

Attachment 2 – Letter to Jennifer Vigano, Programs Coordinator, Canadian Council of Ministers of the Environment, from Mark Rupke, Senior Engineer, Wastewater Treatment, Toronto Water, dated February 27, 2007



Richard Butts, Deputy City Manager

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February 27, 2007

Jennifer Vigano
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Dear Ms. Vigano:

Re: Options for a Canada-wide Strategy for Managing Municipal Wastewater Effluent: Consultation Document

On behalf of Toronto Water, I am pleased to offer comments on the Options for a Canada-wide Strategy for Managing Municipal Wastewater Effluent: Consultation Document. Toronto Water has already provided feedback on the options via various stakeholder groups and through formal consultation meetings. Additional comments are provided below.

INTRODUCTION

Background

The consultation document gives the reader the impression there is currently no monitoring of municipal wastewater effluent and there are no adequate effluent standards in Canada. It also suggests there is a significant environmental problem that needs to be addressed. In fact, much of Canada's municipal effluent is controlled through existing provincial requirements and is adequately treated to protect the local receiving waters. Furthermore, there is already a wealth of information on effluent quality. For the majority of Canadians, wastewater is treated at large treatment plants where the existing monitoring and treatment systems are adequate. We request that a more detailed acknowledgement of existing controls and provincial requirements be added to the report to provide a more accurate representation of the status of municipal wastewater effluent across Canada.

In order to provide more accurate context for the document, we suggest an acknowledgement that surface runoff is a significant source of water pollution in Canada. While treated wastewater effluent is more routinely monitored and reported, surface runoff has a large impact on surface water quality and will not be addressed through any of the options in the proposed strategy.

The "Background" section of the consultation document indicates, "Federal, provincial, territorial, and municipal governments in Canada regulate and manage municipal wastewater effluent through numerous pieces of legislation, often resulting in multiple and confusing regulatory approaches". No

clear resolution to this situation has been proposed. It appears that municipal wastewater effluent would continue to be regulated and managed by multiple levels of government under the proposed strategy necessitating federal/provincial/territorial agreements to attempt to harmonize the implementation of the regulatory instruments in each jurisdiction. It does not appear that confusion stemming from the enforcement of the Fisheries Act will be eliminated. We recommend leaving the regulation of municipal wastewater effluent to the provinces. We also request that new requirements not be added in jurisdictions where adequate controls are already in place. The strategy should focus on bringing jurisdictions with little or no control over municipal wastewater effluent up to a basic level before requiring those with effective treatment systems to make significant new investments. In particular, if the standard is set at a "secondary treatment" level, then there should be no need for any action, such as added sampling, risk assessments and modifications at existing secondary treatment plants.

Goals of the Strategy

The "Goals of the Strategy" (currently labelled 3, 4, 3 rather than 1, 2, 3) do not appear to be fully addressed by the options proposed in the consultation document. To support the first goal, the strategy should include an examination of the existing regulatory environment. Issues with the existing regime should be identified and linked to specific options presented within the document. The second goal, that of improving environmental and human health protection, is commendable, but does not recognize that many municipalities already treat wastewater beyond minimum levels set in existing regulatory requirements. Additionally, this goal should not be pursued without very careful consideration of the costs and the related benefits of pursuing the proposed approach versus taking alternative actions such as controlling non point sources of pollution. The third goal of the proposed strategy is critical, but has not been sufficiently developed. The document acknowledges that funding options and other economic considerations are still being explored. True evaluation of the proposed options cannot take place independent from the financial and economic considerations. Consultations should not conclude until all relevant information related to the proposal is available to stakeholders.

PERFORMANCE REQUIREMENTS

National Performance Standards, Environmental Risk Assessment and Effluent Discharge Objectives

The proposed options for setting performance requirements include National Performance Standards, site-specific environmental risk assessments, and effluent discharge objectives. There is no recognition that some of these measures could make other proposed requirements redundant or unwarranted. For example, if site-specific environmental risk assessments are to be carried out and used to determine discharge objectives and/or discharge requirements, it is not necessary to institute National Performance Standards. If a site-specific risk assessment indicates that limited treatment is necessary to protect the environment and public health, then treatment that has no environmental or public health benefit should not be mandated.

Regarding Effluent Discharge Objectives (EDOs), if EDOs are established on a watershed basis, as one of the options proposes, it would be important for all sources of pollution (including non point sources such as agriculture, local non-municipal wastewater treatment systems servicing trailer parks, hotels,

seasonal developments, or industrial wastewater not covered existing regulations) to be included to ensure a beneficial impact on the environment and human health.

While there will always be a need for data and research on both the presence and environmental effects of emerging contaminants, we do not believe the value of the information collected through extensive effluent sampling and detailed risk assessments by every municipal wastewater collection or treatment facility across the country will justify the cost. We suggest that the money would be better spent on targeted research. The proposed one-year initial characterization would be a very expensive undertaking. For a fraction of the cost, a compilation of existing effluent quality data from municipalities and a properly designed statistical sampling of plants across Canada could be undertaken to give a clear picture of the constituents of municipal wastewater effluent across the country.

Additional questions and concerns are raised by the description of the initial characterization presented in the document. There are inconsistencies between Table 2 on page 7, Table C3 on page 87, Table C4 on page 88 and Table D1 in Appendix D making it difficult to identify the proposed minimum monitoring and testing requirements. In addition to the substances listed in the various tables, Appendix C also requires that "any substance associated with industrial or commercial activities that discharge to the sewer should be identified and monitored". It is not clear what the proposed monitoring frequency will be for these millions of substances. The document also indicates that accredited labs should perform all tests. For many of the substances likely to be present on the list of "substances associated with industrial or commercial activities" no accredited method exists, and there are no accredited labs available to perform the analysis. For many of the substances, the information collected will not be useful for the risk assessment. The health benchmarks will be below the analytical method detection limit for many substances – for example polycyclic aromatic hydrocarbons. Testing for many of the substances would provide little or no new usable information, yet will contribute significantly to the exorbitant testing costs. We do not support testing where the results have little or no added value.

The consultation document proposes that very large plants meet weekly averages based on daily test results. For regulatory compliance purposes, weekly averages are not an appropriate indicator of the effectiveness of a wastewater treatment process. Even the best-managed treatment plants are subject to hydraulic peaks from wet weather, upsets in biology, or solids handling that will result in process fluctuations. These fluctuations are inevitable and typically last from several hours to several days, or, in extreme cases, possibly weeks. As a result, a weekly average may include samples taken only during an upset condition - whereas a monthly or annual average is more representative of the average effluent quality. Requiring plants to operate far below already stringent compliance levels with sufficient spare capacity to compensate for potential upsets would be unreasonable and cost prohibitive. When proposing standards, CCME needs to consider that compliance limits must be met under all circumstances. Under no circumstance should compliance limits be set at levels that facilities should only be able to meet "most" of the time.

The strategy needs to recognize the difference between compliance limits, objectives and long-term targets. In contrast to compliance limits, objectives would relate to the effluent quality that an existing facility should reasonably be able to meet on an average day if it is well operated and there are no unusual process problems. An objective should not be out of the reach of the existing facility. A long-term target can be outside of the current ability of the existing facility, and quite likely exceeds the

current state of the art. It is something to consider in long term planning and to guide research and development. Objectives and targets should not be converted to compliance limits once achieved. As currently stated, the strategy would require tertiary treatment at almost all medium to very large facilities in order to achieve the compliance limits described by the strategy as "secondary treatment".

The strategy also does not address whether the effluent limits and objectives would apply to all effluent from a treatment plant, or only effluent that had received secondary treatment. Plants servicing combined sewer systems typically have extra primary capacity in order to provide primary treatment to peak flows during rain events. This serves as a means of providing primary treatment to Combined Sewer Overflows (CSOs). It would not be appropriate to apply a secondary effluent treatment standard to a CSO treatment stream. The strategy should specify that the proposed standards would not apply to wet weather bypasses.

Environmental Monitoring

The strategy proposes the establishment of receiving environment monitoring programs. As municipalities are not the only contributors to receiving water quality and multiple sources may discharge into the same receiver, responsibility for environmental monitoring should be a provincial or federal responsibility.

The proposed mixing zone requirements are not appropriate for large water bodies such as the Great Lakes or for facilities with engineered outfalls and jet diffusion. It is not reasonable to limit the mixing zone to a 10:1 dilution when the Ontario Ministry of the Environment requires an initial dilution of 20:1 at the diffuser itself. Similarly, a 100-metre limit is not appropriate on a diffuser assembly that is a kilometre in length and where the effluent plume would need to extend several kilometres to impact the shoreline.

Combined Sewer Overflows and Sanitary Sewer Overflows

Requirements are proposed for CSOs. In Ontario, there is already a provincial guideline for the control of CSOs called Procedure F-5-5 "Determination of Treatment Requirements for Municipal and Private Combined and Partially Separated Sewer Systems". The Ontario guideline is more detailed than the CCME requirements and includes specific guidance. Municipalities in Ontario with CSOs have already invested significant time, effort and money in developing Pollution Prevention and Control Plans (PPCPs) as required by Procedure F-5-5, and on implementing these plans and associated infrastructure improvements. If the MOE adopted the CCME proposal, it would be unreasonable to stop or reverse current municipal plans for implementation. Where municipalities are already addressing CSO issues, they should continue the initiatives they have started.

Under the proposal, combined sewer overflow and sanitary sewer overflow events are to be recorded. The nature of this reporting is not clear. The expense and value of any data that may be collected as well as practical difficulties must be considered in setting monitoring and reporting requirements.

The strategy proposes that no new combined sewers be constructed. CCME must recognize that existing combined sewers may require rehabilitation or replacement by new combined sewers. These activities must be allowed as long as they fit with the municipality's long-term CSO control plan.

The strategy proposes that CSO frequency not be permitted to increase due to development. Any limits to the increase in CSO frequency should be considered in the context of a long-term CSO control plan such as a Pollution Prevention Control Plan. In Ontario, this also implies that they have to meet minimum controls as specified in the MOE guideline, Procedure F-5-5.

If CCME chooses to proceed with proposed activities, the implementation timeline is too short. Environmental Assessments alone take years and sometimes decades. From the time a clear mandate is issued, time must be allocated for budgeting, planning, and design as well as time to work any new projects into construction schedules, which are already full for the next decade for many facilities. Realistic timeframes would need to be set taking into consideration all of these factors.

As with other activities proposed in the consultation document, the implementation of CSO and SSO control measures would be costly and require funding. The mandatory implementation of any new programs must consider financial requirements and be linked to the provision of funds.

IMPLEMENTATION

The document identifies pharmaceuticals and personal care products as emerging issues related to implementation of the strategy. We recommend that these areas be addressed through product registration and control rather than municipal wastewater management.

Harmonized Regulatory Framework for Sources

The document identifies sewer use bylaws as one option for managing water sources. Sewer use bylaws are an appropriate tool for source control, but they will not be effective without enforcement departments, appropriately staffed for the size of the community, nature of the compliance and enforcement work. Sewer use bylaw enforcement can be expensive and may not be feasible for all municipalities.

We support the provision of a model sewer use bylaw which could be adapted by municipalities to suit their needs. Strict adoption of a model bylaw would not be appropriate. Municipalities will require the ability to customize a model by-law to their specific needs.

Toronto Water has provided more detailed feedback on the model bylaw and its specific requirements through the Ontario Municipal Enforcement Sewer Use Group. We encourage CCME to use the Toronto sewer use bylaw as a reference for its model bylaw as the Toronto bylaw is already used as a model in many jurisdictions across the country.

ECONOMIC IMPLICATIONS

The document is deficient in identifying and evaluating the economic implications of the options proposed. Capital costs have been estimated in the 8 to 13 billion dollar range. The proposal does not currently quantify the ongoing operational costs that would be associated with running the new facilities, including additional consumption of electricity. This information must also be included to gain a true picture of the strategy's impacts. Once the costs have been clearly defined, they must be evaluated against the potential benefits in order to determine if the proposed changes are justified for all municipalities across the country. The supporting documents appear to focus on questions of

affordability and how to fund the cost. They do not address the question of whether or not there is a real need to spend the money on the proposed options, or consider if the funds could be better spent elsewhere to achieve improvements in environmental and human health protection. We suggest a more detailed evaluation of the economic implications of the proposed options.

If you have any questions or concerns regarding these comments, please do not hesitate to contact me at 416-392-5160.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Rupke". The signature is written in a cursive style with a large, sweeping initial "M".

Mark Rupke, P.Eng.
Senior Engineer, Wastewater Treatment