

May 16, 2022

Report To: Travis Rob, P.Eng., Manager of Operations & Facilities

From: Craig Miller, P.Eng., Environmental Superintendent

SUBJECT: 5th Street Lift Station PLC Upgrade

The Town of Fort Frances (through our partnership with OCWA) operate and maintain wastewater lift stations throughout the Town. Each of these lift stations are controlled by a programmable logic controller (PLC). The installed PLC's are early to mid 1990's vintage and do not match the PLC's used at the Wastewater Treatment Plant or the Water Treatment Plant. Accordingly, the Town's long-range financial plan and takes into account the need to upgrade the controls at the lift stations to match the PLC's used in both of our Treatment Plants – Delta V. This year, the 5th Street Lift Station has been selected to undergo the second upgrade (the first being Boundary Road Lift Station)

Lakeside Process Controls has provided a quotation of \$69,608 to complete this upgrade. The 2022 budgeted amount for this upgrade is \$68,000. The difference of \$1,608 would be taken from the Wastewater Treatment Plant Miscellaneous Capital Upgrades Budget.

The Town of Fort Frances and Lakeside Process Controls have a long-term maintenance agreement for support of our Water and Wastewater control systems. Further, Lakeside Process Controls is the sole source of Delta V control systems by Emerson Process Controls. We have a very good relationship with Lakeside Process Controls and they provide us with excellent support.

It is my recommendation that the Town of Fort Frances engage Lakeside Process Controls to upgrade the PLC controls at the 5th Street Lift Station per Proposal #61803, dated May 9, 2022.

Respectfully submitted,



Craig Miller, P.Eng.
Environmental Superintendent

Attached: Quote from Lakeside Process Controls

Subject:	Fifth Lift Station PLC to PK Controller
Date:	9/05/2022
To:	Town of Fort Frances
Attn:	Craig Miller
From:	Manuprasad P M, Manuprasad.pm@lakesidecontrols.com

Thank you for your interest in DeltaV Control System solution. In response to your request, please review the following information.

If you have any questions, comments, or would like to issue a purchase order, please feel free to contact Lakeside Process Controls. We look forward to helping you in all your automation needs.

Revision Log

Rev 0	Initial revision
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Proposal Basis

System design and sizing was established based on the following design input and clarification documents supplied for the Fifth Lift Station PLC to DeltaV Solution upgrade.

Solution Overview

The solution is based on the PK100 Standalone controller with the traditional IO cards.

Scope of Supply

The following items are included in the proposal:

DeltaV System ID: NEW

- Project Management and ISO9001-2015 quality assurance
- DeltaV hardware as per bill of materials (BOM).
- Hardware design and drawings.
- Hardware Factory Acceptance Test at Lakeside Mississauga facility.
- DeltaV software design and configuration (programming)
- Software Factory Acceptance Test at Lakeside Mississauga facility.
- Site services
 - Lakeside personnel working 4 Days, 10-hour days on-site (Monday to Friday)
 - If the time required exceeds the estimated days, services will be provided on a time and expense basis. Please refer to section "Terms and Conditions Governing Rates and Travel" for site rates.
 - This service will be billed based on actual time and expenses

Lakeside Process Controls Ltd. - Head Office Mississauga (905) 412-0500

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Work Not Included

The proposal does not include any items not listed above, as well as the following:

- Design input information such as P&IDs, logic diagrams, loop drawings, control narratives, user requirement specification (URS), functional design specification (FDS), I/O list, etc
- Any equipment not outlined in the bill of materials
- Programming of the 3rd party supplied equipment, such as PLCs, MCCs, VFDs, etc.
- All signal, power, and network cabling external to cabinets are supplied, installed, and terminated by others including the wiring of field cables into the DeltaV Cabinets.

Notes and Assumptions

- This quote is a firm offer-for-sale.
- Please be advised that Lakeside requires a purchase order to allow us to accommodate this work and meet your schedule. This would give us enough time to assign the right resources, procure the materials, and plan for travel and accommodation at site.
- Any change in scope, scheduling, or assumptions may result in change in the final billing. Lakeside reserves the right to requote an overall system price if changes are requested as this is not a component-based offering.
- Any additional services beyond the estimated services will be charged on actual time and expenses spent based on the rates provided.
- Lakeside standard QA documents will be used for this project.
- All Project documentation and control system configuration will be in English.
- All required design input data will be provided by the purchaser in native electronic format such as process control narratives, P&IDs, I/O lists showing I/O tag name, descriptions, I/O type, ranges, Instrument Index, motor/VFDs lists, Alarm lists, interlock and permissive lists, interface specifications, data map for any 3rd party interfaces, Cause and Effect matrix, etc.
- Shipping
 - Shipping is not included as part of this proposal and can be provided on request.
- Hardware
 - I/O counts as per the following table:

Type	Qty
AI	4
DO	24
DI	42

- 0% installed spares are included in the proposed solution.
- It is assumed the that I/O count given has acceptable spares and no additional spares are included at this time.
- All hardware design, assembly, and testing will be completed by others. Lakeside has a team of hardware design engineers and a full panel shop to fabricate DeltaV panels and a quote for this service can be provided upon request.

- It is assumed the existing panel/cabinet will be re-used for the DeltaV PK100 upgrade project. No new cabinet is considered part of this proposal. If the customer needs a new cabinet to be considered for the upgrade project, the quote for the same can be provided later.
- Redundant 24Vdc bulk power supplies, redundant network communications and redundant controllers are required.
- Control room furniture has not been included.
- DeltaV equipment will be powered from 120VAC UPS sources supplied by others.
- Software
 - All software design, configuration, and testing will be completed by others. Lakeside has a team of software configuration engineers and a quote for this service can be provided upon request.
 - The proposed software configuration is based on the Lakeside standard library for software control modules and operator graphics. Any deviations may result in additional costs.
 - Preliminary schedule assumes one (1) week turn around for software design document approvals.
 - It is assumed no sequencing is required for software configuration.
 - Graphics/documentation will be provided in English only.
- Site Time
 - On site commissioning is assumed to be completed on Monday to Friday. The estimate does not include working on weekends.
 - It is assumed that all work will be performed continuously during the period of resource commitment. Standby time/idle time will be chargeable as per the applicable rates.
- Lakeside Terms and Conditions Governing Rates and Travel apply to any required site work.
- Due to Lakeside's COVID-19 protocols, all Lakeside offices are open for shipping/receiving/project execution but closed to outside personnel for project activities at the time of writing. If these protocols are still in place when the project is ready for Factory Acceptance Testing (FAT), Lakeside certified technicians will perform the FAT and provide the FAT report to satisfy the FAT requirements. If this is not sufficient, please contact us to discuss other remote access possibilities.

Bill of Materials

Item	Qty	Model No	Description
Fifth Lift Station			
Controller and I/O			
1	1	PK0100S	Simplex PK100 Controller Assembly (includes 1 PK100 Controller, 1 Carrier, 2 IOPs, 1 Power Module, 1 PK Controller Protection Cover, and 1 Power Module Protection Cover)
2	1	PK7001S2	SD Card (2GB) for use with PK Controllers
3	1	VE4050S2K1C0	8-Wide I/O Interface Carrier with Carrier Shield Bar
4	1	VE4003S2B1	Analog Input Card: 8 Channels 4-20 mA; HART; I/O Termination Block
5	3	VE4002S1T1B1	Discrete Output Card: 8 Channels 24 Vdc; Isolated; I/O Termination Block
6	2	VE4001S2T2B4	Discrete Input Card: 32 Channels 24 Vdc; Dry Contact; Termination Block
Bulk Power Supplies			
7	2	2866776	Bulk AC to 24 Vdc Power Supply, AC 100-240Vac input, DC 24V @ 20A, Alarm Contact Outputs, DIN Rail Mount (QUINT-PS/ 1AC/24DC/20)
8	1	2320173	QUINT-ORING/24DC/2X10/1X20
Network Equipment			

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Item	Qty	Model No	Description
9	1	VE6041F01C1	Smart 6-Port (RJ45) 10/100BASE-TX Switch with two RJ45 10/100BASE-TX Uplink Ports (FP20-6TX2TX)
10	1	942141016	Hirschmann -5-port copper, redundant power, fault relay, Ethernet switch
11	1	2702769	GW MODBUS TCP/ASCII 1E/2DB9

Pricing Summary – Base Bid

ITEM	DESCRIPTION	CAN\$
1	System Supply - DeltaV Hardware & Software as per BOM	\$35,643
2	Services Supply: Project Management, HW Engineering, Configuration, Documentation, system staging, ISO 9001 QA	\$20,880
3	Estimated Commissioning Services: 4 days of on-site DeltaV commissioning assistance - all expenses included, any additional services will be charged on a per diem basis.	\$13,085
	Total Base Supply Proposal, Ex Works Winnipeg	\$69,608

Pricing Summary - Terms

- Prices are firm for 15 days in Canadian Funds with all taxes extra.
- Lakeside Process Controls Standard Terms and Conditions of Sale apply
 - <https://www.lakesidecontrols.com/terms-conditions-of-sale/>.
- Customer is deemed to have reviewed and accepted these terms and conditions unless Lakeside is notified in writing to the contrary.
- NOTE: The CAN\$/US\$ exchange rate at the time of proposal. Should the exchange rate change by more than 2% from time of proposal to time of purchase order, the purchase price will be adjusted to reflect this. The Bank of Canada website, <http://www.bank-banque-canada.ca/en/rates/exchform.html> will be used as the reference.

Delivery

- Ex Works: Lakeside – Mississauga
- 26-28 Weeks
 - Delivery time is based on known lead times as of proposal date. Due to the rapidly changing business environment created by COVID-19, delivery times may be impacted and subject to change. Delivery is also based on Lakeside resource availability and panel shop loading at time of proposal. A firm schedule will be communicated upon receipt of purchase order or determined during the kickoff meeting.
- Freight: Please provide account number on PO. If not included, shipping will be Prepaid and Added to

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	<p>Fifth Lift Station PLC to PK Controller Upgrade 61803 Rev 00</p>	
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the invoice.

Payment Terms

- Net 30 Days
- All estimated services will be billed based on actual time and expense. Payment for the estimated services is due as services are completed and will be invoiced monthly.

Change Orders

- Change orders received after purchase order acceptance by Lakeside Process Controls are subject to change order fees.
- Fees will be determined based on the nature of the requested changes.
- Process changes after receipt of order resulting in additional engineering or construction changes are subject to additional costs.

Equipment Warranty

- Warranty to be 12 months from installation or 18 months from shipping from the factory whichever expires first.

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Terms and Conditions Governing Rates and Travel

Rates for services are subject to the following qualifications:

1. Overtime (Ontario and Manitoba)
 - a. Monday – Friday: after 8 hours @ 1.5x hourly rate, after 12 hours @ 2.0x hourly rate
 - b. Saturday: first 8 hours @ 1.5x hourly rate, after 8 hours @ 2.0x hourly rate
 - c. Sunday: @ 2.0x hourly rate
 - d. Holidays: @ 2.0x hourly rate
 - e. Where the customer has requested a departure time earlier than 6:30 a.m. overtime charges of 1.5x the hourly rate will apply, up to 6:30 a.m.
2. Please contact Lakeside Process Controls Services for rates for other works such as site inspection walkthrough, equipment maintenance requests, training and project commissioning so that this can be quoted separately and to determine if special block utilization rates apply.
3. Travel time is charged at applicable category hourly rate and is subject to overtime charges.
4. Travel by company or personal automobile will be billed at \$0.95/kilometer where applicable.
5. Lodging will be charged at cost +10%
6. Meals will be charged as follows: Breakfast @ \$10 / Lunch @ \$20 / Supper @ \$30
 - a. On multi-day trips, all meals will be charged, including final day where the technician has checked out of the hotel but is still required on site.
 - b. On day trips, where the customer has requested a site arrive time that requires a departure time earlier than 6 a.m., breakfast will be charged. Lunch will be charged on all trips.
 - c. On day trips, where the home arrival time from site is 7 p.m. or later, supper will be charged.
 - d. Lunch will be charged on all day trips of four hours or more including travel.
7. Rate charge includes all calibration equipment required to service the equipment and systems Lakeside Process Controls sells (i.e.: laptop computer, GPS, multi-function calibrators, HART Communicator and standard hand tools). Additional equipment not required with servicing Lakeside Process Controls product would be charged at cost plus 10%, and would include items such as:
 - a. Calibration equipment/Software required for competitive equipment.
 - b. Generators, heaters and all other non-standard items.
8. If necessary, extra charges will be billed for costs of additional materials, consumables, 3rd party inspectors such as CSA, TSSA, and time in generating inspection documentation.
9. Any customer mandated requirement such as safety orientation, tests, meetings will be billed extra.
10. Waiting or standby time on site beyond 0.5hrs and beyond Lakeside control will be billed accordingly- this includes but not limited to waiting for customer inspection, escorted access, waiting on other contractors or others, and testing mode such as LOTO, process or quality inspections.
11. HST is NOT included.
12. Prices are subject to change without notice.
13. Purchase Order required prior to technician dispatch or service initiation. Lakeside reserves the right to final acknowledgment of PO and reservation of personnel.

14. Delivery: Dependent on Lakeside Process Controls services resource availability.
15. Any customer required site entry such as prequalification of documents (i.e. WSIB/WSB, insurance) and invoicing info to be made known in advance and in cases where customer to provide escorted access to plant
16. Per Section 43 (3) of the Occupational Health and Safety Act our service personnel have the legal right to refuse unsafe work if it's believed that any equipment, workplace condition or contravention of the OHS is likely to endanger them or another person's health and safety.
17. In certain situations, and for safety purposes it may be required to dispatch two technicians to perform a job safely even though only one is requested. Field service rates will apply for both technicians.
18. Lead time for service is 5 working days. Same day / next day service is available but a 30% expedite fee may apply.
19. Lakeside's Standard Terms and Conditions for our supply of services can also be reviewed at <https://www.lakesidecontrols.ca/terms-and-conditions-of-sale/>

Scope of Work: Any work outside the defined work scope will be charges at the standard hourly rate.

Hours: Work is to be performed during normal business hours (7am-5pm). Where the customer has requested a departure time earlier than 6:30 a.m. overtime charges of 1.5x the hourly rate will apply, up to 6:30 a.m.

Safety Equipment: Lakeside Process Controls supplies the following standard PPE: hard hat, safety glasses, safety shoes, leather gloves, FRC, and harness. Additional PPE requirements must be arranged prior to site visit or supplied by the Customer.

Safety Training: Lakeside Process Controls Technicians are safety trained. Additional Site-specific safety training time, drug testing, etc. applicable to the services can be provided and will be billed additionally.

Tools and Equipment: Lakeside Process Controls technicians will supply their own test equipment for Emerson units. Customer shall provide non-standard equipment necessary for work that is specific to non-Emerson units.

Engineering Data: Customer will provide actual engineering data to the Lakeside Process Controls Technician to verify range. Lakeside Process Controls Technician will not change or alter specified range values without written authorization by customer. Lakeside Process Controls will not change, alter or amend P&ID drawings.

Accessibility: It is assumed that all transmitters will be accessible from ground, walk ways, or "cat walks." Lakeside Process Controls will not provide any lifting equipment or erect scaffolding to perform service. Climbing is limited to 200 feet and climbing mechanisms such as stairs or ladders shall be OSHA approved. Lakeside Process Controls does not perform any confined space or asbestos work.

Wait Time: It is also expected that all equipment will be ready for service to reduce wait time; excessive wait time will be billed per the rates listed.

Cancellation: Customer must call 2 business days in advance to cancel or postpone a scheduled call. If proper notice of cancellation or postponement is not provided, cancellation or delay fees may apply.