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**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, February 10, 2016**

SUBJECT **Technical Oversight Panel (TOP) Report #9**

ISSUE

TOP summary of recent period to February 3, 2016

BACKGROUND

Technical memo #3R1- The TM#3 has been finalized for 7 options, and now incorporates many TOP comments. It will be issued as TM#3Revision1, although many revisions actually occurred during the process. Some TOP comments on TM#3R1 were not addressed.

TOP believes that the costs for the gasification are high and should include the municipal solid waste (MSW) stream. TM#3R1 carries very conservative (high) costs for the gasification option of the biosolids from the liquid waste stream only. TM#R1 identifies that an RFSI process will be required to determine the best solid waste management solution and costs, so gasification of the wastewater solids *only* is treated here as a theoretical and sample solution. The final solution would likely combine the MSW stream.

The costs for the membrane technology (MBR) and tertiary treatment are higher than TOP would advise, but again, the consultant chose to carry conservative costs. Since a certain percentage of its replacement cost will be budgeted on an annual basis, the higher MBR costs have a domino effect on operating costs in the tertiary plants.

The capital costs include a provision for financing during construction which will need to be adjusted once the details of the various Federal and Provincial grant funding arrangements are finalised and the construction schedule determined. The operating costs shown for each option set do not include annual debt service for long term financing of capital cost. Based on CRD guides of 5% over 16 years for option 1a this will amount to a sum, principal and interest, of the order of \$1.2 billion. The long term financing cost for other options sets will be proportionally higher. All costs in TM#3R1 are recognized as being program planning level costs, not budgets or estimates.

The base case costs all include \$258M for AD, not the gasification option at \$233M. The base case costs all include solid waste trucking (or treatment at Rock Bay without trucking in options 1 & 2), not a sludge line to Hartland for integration with the MSW stream. The cost of a sludge line to Hartland and the consequent land cost savings at Rock Bay offset each other although this is not detailed as it was not part of the consultant scope.

The overall costs increase from the one plant option at \$1,031M to the four plant option at \$1,195M as the number of plants increases. The seven plant option is a significant increase to \$1,348M. Operations costs also increase as the number of plants increase.

Summary Memo – TOP reviewed the proposed table of contents for the Technical Memo #4 (The Summary Memo) on February 2, 2016. This will be an executive summary document for general use. It will be based on the final version of TM#3R1. It is scheduled to be issued to the CALWMC by the consultants February 24, 2015.

Private Vendors - TOP has prepared draft summary statement for each provider that will be finalized and available to the public and the CALWMC. At the January 13, 2016 meeting, the CALWMC passed a motion requiring the three TOP engineers to provide individual opinions on the Capital Clear/ Vertreat technology proposal. These opinions are attached as Appendix A. TOP is meeting with five private vendors Friday February 5, 2016 and will finalize the summary documents after those meetings.

Commission Lessons Learned - TOP and CRD staff will be meeting with the chair and vice chair of the Core Area Waste Water Treatment Program Commission on February 5, 2016 to review their Lessons Learned document with regard to the consultant deliverables for the planning stage. TOP has identified gaps between the current planning stage consultant deliverables and the commission's position on handover deliverables as outlined in the Lessons Learned document. TOP will provide a verbal report on the results of the meeting with advice to the CALWMC February 10, 2016.

ALTERNATIVES

That TOP recommends that:

1. That the Core Area Liquid Waste Management Committee receive this document for information and accept the recommendations.
2. That the Core Area Liquid Waste Management Committee receive this document for information, and revise and accept the recommendations.
3. That the Core Area Liquid Waste Management Committee receive this document for information and not accept the recommendations.

IMPLICATIONS

SOCIAL IMPLICATIONS

Confidence in the project must be restored to attract the full participation of the market. Meeting private vendors supports the building of this trust. Addressing the Lessons Learned in the transition from the planning to the implementation phases will reduce uncertainty in the marketplace and increase fairness and transparency.

ENVIRONMENTAL IMPLICATIONS

Establishing high effluent quality deliverables for treatment levels, and establishing a coordinated approach to the liquid waste bio-solids and the municipal solid waste stream will have positive environmental implications.

ECONOMIC IMPLICATIONS

TM#3R1 indicates that the single plant option is more cost effective than the multiple plant options. Financing costs will need to be addressed. Addressing the Lessons Learned in the transition from the planning to the implementation phases will increase the competitiveness of the bids.

INTERGOVERNMENTAL IMPLICATIONS

The base cases as laid out in TM#3R1 reflect the scope of work given to the consultants, but not the preferred options for treatment of solid waste combined with MSW. Discussions with the Provincial Ministry and the Federal P3 group will be required if funding is to be secured for the preferred options to AD.

GROWTH MANAGEMENT IMPLICATIONS

The report on flow and 2030 and 2045 targets is an important piece of the growth management of this project. The 2016 study by the CRD on water supply will inform 2045 targets. Design and construction will be to the 2030 targets.

CONCLUSIONS

TM#3R1 is acceptable to TOP. It is understood that the planning level costs will be refined in the next stages. It is also understood that the integration of the liquid waste stream with the municipal solid waste stream will be addressed through the RFSI process in the next stages, and that discussions with the ministries will be undertaken to support the recommended and less costly options to AD.

TM#4 (the summary document) will be reviewed and issued to the CALWMC for February 24, 2016.

The Private Vendors summary document will be prepared following meetings with the final five vendors February 5, 2016. The Capital Clear/Vertreat proposal for small footprint sites is not supported by TOP and three individual engineering opinions are attached as requested.

The result of the TOP meeting with the Commission will be presented verbally at the February 10, 2016 CALWMC meeting.

RECOMMENDATION

That TOP recommends:

1. That the CALWMC accept TM#3R1.
2. That the CALWMC accept the engineering opinions for information.

Submitted by:	Teresa Coady, Chair, Technical Oversight Panel
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TC:ll

Attachments: Appendix A – Technical Oversight Panel engineering opinions