



**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, NOVEMBER 14, 2012**

SUBJECT MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

ISSUE

To provide information on the implications of the two motions provided by Director Derman and Director Desjardins.

BACKGROUND

At the October 10, 2012 Core Area Liquid Waste Management Committee meeting, Director Derman and Director Desjardins provided notices of motion:

Director Derman

That the Core Area Liquid Waste Management Committee:

1. Suspend further action on the current sewage treatment project titled: *The Path Forward*.
2. Commit to development of a plan for sewage treatment that:
 - a. Optimally contributes to global and local environmental issues particularly those involved in climate change.
 - b. Contributes to a sustainable financial environment for regional, provincial and federal taxpayers by substantially reducing or eliminating the life cycle costs involved in the current project.
 - c. Responds to changes in the region anticipated by the Regional Growth Study (RGS)
 - d. Positions itself to take advantage of emerging technology such as microbial fuel cells which promise very considerable environmental benefits at greatly reduced or net positive life cycle costs.
3. Based on extensive scientific and health assessments that indicate minimal harm and risk, lobby the federal government, at both the staff and the political level, to categorize current sewage practices in the Core Area as "low risk". Such a characterization would require compliance with federal regulations by 2040.
4. Based on extensive scientific and health assessments that indicate minimal harm and risk, lobby the provincial government, at both the staff and the political level, to modify the order to treat so that is consistent with the minimal risks presented by current core area sewage practices.

The Core Area Liquid Waste Management Plan (CALWMP) Amendment No. 7, approved by the Ministry of Environment in February 2010, reflected in large part the Path Forward plan, including a tertiary treatment plant at the Saanich East-North Oak Bay (SENOB) location, a wet

weather plant at Clover Point, secondary treatment at McLoughlin Point with a tertiary treatment side stream and a treatment plant on the Westshore to be defined later. CALWMP Amendment No. 8 (the current plan) approved in August 2010, is a significant departure from the Path Forward plan comprising an attenuation tank to replace the tertiary treatment plant at SENOB, elimination of wet weather treatment at Clover Point, elimination of the tertiary treated side stream at McLoughlin and deferral of a treatment plant on the Westshore. The plan also includes resource recovery including heat, biogas and struvite (phosphorus) and will contribute to a reduction in GHG emissions.

Secondary treatment will reduce the oxygen demand on the marine environment by 90% compared to the present practice.

Schedule 2 of the Wastewater Systems Effluent Regulations is used to rate the discharges to the receiving environment. The rating is determined by the average daily volume of effluent; the average carbonaceous biochemical oxygen demand (CBOD) and the average concentration of suspended solids (SS); the average concentration of residual chlorine; the average concentration of un-ionized ammonia and where the effluent is deposited via the final discharge point. The following table show the rating for Clover Point and Macaulay Point outfalls.

	Clover Point	Macaulay Point
Flow	35	35
CBOD & SS	69	79
Chlorine	0	0
Un-ionized ammonia	0	0
Where discharged	5	5
Total Points	109	119

Facilities that do not meet the 25/25 CBOD/SS standard and have a points total greater than 70 must upgrade their facilities by December 31, 2020. Both outfalls significantly exceed the 70 point threshold.

While there may be new technologies in the future, the directive from the province is to implement secondary sewage treatment and under the federal regulations, by 2020. Microbial fuel cells, like other emerging technologies, remain at the small-scale research level with no indication of scalability or efficiency. Referring to the specific technology noted in the motion, a microbial fuel cell researcher at the University of Wisconsin has stated ‘the microbial fuel cell industry as a whole is still trying to prove whether this will really work’. The researcher notes that of the nearly 4,000 papers published on fuel cells, less than 2% report on processing volumes larger than one litre. Based on what is known today, microbial fuel cells will not substantially reduce or eliminate lifecycle costs associated with sewage treatment.

The current plan does provide a phased approach, addressing the need to provide treatment for existing sewage flows committing approximately 80% of the capacity proposed for the McLoughlin facility. Constructing a smaller facility at McLoughlin will not significantly reduce the capital cost. In the future, when needed, additional capacity can be provided where growth is occurring, as anticipated by the Regional Sustainability Strategy, and can take advantage of the technology available at that time.

The procurement process will encourage proponents to submit a proposal based on proven technology for liquids treatment, rather than unproven emerging technologies. Anaerobic digestion remains the preferred technology for resource recovery from sludge, the primary source of available energy from sewage.

Staff have contacted Environment Canada to inquire about the possibility of having the current discharges classified as 'low risk' to defer implementation of sewage treatment. The response is attached (Attachment 1).

Director Desjardins

That the Core Area Liquid Waste Management Committee request a re-evaluation of the federal environmental standing of the Capital Regional District (CRD) and request an exemption in the federal wastewater regulations.

And that the CRD engage the prominent scientists who are united in their opinion that we are not harming the environment, and that we have the wrong plan.

The federal Ministry of Environment has indicated that the regulations were intentionally written to exclude the opportunity for exemptions other than those stated in the regulations. The regulations came into force only after extensive consultation with municipalities across Canada. While the motion also proposes engaging the prominent scientists who are united in their opinion that we are not harming the environment, it does not state the reason for doing so.

IMPLICATIONS

INTERGOVERNMENTAL IMPLICATIONS

Adoption of either motion will require an amendment to Amendment No. 8 of the CALWMP. Such an amendment requires the approval of the provincial Minister of Environment. The current draft funding agreements with British Columbia and Canada are based on implementing Amendment No.8.

ECONOMIC IMPLICATIONS

Based on the current estimate of \$782.7 million, the federal and provincial governments have agreed to contribute up to \$501 million or 64% of the required funding based on Amendment No 8 to the CALWMP. Failure to proceed with the approved plan risks the loss of the funding from the British Columbia and Canada, while leaving the requirement to provide secondary sewage treatment by 2020 unchanged, potentially at the full cost to local taxpayers.

ENVIRONMENTAL IMPLICATIONS

Adoption of either motion will result in the deferral of action by the CRD to comply with the provincial order and federal regulations and continuation of raw sewage discharges to the marine environment beyond the deadline established in the regulations.

CONCLUSION

The CRD Board approved CALWMP Amendment No.8 as the plan to address the order from the provincial Minister of Environment. The plan will also ensure that the CRD complies with the new federal regulation to provide secondary sewage treatment. Adoption of either of these motions will delay provision of sewage treatment, require the CRD and province to approve an amendment to the CALWMP and put the CRD out of compliance with the federal regulations with the potential for sanctions for non-compliance. The proposed plan to treat existing flows and a modest increase in growth does not preclude future adoption of new technology in growth areas.

RECOMMENDATION

That the Core Area Liquid Waste Management Committee receive the report for information in considering the motions.

J.A. (Jack) Hull, P.Eng., MBA
Interim Program Director
Core Area Wastewater Treatment Program

JH:hr

Attachment: 1



J. A. (Jack) Hull P. Eng, MBA

6 November 2012

Interim Project Director
 Core Area Wastewater Treatment Program
 Capital Regional District
 510-1675 Fisgard Street
 Victoria BC V8W 2G5

Dear Mr. Hull:

This letter is in response to your questions regarding whether the CRD could have until 2030 or 2040 to achieve a secondary level of wastewater treatment under the *Wastewater Systems Effluent Regulations* (Regulations), or if the CRD could be exempted from the Regulations because of, as you have expressed, the “unique open marine waters” into which effluent is deposited.

The *Wastewater Systems Effluent Regulations* (Regulations) were published in the *Canada Gazette*, Part II, on July 18, 2012, and are now in force. The Regulations are made under the *Fisheries Act* and provide the first national standards for wastewater treatment. They set specific conditions that need to be met in order for the discharge of wastewater to be in compliance with the law. The conditions include the concentrations of carbonaceous biochemical oxygen demand (CBOD), suspended solids, total residual chlorine and un-ionized ammonia that are authorized to be deposited. As well, the Regulations set requirements for monitoring, record-keeping, reporting and toxicity testing.

An owner or operator of a wastewater system, such as the CRD's, depositing effluent not at a secondary level of wastewater treatment (i.e. not meeting the national effluent quality standards for CBOD and/or suspended solids) may apply for a transitional authorization. The application requirements are spelled out in the Regulations. A point scheme and the timeline to upgrade (end of 2020, 2030 or 2040) based on the number of points allocated are set out in Schedule 2 and subsection 26(2), respectively, of the Regulations. Wastewater systems that are not at a secondary level of wastewater treatment and that do not apply for a transitional authorization would not be in compliance with the law. There are no exemptions or exceptions in the Regulations to allow the owner or operator of a wastewater system that is not achieving a secondary level of treatment to be compliant without having a transitional authorization.

This authorization, once issued, establishes the conditions under which such a system may continue to operate, including setting site-specific limits for CBOD, suspended



solids and un-ionized ammonia and the timeline to meet the national effluent quality standards for CBOD and suspended solids.

It is anticipated that the CRD's wastewater system would be allocated 70 or more points under Schedule 2 of the Regulations and that the CRD would, therefore, be given until the end of 2020 to upgrade to a secondary level of treatment. In 2021, the CRD's effluent would need to meet the effluent quality standards for CBOD and suspended solids.

In response to your question, the timeline to achieve a secondary level of wastewater treatment is set out in the Regulations. There are no exceptions or exemptions to this for wastewater systems that are subject the Regulations and in need of upgrading.

I trust that my response is of assistance.

Regards,

James Arnott
Manager, Wastewater Program
Industrial Sectors Directorate
Environment Canada