REQUEST FOR QUOTE (RFQ)
INFORMAL COMPETITIVE SOLICITATION
Larval Aquaculture Water Quality Monitoring Unit and Oxygen Control Panels
19CRDFBAJOHN-100G

Introduction: In accordance with the informal competition procedures provided for in 11 Iowa Administrative Code rules 117.9(1), the Department of Natural Resources (DNR) is seeking to purchase **larval aquaculture water quality monitoring unit and oxygen control panels meeting the specifications in this RFQ**. Contractors interested in providing these products should submit quotes to the **DNR Issuing Officer** at the following address:

Michael Gulick
Wallace Building 4th Floor
502 E 9th Street
Des Moines, Iowa 50319
515-725-8214
michael.gulick@dnr.iowa.gov

Quotes should be submitted no later than **February 22, 2019 at 12:00 PM noon central time**. Any quotes received after this deadline will be rejected and returned to the Contractor. The costs of preparation and delivery of the quote are solely the responsibility of the Contractor. **Email quotes preferred.**

Description of Good:
The Department of Natural Resources (DNR) is seeking to purchase new larval aquaculture water quality monitoring unit and oxygen control panels meeting the following specifications. The Contractor must submit final design specifications for DNR's express written approval prior to assembly. All Items must be delivered to DNR by April 15, 2019.

The monitoring unit must continuously monitor dissolved oxygen (DO), pH, and temperature in the recirculating aquaculture system and store data for downloading at intervals. The Oxygen Control Panels must provide oxygenation of larviculture tanks during power interruptions/failures and when below set point. This is a complete system with capability to call out via cellular phone or for future connection to a PLC existing in the facility.

Design Conditions and Performance requirements:

a) Monitoring and Control System: Oxyguard Pacific Main and Combi Unit(s).
    i) Display, processing and input units:
        (1) Color LCD touch screen display for all probe values in one screen view.
        (2) Will be configured to act as a call out alarm system. Rathbun will provide the SIM card and cellular plan.
        (3) Future communication port for wired communication to a Modicon PLC system existing in building via Ethernet connection. Wireless technology will not be used.
        (4) Data ports and storage: log and store data from all probes for one month or greater between data downloads onto USB flash memory.
        (5) User programmable set points: minimum and maximum set points to warn/alarm and to activate oxygen back up individually by tank.

(6) 110 v plug power corded for connection to standard 110 V outlet that is about 6 ft from unit mounting location.
(7) Provide Monitor program back up on a USB flash drive.

ii) Inputs to Monitor – probes and flow meters to provide:
(1) Oxyguard galvanic dissolved oxygen probes: Five (5) probes – located in Larviculture Tanks (LCT) 1, 2, 3, 4, 5. Temperature sensor included in DO probes.
(2) One (1) pipe insertion type OxyGuard DO probe to place down stream of oxygenation cone in a side loop with service valve. Provide appropriate PVC TEE and probe mountings to completely seal probe in PVC pipe under pressure.
(3) One (1) pH: located in MBBR Sump and wired to the Combi Unit.
(4) Three GF Sygnet flowmeters Model 3-2537-6C-P0 Type 2537 Rotor-X; Current output (4 to 20 mA), PP Body, Titanium Pin, .5" - 4" pipe. Include appropriate PVC fitting for meter insertion into pipes.
(a) 2 flow meters will mount on 2” pipe, bidder provide fittings, cable length about 8 feet to Combi unit location.
(b) 1 flow meter will mount on 3” pipe, bidder provide fittings, cable about 30 feet from Combi Unit or 32 feet from the Pacific unit.
(5) Receive a 24 VDC Digital signal from a VFD (WEG CFW 08 Vector Inverter) on a motor Control Panel.

b) Larviculture Tank Life Support Oxygen Control Panels:
i) Quantity: two (2) panels for groups of culture tanks. Panel groups are:
(1) Panel A serves: LCT - 1, 2, and 3 with DO probes.
(2) Panel B serves: LCT - 4 and -5 with DO probes and MBBR pH probe and oxygenated line DO probe. Combi unit located on this panel. Panel B will be mounted between conduits 20 inches apart so a maximum width of 18 inches is recommended, vertical length is less limited.

ii) Each Panel will be preassembled, wired and plumbed for oxygen and incorporate the following components:
(1) Two-position switch (Manual or Auto) for each tank on the panel to allow the operator to operate the solenoid valve by hand (manual, on) or controlled by the monitoring systems PID control (Auto).
(2) Solenoid valve in normally open setting (during power failure) or operated by Monitor when minimum DO threshold is crossed.
(3) Oxygen Flowmeters to each tanks diffuser(s) at a rate set by user. Flowmeters should be sized in ranges needed for micropore diffuser sizing specifications in Section iii.
(4) Hose barb fittings plumbed into oxygen panel for hose connection to oxygen supply.

iii) Micropore oxygen diffusers for each culture tank adequately sized to disperse oxygen to support 0.6 g fish fed 12% bodyweight/day at a water temperature of 23°C.
(1) LCT 1, 2, and 3 are 275 L will each hold 4 kg of fish;
(a) Tanks are 30” diameter by 24” wetted depth.
(b) Diffusers will be hung from the tank side wall and not rest on the tank bottom to not interfere with tank bottom siphoning.

(2) LCT 4 and 5 are 2,400 L and will each hold 40 kg fish.
(a) Tanks are 72" diameter and 36" wetted depth.
(b) Diffusers will be hung from a bar spanning the diameter of the tank and not rest on the tank bottom so as to not interfere with automated tank cleaning arm.

iv) Cables and wiring.
(1) See attached floor plan drawing, cable runs are measured below. Runs to Panel B and to MBBR will be under the deck.
(a) Main unit to Panel A for 3 small LCT's
(i) Main to Oxygen control panel: 29 feet
(ii) Oxygen probe cable from Main to
1. Tank 1: 12 feet
2. Tank 2 : 15 Feet
3. Tank 3: 18 Feet
(b) Main Unit to Combi Unit for large LCT's.
(i) Main unit to Combi unit panel: 38 feet
(ii) Oxygen Probe cable from Combi to
1. Tank 4: 14 feet
2. Tank 5: 14 Feet
(iii) Insertion Oxygen probe to Combi: 30 feet.
(c) Combi Unit to MBBR pH probe: 32 feet.

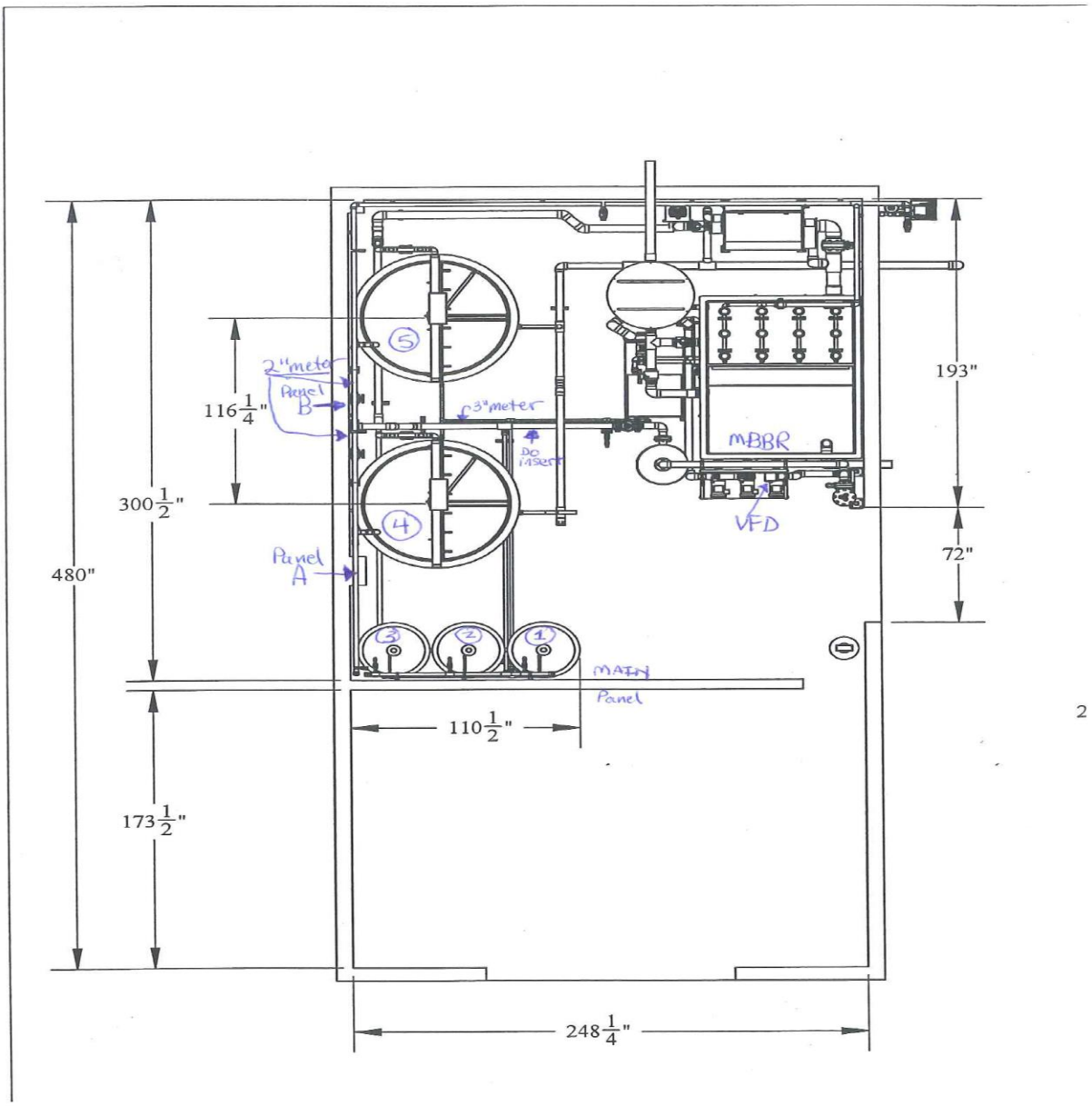
c) System Configuration and assembly
i) Monitor system should be delivered fully configured and panels completely assembled so minimal technical installation is required. A wiring diagram with terminal details of panel to panel and panel to probes will be provided by supplier so that Rathbun staff can make final contact wiring. All parts and units should be clearly labeled for installation. Supplier will provide technical assistance (phone and email provided) in final wiring and meter (DO/flow/etc.) set up should Rathbun staff need clarifications.
ii) Rathbun staff will mount units and panels to wall.
iii) Rathbun will provide oxygen hoses from the oxygen source line to the panels and from panels to diffusers.
iv) Rathbun will provide SIM card which can be shipped to Contractor to install in Pacific unit and configure.

Photo 1: Overview of panel and VFD locations.

Photo 2: Main Panel and Panel A approximate mounting locations.

Photo 3: Panel B and 2” pipe flow meter mounting locations.

Photo 4: VFD location in relation to Panel B.



FOB Destination Freight Prepaid: **Rathbun Fish Culture Research 15053 Hatchery Place Moravia, IA 52571**

From the date of issuance of this Informal Competitive Solicitation until announcement of the successful Contractor, **Contractors may not contact any employee of the State of Iowa about this RFQ other than the DNR Issuing Officer named above**. Contractors may submit written questions relating to the interpretation of this Informal Competitive Solicitation and the procurement process to the DNR Issuing Officer at the above address. Written responses to any questions received will be provided to all potential Contractors.

Acceptance of Attached Contract Terms and Conditions
By submitting a quote, Contractor acknowledges its acceptance of the terms and conditions located at

https://das.iowa.gov/sites/default/files/procurement/pdf/050116%20terms%20goods.pdf

Miscellaneous Information: DNR reserves the right to reject any or all quotes, in whole or in part, to advertise for new quotes, to abandon the need for such, and to cancel this Informal Competitive Solicitation at any time prior to the execution of a written contract.

All information submitted by a Contractor may be treated as a public record by the DNR unless the Contractor properly requests that the information be treated as confidential information in accordance with the public records laws of the State of Iowa at the time its quote is submitted.

The costs of preparation and delivery of the quote are solely the responsibility of the Contractor.

COST PROPOSAL 19CRDFBAJOHN-100G

The Cost Proposal shall include an all-inclusive, total cost in U.S. Dollars (including all travel, expenses, etc.) to provide and deliver the requested **larval aquaculture water quality monitoring unit and oxygen control panels meeting the specifications in this RFQ.** FOB Destination **Rathbun Fish Culture Research 15053 Hatchery Place Moravia, IA 52571.**

Water Monitoring Unit	Cost $_____
Oxygen Control Panel A	Cost $_____
Oxygen Control Panel B	Cost $_____
	Grand Total Cost $ _____

Business days to deliver above items from receipt of DNR Purchase Order _____Days

Bidder understands has read and understands the specifications in the RFQ. Bidder understands they must provide detailed specifications with their quote. Bidder understands that all items must be delivered by April 15, 2019.

Bidder has read and agrees to this section: **Yes** ☐ **No** ☐

Signature: _____

Date: _____

Printed Name and Title: _____

Name of Vendor Organization: _____

Address: _____

Phone: _____

Email: _____