



Implementation & Compliance Monitoring Committee (ICMC)

Steering Committee Meeting #7

Wednesday March 7, 2012
6:30 p.m. – 8:30 p.m.
Metro Hall, Room 303
55 John Street, Toronto, ON

Attendance:

Karen Buck	Citizens for a Safe Environment, NLC Co-chair
Karey Shinn	Safe Sewage Committee, NLC Co-chair
Dalton Shipway	Watersheds United
Stephen Whyte	South Riverdale resident, NLC
Kimberly Spice	The Bulletin Newspaper
Vi Lam	Member of public
Jim Neff	

CH2M Hill:

Daniel Olsen	Assistant Project Manager
Laurie Boyce	Project Advisor

City of Toronto:

Nancy Fleming, P.Eng	Senior Engineer, Toronto Water
Josie Franch	Public Consultation Unit

Regrets:

David Done	Safe Sewage Committee
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1. Welcome and Introductions

Josie Franch called the meeting to order at 6:30 p.m. and all present introduced themselves.

Review and approval of Agenda

Dalton Shipway proposed that the ICMC receive a certificate of appreciation for all their voluntary efforts over the years.

Karey Shinn suggested adding the ICMC's Annual Report to the agenda.

2. Presentation on Outfall Modeling Study by CH2M Hill

Laurie Boyce said that CH2M Hill is the prime consultant for the outfall modeling study and has teamed with Hatch Mott MacDonald who will be undertaking the conceptual design of the outfall and Baird Consulting who will be undertaking the lake modeling portion of the assignment.

Laurie Boyce explained that the objective of the project is to deliver a conceptual design for the new outfall, which obtains the regulatory acceptance and improves the near-shore water quality in Lake Ontario. The goal is to find an economically and environmentally feasible solution. She asked the ICMC members what they would consider to be success factors for this project.

Karey Shinn said that she was concerned about the timeline for the project. She explained that the ICMC received a notice stating that there was no need for any plant expansion because they were not going to be moving forward with the outfall for a long time. She asked if this meeting was about the preliminary work, which will not be put into effect until there is room in the budget. She explained that in 1993, the City was given a letter by the province stating that the outfall had to be replaced. If there were a way to get the City to stop postponing this project, she would like for the ICMC to encourage the project to go through more quickly.

Nancy Fleming clarified that due to the significant cost of the outfall and the City's capital budget constraints, the implementation of the proposed outfall has been substantially pushed back in Toronto Water's capital budget planning horizon.

Stephen Whyte said that his key success marker for the outfall project would be a high effluent quality. He would also like to know:

- the cost of construction and how soon it can be built,
- if the maximum flow of the outfall would still be 3923 mega liters, if the storm water component were moved to another facility,
- how the plant would manage a change in capacity in the future, i.e. in 2031 and 2061, and
- the effect of the central waterfront flows in terms of the size of the outfall.

Dalton Shipway said that during the development of the outfall project, it is

important to maintain involvement with the citizens, politicians and bureaucrats – creating the triangle of success.

Dalton Shipway pointed out that the City collects its effluent and puts it into the lake. A key marker of success would be to ensure that the effects of this effluent on species other than humans are being considered. He would like to see a report that clearly states that the effluent will not harm the existing populations of fish, birds, plants, etc.

Karen Buck provided some points that she considered key markers for success:

- The effluent quality is a critical component.
- The quality of the storm water as a component of the "combined" wastewater effluent entering the plant is critical.
- There needs to be full secondary treatment and no more bypassing of either secondary and primary treatment.
- There must be UV disinfection of the secondary effluent.
- The project must consider the Mediation Agreement because of the City commitment that applies to the outfall. The desired outcome is to ensure the protection of Lake Ontario water quality.

PRESENTATION

Daniel Olsen gave a presentation on the background and objectives of the Outfall Modeling Study. He outlined the approach being used and discussed some of the current limitations as well as the desired outcomes.

QUESTIONS AND ANSWERS

Dalton Shipway asked if the different species at different depths of the lake are being considered on an individual basis. **Daniel Olsen** replied that each habitat along the shore and at the various depths of the lake would be examined in terms of how the outfall might potentially impact them.

Stephen Whyte inquired as to whether pumping would still be required even if the tunneling were done at an angle. **Daniel Olsen** explained that the angle has no influence on pumping; once the conduit is fully filled with water, it will perform the same, regardless of the angle. **Karen Buck** asked when the conduit would be full. **Daniel Olsen** said it would be full all the time because the pipe is located below lake level.

Karen Buck asked about how the hydraulic head would be created. **Daniel Olsen** explained that the velocity of the water affects the hydraulic head. A faster moving flow results in a greater energy loss because there is more water rubbing against the side of the pipe causing friction. Energy is also lost when the water has to travel upwards within the pipe. **Karen Buck** asked if the actual pressure

measured as hydraulic head was dependant on the velocity of the flow from the treatment process. **Daniel Olsen** said it was, and added that the width and length of the pipe influence this as well; a larger pipe will decrease the velocity and have less energy loss.

Karen Buck asked if they would be submitting a study for approval under the Ontario Water Resource Act (OWRA). **Daniel Olsen** replied that they are preparing a conceptual design, which will have enough details so that it could eventually be submitted for approval. They will be consulting with the Ministry of the Environment (MOE) throughout the process.

Dalton Shipway commented that measuring water quality is extremely important. Some experts study the effects of water contaminants on indicator species such as rainbow trout. He wondered whether there would be studies like this done to verify the water quality of the effluent going out into the lake. **Laurie Boyce** replied that the approach taken will be acceptable by the Ministry's standards and they will make sure that all requirements are met in terms of fisheries.

Dalton Shipway added that the public is very concerned about drinking water quality so it is important to reassure them through verifiable scientific testing that the water is safe. He would like to see the studies provide cutting edge evidence of optimal water quality. **Daniel Olsen** said that a limnologist from LGL – an ecological research company specializing in fisheries – is part of the project team. **Laurie Boyce** added that LGL would be part of the data collection process.

Karey Shinn pointed out that when they were initially looking at the outfall and the plant itself, they were also considering tertiary treatment. This was due to the problem of not being able to get pharmaceuticals out of the water. She suggested that when designing the outfall, it would be wise to keep possible future restrictions on effluent quality in mind. She added that if there are water quality parameters that cannot be met economically with the design of the outfall, there should be a feedback mechanism that puts the focus on the sewer use bylaw for the sanitary flow, or some sort of storm water treatment requirement. An outfall, which is essentially just a conduit, cannot be expected to improve the quality of the water.

Karey Shinn inquired about the drop from the plant pipe to the outfall pipe and explained that in Boston, at the Deer Island Treatment plant, a turbine was stuck into the drop and they are now achieving about 20% of the energy for the plant. If there were any opportunity to get energy back it would be interesting to look at.

Karen Buck asked about what criteria would actually be used for the modeling and monitoring of water quality. **Daniel Olsen** explained that the first part of the

process would involve a literature review to identify the key water quality constituents. **Laurie Boyce** added that some of the major ones would of course be phosphorous, ammonia and E. coli.

Karen Buck inquired about the dilution factor. She wondered if it would still be a 20 to 1 dilution at the end of the outfall, or whether this would be increased.

Daniel Olsen replied that the depth of the water influences the dilution factor, depending on how far the outfall goes out. The modeling will go over this, looking at various lengths and depths for the outfall. The model will also use data gathered from the current meters located in the lake.

Dalton Shipway noted that the depth of the water influences the dilution factor and is the habitat for deepwater species.

Stephen Whyte pointed out that the MOE regulations suggest that if you are discharging water into a lake, tertiary treatment is not required. He asked whether the water going through the outfall would go through tertiary treatment first to eliminate suspended solids, followed by UV and then pumped out into the lake. **Daniel Olsen** explained that if the UV were first, there would be a lot of head loss – up to 1.2 meters. **Stephen Whyte** asked about whether the storm water component needs to be taken out for the UV to be successful. **Daniel Olsen** replied that the UV would have to be designed for the additional flow from the storm water but it would not affect the outfall.

Jim Neff mentioned that the current Ontario standards for outfall and water quality would likely be changing in the future. Due to climatic changes, it is expected that in approximately 70 years, the temperature will be much hotter and drier. This may result in the lake level lowering by about 1 meter, which is hopefully taken into consideration in the design. **Laurie Boyce** said that this point has been brought up several times and it is being considered in the modeling.

Karen Buck asked if there was any consideration being given to building a new storm water facility with one of the outfall conduits being dedicated to storm water. **Daniel Olsen** replied that the evaluation of this would be part of the assessment.

Karen Buck pointed out that the main outfall from ABTP should not be used as a chlorine contact chamber. It is important to use UV as a disinfectant to keep chemicals out of the water and avoid chlorination. Council has said that they want to use UV on secondary effluent, but there could be some challenges in treating effluent that contains a lot of storm water.

Stephen Whyte was concerned that the diffusers are currently blocked by sedimentation. **Laurie Boyce** explained that the conceptual design for the outfall would take into consideration the length of the diffuser, the size of the ports and the operation and maintenance required. **Daniel Olsen** added that they would

ensure that the outfall is beyond the sediment zone.

Dalton Shipway commented that human health cannot be separated from the ecosystem. Humans are drinking, breathing and living within the ecosystem, and impacts on the biosphere affect human health. There needs to be a more biocentric point of view when considering the impacts of large scale projects on the natural environment.

Karen Buck commented that in order to be really forward thinking, we would stop putting human waste into our water system. A lot of countries are looking at separating toilets and keeping human waste out of their water.

Karen Buck asked about corrosion of the pipes. She mentioned that some studies have suggested that when chloride, ammonia and fluoride mix together, a highly corrosive wastewater stream is the result.

Stephen Whyte asked about the maximum flow for the outfall. He would like to see different scenarios predicting the maximum flow for an average day. **Laurie Boyce** explained that different scenarios would be considered because the outfall will be designed for the long term. They will use predictive modeling to help determine this. **Daniel Olsen** added that they would look closely at the various flows coming in and the quality of the flows will be looked at separately.

Karen Buck pointed out that there are a lot of high-rise developments happening in the CN lands area and North York. She asked what the expected increase in wastewater flow would be to the ABTP. **Nancy Fleming** replied that the City does not currently see a need to expand the plant.

Jim Neff inquired about capacity and pointed out that due to storm water inputs, there have been overflows causing the plant to shut down. **Nancy Fleming** said that storm water flow entering the plant is being addressed through the Don Trunk EA currently being undertaken.

Laurie Boyce and **Daniel Olsen** thanked the ICMC for their time and also for their questions.

3. Review and Approval of ICMC SC minutes

- Meeting #6, August 18, 2011

Karen Buck moved to approve the minutes from the August 18th meeting. **Karey Shinn** seconded the motion. The minutes were approved.

4. Additional agenda item: ICMC's annual report.

Karey Shinn stated that the ICMC's annual report is due to be sent to the

Ministry at the end of March 2012, and there have not been any meetings since August 2011. **Karey Shinn** moved that she, Karen Buck and anyone else who was interested, send a letter to the Ministry with regards to what has happened over the past year. The committee received only two reports: one on the Biosolids Master Plan and one on the Water Efficiency Plan. The letter would state that the ICMC has not received enough information or held enough meetings to produce a report.

Karen Buck would like to see better cooperation between the City of Toronto and the ICMC, in terms of meetings and the agendas set for these meetings. She added that the City (representing Toronto Water) had agreed to regularly report the figures involving the amount of sanitary sewage and flow to the plant. Due to the large amount of building going on in the city, Ashbridges Bay Treatment Plant will be required to treat all the extra water.

Stephen Whyte said that the letter received by the ICMC in February 2012 outlines the cancellation of the advisory committee. He pointed out that the ICMC's purpose is to function as a steering committee for new projects, as long as there is more information to be shared about any approvals for projects. There needs to be more clarity from the City as to whether the steering committee is going to be shelved. **Nancy Fleming** explained that the City's commitments outlined in the Mediation Agreement have either been completed or substantially completed and that moving forward only the steering committee of the ICMC will continue to be consulted as it related to the approved undertakings as per the Conditions of Approval. Meetings will be called when there are updates or new information to present as it relates to the outfall, pumping station and disinfection system.

Stephen Whyte added that there should be more clarification as to which resolutions will require further reports.

Stephen Whyte said that the Ministry did not state there could be a steering committee without an advisory committee. He will contact the Ministry to gain some clarity about section 8.1.4.

Karen Buck pointed out the ICMC meetings are to be scheduled by the committee and she agrees with the meetings that were planned for this process. She also stated that the City is way behind schedule in dealing with their commitments made in the Mediation Agreement and the planning horizon should be extended from 2011 to 2014, or possibly 2021. There are still a lot of outstanding ICMC and City commitments, therefore it might be appropriate to make 2021 the new planning horizon, now that 2011 has been reached and the City is still continuing to implement commitments made in the MA.

Karey Shinn asked if certain aspects of the ICMC could remain dormant when nothing new is happening, rather than terminating the committee.

Karen Buck pointed out that the ICMC should continue to be involved with ongoing monitoring and compliance issues. **Nancy Fleming** said that the steering committee portion of the ICMC would continue for the planning of the Approved Undertakings as detailed in the MOE Conditions of Approval.

5. Adjournment & Next Meeting

The meeting was adjourned at 8:30 p.m.