



## SUNSHINE COAST REGIONAL DISTRICT

### Question and Answers #2

Request for Proposal No. 2437020

UV Upgrade Chapman Creek Water Treatment Plant

**Date: September 25, 2024**

#### **Item No.1**

**Question:** The new platform and pipe appear to be running directly into the existing main electrical box for the system which has to remain in operation, is the electrical box staying in its exact location and if so, how do you propose us to complete our services?

**Answer:** The existing UV panel can be temporarily relocated to allow for space. Contractor to be responsible for the temporary relocation of this panel to maintain operation.

#### **Item No.2 Specification Section 11260 Ultraviolet Disinfection System Item 1.7.3**

**Question:** The document reads: "(14) Pricing for the UV equipment. PLC & HMI software licences (Rockwell) to be provided as a separate line item from the rest of the UV equipment in the pricing submission." We cannot scope supply of Licences. Rockwell requires customer to contact them directly. Can we request an exception?

**Answer:** Pricing should be available from Rockwell distributor (Westburne) or approved alternative. Customer contact information will be provided at time of purchase.

#### **Item No.3 Specification Section 11260 Ultraviolet Disinfection System Item 1.7.4**

**Question:** The document reads: "(4) A computational fluid dynamic (CFD) model showing the performance of the UV reactor in the proposed piping configuration." CFD model adds additional time to submittals and adds a significant cost increase to the equipment price. Is CFD actually required?

**Answer:** Provided that the current piping configuration is within the range of Third-Party UV Validation Test configuration requirement, i.e. upstream and downstream pipe runs, valving (butterfly valve) and fittings (90-degree bends and tee), site specific CFD modelling is not required.

If the current piping configuration is not within the range of configurations tested by Third-Party UV Validation, the UV Supplier is required to include CFD modelling to demonstrate UV reactor performance for the as shown configuration.

#### **Item No.4 Specification Section 11260 Ultraviolet Disinfection System Item 1.7.4**

**Question:** The document reads: "(1) All required in Item 1.7.2." and Section 01300, please note that Trojan typically requires up to Six (6) weeks to prepare and submit the submittal however based on CFD report being called out it will require addition time - Six (6) to Eight (8) weeks - per 1.7.4 (4).

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"1.7.2 Submit shop drawings and product data in accordance with Section 01300 – Submittals." Can you please clarify?

**Answer:** See Q&A Item No.3 on CFD requirement.

**Item No.5 Specification Section 11260 Ultraviolet Disinfection System Item 2.3.1**

**Question:** The document reads: "(3) UV intensity sensors (one (1) per lamp for MP, plus two (2) reference sensors." Are two (2) reference sensors required?

**Answer:** UV Supplier to advise and include the standard configuration (as per Third-Party Validation reactor configuration) in the base bid and provide an optional pricing item for the two (2) reference sensors if recommended by UV Supplier.

**Item No.6 Specification Section 11260 Ultraviolet Disinfection System Item 2.3.1**

**Question:** The document reads: "(4) Two (2) online transmittance monitors (duty/standby) that shall measure transmittance at 254 nm with a 1-cm path length." Do we need to handle to the programming for duty/standby UVT monitors or will plant SCADA handle this (by others)? If yes, custom programming will be required increasing the cost. Normally only one (1) UVT unit is provided. Request to provide one.

**Answer:** The UV System shall include one (1) UVT Transmittance monitor and one additional spare monitor. The IFT drawings are correct, and the specifications has been updated accordingly, see Amendment No.4

**Item No. 7 Specification Section 11260 Ultraviolet Disinfection System Item 2.3.1**

**Question:** The document reads: "(5) Two (2) online transmittance monitors (duty/standby) that shall measure transmittance at 254 nm with a 1-cm path length." Are two (2) online UVT monitors required? Normally only one (1) UVT unit is provided. Request to provide one.

**Answer:** See Q&A Item No.6.

**Item No.8 Specification Section 11260 Ultraviolet Disinfection System Item 2.11.4**

**Question:** The document reads: "(2) 120 VAC for powering control circuit." 24VDC is provided by us. Can we have an exception?

**Answer:** 24VDC based control system is acceptable. The Contractor is responsible for all related 24VDC system sizing and compatibility with field devices which were shown as 120VAC.

**Item No.9 Specification Section 11260 Ultraviolet Disinfection System Item 2.11.4**

**Question:** The document reads: "(3) 120 VAC for control system I/O, field devices." 24VDC is provided by us. Can we have an exception?

**Answer:** See Q&A Item No.8

**Item No.10 Specification Section 11260 Ultraviolet Disinfection System Item 2.11.4**

**Question:** The document reads: "(4) UPS system (minimum 10 minutes) for controls and instrumentation, integral to UV panel." 120VAC UPS not available due to panel space, 24VDC UPS can be provided. Will this be acceptable?

**Answer:** See Q&A Item No.8. The UV Supplier to be responsible for UPS system sizing. All shop drawings to reflect this change.

**Item No.11 Specification Section 11260 Ultraviolet Disinfection System Item 2.11.5**

**Question:** The document reads: "(3) All information collected by the UV Supplier through the PLC is to be made available to the SCADA system. As a minimum, all information displayed on the HMI and all set points/adjustable parameters at the HMI are to be equally accessible to the plant SCADA system." Please note that all HMI setting are available over SCADA. Custom programming will be required. Can we have an exception from this?

**Answer:** It is the responsibility of UV Supplier & Contractor to make available HMI information and set points/adjustable parameters to SCADA, as well as coordination and support to the SCADA programming to be performed by the Owner.

**Item No.12 Specification Section 11260 Ultraviolet Disinfection System Item 2.11.5**

**Question:** The document reads: "(5) Provide an approved fibre management and termination within each control enclosure for installation and termination of plant-wide Ethernet network." What type of fibre connection is required?

**Answer:** No fibre connection is required, see Amendment No.4

**Item No.13**

**Question:** The document reads: "(6) Provide a complete, as commissioned, hard and soft copy of the UV control and HMI runtime programs for use by the Owner." Will follow Trojan Technologies standard practice in relation to providing customers with development files. Proprietary dose calculations will be locked & OEM settings for OIT files will be removed. Can we have an exception?

**Answer:** The manufacturer/UV Vendor will retain responsibility for any proprietary programming during warranty period and beyond. Hard copy not required, see amendment no.4 although, the OEM should provide a copy of the program (with proprietary segments locked). Owner to sign NDA as required. System must be maintainable.

**Item No.14 Specification Section 11260 Ultraviolet Disinfection System Item 2.11.6**

**Question:** The document reads: "(4) One (1) copy of Development Software Microsoft Windows based." And "(5) Runtime software for each HMI." And "(6) No logic required for control shall be programmed or executed in the HMI." Will follow our standard practice in relation to providing customers with development files. Proprietary Dose calculations will be locked & OEM settings for OIT files will be removed. HMI contains code that is required to complete UVI reference sensor testing. Can we have an exception?

**Answer:** See Q&A Item No. 13. System must be maintainable.

**Item No.15 Specification Section 11260 Ultraviolet Disinfection System Item 3.2.2**

**Question:** The document reads: "(3) The Manufacturer shall provide software copy and hard copy of the PLC Program to the Owner." Under the NDA with the Owner, we can provide a locked version of the PLC Program (proprietary sections are locked). However, we are unable to provide hard copies. Will this be acceptable?

**Answer:** See Q&A Item No. 13. System must be maintainable.

**Item No. 16 Specification Section 11260 Ultraviolet Disinfection System Item 3.2.2**

**Question:** The document reads: "(1) Performance Guarantee Testing shall include power consumption testing, as well as head loss testing and effluent quality testing at two (2) different times (events) during the Commissioning. The proposed Performance Guarantee Testing procedure shall have been developed by the Manufacturer and submitted to and reviewed by the Engineer before scheduling and performing the Performance Guarantee Test." Please note that regarding Headloss Testing, unless ports are provided in the piping system to measure pressure difference this measurement cannot be done. Also, due to such a small variance it is a very difficult measurement to achieved. The Equipment has been validated by third party testing facility and this can be reviewed in the validation report. Regarding the Effluent Quality Testing, unless the influent contains Cryptosporidium or Giardia, what specifically would need to be measured? And can we have an exception?

**Answer:** Performance Guarantee Testing of power consumption is to be proposed and performed by UV Supplier and the Contractor.

The Owner reserve's the right to measure headloss, sample and test water quality, with the sampling ports within the piping system, to validate UV performance as deemed necessary.

**Item No.17 Structural**

**Question:** Form of Tender, Payment Item # 3.1 - 1) Please confirm this is an Aluminum Grating Platform as per Section 4, S-104 Notes and not Steel Grate Platform as mentioned in the Schedule of Prices. 2) The area of the platform is mentioned to be 24sqm while the drawing takeoffs from Section 1, S-101 suggest a larger area than this. 3) Provide the depth, thickness and spacing for the bar grating. 4) Will structural metals supporting the platform need to be covered under this cost item?

**Answer:** Answer to follow on future Q&A.

**Item No. 18 Structural**

**Question:** Form of Tender, Payment Item # 3.2 - Please advise if it is square metre or linear metre?

**Answer:** Answer to follow on future Q&A.

**Item No. 19 Structural**

**Question:** Form of Tender, Payment Item # 3.4 - Please advise if the new door and frame are also covered under this payment item?

**Answer:** Answer to follow on future Q&A.

**Item No. 20 Structural**

**Question:** Form of Tender, Payment Item # 3.5 - Please advise the metal works to be covered under this and what are those 15 numbers mentioned?

**Answer:** Answer to follow on future Q&A.

**Item No. 21 Structural**

**Question:** Form of Tender, Payment Item # 3.9 - Please advise the works to be covered under this payment item?

**Answer:** Answer to follow on future Q&A.

**Item No. 22 Structural**

**Question:** Please advise the payment item number under which the stairs including stair handrails are covered?

**Answer:** Answer to follow on future Q&A.

**Item No. 23 Section 16993 and ISS Sheet**

**Question:** MV3-1-0X to request approval of our Emerson Bettis XTE3000 as an approved manufacturer for the (2) Electric Actuators. This XTE3000 actuator is installed in several Water & Wastewater sites in Western Canada and this meets the requirements of the above referenced specification sections.

Data Sheet is located here: <https://www.emerson.com/documents/automation/data-sheet-bettis-xte3000-en-en-6002142.pdf>. Will you accept this as an approved equivalent?

**Answer:** Answer to follow on future Q&A.

**Item No. 24 Section 007300 Supplementary General Conditions Item 6.5.6**

**Question:** The document mention that the Owner has a preferred completion date and there is a \$750/day penalty if the contractor fails to meet that date, but I can't find the date anywhere. Can you confirm what that date is?

**Answer:** The document does not state that we have a preferred completion date, however in section 6.5.6 there is a delay claim clause that grants the Owner the right to retain \$750 per day for "all direct out-of-pocket costs, such as safety, security, or equipment rental, reasonably incurred by the Owner as a direct result of such delay, for Liquidated Damages for each and every calendar days delay in completing the Work beyond the date of completion prescribed...." The date of completion prescribed is the contract expiry date, which will be determined during the contract development, and we will utilize your preliminary construction schedule as the basis for the project completion date.

**Item No.25**

**Question:** Is the scope of work on this is to upgrade the UV system?

**Answer:** Yes, as detailed in the tender documents.

**Item No.26**

**Question:** What are the reasons for performing these upgrades?

**Answer:** Infrastructure upgrade to meet resiliency and future demands of the Owner.

**Item No.27**

**Question:** Any known deficiencies?

**Answer:** Answer to follow on future Q&A.

**Item No.28**

**Question:** What is the outcome solution that you are looking for?

**Answer:** See the tender documents (Drawings & Specs).

**Item No.29**

**Question:** What is the Model information of current UV systems installed?

**Answer:** Answer to follow on future Q&A.

**Item No.30**

**Question:** What flow rates are these UV systems rated for?

**Answer:** See Specification 11260 Ultraviolet Disinfection System Item 2.2 Design Criteria.

**Item No.31**

**Question:** What is the output flow rate requirements for the entire system?

**Answer:** See Specification 11260 Ultraviolet Disinfection System Item 2.2 Design Criteria.

**Item No.32**

**Question:** What are the approx. number of users of this water system?

**Answer:** Answer to follow on future Q&A.

**Item No.33**

**Question:** What is the current flow rate demand for each UV unit?

**Answer:** See Specification 11260 Ultraviolet Disinfection System Item 2.2 Design Criteria for the Minimum Flow requirement.

**Item No.34**

**Question:** Are we able to shut the system down? For how long?

**Answer:** See specification and Q&A No.1, questions 3, 11, 13 & 14.

**Item No.35**

**Question:** Could you please provide photographs?

**Answer:** Yes, see attached.

**Item No.36**

**Question:** Drawing S102 Detail 4 notes: "Supply and install new insulated hollow steel door and door frame." It also says: "Relocate and reuse existing door and hardware with electric strike and access controls system." Can you please clarify if the door is to be new or reused?

**Answer:** Answer to follow on future Q&A.

**Item No.37**

**Question:** Can you please provide a layout of the locations of the aluminum HSS columns as shown on S103 detail 8?

**Answer:** Answer to follow on future Q&A.

**Item No.38**

**Question:** The transformer support steel does not have a detail to show the material sizing and attachment requirements. Can you please provide a detail for this scope?

**Answer:** Answer to follow on future Q&A.

**Item No.39**

**Question:** Can you please advise what is intended to be broken out on the tender form for the Retrofit Allowance?

**Answer:** Answer to follow on future Q&A.

**Item No.40**

**Question:** Can you please clarify what 15 items are intended to be included for the Misc Metals per the tender form?

**Answer:** Answer to follow on future Q&A.

**Item No.41**

**Question:** Is there a 3D Model3 / Native Revit file available?

**Answer:** Answer to follow on future Q&A.

**Site Photos**

**Exterior Stair Well**





## MCC Photos



RFP 2437020 UV Upgrades Chapman Creek Water Treatment Plant



RFP 2437020 UV Upgrades Chapman Creek Water Treatment Plant  
**Control and Electrical Junction Boxes**

