

**ENVIRONMENTAL APPROVALS BRANCH, MANITOBA CONSERVATION
CLEAN ENVIRONMENT COMMISSION PUBLIC HEARINGS
CITY OF WINNIPEG SEWAGE INVESTIGATION
JANUARY 20, 2003**

**OPENING COMMENTS
BY
LARRY STRACHAN, P.ENG.
DIRECTOR
ENVIRONMENTAL APPROVALS BRANCH**

OPENING COMMENTS TO CITY OF WINNIPEG SEWAGE INVESTIGATION
PUBLIC HEARINGS – JANUARY 2003

Background

Under the former *Clean Environment Act*, The City of Winnipeg was delegated authority by Order-in-Council to control effluent discharges within the City and the former additional zone. The delegation required the City to provide technical data relating to discharge of wastewater. The City has and continues to provide annual reports on discharges from their wastewater treatment plants.

The delegated authority was repealed with *The Environment Act* in 1988. Accordingly, a regulatory process was commenced to licence the City of Winnipeg Pollution Control Centres (WPCC's). The City submitted Environment Act Proposals in February 1990. In response to the Proposals, the Clean Environment Commission was requested to hold a public environmental review in two stages:

1. Determination of the surface water quality objectives for the Red and Assiniboine Rivers and tributaries in the Winnipeg region which are required for the protection of current and future uses of those waters; and
2. Review of strategies, measures, and courses of action (including time frames) required to implement the recommended water quality objectives determined in the first stage.

Clean Environment Commission public hearings on the first stage of the environmental review were held in November and December 1991, and January 1992. A report on the hearings was submitted in June 1992. The report contained fourteen recommendations, which were subsequently accepted for implementation in November 1993. The recommendations and their current status of implementation are outlined in Appendix 'A' to these comments. Two of the recommendations required site specific studies to be undertaken respecting combined sewer overflows (CSO) and un-ionized ammonia (Ammonia). The studies were to be completed by July 1997 and then used for consideration in the second stage of the environmental review. Due to the complexities of the studies, flood priority actions in 1996 and 1997, and reallocation of funding for disinfection, the final reports for both the CSO and the Ammonia study were not completed until November 2002. Some additional confirmation studies for the Ammonia study are required and planned.

In the interim, a number of regulatory activities/actions relating to WPCC upgrades and effluent control were undertaken in conjunction with the City programs. Details of these actions are outlined in Appendix 'B' to these comments.

Path Forward

In 2001, a collaborative process between The City of Winnipeg, Manitoba Conservation, and Manitoba Health was agreed to. The process would review the CSO and Ammonia studies and develop a regulatory process to culminate in the licencing of the WPCC's. Four workshops were held in this process between December 2001 and April 2002. In this process seven issues for actions were prioritized on an environmental and health protection basis for implementation. These issues, in priority order, are:

1. Potable Water Treatment Plant
2. Wastewater Plant Effluent Disinfection
3. Ammonia Reduction
4. Biosolids Management
5. Nutrient Management
6. Combined Sewer Overflows
7. Land Drainage

Consistent with the Terms of Reference for these hearings, Issue 2 Wastewater Plant Effluent Disinfection, Issue 3 Ammonia Reduction, Issue 5 Nutrient Management and Issue 6 Combined Sewer Overflows should be the focus of this hearing.

Separate environmental and health regulatory processes are in place to address the Potable Water Treatment Plant and Biosolids Management, and these two Issues should not be addressed in any detail in this hearing. In addition, it was agreed that the Land Drainage Issue would be tabled for future review.

The conclusion of the collaborative process in April 2002 also outlined a process that would have resulted in proceeding with the second stage of the environmental review in September 2003.

Government decisions following the September 16, 2002 sewage spill resulted in the hearing today.

In response to the September 16, 2002 spill, Manitoba Conservation has conducted an investigation of the cause of the spill and has made recommendations for action. In addition, a water quality assessment of the Red River and Lake Winnipeg following the spill of sewage was conducted. This information is available on the public registry and an overview of the spill information can be made to this hearing if required.

Following the conclusion and receipt of the report from this hearing, the Environmental Approvals Branch will develop and issue Environment Act Licences for the three WPCC's.

Other staff making presentations in these hearings are:

- Dwight Williamson, Manager, Water Quality Management Section; and
- Mike Van Den Bosch; A/Manager, Municipal, Industrial, & Hazardous Waste Approvals Section.

The presentations will be:

- An overview of the Manitoba Water Quality Standards, Objectives, and Guidelines by Dwight Williamson;
- An overview of our Nutrient Management Strategy by Dwight Williamson; and
- Recommendations for effluent discharge limits from the WPCC's by Mike Van Den Bosch.

I will make a concluding statement to the hearing.

If there is any other information that you feel would be helpful to your task, we would be pleased to address it.

Thank you, Mr. Chairman.

Larry Strachan, P.Eng.,
Director, Environmental Approvals Branch

Appendix 'A'

1991-1992 CEC RECOMMENDATIONS AND THEIR STATUS OF IMPLEMENTATION

Recommendation 1 (Class 1 – Domestic Consumption)

The Red and Assiniboine Rivers should be protected for domestic consumption use according to MSWQO.

Status: Adopted

Recommendation 2 (Class 2 – Category B- Cool Water Aquatic Life and Wildlife)

Rivers and streams specified within the classification area should be classified for the protection of cool water aquatic life and wildlife. However, the acceptance of the proposed classification is qualified because there is uncertainty regarding the related objective's specified unionized ammonia parameters. The Commission recommends that the specific requirements for unionized ammonia be set at those prescribed by the U.S. EPA by 1997 unless site specific research has determined otherwise. Research requirements have been specified in Recommendation 6.

Status: Adopted. The site-specific research on ammonia was completed in November 2002 (although the need for additional follow-up work has been identified). Previous to this, Manitoba Conservation proposed numerous revisions to its water quality objectives program. A draft document titled "Manitoba Water Quality Standards, Objectives, and Guidelines" was released in April 2000 for initial review and comment. The proposed water quality objectives in this document reflect U.S. EPA 1999 information. Further modification may be warranted following full review of the specific Winnipeg research and advice from the 2003 hearings.

Recommendation 3 (Class 3 – Industrial Consumption)

The Red, Assiniboine, Seine, and LaSalle Rivers, within the classification area, should be classified for industrial consumption according to the MSWQO.

Status: Adopted.

Recommendation 4 (Class 4 – Categories A, B, and D, Greenhouse and Field Crop Irrigation and Livestock Watering)

The following watercourses and uses should be protected according to the MSWQO, during dry weather flows:

- *The Red and Assiniboine Rivers should be protected for greenhouse irrigation;*
- *All rivers and streams, specified within the classification area, should be protected for field crop irrigation;*
- *All rivers and streams, specified within the classification area, with the exception of Omand's and Bunn's Creeks, should be protected for livestock watering.*

Classification of these uses during wet-weather flows should be postponed until site-specific research can provide adequate information for informed decision-making. Research requirements have been specified in Recommendation 7.

Status: Adopted.

Recommendation 5 (Class 5 – Categories A & B, Primary and Secondary Recreation)

The Red River should be protected for primary recreation, and all watercourses specified within the classification area be classified for secondary recreation, according to the MSWQO, during dry weather flows.

Classification for these uses during wet-weather flows should be postponed until site-specific research can provide adequate information for informed decision-making. Research requirements have been specified in Recommendation 7. Until this information is available, the rivers within the prescribed area should be posted with cautionary notices regarding the risks of primary and secondary recreation following rainfall events of sufficient volume to cause combined sewer overflow impact to the rivers.

Status: Adopted. Major access points to the rivers were posted with cautionary information in 1998.

Recommendation 6 (Un-Ionized Ammonia Study)

Detailed site-specific studies should be undertaken to determine both the acute toxic and chronic effects of un-ionized ammonia from wastewater effluent on the cool water aquatic life of the rivers. Members of the scientific community within Manitoba should be invited to collaborate in the study design. Recommendations should be available before July, 1997 as to the program required to deal with un-ionized ammonia in wastewater at the water pollution control sites along the river systems being considered. The study results will be utilized to establish the un-ionized ammonia objective at a public hearing to be held within six months of the completion of the study.

Status: Adopted. Completion timeline was delayed and the base study report was finalized in November 2002. Some additional confirmation studies are required and planned. The report will be discussed at the 2003 hearings and the water quality objective may be modified, if warranted, based on the advice from the 2003 hearings and the additional confirmation studies. Action on licencing ammonia discharges will be taken following advice from the 2003 hearings.

Recommendation 7 (Fecal Coliform Study)

Site specific studies should be undertaken to determine water quality impacts of the combined sewer system on the rivers with the study including and not limited to:

- *A physical inventory of the combined sewer system and the reaches of the rivers affected*
- *A project schedule in order to ensure that a sufficient number of flow events are monitored to understand the impacts of the combined sewer overflow on water quality in the river particularly during low river flows*
- *An understanding of routing through the sewer system during dry and wet weather flow events*
- *Flow monitoring of the sewers and the rivers*
- *Rainfall monitoring network*
- *Water quality monitoring during overflow events at the overflows and in the receiving stream*
- *The establishment of parameters concerning storm frequency and the duration that fecal coliform levels must be met*

The date should be used to establish the cause of water quality violations in the river and subsequently result in the formulation of remedial measures to reduce the impact.

Members of the scientific community in Manitoba should be invited to collaborate in the study design and an advisory or steering committee should be established during implementation of the study. Recommendations should be available before July, 1997 regarding changes to the design and operation of the combined sewer overflows in The City of Winnipeg. Hearings should be held within six months of the completion of the study to determine the implementation schedule for fecal coliform objective.

In the interim, following rainfall events of sufficient volume to cause combined sewer overflows to the rivers, the rivers in the prescribed area should be posted with health related cautionary notices regarding the safety of primary recreation.

Status: Adopted. The completion date for the study report was delayed and the report was finalized in November 2002. The report will be discussed at the 2003 hearings and actions taken in consideration of the advice received at the hearings. Major access points to the rivers were posted with cautionary signs in 1998.

Recommendation 8 (Warning System for High Coliform Levels)

The Minister of Environment, in conjunction with other Departments and the City of Winnipeg, should research and develop an appropriate high fecal coliform level public warning system for operation during the recreation season. The warning system should alert river and tributary users within the classification area of fecal coliform standard exceedances. It should be operational in the recreation season following attainment of dry-weather flow compliance with fecal coliform objectives.

Status: Not implemented. Until disinfection is implemented at the North End Water Pollution Control Centre, it is expected that routine exceedance of the fecal coliform objectives would continue to occur. To protect users of the river, the general advice provided through warning signs posted in 1998 should be applicable. Once disinfection is implemented, it would be appropriate to consider providing a public warning system for high fecal coliform densities. An approach similar to the present system that Manitoba Conservation uses for approximately 50 recreational beaches in Manitoba each summer could be considered.

Recommendation 9 (Floating Debris Procedures – St. Andrews Locks)

The Minister of Environment should encourage and facilitate improved operations by Public Works Canada to minimize the release of floating debris passing over the St. Andrews Locks.

Status: Completed by letter from the Director, Environmental Approvals in January 1992.

Recommendation 10 (Wastewater Discharge From Boats)

As soon as possible, legislation should be developed to prohibit the discharge of wastewater from boats into the rivers and streams of Manitoba.

Status: The Federal Pleasure Craft Sewage Pollution Prevention Regulations (SOR/91-661) and Non-Pleasure Craft Sewage Pollution Prevention Regulations (SOR/91-659) were enacted under the Canada Shipping Act in 1991.

Recommendation 11 (Upgrading of 1981 Red River Classification)

The watershed classification program for the Red River, undertaken in 1981, should be upgraded to reflect the revisions made to the “Manitoba Surface Water Quality Objectives” document of 1988.

Status: Not completed. An upgrade to the classification will occur following completion of the present review process for the Manitoba Water Quality Standards, Objectives, and Guidelines.

Recommendation 12 (Barriers and Flow Interruptions on The Seine River)

Manitoba Environment should refer concerns raised at the hearings regarding barriers and interruptions to flow, particularly on the Seine River, to the appropriate authorities for investigation.

Status: Manitoba Conservation routinely removes debris from the inlet of the Seine River Diversion under the Red River floodway. In addition, the siphon structure for the Seine River Diversion under the Red River floodway was re-aligned in the winter of 2000 to minimize seepage losses. Debris is also removed from bridge structures or from natural channels should property damage appear likely.

Recommendation 13(Review of Manitoba Surface Water Quality Objectives)

Manitoba Environment should consider a number of recommendations made respecting the need to re-examine the Manitoba Surface Water Quality Objectives. If, following such an examination, substantive changes are contemplated, a public review of any proposed revisions should be undertaken.

Status: A public and technical review on proposed revisions to the Water Quality Objectives commenced in April 2000.

Recommendation 14 (Riverbank and Riverbottom Clean-up)

Manitoba Environment should continue to assist initiatives of volunteer groups designed to clean-up riverbanks and riverbottoms, particularly in the Winnipeg area.

Status: Manitoba Conservation, wherever possible given available resources and priorities, provides support to urban streams and rivers volunteer groups. This support is usually in the form of assistance with water quality sampling, interpretation of data, and public education.

Appendix 'B'

ENVIRONMENT ACT ACTIVITY/APPROVALS SINCE APRIL 1, 1988

North End Water Pollution Control Center (NEWPCC)

- May 12, 1989 – Alteration approval for installation of a sludge dewatering facility
- February 26, 1990 – Environment Act Proposal submitted for the existing facility including the sludge dewatering facility
- October 5, 1990 – Alteration approval for leachate treatment

South End Water pollution Control Center (SEWPCC)

- August 24, 1989 – Alteration Approval for clarifier expansion
- February 26, 1990 – Environment Act Proposal for existing facility and expansion to facility
- May 9, 1990 – Environment Act Licence No. 1363 issued for Stage 1 Plant Expansion
- August 4, 1998 – Alteration approval for disinfection installation
- August 25, 1999 – Amendments to disinfection alteration approval

West End Water pollution Control Center (WEWPCC)

- February 26, 1990 – Environment Act Proposal to construct a new activated sludge treatment facility
- May 17, 1990 – Environment Act Licence No. 1370 issued to authorize construction and operation of the new activated sludge treatment facility