

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 with 20% 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
WI DELLS 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.
WI DNR 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
WI DNR 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 Treatment Cost (\$)		Site-Specific Criteria Treatment Cost (\$)		Savings (additional cost) due to SSC Adoption (\$)		Comment
		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	