



Legislative Water Commission

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August 15, 2017

Meeting Minutes

Members Present:

House

Representative David Bly
Representative Peter Fischer
Representative Clark Johnson
Representative Paul Torkelson
Representative Glenn Gruenhagen

Senate

Senator Rich Draheim
Senator Kent Eken
Senator Bill Weber
Senator Charles Wiger
Senator Paul Anderson

Members Excused:

Representative John Poston

Senator Jason Isaacson

A quorum being present, the meeting was called to order at 10:00 a.m. on August 15, 2017. Sen Paul Anderson was welcomed as a new member and he gave a brief description of his District.

Rep Clark Johnson moved approval of the July 18, 2017 meeting minutes. THE MOTION PREVAILED.

Chair Torkelson asked members to check their schedules to identify any conflicts for the planned 11/21 meeting date, which is during the Thanksgiving week. Only one member expressed a conflict, so the meeting date will be left as 11/21.

Rebecca Flood, Assistant Commissioner for the Minnesota Pollution Control Agency (MPCA), gave an overview of the day's presentations.

Wendy Turri, Municipal Wastewater Section Manager for the MPCA with 35 years of wastewater experience, gave a brief history of wastewater treatment in MN from the 1960's to the present. In the early years, permit limits for solids, biological oxygen demand (BOD) and pathogens were technology based limits and federal funding was available to help cities install wastewater treatment facilities. In the 1990's, MPCA's focus expanded to unsewered areas in about 100 small cities. In the 2000's, with the growth of TMDLs, MPCA began evaluating permit limits on a watershed basis and developed a strategy to reduce phosphorous. In the 2010's, because downstream areas were still being impacted by phosphorus, MPCA began applying the River Eutrophication Standard (RES).

About 80% of the state's population is served by 736 municipal wastewater treatment facilities; the remainder of the population is served by about 534,000 on-site septic systems. In addition, about 700 industries also have permits.

EPA has delegated its authority to administer the National Pollutant Discharge Elimination System (NPDES) permit process to the MPCA, but EPA retains an oversight role. Additionally, MPCA implements state regulations via state disposal system (SDS) permits, often in combination with NPDES permits.

Ms Turri then explained each step of the wastewater treatment process, differentiating between the preliminary, primary and secondary treatment processes that all plants have. Some plants also have tertiary treatment that uses biological and, in some cases, chemical methods to remove phosphorus and nitrogen. Chemical treatment is not as effective but it can be done in less space than biological treatment. Plants must also handle the solids byproduct from wastewater treatment, most commonly through land application. Chlorination and dechlorination steps or ultraviolet light are used to disinfect the wastewater effluent as a final step before the effluent is released from the facility.

About 50% of treatment plants use stabilization or aerated ponds that are easy to operate, treat well for nitrogen, manage phosphorus if chemicals are added at the last stage, and are a good solution for small cities if they have the space. About 25% of facilities, mostly larger cities, use aeration basins that take less space but are operationally more intensive as they treat for organics and solids and, in some cases, nitrogen. About 15% of facilities use soil based systems that function like a large septic tank. These only work for small areas, like a growth area outside a city, and they are harder to operate and not as effective for nitrogen removal (but good for phosphorus removal). The remainder of the systems (10%) use trickling filters where wastewater is sprayed over various media to remove pollutants. These are less effective and can't be retrofitted.

Wastewater facilities have been successful in reducing phosphorus loads over the last 15 years. The Mississippi River Basin has experienced a 77% reduction in phosphorus from permitted wastewater facilities and the MN River Basin has experienced a 50% reduction. Only 18% of municipalities are out of compliance with their permit, most typically associated with effluent discharge violations, bypasses of untreated wastewater, and operational problems from aging infrastructure.

Based on the results from the Wastewater Infrastructure Needs Survey (WINS) completed by cities, MPCA has been able to compare wastewater treatment costs by population category. Although there may be some variability on how survey responses are calculated, the results show that the smaller the cities, the more they pay for these services. Based on more WINS responses, MPCA estimates that 77% of future costs are attributable to fixing old pipes and plants and 23% is for constructing new pipes and new treatment systems.

Rep Gruenhagen noted his concern that mandates will artificially drive up WWTF costs and that standards should be science-based and peer-reviewed. He also believes MPCA used flawed science for BOD5 and DO flux, the same as regulations from Pennsylvania that were struck down by EPA. When cities have to pursue litigation that adds cost. Rebecca Flood said she can't comment on the subjects that are part of ongoing litigation and that subsequent presenters will cover some of those subjects. She indicated that they heard these concerns during their wastewater listening sessions and MPCA is now looking at additional avenues for peer review and comments during their technical support document process, as outlined in the recent Commissioner's order.

Rep Johnson asked what happens to the phosphorus and nitrogen that are removed during treatment? Ms Turri explained that the phosphorus settles into the sludge, which is land applied or incinerated. Nitrogen gas dissipates into the atmosphere.

Rep Johnson asked what percent of the phosphorus load in the Minnesota River basin has been removed considering all sources. Ms Turri said she did not have that information at hand and would supply it at a later date. During low flow periods, most of the phosphorus loading comes from WWTFs.

Sen Draheim asked whether WWTFs can bypass waste during periods of heavy rains. Ms Turri indicated that bypasses are never “allowed”, but that they sometimes happen. When there is a lot more water coming to a facility because of rain inflow and groundwater infiltration, the ability of the plant to process the larger load may be compromised (not enough capacity). WWTFs must report releases and monitor the situation. If this happens regularly, then there might be regulatory action. Sen Draheim requested a list of who has had bypasses this year. Ms Turri said there are about 130 bypasses/year, but the number has been increasing due to larger rain events and failing, old infrastructure. Only about 20-30 facilities have more than one bypass event. She will supply the list.

Rep Bly commented on reports of microplastics and in water and asked what MPCA’s role is in education and reducing the amount of chemicals entering the wastewater stream. Ms Flood noted that WWTFs are not designed to remove contaminants of emerging concern (CECs), although some may be treated incidentally. There are a variety of monitoring efforts underway to better understand the problem. Some education happens as a result of operator training and at the annual water conference. Industries are being encouraged to use alternative chemicals, but more could be done. Rep Bly mentioned that we don’t often think about our cumulative actions and their consequences.

Rep Fischer asked how drinking water facilities using surface water treat it to address WWTF discharges. Cities have to treat and monitor their water sources to meet drinking water standard. MPCA does assess the proximity of effluent discharge points to surface water intakes when developing permits.

Rep Fischer asked whether standards were being developed to control residential pharmaceuticals and other CECs. Ms Flood said that science and environmental health risk analyses are being used to determine when standards are needed. There is little research that shows CECs cause human harm and without that data there is no basis for developing standards. MPCA will continue to monitor surface waters for them and MDH routinely notifies water suppliers if there are issues of concern. Rep Fischer noted that some low income cultures fear tap water and unnecessarily buy bottled water because they believe metro area tap water is bad.

Steve Weiss, the Effluent Limits Supervisor at MPCA, explained the process by which effluent limits are established in each permit. Using the examples of toxic pollutants and the river eutrophication standard, Steve explained that MPCA evaluates the condition of the water body receiving the discharge, showing examples of the tremendous variability in water quality across the state. Criteria they evaluate include pollutant concentrations, flows, effluent variability, and exceedance frequency. He also explained that some areas experience and must address seasonal problems, such as algal blooms at the end of summer when water is warmer. Due to this variability, not every parameter is assigned a limit and the limits vary from permit to permit. Federal law (40CFR 122.44(d)(1)(i)) requires that there be reasonable potential to cause or contribute to exceedances of standards before a parameter is included in a permit. With respect to toxic pollutants, if discharges are good enough for the receiving water, then they are considered good enough for downstream recipients. Impacts are not just evaluated at the discharge point because there may be cumulative effects (possibly with a time lag) and river flow conditions are

not constant.

Looking at phosphorus, a receiving water with low phosphorus and a high response variable (e.g., chlorophyll a in algae) may meet or exceed standards, while one with high phosphorus and a low response variable will show no response and a limit would not be needed. Using every scrap of relevant data available to them, MPCA evaluates the response potential in receiving waters when the WWTF is discharging at full capacity during all flow conditions to develop the permit limits. The annual phosphorus load in a receiving water considers all sources (natural, stormwater, wastewater, and non-point sources). For example, in the North Fork Crow River Watershed, there are 16 point source permits and reductions are needed to meet standards, so the reductions are distributed to all 16 facilities. Those permit limits have resulted in pollutant reductions over time. It is not MPCA's intent to over-regulate and the goal is meeting the water quality standard, not a pre-settlement condition.

Sen Eken also expressed concerns about the BOD5 and DO flux used in setting the new phosphorus limit and their use of guidance. Mr Weiss was not familiar with the change to which he was referring but said the majority of the decisions were made using chlorophyll a data. There will be a later presentation about the litigation. MPCA does have flexibility in interpreting standards.

Rep Gruenhagen was concerned about the resistance to proposed legislation requiring peer review that later seemed to be accepted through the Commissioner's order. Ms Flood replied that MPCA is not opposed to peer review and does extensive peer review when setting standards, including the use of peer review panels in some circumstances (like the wild rice sulfate standard). MPCA felt the legislation was adding costly steps and disagreed with the specific language proposed, not the intent. They felt the proposal created a loop of peer review without an end point. Rep Gruenhagen noted that the cost of a peer review panel is less than lawsuits; he wants to see actual water quality improvements. He disagreed with MPCA's refusal to negotiate.

Rep Johnson noted that MN Rules allow an integration of nonpoint source reductions with WWTF reductions and wanted to know how the nonpoint source reductions are documented. Mr Weiss explained that they examine upstream and downstream water quality and account for restorations made to meet TMDL requirements through computer modeling.

Rep Fischer wondered whether BOD5 and DO flux apply to nitrates and whether progress is also being made on nitrate reductions? Mr Weiss indicated that there are no toxicity or aquatic life standards for nitrates, but there is a nitrate drinking water standard. WWTFs are not designed to remove nitrates. Ms Flood noted that nitrates and chlorides are increasing trends, while other pollutants are showing declining trends.

Rep Torkelson noted that with respect to the annual load, stormwater is shown as a separate category. Is this just urban stormwater? Yes, the nonpoint source portion is primarily agriculture.

Rep Torkelson asked how MPCA determines which point sources in a watershed get what portion of the load allocation in their permit limits? Mr Weiss said it depends on the amount of phosphorous each WWTF discharges and the volume of wastewater treated. They look at facility type, the size of the community, which facilities can offer an economy of scale to reduce phosphorous more cheaply, and what past upgrades each facility has made. Rep Torkelson said this seems like an informal water quality trading approach, what about formal water quality trading? Mr Weiss said statute provides for formal water quality trading and MPCA is open to doing more of it.

Rep Torkelson asked about permitting certainty. Mr Weiss explained that timing is an issue and they consider impacts to municipal debt loads. A compliance schedule would differ for each community.

Rep Torkelson asked how changes in population was considered when establishing final standards. MR Weiss indicated that growth could cause an adjustment of limits and they haven't seen any declines in their current permitting cycle. Smaller communities have a lesser environmental impact and MPCA could consider this further in the future.

The meeting was recessed at 11:25. The meeting reconvened at 11:32.

Nicole Blasing, MPCA's Municipal Wastewater North Central Unit Supervisor from Brainerd, explained the permitting process for wastewater facilities. The federal Clean Water Act NPDES process for permit reissuances is completed every 5 years to to meet federal requirements. It is similar to the State Disposal System process completed every 10 years to meet state laws. Ms Blasing explained the 7 main steps used in any permit reissuance or permit modification.

Sen Weber asked whether the state and federal permits are separate or merged. Ms Blasing explained that the applications are specific to the type of facility. Federal permits are more complicated and lengthy, but MPCA uses an application checklist for each type of facility to make sure all federal and state requirements are addressed.

After reviewing an application for completeness, there are 4 reviews in the technical review process: compliance & enforcement status, engineering assessment before and after effluent limits are set, environmental and effluent limits. Some construction also triggers an environmental review. They look at existing operations and check compliance with regulations. For example, an increase in bypasses might signal a need to address the releases as a permit condition. MPCA and the permittee are in frequent communication during the permit reissuance process.

Time and flexibility are allowed through the use of compliance schedules, which are plans for working toward compliance when a limit can be achieved, but more time is needed. Interim actions are negotiated that cannot be more than a year apart and a compliance deadline within 5 years is defined. The regulations for these are vague, but MPCA must justify the selected timeframe to EPA. Each situation is unique.

If compliance can't be achieved, then variances are used to institute temporary modifications to the permit limit, if it can be demonstrated that meeting the limit is not feasible, as per MN Rules. There are 6 criteria for variance eligibility, one of which pertains to "widespread social and economic impact", for which EPA has guidance. If a facility's fees increase by about 2% of the median household income, then the impact is considered significant. Variances have established timeframes and they add permit conditions and a schedule, but they can't allow for an increase in the amount of pollutant discharged. While the variance is in place, facilities continue to evaluate different design options and new options for routing and treating wastewater. There is a trigger for disinfection at surface water monitoring sites. When the Western Lake Superior Sanitary District developed its mercury variance, it found that its existing filters didn't reliably remove mercury and membrane filtrations was too expensive (their installation would increase fees by 2.9% above the median household income). Once a facility installs an upgrade, it will provide the needed ongoing treatment.

Trading is another permit flexibility tool and MPCA has used several types of trades. As an example, when Redwood Falls was working on its 2014 permit, they created a 5.5 yr compliance schedule so they

could find a trading partner (eventually New Ulm) that created a phosphorus “bank”. The Met Council permit, which provides for internal trading between 5 facilities, is currently under legal challenge.

Optimization of plant operations can also be used to minimize pollutants, in addition to pollutant reductions through treatment and pollution prevention.

MPCA develops a FAQs sheet for each permit, there are several opportunities to provide comment, and contested case hearings can be requested (it is a Commissioner decision to grant or deny them). If a CCH is denied, permittees have 30 days to file an appeal with the MN Court of Appeals. EPA reviews some permits.

Jean Coleman, a staff attorney for MPCA, gave an overview of the history and status of legal challenges to the river eutrophication standard (RES). She emphasized that due process is a right guaranteed by federal and state constitutions so that government ensures fair processes. The steps include notification, comment periods, and the right to legal challenges. In MN, Ch. 14 is the Administrative Procedures Act which outlines the administrative and judicial due process steps. All agency final decisions are appealable. MPCA values fairness and openness because tested actions result in better products. In her presentation, Ms Coleman reviewed the history of the RES rule adoption process and legal challenges (see the posted presentation for more details).

Rep Gruenhagen referred to a recent newspaper article about Glencoe deciding whether to drop its lawsuit based on an offer from MPCA to reduce costs by \$5M, which coincides with \$5M increased cost of complying with the non-peer reviewed science. He felt MPCA was trying to buy off a litigant. Ms Coleman explained that this was not an offer made in conjunction with the litigation. The offer is tied to an increase in the amount of grants and loans over several years that is designed to cover their higher costs. Rep Gruenhagen noted he appreciates the roundtable approach the LWC will be taking this fall so stakeholders can share their concerns. He still has concerns about MPCA actions.

Rebecca Flood ended the meeting with a summary of environmental and process outcomes wastewater permits are designed to achieve and reminded members that MPCA has conducted staff and public listening session to obtain feedback on needed improvements.

The meeting adjourned at 12:35 p.m.