Understanding Total Maximum Daily Load (TMDL) Requirements

as they relate to the Industrial Storm Water Permit

Michigan Department of Environmental Quality (MDEQ)
Water Resources Division (WRD)
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The MDEQ is required to develop a TMDL when a waterbody does not meet designated uses. Once a TMDL is approved by the United States Environmental Protection Agency (USEPA), the MDEQ is required to implement applicable waste load allocations consistently across the National Pollutant Discharge Elimination System (NPDES) permit programs. Industrial storm water permittees are required by the NPDES Wastewater Discharge General Permit for Storm Water, From Industrial Activity and/or with Required Monitoring (General Permit) to identify and address the TMDL pollutant that is associated with the receiving water through their Storm Water Pollution Prevention Plan (SWPPP). Approved TMDLs that apply to a permittees receiving water will be listed on the Certificate of Coverage (COC); the complete list of approved TMDLs can found by clicking on 'Water' and then 'Total Maximum Daily Load' at the following location: http://www.michigan.gov/deq.

The language in most recently issued General Permit, MIS210000 states the following conditions related to TMDLs:

Part I, Section C.1.d.
The permittee shall determine whether its facility discharges storm water to a water body for which the MDEQ has established a TMDL. If so, the permittee shall assess whether the TMDL requirements for the facility's discharge are being met through the existing SWPPP controls or whether additional control measures are necessary. The permittee's assessment of whether the TMDL requirements are being met shall focus on the effectiveness, adequacy, and implementation of the permittee's SWPPP controls. The applicable TMDLs will be identified in the COC issued under this permit.

Part I, Section C.2.g.
Identification or actions to limit the discharge of significant materials in order to comply with TMDL requirements.

Part I, Section D.2.c.
Any pollutant for which a level of control is specified to meet a TMDL established by the MDEQ shall be controlled at the facility so that its discharge is reduced by/to the amount specified in the TMDL.

The TMDLs written by the MDEQ and approved by the USEPA state Reasonable Assurance Activities for industrial storm water permittees. In most cases, non-structural and structural controls, described in the SWPPP and implemented on site, will adequately address the TMDL requirements. In some cases, storm water runoff sampling may be required to effectively evaluate the permitee's contribution to the TMDL.

Here are a couple example scenarios that could warrant storm water runoff sampling to be required:

- ✓ The permittee's industrial activity has the potential to discharge pollutants identified in the TMDL.
- ✓ The MDEQ inspector suspects or has evidence to suggest the storm water runoff from the site is negatively impacting the TMDL.

MDEQ's authority to require additional sampling which is not specifically identified in the NPDES permit is described in the Part 21 Rules. The Part 21 Rules, Wastewater Discharge Permits, are promulgated pursuant to Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Rule 323.2154 (3) of Part 21 states: ***"The frequency of monitoring of a waste***

or wastewater discharge required to be monitored pursuant to this rule shall be specified in a state or national permit when issued, except that the department at any time may require additional monitoring by notification of the permittee in writing."

If the permittee is required to conduct storm water runoff sampling, the procedures listed in the MDEQ guidance document titled "Short-term Characterization Study of Storm Water Discharges" and the General Permit for Short Term Storm Water Characterizations Study (STSWCS) shall be followed. The STSWCS plan shall be submitted to MDEQ, WRD staff for approval. The permittee shall implement the STSWCS plan upon approval from the MDEQ, WRD staff.

The data collected via the STSWCS and submitted to the MDEQ, WRD staff will be evaluated using the Benchmark Monitoring procedures and requirements concepts listed in the USEPA's Multi-Sector General Permit for industrial storm water. The MDEQ does not intend to use USEPA's specific benchmark values; rather, the benchmark values or concentrations for a particular pollutant will be determined by the applicable TMDL. The information below provides further information regarding Benchmark Monitoring.

Benchmark Monitoring

The benchmark values are not effluent limitations; a benchmark exceedance, therefore, is not a permit violation. Benchmark monitoring data are primarily for a permittee and the MDEQ, WRD staff to use to determine the overall effectiveness of the pollution prevention control measures and to assist in knowing when additional corrective action(s) may be necessary to comply with a specific TMDL and the general permit.

Data Not Exceeding Benchmarks:
Samples collected must be analyzed consistent with 40 CFR Part 136 analytical methods and using test procedures with quantitation limits at or below benchmark values for all benchmark parameters for which the permittee is required to sample. If the average of the monitoring values for any parameter does not exceed the benchmark, the permittee has fulfilled the monitoring requirements for that parameter for the permit term. For averaging purposes, use a value of zero for any individual sample parameter, which is determined to be less than the method detection limit. For sample values that fall between the method detection level and the quantitation limit (i.e., a confirmed detection but below the level that can be reliably quantified), use a value halfway between zero and the quantitation limit.

Data Exceeding Benchmarks:
If the average of the monitoring values for any parameter exceeds the benchmark, the permittee must review the selection, design, installation, and implementation of the pollution prevention control measures to determine if modifications are necessary to meet the benchmark values, and either:

- Make the necessary modifications and continue monitoring per the procedures in the approved STSWCS plan until the average does not exceed the benchmark; or

- Make a determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice to meet the benchmark values, in which case the permittee must continue monitoring once per year. The permittee shall document the rationale for concluding that no further pollutant reductions are achievable, and retain all records related to this documentation with the SWPPP. The permittee shall submit written notification of the determination to DEQ, WRD staff for review and approval.

The permittee must review the pollution prevention control measures and perform any required corrective action immediately (or document why corrective action is not required), without waiting for the full set of

monitoring data, if an exceedance of the sample set average is mathematically certain. If, after modifying the pollution prevention control measures and conducting additional monitoring, the average still exceeds the benchmark (or if an exceedance of the benchmark by the sample set average is mathematically certain prior to conducting the additional monitoring), the permittee must again review the pollution prevention control measures and take one of the two actions above.

Natural Background Pollutant Levels:

Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on the site, or pollutants in run-on from neighboring sources which are not naturally occurring.

Following the first set of benchmark monitoring (or sooner if the exceedance is triggered by less than a complete sample set of data described above), if the average concentration of a pollutant exceeds a benchmark value, and it is determined that exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background, the permittee is not required to perform corrective action or additional benchmark monitoring provided that:

- The average concentration of the benchmark monitoring results is less than or equal to the concentration of that pollutant in the natural background;

- The permittee documents and maintains with the SWPPP, supporting rationale for concluding that benchmark exceedances are in fact attributable solely to natural background pollutant levels. The permittee must include in the supporting rationale any data previously collected by the permittee or others (including literature studies) that describe the levels of natural background pollutants in the permittee's storm water discharge;

- The permittee submits a written notification for MDEQ, WRD staff review and approval that the benchmark exceedances are attributable solely to natural background pollutant levels. Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on the site, or pollutants in run-off from neighboring sources which are not naturally occurring; and

- The SWPPP has been reviewed and accepted by MDEQ, WRD staff.

Given the information within this document, if there are any questions regarding TMDLs as they relate to the Industrial Storm Water Program, or what is required by the NPDES General Permit, contact your MDEQ, WRD district industrial storm water compliance staff.