

**Memo to Minister - CRD Municipal Wastewater
Responses to Minister's Comments
March 13 Draft**

1. **Issue: The long-term strategy will be aimed at addressing current and future CEPA-toxic substances and requirements of the *Fisheries Act*.**

Minister's question: Are these consistent?

There is the flexibility available to make risk management instruments for CEPA toxics consistent with the requirements of the *Fisheries Act*. The current draft of the Proposed Notice for the pollution prevention planning initiative indicates that Environment Canada is developing a long-term strategy for wastewater effluents that will include the development of a regulation for municipal wastewater under the *Fisheries Act*. The outcome would be a fair, consistent and predictable application of *CEPA* and the *Fisheries Act*.

2. **Issue: Further assessment will be necessary to determine if it will be necessary for the CRD to implement treatment to reduce ammonia concentrations.**

Minister's question: Is source control also available for this?

Source control will unlikely be an option for most dischargers, including CRD, given that the dominant source of ammonia in municipal wastewater effluent is sewage.

3. **Issue: It is Environment Canada's intention to develop specific objectives in CEPA guidelines and a regulation under the *Fisheries Act* which will be fair, consistent and predictable application of CEPA and the *Fisheries Act*.**

Minister's question: Will this take into account receiving water differences?

The Proposed Notice under *CEPA* does consider some receiving environment characteristics such as receiving water pH and available dilution. Because the CRD is not triggered by the conditions in the Proposed Notice that require the preparation of pollution prevention plans it is not anticipated that the CRD will be required to prepare and implement a pollution prevention plan.

Also, although the long-term strategy has not yet been developed, it is anticipated that receiving environment conditions (i.e. environmental quality objectives) will be considered while other requirements will be based on concentrations of deleterious substances in the effluent at point of discharge.

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4. **Issue:** DFO staff have indicated that because the CRD discharges are suspected to be in violation of subsection 36(3) of the *Fisheries Act*, primary treatment is required.

Minister's question: This, surely, is a legal concern of drafting of the legislation, not a scientific concern.

While the legal aspect is a critical consideration, DFO also has scientific concerns as outlined in part in paragraph 4 of the Background in the Jan. 15/03 Memorandum to Minister. These include, according to DFO, frequent effluent surfacing during periods of slack tide thus exceeding contact recreation water standards and in some cases exceeding shellfish harvesting standards, contamination of the surface microlayer of the ocean, correlation between coliform bacteria and enteroviruses, and new persistent organic pollutants and EDCs that need to be further addressed.

5. **Issue:** DFO staff feel the information presented at the EC/DFO science workshop supports the need for primary treatment (and possibly further treatment later).

Minister's question: On the scientific or on the legal issue?

See response to comment 4 above.

6. **Issue:** A few other inadequately treated sewage discharges (municipalities) on the West Coast regularly refer to the continuing CRD raw sewage discharge as an excuse for not implementing treatment themselves.

Minister's question: Surely this is an argument which ignores the site specific nature of the problems.

As with the CRD, extensive impacts in the receiving environment resulting from these other dischargers have not been documented. However, with the exception of the GVRD Iona Island treatment facility, none have carried out receiving environment monitoring to the extent of CRD. In fact, regional staff are not aware of any monitoring by some of the dischargers. However, given the size and location of their discharges, it is not anticipated that significant environmental impacts would be evident. **This situation illustrates the need to have a municipal wastewater strategy with appropriate regulatory instruments (e.g., *Fisheries Act* regulation) that will provide legal certainty for both municipalities and federal regulatory authorities (EC and DFO). For example, a regulation under the *Fisheries Act* could require municipalities to conduct environmental effects monitoring (EEM) programs. Monitoring results could then be used to determine if the regulatory limits within the regulation are sufficient under all wastewater discharge circumstances or if changes to the regulation might be required. EEM programs are key components of the Pulp and Paper Effluent Regulations and the Metal Mining Effluent Regulations under the *Fisheries Act*.**

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7. **Issue:** With the CRD having the largest raw sewage discharge in Western Canada, its continuation impacts on EC's ability to achieve compliance with the *Fisheries Act* at other locations.

Minister's question: This is the argument made by the US government in the Clean Water Act of (I believe) 1971. I also understand it was rejected by the US Federal Court of appeal in a California case (Santa Barbara?) as capricious exercise of power.

The US Clean Water Act of 1972 mandated secondary treatment. In 1977, Congress added a section which authorized waivers from the requirement for facilities discharging to marine waters. The Act has been amended periodically since its enactment, including setting conditions of waivers such as a coastal facility must have at least primary or equivalent treatment and show that its effluent meets water quality criteria.

Based on staff enquiries, the case referenced is likely San Diego rather than Santa Barbara. Santa Barbara has secondary treatment, plus partial tertiary treatment for water reclamation, in place. The reclaimed water is used for irrigation of landscaping.

At issue for San Diego was a USEPA consent decree which required an upgrade to secondary treatment at Point Loma as well as substantial expenditure for smaller treatment plants to provide tertiary treatment for some water reclamation. To be legally binding, the consent decree had to be entered by a federal judge. There were several intervenors in the case. Initial hearings were held in 1991 and then deferred to allow San Diego more time to run additional tests on its advanced primary treatment plant to see if the city could get closer to secondary treatment levels and to determine if the city's proposal to extend its outfall would solve the bacterial compliance issue. After resumption of hearings in 1994, the judge rejected the decree as 'not in the public interest'. Some key factors were:

- The outfall was extended to 7.2 km offshore and in 100 m of water which resulted in compliance with bacteria standards.
- A 3-year National Research Council study recommended moving away from an inflexible technology based approach in favour of a water quality-based approach and had noted that a physical/chemical treatment method, similar to San Diego's treatment, was well suited to marine discharges.
- The costs for the specified upgrading were close to \$5 billion US.
- The reclamation requirements would have resulted in at least half of the reclaimed water wasted to the ocean.
- The intervenors that originally agreed with secondary treatment and/or additional reclamation reversed their positions.

A fundamental consideration regarding the San Diego case is that advanced primary treatment was already in place.

Recent advice from an EPA official is that consent decrees are obligatory when there is a non-compliance issue and that 'ability to achieve compliance at other locations' is not a factor.

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8. **Issue:** In 1991, US officials vigorously registered their opposition to the continuing untreated CRD discharge.

Minister's question: But if I recollect correctly, US Scientists including U of W biologists studied the issue and gave general approval to the CRD process---check please.

The only involvement of US scientists that we are aware of was "The Shared Marine Waters of British Columbia and Washington" report dated August 1994 and prepared by the BC/Washington Marine Science Panel. The panel chair was a University of Washington scientist. Two key points from the report include:

- The panel recognizes the strong possibility that further research and monitoring may reveal problems that are currently only suspected or completely unforeseen. Among the former, a number of anthropogenic chemicals are found to disrupt endocrine function in marine organisms and humans, causing impacts as serious as, or more serious than, those of cancer induction.
- Some sources of contamination cause only minor harm to the environment and/or are beyond our capacity to remedy. Significant expenditures of public funds are not justified in such situations. Examples of actions not justified include removal of nutrients and BOD from sewage effluent. The treatment required is very costly, and the contaminants do little harm to the environment of the shared waters except in local cases.

9. **Issue:** /

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Minister's question: But surely the receiving water bodies differ substantially?
Comment please.

While the monitoring programs for GVRD's Iona and the CRD's two outfalls are different in scope and details as each uses slightly different environmental indicators, overall, environmental impacts appear to be minimal and localized in extent.

Review of available reports indicates that the oceanographic conditions for CRD and Iona are quite similar in that the marine environment in both cases is greatly influenced by freshwater intrusion from the Fraser River resulting in seasonal water column stratification. Stratification is strongest during spring freshet and weakest during the winter. Diurnal tidal movement, current and wind factors all play similar roles in effluent dispersion notwithstanding localized variations.

See Appendix A for further details.

10. **Issue:** Construction contracts have been signed for 3 enhanced primary treatment facilities in Halifax.

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Minister's question: But does not Halifax discharge into a confined harbour? Are not the receiving conditions different in many respects?

Yes. In short, CRD's outfalls are located in open, well flushed, marine waters whereas Halifax Harbour is a deep tidal estuary which includes a fjordal basin at its head. Further details regarding physical characteristics of the Harbour, including poor mixing and infrequent flushing during the summer, as noted in the last paragraph of the Background in the Jan. 15 Memorandum to Minister.

11. Issue: Halifax harbour is a deep tidal estuary. Sewage dispersion in the harbour is affected by estuarine circulation, tides and other factors.

Minister's question: Are these conditions similar to CRD?

No, see response to 10 above.

12. There were a number of general comments from the Minister on page 3 which included "the science aspect of the issue needs to be at the fore" and a concern regarding the lack of mention of source control.

PYR is currently finalizing a study of "emerging chemicals" in MWW such as endocrine disruptors, pharmaceuticals and personal care products. This study will be done in conjunction with other regulatory agencies, NWRI, the CRD and the GVRD and will be included in the launch of the Georgia Basin Action Plan on April 1. The study will initially focus on determining genetic and chronic effects of end-of-pipe sewage, attempt to trace any effects back to specific chemicals or products, and then pursue receiving water effects depending on results.

Source control, in which the CRD places great reliance, has limited capacity to reduce contaminants. While the source control goals and objectives included in the CRD Liquid Waste Management Plan (LWMP) appear comprehensive in a strategic sense, they are in a narrative form and do not include any specific numerical reduction goals or timelines. As an indication of what might be achieved, the CRD has estimated source control percent removals after 5 years of program implementation, as well as removal efficiencies resulting from treatment, for 13 parameters. As a rough comparison, the average estimated removal efficiencies for the 13 parameters considered was 8 to 23% by source control, 31% by conventional primary treatment, and 56% by conventional secondary treatment. Thus, while source control is an important component of any municipal waste water system, it is apparent that treatment is significantly more effective in removing most substances. A Metropolitan Seattle study provided further data related to the effectiveness of sewage treatment. Based on that study, primary treatment removes 45% of conventionals (BOD and TSS), 47% of metals, 0% of volatile organics, and 10% of extractable organics whereas, for secondary treatment, the removal rates are 96%, 77%, 69%, and 78%, respectively.

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Appendix A

Comparison of CRD (Macaulay Point and Clover Point) and GVRD (Iona and Lions Gate outfalls)

Outfall and diffuser	Macaulay Point outfall	Clover Point outfall	Iona Outfall	Lions Gate Outfall
Length of outfall (Approximate)	1800 m.	1160 m.	7000 m. plus 505 m twin diffuser	228 m.
Depth of outfall (Average)	60 m.	65 m.	between 72 to 106 m.	20 m.
Diffuser	multi-port diffuser	multi-port diffuser	multi-port diffuser	multi-port diffuser
Oceanographic conditions				
Seawater Density	33 ppt	33 ppt	29.8 to 30.5 ppt	information unavailable
Magnitude of Tide	3.5 to > 4 m.	3.5 to > 4 m.	3.5 to 4.9 ± 0.15 m	information unavailable
Current speed	0.18 to 0.2 m/s at 25 to 50 m. depth	information unavailable	0.07 to 0.14 m/s at 50 m depth	information unavailable
Winter storm Wind direction	SW to W	SW to W	SW to W	SW to W

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1. Are these consistent?
2. Is source control also available for this?
3. Will this take into account receiving water differences?
4. This, surely, is a legal concern of drafting of the legislation, not a scientific concern.
5. On the scientific or on the legal issue?
6. Surely this is an argument which ignores the site specific nature of the problems.
7. This is the argument made by the US government in the Clean Water Act of (I believe) 1971. I also understand it was rejected by the US Federal Court of appeal in a California case (Santa Barbara?). as capricious exercise of power.
8. But if I recollect correctly, US Scientists including U of W biologists studied the issue and gave general approval to the CRD process---check please.
9. But surely the receiving water bodies differ substantially? Comment please.
10. But does not Halifax discharge into a confined harbour? Are not the receiving conditions different in many respects?
11. Are these conditions similar to CRD?

Phil

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**MEMORANDUM TO MINISTER
NOTE DE SERVICE AU MINISTRE**

Subject - Objet CRD Municipal Wastewater	Purpose for Memorandum - Raison d'être Minister's Concurrence
	Prepared by - Préparé par A. Mentzelopoulos
	Security Classification - Classification de sécurité Protected / protégé
File Number - N° de dossier MIN-36686	Date JAN 15 2003

Purpose

To recommend your concurrence on the following Strategic Approach for the CRD municipal wastewater discharge issues

Current Status

The Capital Regional District (CRD) in British Columbia discharges screened but otherwise untreated sewage through two extended submarine outfalls at Macaulay Point and Clover Point into the Strait of Juan de Fuca. The discharges are likely not in compliance with subsection 36(3) of the Fisheries Act, which prohibits the deposit of deleterious substances into fishery waters. Raw sewage is typically deleterious because it is acutely lethal to fish and contains elevated levels of substances harmful to fish such as heavy metals.

The CRD's final Liquid Waste Management Plan (LWMP), submitted to the Province in July 2000, does not include improved treatment of the discharges at Macaulay and Clover Points. Instead, the CRD proposed an environmental monitoring "trigger process". This trigger process is to include defining warning levels and an associated decision framework that is intended to provide an early warning of the potential for adverse environmental effects, and allow the timely development and implementation of appropriate source control and/or treatment alternatives.

Ministry of Water, Land and Air Protection (WLAP) has not made a decision

As you were briefed in July, the Department is developing an instrument to address ammonia, inorganic chloramines and chlorinated wastewater effluents in accordance with the legislated timelines in CEPA 1999. Specifically, EC is proposing to use the pollution prevention planning provisions of CEPA 1999 as a first step towards a long-term strategy to address wastewater effluents. The long

term-strategy will be aimed at addressing current and future CEPA-toxic substances as well as the requirements of the Fisheries Act. *Are these consistent? ①*

EC staff consulted with stakeholders on the proposed approach at sessions held across the country between August 20 and November 04. The consultation sessions were aimed at providing participants with:

- 1) contextual information for the substances addressed in the proposed instrument under CEPA 1999 and for the development of a long-term strategy; and
- 2) an opportunity to comment on the proposed elements of the notice that requires pollution prevention plans to be prepared and implemented under CEPA 1999 such as the:
 - a) risk management objectives for ammonia, inorganic chloramines and chlorinated wastewater effluents;
 - b) criteria to select the wastewater systems for which pollution prevention plans will be prepared;
 - c) timelines for the preparation and implementation of the pollution prevention plans:

Two other substances associated with municipal wastewater effluents, nonylphenol and its ethoxylates and textile mill effluents, are also being addressed through a separate but coordinated process.

At this time, the implications of the P2 planning approach for the CRD are uncertain. Further assessment, including the finalization of risk management objectives for ammonia, will be necessary before determining whether it will be necessary for the CRD to implement treatment to reduce ammonia concentrations. *Is source control also available for this? ②*

EC is now considering the input received during the consultation sessions and will revise the approach as required. A draft Notice will be prepared this Winter and be ready for your consideration early in the Spring. In addition, EC staff are preparing to conduct a scoping exercise in cooperation with other jurisdictions, possibly under the aegis of the CCME. This exercise could lead to the negotiation of a long-term strategy for managing wastewater effluents. In the context of the long-term strategy, Environment Canada is proposing to develop with other jurisdictions, specific objectives for "CEPA-toxic" and deleterious substances released through wastewater systems. It is Environment Canada's intention to refer to these objectives in CEPA guidelines and a regulation under the Fisheries Act. The outcome will be a fair, consistent and predictable application of CEPA and the Fisheries Act. The proposal by BC WLAP staff to require primary treatment for the CRD discharges does not conflict with the federal strategy.

On a more general provincial level, there will be an attempt to harmonize the British Columbia liquid waste management planning process with the federal pollution prevention planning requirement in order to avoid duplication in the processes. *③*

EC has developed a strategy for moving forward with respect to CRD sewage. The strategy objectives are to:

- Determine the implications to the CRD of EC's approach to wastewater effluents, including the proposed use of the pollution prevention planning provisions of CEPA 1999 to require the preparation of pollution plans for selected systems.
 - Consider opportunities for linkage between EC's proposed approach and BC's LWMP for the CRD.
 - Enhance scientific understanding of the ecological and human health impacts of the CRD sewage discharges.
 - Pursue a partnered (e.g., DFO, WLAP) approach that provides for CRD participation in a review of emerging scientific knowledge.
- Will this take into account receiving water differences?*

④ This, surely, is a key drafting of the legislation, not a scientific concern.

BACKGROUND

An August 1994, B.C./Washington Marine Science Panel report titled "The Shared Waters of British Columbia and Washington" concluded that sewage effluent is dispersed quickly in the environment and contaminants in the sewage are not causing significant harm to the environment. However, the panel also recognized the strong possibility that further research and monitoring may reveal problems only suspected or completely unforeseen. Among the former, the panel mentioned a number of anthropogenic chemicals are found to disrupt endocrine function in marine organisms and humans, causing impacts as serious, or more serious than, those of cancer induction.

A 1997 Environment Canada scientific review of municipal wastewater in Canada indicated that, for the emerging issues of endocrine-disrupting compounds (EDCs), pharmaceuticals and personal care products, there are substantial environmental uncertainties related to these substances. Further research is needed into their presence in the environment, their impacts, and possible solutions such as treatment technologies or removal strategies. The efficiency of EDC removal by sewage treatment depends on the particular EDC. For example, a Metropolitan Seattle study provided data on the effectiveness of sewage treatment. This study noted primary treatment process removals were 45% for conventionals (BOD and TSS), 47% for metals, 0% for volatile organics, and 10% for extractable organics whereas, for secondary treatment, the removal rates were 96%, 77%, 69% and 78%, respectively. Information on removals of specific EDCs is not readily available. However, to use nonylphenols and its ethoxylates (NPEs) (CEPA toxic) as an example, NPE levels are ~90 ug/L in primary effluent and less than 5 ug/L in secondary effluents.

An EC/DFO Workshop on the CRD sewage discharges was held in January 2002. The purpose of the workshop was to review available monitoring and study results, identify known and potential impacts, identify scientific gaps, and discuss scientific studies recommended to address the gaps.

DFO staff have indicated that, because the CRD discharges are suspected to be in violation of subsection 36(3) of the Fisheries Act, primary treatment is required. DFO staff also feel the information presented at the EC/DFO science workshop supports the need for primary treatment (and possibly further treatment later). In an April 11/02 letter to EC, DFO referred to the CRD discharges as being out of compliance with the Fisheries Act and to information from the January 2002 EC-DFO science workshop that suggested that the CRD discharges may be having unacceptable impacts on the receiving environment. ⑤

Notwithstanding the compliance issue, the information on which DFO relies on to support the need for treatment is very subjective and could be considered unconvincing. Although the effluent plume may surface 8 months of the year, the surfacing is only during periods of slack water. While surface waters over the outfalls may exceed contact recreation water standards for fecal coliform when the plume is surfacing (i.e. windsurfer concern), this human health issue is not within DFO's mandate. Although the dilute plume may impinge on the shoreline resulting in increased coliform levels in the intertidal areas (which may exceed shellfish harvesting standards), the intertidal areas would nonetheless be closed to shellfish harvesting due to surface runoff from the upland urban areas. Other issues such as contamination of the surface microlayer of the ocean, correlation between coliform bacteria and enteroviruses, new persistent organic pollutants, and EDCs are emerging issues that need to be further addressed in a much broader context than just the CRD discharges. the scientific or on the legal issue?

With respect to the coliform-shellfish issue, the Pacific Shellfish Classification Committee (PSCC) at their October 2002 meeting decided to expand the sanitary shellfish closure area near Victoria on a precautionary basis given effluent plume modeling results coupled with CRD water quality data which indicate the standard for direct shellfish harvesting is exceeded outside the previous closure boundaries during certain times of the year. ⑥

With the CRD having the largest raw sewage discharge in Western Canada by at least two orders of magnitude, its continuation impacts on EC's ability to achieve compliance with the Fisheries Act at other locations. A few other inadequately treated sewage dischargers (municipalities) on the West Coast regularly refer to the continuing CRD raw sewage discharge as an excuse for not implementing treatment themselves. ⑦

⑦ This is the argument used by the US gov't in the Clean Water Act of (1971). I also understand it was rejected by the US Federal Court of Appeal in a California case (San Joaquin River?) as capricious exercise of power.

Regional districts and municipalities in British Columbia that discharge into marine waters with preliminary treatment include CRD, Prince Rupert, Masset, Queen Charlotte City, Tofino, and Alert Bay. Regional districts and municipalities that discharge into marine waters with primary treatment include GVRD (Iona and Lions Gate), Nanaimo, Ladysmith and Nanoose. There are five inland facilities with only primary treatment (Nelson, Trail, Lillooet, Lytton, and Vanderhoof) that discharge to freshwater. The District of Lillooet, District of Lytton, and City of Nelson have submitted infrastructure applications for funding assistance to upgrade their primary plants and the City of Trail has committed to developing a LWMP which will address its current primary level of treatment. The recently approved GVRD LWMP requires secondary treatment at the Iona facility by 2020 and Lions Gate facility by 2030. The approved Regional District of Nanaimo LWMP includes an upgrade from primary to secondary treatment by 2015.

The CRD is situated near the border with Washington State. In 1991, US officials vigorously registered their opposition to the continuing untreated CRD discharge. Media coverage at the time in the U.S. was very negative. Since then, there has been little media coverage except in the period from February to May 1999 when the Sierra Legal Defence Fund launched its criminal prosecution against the CRD for its raw sewage discharges. Those charges were stayed by the provincial Ministry of Attorney General because there was no substantial likelihood of conviction.

The District has reviewed an alternative primary treatment technology which, due to its compactness, could be accommodated at the existing Macaulay and Clover Point outfall sites. The estimated capital cost for primary treatment with this alternative technology is \$98 million. If a decision is made to implement treatment, the CRD has indicated that it would take about five years to complete construction and commissioning, including one year for pilot testing to confirm the technology appropriate.

EC has carried out a review of scientific information on the presence or absence of environmental degradation arising from the CRD discharges and identification of knowledge gaps related to the discharges.

A January 2002 workshop led to a review of scientific information on the presence or absence of environmental degradation arising from the CRD discharges and identification of knowledge gaps related to the discharges.

This review, known internally as the "Wilson Report," was the basis for an August 2002 meeting between EC, DFO, CRD and WLAP. The CRD expressed considerable dissatisfaction with the report, explaining it was based on incomplete data as they had not been consulted during its preparation. The CRD provided a lengthy and detailed critique of the Wilson Report.

There have been no inspections or legal sampling of the CRD discharges by EC.

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Other Canadian coastal communities currently discharge raw sewage. Construction contracts have been signed for 3 enhanced primary treatment facilities in Halifax, which has roughly the same population as the CRD. Halifax Harbour is a deep tidal estuary which includes a fjordal basin at its head. Sewage dispersion in the harbour is affected by estuarine circulation, tides and other factors. The basin portion is approximately 7km long by 5km wide with a central depth of approximately 70m, but only 20m at the entrance (The Narrows). The remainder of the Harbour towards the ocean is approximately 16km long with a depth at the mouth of about 40m. The incoming waters from the Continental Shelf are saltier and thus enters along the bottom while the outgoing flow is lighter and on top, due to the addition of freshwater from the Sackville River, runoff, and sewage flows. Under low summer flow conditions, dissolved oxygen in the deeper portions of the basin can drop significantly due to poor mixing and infrequent flushing.

But surely the receiving water body is different substantially? Comment please,

But does not Halifax discharge into a confined harbour?
Are not the receiving conditions different in many respects?

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Specifically, EC PYR will be assigning regional staff to two working groups led by CRD – the marine monitoring advisory group, which is focused on CRD municipal effluent, and the emerging issues working group, which will monitor new and emerging science related to chemical and toxic constituents of municipal effluent more generally. The Greater Vancouver Regional District (GVRD) is also establishing an emerging issues program to study endocrine disrupting chemicals, persistent organic pollutants, and other microcontaminants and their potential environmental impacts. EC will suggest that the emerging issues work to be conducted by both the CRD and GVRD be linked into the proposed Georgia Basin Ecosystem renewal such that there is a Basin-wide scientific approach.

Recommendation

I recommend that you concur with the strategic approach outlined above.

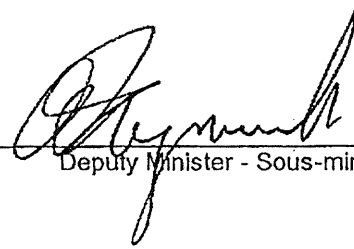
I agree

David Anderson, P.C., M.P.

Deputy

Please have my questions
commented on.

In general, the receiving water
issue appears neglected. We
cannot just keep improving with hundred
million dollar expenditures in this area
when neglecting so many other pressing
environmental concerns, unless there
are better arguments than those that we
have now. The science aspect of the issue
needs to be at the fore – endocrine disruptors, other health
and other environmental aspects should be our concern.
Most in general there seems to be little comment on source
control of heavy metals and other contaminants. Are there
different ways of keeping unpleasant substances out of
effluent altogether? Why is it considered necessary to
have no controls on what goes into effluent?



Deputy Minister - Sous-ministre

C. C.

Allison
on entire
package

Feb. 12 ✓ done