



Canadian Council
of Ministers
of the Environment

Le Conseil canadien
des ministres
de l'environnement

Canada-wide Strategy for Managing Municipal Wastewater Effluent

CCME MWWE Coordinating Committee



Background

- Municipal wastewater effluent is one of the largest sources of pollution by volume to surface water in Canada.
- Current conflicting requirements result in a sector that is inconsistently managed across Canada.
- Wastewater facilities are among the oldest municipal infrastructures and are in need of significant investment.

MWWE Strategy

- Endorsed by the Canadian Council of Ministers of Environment in February 2009.
- The Strategy focuses on two outcomes, supported by an economic plan:
 - Improved human health and environmental protection.
 - Improved clarity about the way municipal wastewater effluent is managed and regulated.

MWWE Strategy (2)

- Provides a comprehensive, risk-based, and harmonized Canada-wide approach for the essential infrastructure upgrades that municipalities face.
- Developed in consultation with stakeholders, engagement with First Nations, and with direct participation of experts in the sector.

Features of the Strategy

- Affects end-of-pipe discharges and combined sewer and sanitary sewer overflows.
- Applies to wastewater effluent discharged to surface water, including marine, from community wastewater collection or treatment facilities.
- Recognizes source control as an important aspect of wastewater management.

Features of the Strategy (2)

- Individual provinces may apply more stringent or additional requirements to meet site-specific needs.
- Provides flexibility for Canada's Far North and small facilities.

National Performance Standards

- All new and upgraded facilities will meet National Performance Standards (NPS).
- Existing facilities will be required to continue to meet other effluent standards in existing provincial /territorial instruments (i.e. regulations, permits, approvals).
- Risk-ranking of existing facilities not capable of meeting the NPS, to establish dates when facilities are required to comply with NPS.

NPS Timelines

- Based on the risk ranking, such facilities will need to meet the NPS in the following 30-year implementation timeline:
 - High-risk discharges: within 10 years
 - Medium-risk: within 20 years
 - Low-risk: within 30 years

National Performance Standards

For Treated Effluent:

- Carbonaceous Five-Day BOD (CBOD₅) – 25 mg/L
- Total Suspended Solids (TSS) – 25 mg/L
- Total Residual Chlorine (TRC) – 0.02 mg/L
- CBOD₅/TSS based on periodic average.
- Will be incorporated into federal regulation under *Fisheries Act*.

Effluent Toxicity

For Treated Effluent:

- Effluent must not be acutely toxic.
- If acutely toxic due to ammonia, no action required if there is no chronic toxicity at boundary of a defined mixing zone.
- Applies to medium to very large systems (i.e. >5k persons).
- Will be incorporated into federal regulation under *Fisheries Act*.

National Overflow Standards

For CSOs/SSOs:

- no increase in overflow frequency due to development or redevelopment, unless it occurs as part of an approved overflow management plan;
- no overflow discharge during dry weather, except during spring thaw and emergencies; and
- removal of floatable materials, where feasible (CSO only).
- Standards to be achieved within 7 years.
- CSO Action Plans to be completed within 7 years.
- Implemented by province/territory.

Environmental Risk Assessments

- Environmental Risk Assessments (ERA) will be completed for all facilities (requirements vary by system size) and site-specific Environmental Discharge Objectives (EDO) established where needed.
- ERA is a multi-year process including:
 - One-year initial effluent characterization
 - Assess impact on receiver and determine whether EDO(s) needed to manage “problem” substance(s)
- To be completed by 2017.
- Implemented by province/territory.

Effluent Discharge Objectives

- Effluent with substances at concentrations >80% of their EDO will need to be monitored for that substance.
- System owners will need to develop long-term plans to address EDO's that are exceeded in the effluent.
- EDO requirements may be incorporated into future provincial/territorial permits/approvals upon completion of the ERAs.

Compliance Monitoring

- All wastewater facilities will be required to monitor for compliance with the NPS.
- Will continue other monitoring required by provincial/territorial permits/approvals including any EDOs established by ERA process.
- Wastewater facilities serving more than 5,000 will be required to conduct whole effluent toxicity testing.
- All facilities will report the results of monitoring activities to province/territory.

Governance

By 2012:

- Provinces and Yukon will amend their policy/regulatory frameworks to include the requirements of the Strategy.
- The federal government will develop regulations under the *Fisheries Act* that will include the NPS and implementation timelines.
- Individual agreements will be established between the provinces/Yukon and the federal government to clarify the roles and responsibilities within the context of a federal regulation – “one window” goal.

Governance (2)

- Every five years, jurisdictions will regularly report progress towards meeting the requirements of the Strategy to CCME Ministers and Canadians.

Impacts on Communities

- Will need to comply with federal and provincial/territorial policy and regulatory requirements including new requirements reflecting the strategy.
- Some communities will need to upgrade treatment to meet the proposed NPS over 10-30 years:
 - More than 3,500 systems in Canada.
 - Overall, about \$10 to \$13 billion, depending on inflation, over the next 30 years.

Technical Supplements

Strategy includes technical supplements for:

1. Economic Plan
2. Environmental Risk Management: Framework and Guidance
3. Standard Method and Contracting Provisions for the Environmental Risk Assessment

Additional tools and resources:

- Model Sewer-Use Bylaw
- Contaminant Database
- Cost Templates and Affordability Models

1. Economic Plan

- Prepared by separate CCME committee – Economics and Funding Task Group.
- Funding to be managed in an equitable and sustainable manner.
- Strategy affordable if wastewater is made a high priority by all levels of government.

1. Economic Plan (2)

- An increase in infrastructure spending will be required to meet the strategy requirements.
- While municipalities should be encouraged to be self-sufficient, senior levels of government will be required to help fund the strategy.
- Small communities will need senior government support.

2. Environmental Risk Management

The environmental risk management framework:

- addresses whether NPS are adequate on a site-specific receiving environment basis.
- addresses other substances on a site-specific receiving environment basis.
- involves effluent monitoring for NPS, effluent characterization for a wide range of substances, effluent toxicity testing.
- outlines process for determining environmental risk.
- discusses risk management options.

3. Standard Method and Contracting Provisions for ERA

- Outlines a recommended step-by-step standard approach to ensure that the implementation of the Environmental Risk Assessment (ERA) is conducted in a consistent manner across Canada.

Model Sewer Use Bylaw

- Developed as a tool to assist Canadian municipalities and communities in implementing source controls for contaminants discharged to community sewer systems.

CCME Coordinating Committee

- A Coordinating Committee has been formed to address issues put forward by CCME and provide guidance to jurisdictions on implementation issues related to the Strategy.
 - representatives from all 14 jurisdictions
 - local government observer
- Every five years, the committee will assess progress on the implementation of the Strategy to determine whether revisions are needed to the Strategy and Technical Supplements.

CCME Coordinating Committee (2)

- The committee will continue to work on issues of common interest:
 - Provide a forum for jurisdictions engaged in the development of performance standards, risk factors and implementation timelines for wastewater facilities in Canada's Far North.
 - Support the establishment of a body to help coordinate Science and Research on municipal wastewater.
 - Development of federal - provincial/territorial agreements on administration of the strategy

- MWWWE Coordinating Committee contacts available from the CCME website:

www.ccme.ca