



**Water Environment
Association of
Ontario**

**“WEAO WILL BE THE PREEMINENT ORGANIZATION OF
TECHNICAL AND PROFESSIONAL INDIVIDUALS
DEDICATED TO THE PRESERVATION AND
ENHANCEMENT OF ONTARIO’S WATER
ENVIRONMENT”**

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EXECUTIVE
ADMINISTRATOR
Julie A. Vincent

May 18, 2010

Randall Meades, Director General,
Public and Resources Sectors,
Environment Canada,
351 St. Joseph Blvd., 13th floor
Gatineau QC K1A 0H3

Re: Wastewater Systems Effluent Regulations, volume 144, No. 12
March 20, 2010 of the Canada Gazette Part I (e-mail ww-eu@ec.gc.ca or fax
819-953-7253)

Dear Mr. Meades;

The municipal wastewater sector in Ontario commends your department on working towards a harmonized approach to wastewater management in Canada, and an attempt to formulate clarity in the implementation of the *Fisheries Act* by developing a regulation specific to wastewater systems.

We realize that this has been a long and arduous exercise, and we acknowledge and appreciate the opportunities we have had to provide input over the course of the past ten years.

The Water Environment Association of Ontario (WEAO) represents the wastewater sector in Ontario. Our membership is composed of municipalities, academia, engineering and environmental consultants, industry, provincial and federal departments with a focus on wastewater management (municipal wastewater, storm water management, water reuse, and biosolids), and individuals with the desire to protect the aquatic environment. All of our members will be impacted by the Canadian Council of the Ministers of the Environment (CCME) national strategy on municipal wastewater effluents. Similarly, the proposed federal regulation under the *Fisheries Act*, as introduced in Gazette I (*Wastewater Systems Effluent Regulations*) will have an impact on our membership and the Ontario population as a whole.

WEAO has had input to the development of the strategy and, to a lesser degree, the development of the proposed regulation. Although the CCME national strategy does



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not address all points, we believe that it is workable as laid out and agreed to by the Ministers in February 2009. We realize that each province will implement the strategy somewhat differently, but we also understood that the intent was that all jurisdictions would operate through a one-window approach. We will address this later in our attached list of comments.

There appear to be three major areas of concern that include:

1. Logistics of administration and implementation;
2. CSOs and SSOs;
3. Toxicity and environmental effects monitoring.

These points cover most of our concerns. We suspect our municipal councils will address the questions of cost and funding which remains a concern with the Association.

We trust these comments will be taken in the context of support for a regulation that will fit with the CCME national strategy and do what it was intended and that is, provide clarity and certainty. We trust that the Department of Fisheries and Oceans are also apprised of our comments particularly when developing compliance, monitoring and enforcement guidance.

We would also add that WEAO supports the position statement provided to you by the Canadian Water and Wastewater Association, which provides input from a Canadian perspective

We would be happy to continue to work with you and your staff in the revision of the proposed regulation, and look forward to a meeting to discuss comments in the early summer.

Sincerely,



Catherine Jefferson
Executive Director

cc. WEAO Board
WEAO Government Affairs Committee
T.D. Ellison, CWWA

List of Comments



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The following are comments to aid your staff in revising the proposed *Wastewater Systems Effluent Regulation* to ensure consistency with the CCME National Strategy, and address concerns that could make this a more effective regulation and provide clarity by those on the frontlines that have to find the funds and implement the technical aspects of the proposed Regulation.

Area of Concern 1: Logistics of administration and implementation

1. The document as written is extremely complex and therefore difficult to read and interpret. This may be the reason for the number of comments.
2. It does not suggest a one-window approach as is the intent of the CCME strategy.
3. There is a definition of “blackwater” but no definition of “greywater”.
4. What is considered an upgrade to a wastewater system in the context of this regulation?
5. Does the regulation apply to privately owned systems? It is not clear.
6. There appears to be discrepancies between the regulation coming into force and the time frame within which to determine the need for an authorization, and apply for authorization. This also implies a period during which the owner/operator of the system would be out of compliance. Municipalities cannot shut down their operations nor compromise human health or the environment.
7. There is considerable emphasis on reporting, and references to an electronic system. It would seem that the electronic system should be in place prior to the coming into force of the regulation. What is the status of this?
8. Some of the information required (e.g. latitudes/longitudes etc.) would be useful information to connect the facilities with existing informational databases such as the Municipal Uses Database (MUD) database and potentially the National Pollutant Release Inventory (NPRI) reporting (we realize it is a voluntary program). Are these connections being considered?
9. The timing and frequency of monitoring poses problems for facilities re: costs, capacity of staff versus consultants, burden of reporting, complexity of the



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regulation, and monitoring equipment. Although intended to be electronic, there are still many added burdens e.g. changing information status within 45 days; response plans developed, submitted and reviewed in a timely fashion; changes in authorization, etc. It will also be a burden at the “window” end since someone has to review, approve and follow-up with each report in a timely manner for any of it to be meaningful.

10. The timeframe for monitoring suggests competition for laboratory and toxicologists' time, as well as an increased burden to the municipality.
11. There seems to be some discrepancy with chlorine and the 2006 CEPA requirements with respect to flow and those now impacted (10m³/d flow versus 5,000m³/d) flow? Is this correct?

Area of Concern 2: CSOs and SSOs

1. There appears to be a difference in the intent of the Regulation with that of the CCME national strategy with respect to CSOs and SSOs. Municipalities could agree with the concept of no new CSOs, but it would be virtually impossible to eliminate existing CSOs within the timeframe indicated. This would require a commitment over a long planning horizon. The cost and logistics of removal, that implies digging up much of some municipalities could be better directed to areas providing greater human health and environmental benefit. On another point, CSOs are approved for use in many places under licenses or certificates of approval. CSOs are a component of the wastewater system and must be taken into account when finalizing these regulations.
2. At the same time SSOs are briefly mentioned in the regulation, but it is unclear as to whether they are factored into the authorizations, monitoring, etc.? It is also unclear as to whether or not the term referred to by SSO is a regional term or is in fact Canada wide?
3. There does not appear to be any consideration given to climate change and the potential impacts changes in climate will have on system capacity, overflows, deposits out of the normal course of events, etc. This is an area that requires investigation and an evaluation on how it will impact the regulation implementation.
4. Some municipalities have hundreds of CSO outfalls. Monitoring each of these would either be an extreme economic burden and/or logistically impossible. Additional consideration needs to be given to the subject of CSO management. Perhaps rather than trying to identify each one there could be some estimate of total volume over the course of a year combined with a figure on where they discharge (if known). There may be no impact if they discharge to a dry ditch versus a sensitive area of receiving water. Is environmental effects' monitoring to apply here?

Area of Concern 3: Toxicity and environmental effects monitoring

1. There appears to be some changes from the CCME document in the determination of ammonia with respect to pH adjustment. The regulation seems to indicate in one place that the method using pH stabilization should be applied, and that the next time it needn't be. What is the purpose of this?
2. We suggest that clarification of the ammonia terms used in the regulation be provided. Test Methods, Section 11 identifies that the term total ammonia is used to designate the un-ionized ammonia (NH₃) plus ionized ammonia (NH₄⁺). However, most laboratories report total ammonia concentrations as total ammonia-nitrogen. A conversion factor of 1.216 is appropriate to derive a concentration of ammonia-nitrogen from an ammonia concentration. As a potential source of error in reporting unionized ammonia-nitrogen concentrations, we recommend that the difference between total ammonia and total ammonia-nitrogen be addressed directly in the Regulation.
3. The proposed Regulation indicates that the temporary authorization will only apply if the un-ionized ammonia (UIA) in the receiving water is less than 0.016 mg/L at any point 100 m from the point of entry. Is there any mechanism intended to allow for temporary authorization of non-nitrifying facilities (where acute lethality is only due to the presence of the un-ionized ammonia) that would **not** meet the 0.016 mg/L UIA in the receiving water at any point 100 m from the point of entry? If not, would non-nitrifying facilities without sufficient effluent dilution to meet the UIA concentration of 0.016 mg/L in the receiving water be considered to be in immediate violation of the Regulation coming into force (as neither the transitional or temporary authorizations would apply)?
4. We would like to suggest the addition of an Appendix (or supplement) that provides typical example facilities and shows how either a temporary or transitional authorization would, or would not, apply.

For example:

Plant Capacity: 25,000 m³/d

Discharge: Lake-based, no outfall diffuser (20% dilution 100 m from entry)

Effluent Concentrations:

BOD₅: 12 mg/L

TSS: 16 mg/L

TAN: 30 mg/L

pH: 8

UIA: 0.8 mg/L (effluent is acutely lethal as a result of UIA only)

5. Is there guidance available on how the determination of effluent percentage is to be conducted? Since this percentage is the decision point pertaining to the need for environmental effects monitoring studies, the effluent percentage determination should be standardized with specific field sampling protocol and/or modelling requirements as appropriate. In particular, it is worth noting that the plume generated from a lake-based discharge can be substantially affected on a day-to-day basis by climatic conditions such as wind speed, direction, water temperatures etc. For a lake-based discharge, does the Regulation apply the 100 m from the entry point in all directions? How does the Regulation account for the spatial variability of the plume on a day-to-day basis for a lake-based discharge?
6. Similarly a large river with strong flow can experience a shift in the plume to where it flows upstream. In addition bottom substrates can be affected by flow rather than effluent impacts on biota. Fish populations also tend to be transient, so other than using a small species or young of the year fish that are fairly immobile how can this approach be effective without eliminating important adult fish? What about using in-line caging?
7. Could you be more specific about the discharge point and 100 m distance since diffusers' might have a number of ports. Which is the one chosen to work with?
8. The regulation assumes that the only toxicity causing substance is ammonia. Although the operating parameters to be measured (BOD and TSS) represent the plant operations, the Regulation mentions they indicate "significant" removal of substances which could be in the effluent. Have you studies to prove the "significant" comment?
9. The proposed Regulation is intended to provide clarity to municipalities re: the Fisheries Act. Discharges of selected substances (used as surrogates) are allowed if within certain limits, however should analyses of other substances show they are indeed present in the effluent, will the municipality be out of compliance?
10. What is the rationale for monitoring of these substances listed under the section on water quality monitoring? There is a concern attached to the additional parameters (emerging contaminants) to be monitored. These are likely expensive tests as well as only undertaken by some labs. Is there the lab capacity in Canada? What if they are measured in the effluent?
11. The regulation refers to a facility undertaking two cycles of EEM. If there are no impacts, no more studies have to be done. Is this true? If the facility is upgraded or takes on a new industry in the sewershed, isn't there then the possibility of problems which should be considered? This is not meant to offer support to the EEM process, merely to indicate there is a flaw in the logic.

12. There are also concerns with EEM as proposed. The number of discharge points in any municipality, will make it almost impossible to determine the impact of the wastewater treatment plant on the environment from other sources.