



May 26, 2015

Ms. Mary Hennessy
Director (Acting), Environmental Approvals Branch
Ministry of the Environment and Climate Change
2 St Clair Avenue West, 12A Floor
Toronto ON M4V 1L5

Dear Ms. Hennessy:

**Re: Response to May 4, 2015 Letter from Gowlings
Duffin Creek Water Pollution Control Plant (WPCP)
Schedule C, Class Environmental Assessment (Outfall Class EA)
MOECC File: ENV1283MC-2007-364
Pickering, Ontario**

We have received the May 4, 2015 letter from Ms. Jennifer Danahy of Gowlings to your attention and copied to Mr. Sean Love of York Region and Mr. Jason Hunt of Durham Region. Ms. Danahy's letter attaches an April 30, 2015 technical review prepared by Dr. Martin Auer in relation to a March 11, 2015 Technical Memorandum prepared for the Regions by CH2MHill entitled "Conceptual Design of Actiflo™ Process for Tertiary Treatment at the Duffin Creek Water Pollution Control Plant (WPCP)".

On behalf of the Regions, we wish to respond to the key points noted in Ms. Danahy's letter.

- The Regions do not agree with the statement that "the Conceptual Design represents the first acknowledgement by the Regions that Actiflo™ could be successfully implemented at the Duffin Creek WPCP". Success depends on overall benefits achieved and there is no indication that full implementation of Actiflo™ at the Duffin Creek WPCP would stop excessive *Cladophora* growth in Lake Ontario. For the purposes of clarity, the Regions agreed to investigate the feasibility of an Actiflo™ pilot study at the request of the Town of Ajax (Town). The Regions found that full Actiflo™ implementation would be required to assess the effect of additional treatment on nearshore water quality. Subsequently, a conceptual design exercise was undertaken to inform all parties of what full implementation involved, which became the Technical Memorandum. The Technical Memorandum used the same design criteria as the Metro Syracuse WWTP based on the Town's comments during the Outfall Class EA and Part II Order Request process, which cited the Syracuse facility as a model of Actiflo™ tertiary treatment technology.
- The Technical Memorandum was not an "assessment of technology" for the Duffin Creek WPCP. The assessment of Actiflo™ was previously considered as part of a range of tertiary technologies examined under the Outfall Class EA. The Outfall Class EA

Environmental Study Report (ESR) summarizes the assessment of this technology under the requisite range of criteria including financial, social, technical and natural environmental factors. The detailed evaluation of Short Listed Alternative Solutions is summarized in Section 10 of the ESR and concludes that tertiary technology ranked 4th out of the 5 short-listed alternatives.

- The Technical Memorandum was prepared by professional engineers licensed in the Province of Ontario, who also hold doctorate degrees in engineering. The project team is comprised of industry-qualified professionals with experience related to the design, construction, operation and maintenance of wastewater treatment facilities. It is the Regions' position that a peer technical review of the Technical Memorandum requires an equivalent level of expertise and experience.
- Based on results provided by the operations staff at the Syracuse Metro WWTP, the Technical Memorandum states that the Syracuse Actiflo™ facility produces effluent with typical total phosphorus (TP) concentrations of 0.06 mg/L to 0.07mg/L. However, Dr. Auer and the Town have claimed effluent phosphorus levels more than 10 times lower than noted in the Technical Memorandum. Based on the information we have received from Syracuse operations staff, we cannot corroborate the Town's and Dr. Auer's claims.
- Ms. Danahy states that Actiflo™ can reduce total phosphorus discharges by 74% or more. However, it is not clear how this has been calculated. In contrast, the Duffin Creek WPCP achieves a total phosphorus removal efficiency of 94% as shown in the 2014 plant Operational Report.
- The Regions have not ignored the issue of nutrient loading or Actiflo™. The Outfall Class EA process and an independent peer review conducted by world-class experts found no evidence to link the treated effluent discharges to the incidence of excessive *Cladophora* growth along the Ajax/Pickering waterfront. In addition, the Regions have undertaken a comprehensive assessment of Actiflo™ technology within the Outfall Class EA, again as a result of Part II Order Requests, and separate from the Outfall Class EA process as documented in the Technical Memorandum.
- The conceptual design for an Actiflo™ facility at the Duffin WPCP was estimated based on the design philosophy used for the tertiary treatment process at the Metro Syracuse WWTP facility. The Syracuse facility allows for wastewater to bypass the Actiflo™ treatment process when flows exceed 1.5 times its rated capacity. This approach results in frequent bypassing of the Actiflo™ treatment process. In 2014, the Actiflo™ treatment process was bypassed on 84 separate occasions allowing higher levels of TP to reach Lake Onondaga.

Letter from Durham and York Regions
To M. Hennessy, MOECC
Re Response to May 5, 2015 Letters from Town of Ajax
Duffin Creek Water Pollution Control Plant (WPCP)
Schedule C Class Environmental Assessment (Outfall Class EA)
May 26, 2015

- The Duffin Creek WPCP has been designed with a peaking factor of 2.5 times its rated capacity. This means that wastewater can be continuously treated even under very high flow rates. As a result, wastewater entering the plant flows through all the treatment processes and doesn't bypass. For the purposes of the Technical Memorandum, the Regions applied the peaking factor of 1.5 to the Actiflo™ facility to be consistent with the design of Syracuse facility. With respect to the evaluation of tertiary treatment in the Outfall Class EA, we can advise that all of the Alternative Solutions were evaluated on a consistent basis as described in Section 10 of the ESR.
- The Technical Memorandum does acknowledge that operating costs may be prorated to reflect the cost of a shorter operating season. However, the Technical Memorandum notes that the cost for a shorter operating season would not result in a linear reduction in savings because shutdown and start-up costs still need to be factored into any cost savings. Even with a shorter operating season, the unnecessarily high capital costs of installing the Actiflo™ treatment process would remain unchanged.

We wish to reiterate that the Duffin Creek WPCP has the highest treatment standard for TP of all plants discharging to the open waters of Lake Ontario. The Regions have invested approximately \$885 million in new works and rehabilitation of existing facilities to achieve this high standard. A further investment in a tertiary treatment process typical of the Actiflo™ treatment system is not supportable or appropriate for the reasons noted in the Outfall Class EA ESR. As previously offered, we remain available to discuss this response should this be welcomed by the Town.

Sincerely,



John Presta, P.Eng.
Director, Environmental Services
Works Department
The Regional Municipality of Durham



Mike Rabeau, P.Eng.
Director, Capital Planning and Delivery
Environmental Services
The Regional Municipality of York

WG/jam

Copy to: Jason Hunt, Durham Region
Sean Love, York Region
Paul Allore, Town of Ajax
Dorothy Moszynski, MOECC
Jennifer Danahy, Gowlings