

**CORE AREA AND WEST SHORE SEWAGE TREATMENT  
QUESTIONS FOR PEER REVIEW TEAM**

---

**1. Population, Capacity Projections and System Configuration**

- (a) Is the method used for calculating the population projections reasonable?
- (b) Is the Stage 1 design horizon adequate?
- (c) Are the strategies sufficiently flexible and adaptable given the possibilities for future population growth, future changes in carbon credits, government carbon and pollution policies, available technologies etc. given the design life of the project?
- (d) Are the assumptions and strategies optimal for the management of wet weather flow? Are there other strategies that should be considered?
- (e) Are the assumptions and strategies optimal for management of biosolids? Are there other strategies that should be considered? Please comment on the risks or longterm viability of applying biosolids to the land and any anticipated difficulties in monitoring the effect of this on multiple properties.
- (f) Which strategy minimizes operating costs?
- (g) Are the strategies for dealing with endocrine disrupting chemicals (a) in keeping with industry standards in Canada or (b) in keeping with the best standards in use in North America or (c) in keeping with reasonable projections for likely requirements for treatment within the design life of the project. If not (c) then is there an available strategy that would meet this level or at least make it easier to meet in the future.
- (h) Are the strategies for dealing with heavy metals (a) in keeping with industry standards in Canada or (b) in keeping with the best standards in use in North America or (c) in keeping with reasonable projections for likely requirements for treatment within the design life of the project. If not (c) then is there an available strategy that would meet this level or at least make it easier to meet in the future.

**2. Economic and Financial Analysis**

- (a) Are the approach and assumptions for I&I reduction reasonable?
- (b) Are the assumptions for the program and costs reasonable for the following:
  - linear infrastructure
  - liquid treatment
  - biosolids
  - resource recovery (e.g., water reuse, biogas and future heat recovery)

- (c) Are the methods that were used to compare costs among the strategies appropriate? Do they take appropriate account of the high impact risks of expected higher energy prices, possible water shortages as a result of climate change and the future increases in carbon credits. Are there other analytical approaches that should be considered in addition to the triple bottom line approach?
- (d) Which option(s) offers the best value to stage the level of treatment?
- (e) Have the business cases for the various strategies considered so far been properly valued and compared.

**3. Technologies**

- (a) Was there adequate review of established, nascent and applied technologies? Are there other technologies available or worth further investigation and would they impact the choice of sites?

**4. Resource Recovery**

- (a) Has adequate assessment been done on energy recovery from biosolids and heat extraction?
- (b) Does each strategy optimize revenue generation from resource recovery? Which strategy or strategies maximize revenue generation from resource recovery? Are there other strategies that should be or could be pursued to increase revenue generation? Has the valuation of revenue generation (including carbon credits) adequately dealt with the likely future increases in these values over the long design life of this project?
- (c) Are there any missed opportunities for integrated resource management including organics?
- (d) Has adequate assessment been done on the availability, viability and future of markets for biosolids, reclaimed water, and heat from effluent or raw sewage.
- (e) Do the current strategies make optimum use of opportunities for water conservation and reuse and how this will reduce energy needs for sewage treatment?
- (f) What opportunities for green house gas emission reduction are there that have not been included in current strategies and what are the potential savings from taking up those opportunities.

**5. Other**

- (a) Please review any unsolicited proposals for sewage treatment, financial support or other work received to date from third parties and comment on the advisability of further study of these proposals.
- (b) Do the proposed strategies offer sufficient consideration of environmental protection in the siting, construction and operation of the various wastewater treatment plants?
- (c) Are there other significant topics that have not been adequately addressed in the work done to date?

14 January 2009

**CORE AREA AND WEST SHORE SEWAGE TREATMENT  
SUPPLEMENTARY QUESTIONS FOR PEER REVIEW TEAM**

---

1. Add to question 2 (a): Are there other approaches to consider?
2. Does the peer review team agree with the number of plants recommended by the consulting team from a financial and program point of view?
3. Has the consulting team considered the current available water resources and conservation programs to support population projections for the purposes of sewage treatment planning?