\$) | | Savings (additional cost) due to SSC Adoption (\$) | | Comment |
|----------------------------------|---------------|--------------------------------------|-----------|--|-----------|--|-----------|--|
| | | Capital | O&M | Capital | O&M | Capital | O&M | |
| | | DOMTAR - NEKOOSA | 0003620 | 12,372,622 | 1,071,343 | 1,466,621 | 708,236 | |
| DOMTAR PAPER CO LLC | 0026042 | 4,329,164 | 117,245 | 1,683,149 | 66,911 | 2,646,015 | 50,334 | |
| FOREMOST FARMS USA COOP PLOVER | 0003859 | 9,899,192 | 792,835 | 1,209,932 | 531,252 | 8,689,259 | 261,583 | |
| GRANDE CHEESE CORP WYOCENA | 0051764 | 0 | 0 | 865,568 | 36,695 | (865,568) | (36,695) | Facility can meet limitations based on current criteria without specific phosphorus treatment. |
| LAKESIDE FOODS INC. - REEDSBURG | 0057738 | 710,602 | 136,279 | 5,341,464 | 240,518 | (4,630,862) | (104,239) | |
| MCCAIN FOODS USA, INC., PLOVER | 0054518 | 2,459,262 | 158,281 | 363,950 | 115,143 | 2,095,311 | 43,139 | |
| PACKAGING CORPORATION OF AMERICA | 0002810 | 19,415,808 | 6,067,056 | 1,965,133 | 3,750,310 | 17,450,675 | 2,316,747 | |