Procurement Services
450 Cowie Hill Road
P.O. Box 8388 RPO CSC
Halifax, Nova Scotia B3K 5M1
procurement@halifaxwater.ca

July 12, 2021

Clarification # 1

Request for Proposal
P31.2021
JD Kline WSP – PLC Upgrade

To All Bidders of P31.2021:

Please note: the following clarification is in response to questions received for **P31.2021** and should be taken into consideration when preparing bid submission.

Question 1: The work associated with the project is to be carried out in seven (7) phases. However, the durations for completions of each of these seven phases are not given in the Tender Document. Could you please provide us with the estimated durations for each phase? Additionally, how much shutdown time in total is given for each of these seven phases?

Answer 1: The Proponent must determine their durations, costs and approach based on the scope of work provided.

Question 2: The Tender Documents mention that the "Shutdowns at the JD Kline WSP are limited to 5 hours maximum in duration". Is the 5-hour shutdown a process shutdown or a complete power shutdown? Additionally, is this shutdown just for an individual controller (PLC) or for all controllers together, i.e. main Plant PLCs + Pumping Station PLC + lagoon PLC?

Answer 2: The 5-hour shutdown is a process shutdown. The shutdowns are as noted in each of the phases.

Question 3: Is any recertification of the panel(s) needed after the replacement/retrofit work? Is it needed for all three locations, or just a new panel at Lagoon? In case recertification is needed, could you please provide us with information about which type of certification needs to be obtained?

Answer 3:
The panels will require recertification through a special inspection performed by a special inspection organization that is accepted in the Province of Nova Scotia. Additional information is available through the following links:

https://www.nspower.ca/docs/default-source/pdf-to-upload/b-04-024-1(1).pdf?sfvrsn=68afd1ef_0
https://novascotia.ca/lae/electricalsafety/esb0204.asp

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Question 4: If possible, could you please provide us with the list of the contractors approved by Halifax Water concerning the necessary manpower for the installation works at Site – installation of the new Lagoon control panel with the CompactLogix system and necessary wiring works?

Answer 4: Black & McDonald, Atlantica.

These items are for clarification purposes only and does not change the scope of work of the tender. If you have any questions, please contact our office by email at procurement@halifaxwater.ca.

ALL OTHER SPECIFICATIONS, TERMS AND CONDITIONS REMAIN UNCHANGED.

A signed copy of the Clarification is NOT required with your bid submission.

End of Clarification #1

Procurement Services
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procurement@halifaxwater.ca

July 7, 2021

Addendum # 5

Request for Proposal
P31.2021
JD Kline WSP - PLC Upgrade

To All Bidders of P31.2021:

Please note: the following addendum applies to **P31.2021** and shall be taken into consideration when preparing bid submission.

Question 1: Reference Section 3.1, Pages 5-7

This section references the use of 1747-AENT modules in Phases 1, 3, 4 and 5 but there is no such module referenced on the parts list in Appendix A. Does Halifax Water have these modules on hand or are they being supplied by Trihedral Engineering as part of their HMI Upgrade project? The other possibility is that they should be on our parts list. Please advise.

Answer 1: Please note: Any reference to 1747-AENT should be changed to 1747-AENTR.

Please replace Appendix A with the attached revised Appendix A.

A signed copy of each Addendum must also be included with the bid submission. Failure to include this Addendum may be cause for rejection. If you have any questions, please contact our office by email at procurement@halifaxwater.ca.

ALL OTHER SPECIFICATIONS, TERMS AND CONDITIONS REMAIN UNCHANGED.

Acknowledgement by Bidder:

Company Name: _____

Print Name: _____

Signed: _____

Date: _____

End of Addendum #5

APPENDIX A

List of required hardware to be supplied and installed within the scope of the project:

Quantity	Catalog Number	Description	Comment
2	1756-A7	1756 Chassis 7 slots	
2	1756-PA72	85-265 VAC Power Supply (5V @ 10 Amp)	
2	1756-L81E	Logix5581 Controller With 3 Mbytes Memory	
2	1756-RM2	Redundancy Module	
2	1756-RMC1	Redundancy Module Cable, 1M	
2	1756-EN2T	EtherNet 10-100M Bridge Module	
5	1756-EN2TR	EtherNet 10-100M Bridge Module (2-Ports)	
20	1756-N2	Empty Slot Filler for 1756 Chassis	
1	1756-DHRIO	Remote IO and Data Highway Communications	Only needed during intermediate phases using existing IO – non-redundant
2	1585J-M4TBJM-2	Patchcord: RJ45 Male / RJ45 Male, 4-Conductor, Teal TPE, Flex Rated, 2 meters	Between the two EN2TR. All other cables by HRWC.
3	1756-A17	1756 Chassis 17 slots	
3	1756-PSCA2	Redundant Power Supply Assembly Adapter Module	
3	1492-MUA4-A13-A17	Mounting Assembly for 1771 to 1756 I/O Field Wiring Conversion System, 13 or 17 slot chassis	
3	1756-OW16I	N.O. Isolated Relay Output Module	
3	1492-CM1771-LD011	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	
3	1492-CONCAB005Y	Conversion Cable for 1771-OW16 to 1756-OW16I Field Wiring Conversion System, 0.5 meters	
4	1756-OF8I	Analog Output Module, 8 Isolated Points, Current and Voltage, 36 Pin	Migrate at a 2:1 ratio
4	1492-C005005E8C	Conversion Cable for 1771-OFE2 to 1756-OF8I (Current) Field Wiring Conversion System, 0.5 meters	One cable has two 1771-OFE connectors
6	1756-CPR2U	Redundant Power Supply Cable (Up Configuration)	UP for space saving
6	1756-PA75R	85-265V AC Redundant Power Supply	

8	1492-CM1771-LA003	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	Migrate at a 1:1 ratio, applicable to OFE1 or OFE2
5	1756-OA16	74-265 VAC Output 16 Pts (20 Pin)	
5	1492-CM1771-LD006	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	
10	1756-IF16	Analog Input - Current/Voltage 16 Pts (36 Pin)	8 point in differential mode
10	1492-CM1771-LA002	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	Applicable for differential current or voltage
10	1492-CONACAB005D	Conversion Cable for 1771 to 1756 I/O Field Wiring Conversion System, 0.5 meters	Applicable for differential current
11	1756-IA16	79-132 VAC Input 16 Pts (20 Pin)	
11	1492-CM1771-LD001	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	
16	1492-CONCAB005X	Conversion Cable for 1771 to 1756 I/O Field Wiring Conversion System, 0.5 meters	
2	1585J-M4TBJM-5	Patchcord: RJ45 Male / RJ45 Male, 4-Conductor, Teal TPE, Flex Rated, 5 meters	For connection to chassis B – processor cable assumed field by others
2	5069-L320ER	CompactLogix 5380 Controller, 2MB, 16 I/Os, 40 nodes, Standard	
2	5069-RTB64-SCREW	5069 Compact I/O Power terminal RTB kit for 5069-AEN2TR. Contains both 4 and 6 pin Screw type RTB	
7	5069-IA16	5069compact I/O 16 channels AC input modules, supporting both 120 & 240 VAC signals	Increased capacity based on future expansion requirements
4	5069-FPD	5069 Compact I/O Field Potential Distributor Module	
4	5069-RTB6-SCREW	5069 Compact I/O 6 pin Screw type RTB packed kit	
3	5069-OW16	5069 Compact I/O 16 Channel Normally Open Individually Non-Isolated Relay Output Module, 2 tier fault mode, hold last state	
3	5069-IF8	5069 Compact I/O 8 Channel Voltage/Current Analog Input Module, 16-bit resolution, 1ms channel update rate, analog scaling	
2	5069-OF4	5069 Compact I/O 4 Channel Voltage/Current Analog Output Module, 16-bit resolution, 1ms channel update rate, forcing, analog scaling, hold last state	
15	5069-RTB18-SCREW	5069 Compact I/O 18 pins Screw type terminal block kit	

1	Hoffman CSD483612SSR	Enclosure, Stainless Steel, NEMA 4X	Part number selected to provide room for expansion (estimated pending detailed design)
1	Hoffman CP4836	Back plate	
1	Hoffman DAH4001B	400W 120VAC enclosure heater	Detailed Design by supplier to refine selection
1	194U-E60-1753 /194U-FB / 194U-N1 / 194U-LOTO	Rotary Non-Fused Disconnect Switch Base Mounted, Three Phase, 60A	Detailed Design by supplier to refine selection
1	TBD	Lot breakers, terminals, rail, duct, wire, fuses, other consumables	
2	1606-XLS120E	24VDC Power Supply – Parallel	Size Estimated and to be Validated or Modified in Detailed Design
1	TBD	Slave EtherNET I/P Radio and accessories	By HRWC – Main Plant Communication
1	1492-CH1746-13	Thirteen Slot 1492 Conversion Chassis	
1	1492-CM1746-M10	4 Point Analog Output Conversion Module (Current)	
1	5069-SERIAL	5069 Compact I/O 2 channel 9-pin D sub serial interface module supporting Generic ASCII, Modbus RTU/ASCII, DF1, DH485	
2	1492-CM1746-M05	High Resolution (8) Analog Input Conversion Module	
2	1492-CM1746-M04	AC/DC Relay Output Conversion Module	
4	5069-ARM	5069 Compact I/O Address Reserve Module, occupy one slot address.	
5	1492-CM1746-M01	120VAC Input Conversion Module	
0	1606-XL120DR	24VDC Power Supply – Parallel	Assumed existing Quints are OK
1	Monico MCORE gateway	EtherNET I/P (ControlLogix) to CAT Data Link protocol gateway	
1	SOFTWARE – 9324-RLD600ENE	Studio 5000 Full Edition ESD Software	
1	1747-AENTR	Ethernet adaptor module	

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July 6, 2021

Addendum # 4

Request for Proposal
P31.2021
JD Kline WSP - PLC Upgrade

To All Bidders of P31.2021:

Please note: the following addendum applies to **P31.2021** and shall be taken into consideration when preparing bid submission.

Question 1: What is the Owner's intention for the 1,000 hours of this resident at site?

Answer 1: Page No. 20, 5.1.3 Financial Proposal Form:

Delete:

For purposes of preparing the response to this RFP, the Proponent is to assume a total construction duration of 20 weeks. It is to be assumed that 50 hours of fulltime resident inspection will be required each construction week.

Replace with:

For purposes of preparing the response to this RFP, the Proponent is to assume a total construction duration of 20 weeks. The proponent will not need to be on site unless working on the PLC (e.g. installation, commissioning, start-up, etc.). The Proponent must determine their cost and approach based on the scope of work provided.

Question 2: Do you believe this person will be occupied with inspection tasks the entire time? Or can this time be used for other project tasks, such as PLC program conversion, or drawing updates?

Answer 2: See response to Question 1.

A signed copy of each Addendum must also be included with the bid submission. Failure to include this Addendum may be cause for rejection. If you have any questions, please contact our office by email at procurement@halifaxwater.ca.

ALL OTHER SPECIFICATIONS, TERMS AND CONDITIONS REMAIN UNCHANGED.

Procurement Services
450 Cowie Hill Road
P.O. Box 8388 RPO CSC
Halifax, Nova Scotia B3K 5M1
procurement@halifaxwater.ca

Acknowledgement by Bidder:

Company Name: _____

Print Name: _____

Signed: _____

Date: _____

End of Addendum #4

Procurement Services
450 Cowie Hill Road
P.O. Box 8388 RPO CSC
Halifax, Nova Scotia B3K 5M1
procurement@halifaxwater.ca

June 28, 2021

Addendum # 3

Request for Proposal
P31.2021
JD Kline WSP - PLC Upgrade

To All Bidders of P31.2021:

Please note: the following addendum applies to **P31.2021** and shall be taken into consideration when preparing bid submission.

The closing date has been extended to Thursday July 15, 2021 at 2:00 p.m. Atlantic Time.

Question 1: Is it the intent of the RFP, that the drawings be reproduced in DWG format and revised where it's noted to be by the Control System Supplier in the RFP section 3.3? The RFP indicates "as-commissioned drawings will be submitted in both PDF and DWG formats".

Answer 1: All drawings will be submitted in both PDF and DWG formats.

Question 2: In order to quantify the level of effort required for carrying out the PLC to ControlLogix "logic" conversion, can a PLC logic report be printed and be made available for viewing?

Answer 2: Pictures of the lagoon panel and a PLC Logic report will be made available for viewing at 455 Cowie Hill Road on Wednesday July 7th between 1-4 p.m. Proponents must make an appointment by contacting Halifax Water Procurement at procurement@halifaxwater.ca. Appointments will be 1 hour each with a limit of 1 appointment per proponent. All COVID-19 protocols and procedures must be followed at all times. Photographs of the drawings are prohibited. Proponents may take notes should they choose. No questions will be answered during the viewing. All questions must be submitted as per the process identified in the RFP document.

Question 3: Drawings for the Lagoon panel do not exist for review; can photo(s) be provided, by Halifax Water, for viewing the existing panel layout?

Answer 3: See response to Question 2.

A signed copy of each Addendum must also be included with the bid submission. Failure to include this Addendum may be cause for rejection. If you have any questions, please contact our office by email at procurement@halifaxwater.ca.

ALL OTHER SPECIFICATIONS, TERMS AND CONDITIONS REMAIN UNCHANGED.

Procurement Services
450 Cowie Hill Road
P.O. Box 8388 RPO CSC
Halifax, Nova Scotia B3K 5M1
procurement@halifaxwater.ca

Acknowledgement by Bidder:

Company Name: _____

Print Name: _____

Signed: _____

Date: _____

End of Addendum #3

Procurement Services
450 Cowie Hill Road
P.O. Box 8388 RPO CSC
Halifax, Nova Scotia B3K 5M1
procurement@halifaxwater.ca

June 21, 2021

Addendum # 2

Request for Proposal
P31.2021
JD Kline WSP - PLC Upgrade

To All Bidders of P31.2021:

Please note: the following addendum applies to **P31.2021** and shall be taken into consideration when preparing bid submission.

The closing date has been extended to Thursday July 8, 2021 at 2:00 p.m. Atlantic Time.

"The relevant PLC drawings will be available for viewing at 455 Cowie Hill Road on Thursday June 24th between 1–4 p.m. and at 450 Cowie Hill Road on Tuesday June 29th between 1-4 p.m. Proponents must make an appointment by contacting Halifax water procurement via email at procurement@halifaxwater.ca. Appointments will be 1 hour in duration with a limit of 1 appointment time per proponent. All COVID-19 protocols and procedures must be followed at all times. Photographs of the drawings are prohibited. Proponents may take notes should they choose to do so. No questions will be answered during the viewing. All questions must be submitted as per the process identified in the RFP document.

A signed copy of each Addendum must also be included with the bid submission. Failure to include this Addendum may be cause for rejection. If you have any questions, please contact our office by email at procurement@halifaxwater.ca.

ALL OTHER SPECIFICATIONS, TERMS AND CONDITIONS REMAIN UNCHANGED.

Acknowledgement by Bidder:

Company Name: _____

Print Name: _____

Signed: _____

Date: _____

End of Addendum #2

Procurement Services
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June 21, 2021

Addendum # 1

Request for Proposal
P31.2021
JD Kline WSP - PLC Upgrade

To All Bidders of P31.2021:

Please note: the following addendum applies to **P31.2021** and shall be taken into consideration when preparing bid submission.

Question1: Please provide pdf file copies of the drawings listed in the RFP.

Answer 1: Halifax Water cannot provide drawings, pictures or program files as they are confidential.

Question 2: Please provide latest copies of existing PLC logic program files referenced in the RFP.

Answer 2: Refer to Answer 1.

Question 3: We would like to arrange for a site visit to review the existing PLC systems; please indicate if HRWC will allow a site visit.

Answer 3: Due to current COVID-19 restrictions, site visits will not be conducted at this time.

Question 4: Please confirm requirement to supply PLC programming software; this is not listed in Appendix A.

Answer 4: Please see the attached revised table that includes the PLC programming software.

Page 6, Section 3.1, please delete all instances of 1756-RIO and replace with 1756-DHRIO.

A signed copy of each Addendum must also be included with the bid submission. Failure to include this Addendum may be cause for rejection. If you have any questions, please contact our office by email at procurement@halifaxwater.ca.

ALL OTHER SPECIFICATIONS, TERMS AND CONDITIONS REMAIN UNCHANGED.

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procurement@halifaxwater.ca

Acknowledgement by Bidder:

Company Name: _____

Print Name: _____

Signed: _____

Date: _____

End of Addendum #1

APPENDIX A

List of required hardware to be supplied and installed within the scope of the project:

Quantity	Catalog Number	Description	Comment
2	1756-A7	1756 Chassis 7 slots	
2	1756-PA72	85-265 VAC Power Supply (5V @ 10 Amp)	
2	1756-L81E	Logix5581 Controller With 3 Mbytes Memory	
2	1756-RM2	Redundancy Module	
2	1756-RMC1	Redundancy Module Cable, 1M	
2	1756-EN2T	EtherNet 10-100M Bridge Module	
5	1756-EN2TR	EtherNet 10-100M Bridge Module (2-Ports)	
20	1756-N2	Empty Slot Filler for 1756 Chassis	
1	1756-DHRIO	Remote IO and Data Highway Communications	Only needed during intermediate phases using existing IO – non-redundant
2	1585J-M4TBJM-2	Patchcord: RJ45 Male / RJ45 Male, 4-Conductor, Teal TPE, Flex Rated, 2 meters	Between the two EN2TR. All other cables by HRWC.
3	1756-A17	1756 Chassis 17 slots	
3	1756-PSCA2	Redundant Power Supply Assembly Adapter Module	
3	1492-MUA4-A13-A17	Mounting Assembly for 1771 to 1756 I/O Field Wiring Conversion System, 13 or 17 slot chassis	
3	1756-OW16I	N.O. Isolated Relay Output Module	
3	1492-CM1771-LD011	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	
3	1492-CONCAB005Y	Conversion Cable for 1771-OW16 to 1756-OW16I Field Wiring Conversion System, 0.5 meters	
4	1756-OF8I	Analog Output Module, 8 Isolated Points, Current and Voltage, 36 Pin	Migrate at a 2:1 ratio
4	1492-C005005E8C	Conversion Cable for 1771-OFE2 to 1756-OF8I (Current) Field Wiring Conversion System, 0.5 meters	One cable has two 1771-OFE connectors
6	1756-CPR2U	Redundant Power Supply Cable (Up Configuration)	UP for space saving
6	1756-PA75R	85-265V AC Redundant Power Supply	

8	1492-CM1771-LA003	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	Migrate at a 1:1 ratio, applicable to OFE1 or OFE2
5	1756-OA16	74-265 VAC Output 16 Pts (20 Pin)	
5	1492-CM1771-LD006	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	
10	1756-IF16	Analog Input - Current/Voltage 16 Pts (36 Pin)	8 point in differential mode
10	1492-CM1771-LA002	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	Applicable for differential current or voltage
10	1492-CONACAB005D	Conversion Cable for 1771 to 1756 I/O Field Wiring Conversion System, 0.5 meters	Applicable for differential current
11	1756-IA16	79-132 VAC Input 16 Pts (20 Pin)	
11	1492-CM1771-LD001	Conversion Module for 1771 to 1756 I/O Field Wiring Conversion System	
16	1492-CONCAB005X	Conversion Cable for 1771 to 1756 I/O Field Wiring Conversion System, 0.5 meters	
2	1585J-M4TBJM-5	Patchcord: RJ45 Male / RJ45 Male, 4-Conductor, Teal TPE, Flex Rated, 5 meters	For connection to chassis B – processor cable assumed field by others
2	5069-L320ER	CompactLogix 5380 Controller, 2MB, 16 I/Os, 40 nodes, Standard	
2	5069-RTB64-SCREW	5069 Compact I/O Power terminal RTB kit for 5069-AEN2TR. Contains both 4 and 6 pin Screw type RTB	
7	5069-IA16	5069compact I/O 16 channels AC input modules, supporting both 120 & 240 VAC signals	Increased capacity based on future expansion requirements
4	5069-FPD	5069 Compact I/O Field Potential Distributor Module	
4	5069-RTB6-SCREW	5069 Compact I/O 6 pin Screw type RTB packed kit	
3	5069-OW16	5069 Compact I/O 16 Channel Normally Open Individually Non-Isolated Relay Output Module, 2 tier fault mode, hold last state	
3	5069-IF8	5069 Compact I/O 8 Channel Voltage/Current Analog Input Module, 16-bit resolution, 1ms channel update rate, analog scaling	
2	5069-OF4	5069 Compact I/O 4 Channel Voltage/Current Analog Output Module, 16-bit resolution, 1ms channel update rate, forcing, analog scaling, hold last state	
15	5069-RTB18-SCREW	5069 Compact I/O 18 pins Screw type terminal block kit	

1	Hoffman CSD483612SSR	Enclosure, Stainless Steel, NEMA 4X	Part number selected to provide room for expansion (estimated pending detailed design)
1	Hoffman CP4836	Back plate	
1	Hoffman DAH4001B	400W 120VAC enclosure heater	Detailed Design by supplier to refine selection
1	194U-E60-1753 /194U-FB / 194U-N1 / 194U-LOTO	Rotary Non-Fused Disconnect Switch Base Mounted, Three Phase, 60A	Detailed Design by supplier to refine selection
1	TBD	Lot breakers, terminals, rail, duct, wire, fuses, other consumables	
2	1606-XLS120E	24VDC Power Supply – Parallel	Size Estimated and to be Validated or Modified in Detailed Design
1	TBD	Slave EtherNET I/P Radio and accessories	By HRWC – Main Plant Communication
1	1492-CH1746-13	Thirteen Slot 1492 Conversion Chassis	
1	1492-CM1746-M10	4 Point Analog Output Conversion Module (Current)	
1	5069-SERIAL	5069 Compact I/O 2 channel 9-pin D sub serial interface module supporting Generic ASCII, Modbus RTU/ASCII, DF1, DH485	
2	1492-CM1746-M05	High Resolution (8) Analog Input Conversion Module	
2	1492-CM1746-M04	AC/DC Relay Output Conversion Module	
4	5069-ARM	5069 Compact I/O Address Reserve Module, occupy one slot address.	
5	1492-CM1746-M01	120VAC Input Conversion Module	
0	1606-XL120DR	24VDC Power Supply – Parallel	Assumed existing Quints are OK
1	Monico MCORE gateway	EtherNET I/P (ControlLogix) to CAT Data Link protocol gateway	
1	SOFTWARE – 9324-RLD600ENE	Studio 5000 Full Edition ESD Software	