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REPORT TO GANGES SEWER LOCAL SERVICE COMMISSION
MEETING OF FRIDAY 29 OCTOBER 2010

SUBJECT **GANGES WASTEWATER TREATMENT PLANT ULTRAVIOLET SYSTEM CONTROL UPGRADE**

ISSUE

Obsolete ultraviolet (UV) control equipment at the Ganges wastewater treatment plant has failed twice in the past year and replacement parts are no longer available.

BACKGROUND

The capital five-year budget plan, approved by the Ganges Sewer Local Service Commission (GSLSC) in November 2009, includes the replacement of the failing Fisher-Porter ultraviolet (UV) control, a major component in the disinfection treatment of the Ganges wastewater effluent. The Fisher-Porter UV system currently in use is obsolete and replacement parts are no longer available. The UV system remains unreliable and is unable to efficiently communicate with the SCADA control upgrade. There have been two UV system failures in the past year causing the wastewater discharge to be in excess of the Ministry of the Environment's (MOE) permitted allowable discharge of < 200 fc/100mL.

Following Capital Regional District (CRD) procurement procedures, a public call for sealed tenders for the supply of UV control equipment was issued. Three levels of disinfection options, each to include 100% redundancy were requested, allowing for system backup and routine maintenance of the equipment during normal operating hours without affecting the treatment process. Fisher-Porter no longer provides sufficiently sized technology to treat the flows at Ganges.

Three compliant Tenders for Contract 2010-444: Supply and Delivery of UV Disinfection System were received on 11 August 2010 and reviewed for content and accuracy. Bids are as follows:

Option	Level of disinfection: 100% redundancy	Aquionics	Ramtech	Mequipco
1.	Re-use standard of 2.2 fc/100mL <14 fc/100mL	$72,997.12	$87,304.00	$399,995.68
2.	Disinfection not to exceed 50 fc/100mL	$61,648.16	$74,222.40	$335,008.80
3.	Disinfection not to exceed 200 fc/100mL	$62,463.52	$62,664.00	$225,206.24

One additional tender received was disqualified due to non-inclusion of mandatory technical data and equipment specifications as stipulated in the tender document.

The submitted bids listed for Options 1 – 3 reflect the full 12% HST, and not the revised 1.75% HST payable by CRD (Attachment 2).

All three options are expected to produce a treated effluent that meets the current MOE Waste Discharge Permit (WDP) of 200 fc/100mL for the Ganges sewer outfall. Option 1 is proposed to produce an effluent to meet re-use standards of 2.2 fc/100mL, however the Ganges sewer service area does not currently have sufficient infrastructure to fully support treated water re-use. Option 2 is proposed to provide treatment to 50 ppm which exceeds the WDP, and is also the more cost effective option available if awarded to the low bidder.

ALTERNATIVES

1. That the Ganges Sewer Local Service Commission approve the purchase of UV equipment from Aquionics at a bid cost of $61,648.16, to achieve a treated effluent not to exceed 50 fc/100mL.

2. That the Ganges Sewer Local Service Commission approve the purchase of UV equipment from Aquionics at a bid cost of $72,997.12, to achieve a treated effluent not to exceed 14 fc/100mL.

IMPLICATIONS

There is an estimated $16,000 cost for technical staff to support the installation and commissioning of the UV equipment which will be funded from the capital budget. Prices following have been revised to reflect the actual final purchase cost to the service (Attachment 2).

Alternative 1

There is sufficient funding available in the revised 2010 Capital Fund budget (Attachment 1) to complete Alternative 1 (Option 2) with an estimated final cost of $72,000. An anticipated surplus of approximately $36,700 would remain in the 2010 capital budget after completion of all 2010 capital works, available for transfer to reserves. Currently no opportunity exists to expand the technology of Alternatives 1 or 2 to effectively treat effluent to the 2.2 fc/100mL re-use standard.

Alternative 2

(Option 1) at a total estimated cost of $82,300, including $16,000 for technical staff support could be completed within the revised 2010 capital budget. If approved, a surplus of approximately $26,400 would remain in the 2010 capital budget after completion of all capital works, available for transfer to reserves. Option 1 would far surpass the current permit discharge parameters, but is not necessary if water re-use is not contemplated for the service. The re-use of treated wastewater for community benefit was investigated in previous years and is not considered a viable financial option for the service at this time, given the extensive supporting infrastructure needed to treat, monitor and distribute within the service area.

CONCLUSION

The obsolete Fisher-Porter UV system currently serving the Ganges wastewater treatment plant remains unreliable and is unable to efficiently communicate with the SCADA control upgrade. There is sufficient funding available in the revised and approved 2010 capital budget to complete the installation and commissioning of UV equipment capable of providing a treated effluent not exceeding 50 fc/100mL. No additional funding from reserves would be necessary as savings are being realized in other 2010 capital projects.

RECOMMENDATION

That the Ganges Sewer Local Service Commission approve the purchase of UV equipment from Aquionics at a bid cost of $61,648.16, to achieve a treated effluent not to exceed 50 fc/100mL.

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Attachments: 2
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Attachment 1

GANGES WASTEWATER TREATMENT PLANT
ULTRAVIOLET SYSTEM CONTROL UPGRADE

Status of 2010 Capital Projects to Date: October 29, 2010

PROJECT	STATUS	BUDGET AS AMMENDED	UPDATED ESTIMATE	VARIANCE
Asset Condition Evaluation	Terms of reference for consulting services are currently being developed by staff. Anticipate 2011 carry forward of project.	$30,000	$30,000	$0
Development Cost Charge (DCC) study	Project is behind schedule for an August delivery of final report. Anticipate final report Dec 2010.	$10,000	$13,000	($3,000)
Replacement of underground air supply system piping	Contractor portion completed.	$45,000	$20,000	$25,000
Surge suppressor installation	Completed.	$5,000 *	$4,414 (actual)	$586
Replacement of failed UV system controls	Tender prices received. Estimate based on recommended tender.	$75,000	$72,000	$3,000
Upgrading of SCADA System	The original estimate to complete the works was $30,000. The revised budget is now $45,000 following an approved request for an additional $15,000 funding from available reserves on June 18, 2010. Project 95% complete.	$45,000 **	$45,000	$0
Sludge thickener cover	Completed.	18,000	$6,833 (actual)	$11,167
TOTAL		**$228,000****	**$191,247**	**$36,753**

* Funded from reserve funds as approved by the GSLSC 04 May 2010.
**Commission revised and approved capital budget 18 June.

Attachment 2

GANGES WASTEWATER TREATMENT PLANT
ULTRAVIOLET SYSTEM CONTROL UPGRADE

Revised bid values to reflect actual costs to service inclusive of all taxes (1.75% HST payable).

Option	Level of disinfection: 100% redundancy	Aquionics	Ramtech	Mequipco
1.	Re-use standard of 2.2 fc/100mL <14 fc/100mL	$66,316.58	$79,314.13	$308,880.00
2.	Disinfection not to exceed 50 fc/100mL	$56,006.25	$67,429.73	$304,349.51
3.	Disinfection not to exceed 200 fc/100mL	$56,746.99	$56,929.13	$204,595.84

Delivery		154 days	35 days	224 days