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**REPORT TO SAANICH PENINSULA WASTEWATER COMMISSION
MEETING OF THURSDAY 22 SEPTEMBER 2011**

**SUBJECT SAANICH PENINSULA TREATMENT PLANT TECHNICAL WATER QUALITY REVIEW
PANEL – REVIEW OF THE NEED FOR DISINFECTION**

ISSUE

In 2001, the Saanich Peninsula Outfall Technical Water Quality Review Panel (TWQRP) set a number of triggers for the future evaluation of the need for effluent disinfection at the Saanich Peninsula Treatment Plant (SPTP). One trigger (i.e., ten years has elapsed since the SPTP has started operation) was initiated in 2011.

BACKGROUND

There is a commitment in the Saanich Peninsula Liquid Waste Management Plan (LWMP) to establish a TWQRP to evaluate the need for disinfection of the effluent from the SPTP. The TWQRP was made up of representatives of the Capital Health Region (CHR), Environment Canada, the Marine Monitoring Advisory Group (MMAG) and staff. The Capital Regional District (CRD) extended invitations to Fisheries and Oceans Canada (DFO), the Ministry of Environment (MOE), and local First Nations, none of which participated in the process. The former terms of reference for the panel are included as Appendix A.

The TWQRP convened a number of meetings to review the results from the water quality component of the pre- and post-discharge monitoring programs (i.e., analysis of surface waters around the outfall for fecal coliform bacteria) and compare the results to guidelines set to protect human health (i.e., primary contact recreation guidelines). The group completed their assessment in May 2001 and recommended that there was no need to disinfect the effluent to meet the primary contact recreation guideline. Data collected following the SPTP start-up were consistently below guidelines and showed no pattern of exceedences.

However, the Panel identified situations in the future that could warrant a re-evaluation of the need for effluent disinfection and trigger resurrection of the TWQRP. The situations were as follows:

1. the SPTP flows reach an average daily flow of 15,000 m³/day (which represent 75% of the plant's capacity); or
2. on the recommendation of the MMAG based on an effect noted in the ongoing monitoring of the receiving environment; or
3. there is a significant degradation in effluent quality measured by fecal coliform in the discharge as compared to the period June 2000 to June 2001 (i.e., defined as a ten-fold increase in the annual mean over a period of one year); or
4. no later than 2011 (i.e., ten years has elapsed since the SPTP has started operation).

Triggers 1 through 3 have not been triggered; trigger 4 was tripped in 2011. It should be noted that these triggers are not contained within the LWMP and, therefore, there is no formal regulatory requirement to follow them. Recently, members of the MMAG have suggested that the CRD undertake a comprehensive statistical review of all SPTP surface water monitoring results (including the fecal coliform and nutrient monitoring results) because a review has not been undertaken for the fecal coliform results since the TWQRP last convened in 2001 and for the nutrient results since 2004.

The MMAG has played an ongoing role in reviewing the SPTP outfall monitoring data since the plant was commissioned and group membership currently includes representatives of the University of Victoria, Simon Fraser University, the MOE, DFO, the Vancouver Island Health Authority (VIHA), and members of

Saanich Peninsula Wastewater Commission – 22 September 2011

Re: SPTP Technical Water Quality Review Panel – Review of the Need for Disinfection

Page 2

the general public with relevant scientific expertise. The MMAG currently has the expertise to undertake a review of the need for SPTP effluent disinfection, and would gain even more expertise if invitations were extended to Environment Canada and local First Nations.

ALTERNATIVES

That the Saanich Peninsula Wastewater Commission:

1. update the TWQRP terms of reference, designate the MMAG as the TWQRP, and enhance MMAG expertise by extending invitations to representatives from Environment Canada, local First Nations and/or other relevant agencies;
2. update the TWQRP terms of reference and reconvene the TWQRP with an alternative membership composition;
3. ignore the TWQRP recommendation and not initiate a review of the need for SPTP effluent disinfection in 2011; or
4. identify alternatives to the TWQRP process.

ENVIRONMENTAL IMPLICATIONS

Although annual assessments of the SPTP surface water monitoring results have not qualitatively indicated a need for disinfection (i.e., primary contact recreation guidelines for fecal coliform levels have not been exceeded), a formal statistical review of the results has not been done since 2001.

ECONOMIC IMPLICATIONS

There potentially would be some costs associated with reconvening the TWQRP (e.g., panel member travel costs, etc.). However, these costs would fit within the associated 2011 and 2012 budgets for the SPTP Wastewater and Marine Environment Program.

CONCLUSION

In 2001, the TWQRP recommended that a review of the need for effluent disinfection at the SPTP be undertaken in 2011. Even though there is no formal regulatory requirement to follow this recommendation and annual monitoring has not qualitatively identified a need for disinfection, it would be prudent to undertake a scientific and statistical review of fecal coliform monitoring results from around the outfall since one has not been done since 2001. It is not anticipated that a formal review will identify the need for disinfection.

RECOMMENDATION

1. That the Saanich Peninsula Wastewater Commission update the TWQRP terms of reference, designate the MMAG as the TWQRP, and enhance MMAG expertise by extending invitations to representatives from Environment Canada, local First Nations and/or other relevant agencies.

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