



OREGON STATE UNIVERSITY REQUEST FOR QUOTE (RFQ)

		ISSUE DATE:	2-24-2014
RFQ #	ML169022Q	RFQ DUE DATE:	3-4-2014 @2:00 PM PST
DELIVER TO:		REQUESTED BY / RETURN QUOTE TO:	
DEPARTMENT:	Facilities Services Maintenance	NAME:	Mark Lessel
ADDRESS:	560 SW 15 th St	E-MAIL:	Mark.lessel@Oregonstate.edu
CITY, STATE ZIP:	Corvallis OR, 97331	TELEPHONE:	541-737-3667
REQUIRED DELIVERY DATE:	3-24-2014	FAX:	541-737-2170

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL PRICE
1	Reverse Osmosis System (Must Meet Specifications in Attachment A)	1	EA		
	See Attachment B for Potential Questions & Answers				

Delivery is f.o.b. destination, prepaid and allowed. Shipping, freight and handling must be included in quoted prices. Additional costs for such are disallowed.				TOTAL
DELIVERY TIME AFTER RECEIPT OF ORDER:		PRICES VALID THROUGH:		

SPECIAL INSTRUCTIONS: 1. Unless otherwise specified, all items quoted are to be new, unused and not remanufactured in any way. 2. Brand names are for the purpose of describing and establishing the characteristics desired and are not intended to limit or restrict competition. Quoters may submit quotes for substantially equivalent products unless the RFQ provides that a specific brand is necessary because of compatibility requirements, etc. All such brand substitutions shall be subject to approval by OSU. 3. Quoters must clearly identify all products quoted. Brand name and model or number must be shown. 4. Only documents issued as addenda by OSU serve to change the RFQ in any way. 5. OSU reserves the right to make the award by item, partial or whole lots, groups of items or entire quote, whichever is in the best interest of OSU. 6. OSU may reject any Quote not in compliance with the RFQ, attachments, and addenda, or if it is in the best interest of OSU.	VENDOR INFORMATION: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">COMPANY:</td><td></td></tr> <tr><td>ADDRESS:</td><td></td></tr> <tr><td>CITY, STATE, ZIP:</td><td></td></tr> <tr><td>CONTACT NAME:</td><td></td></tr> <tr><td>E-MAIL:</td><td></td></tr> <tr><td>TELEPHONE:</td><td></td></tr> <tr><td>FAX:</td><td></td></tr> <tr> <td colspan="2" style="text-align: center;">VENDOR SIGNATURE:</td> </tr> <tr> <td colspan="2" style="text-align: center;"><i>By signature below the undersigned certifies that they are authorized to act on behalf of the quoter and will comply with all aspects of the quote herein.</i></td> </tr> <tr><td>SIGNATURE:</td><td></td></tr> <tr><td>NAME/TITLE:</td><td></td></tr> </table>	COMPANY:		ADDRESS:		CITY, STATE, ZIP:		CONTACT NAME:		E-MAIL:		TELEPHONE:		FAX:		VENDOR SIGNATURE:		<i>By signature below the undersigned certifies that they are authorized to act on behalf of the quoter and will comply with all aspects of the quote herein.</i>		SIGNATURE:		NAME/TITLE:	
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This procurement is subject to the indicated Oregon State University Standard Terms and Conditions for: Goods Services Purchase Order Construction Software. The indicated terms and conditions may be viewed at <http://pacs.oregonstate.edu/terms-and-conditions>

Attachment A

Description: Reverse Osmosis / DI System (CORDLEY)

CONTROL SYSTEM: Central Control Unit (Touchscreen & PLC Required)

- Standard voltage: 480 Volt, 3 Phase, 60 Hertz, 10 Amps
- UL 508 A control panel label
- Fiberglass Nema Enclosure
- Touchscreen controls / Alarm identification screen
- PLC control system
- Digital resistivity meter 1 cell (RO quality)
- Digital resistivity meter 2 cell (DI #1 / DI #2)
- Low quality alarm tied into the PLC control system
- High level protection tied into the PLC control system
- Low level protection tied into the PLC control system

REVERSE OSMOSIS COMPONENTS: 4+ GPM (Expandable to 9 GPM)

- Extruded Aluminum: Sized to fit thru a 36" door way
- 1.5 stainless steel multistage pump: Grundfos CRI3-9
- Low pressure pump shut-off switch (adjustable)
- 2.5" x 20" filter housing with differential pressure gauges
- Stainless steel control panel
- Pre-filter and post-filter pressure gauges: 4 Panel Mount Gauges
- 3 Hi-flux stainless steel reverse osmosis housings
- 3 reverse osmosis elements
- Stainless steel needle valves
- Feed, and concentrate flow meters 3 each (0 - 10 gpm)
- Feed and concentration pressure gauges

DI WATER RECIRCULATING SYSTEM: 8 GPM

- Extruded Aluminum: Sized to fit thru a 36" door way
- .5 HP stainless steel multistage pump: Grundfos
- Ball valve between pump and tank (simplify pump repair / replacement)
- (1) Back-pressure regulator valve: Pump protect from clogged filter
- 2.5" x 20" filter housing with differential pressure gauges (Pre-DI)
- 2.5" x 20" filter housing with differential pressure gauges (Post-DI)
- 3-Way Valve By-pass the filters (Zero downtime to change filters)
- Plumbing material (PVC schedule 80 and Polyethylene tubing)
- High pressure DI compatible hose for DI tanks
- (2) Flow Meters and valves to control return from Cordley DI Loops
- (1) Back-pressure regulator valve: By-pass into the tank
- Proximity switches (Led displays functionality)
- 1" Valve to gravity feed water from DI storage Tank(s)

INCOMING WATER STORAGE TANK w/BOOSTER PUMP

- 300 gallon storage tank
- Stainless steel pump to boost incoming pressure from holding tank
- Ball valve between pump and tank (simplify pump repair / replacement)
- .75" Make-up solenoid valve
- 2.5" x 20" Pre-filter (with differential pressure gauges)
- Proximity switches (Led displays functionality)

TANK AND ACCESSORIES:

- (3) 300 gallon tank: 36" x 78" (Size may vary)
- Bulk head fittings for tank penetrations
- 2.5" x 10" clear filter housing (1 micron to pre-filter air)
- Connection plumbing to cycle water through both (3) DI tanks

Attachment A

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Reverse Osmosis / DI System Options:

SPILL CONTAINMENT HIGH LEVEL AND ALARM SYSTEM PACKAGE:

- Polypropylene spill containment tray: Welded on sight
- Float switch located in spill tray tied to PLC controls
- .75" Actuator valve tied to high level alarm (shut-off supply water)
- .5" Valve to manually drain spill containment

ULTRAVIOLET LAMP ASSEMBLY

- 12 GPM unit
- Stainless steel construction
- Pre-installed and integrated into the DI delivery system

DIGITAL CHART RECORDER (6 Inputs to record events)

- Chart RO quality
- Chart DI quality
- Ethernet connect on status of water quality (Remote Location)
- * Remote viewing from PC with propriety softener (6 Data Points)

ON-SIGHT INSTALLATION:

- Final connection plumbing
- Assisting in placing equipment on sight (Crane likely required)

NOTE: Frame for RO system will have space to expands the number of membranes from 3 to 6 and accommodate a large RO pump.

Frame for DI system will have space to accommodate a larger pump in order to recirculate through a building or add capacity.

Attachment B

Questions & Answers

1. **Question:** The system description is organized in blocks. Are these different "blocks" intended to be separate "modules", each with their own frame or is the entire system on one frame?
Answer: In order to get the system through a 34" opening, it needs to be built in modules. Mechanically the system will be manufactured in separate modules. However, the control system should be integrated into a single module. In other words, a single controller (PSC and Touch Screen Interface) must control the high level function, RO operation, DI System operation, and track data to be viewed at a remote computer. Our experience with separate controls systems between the RO unit and DI unit has led to a convoluted mess that makes maintaining and operating the system difficult.
2. **Question:** Whether separate modules or one system, is it intended to roll around on wheels, have feet, be fork-liftable...?
Answer: No, the unit will be permanently installed in a polypropylene drip tray. The drip tray will be custom fitted to the area we intend to install the unit. The tray will be water tight, and include a connection to a flow drain. In addition, a high level float switch will be required to detect a spill. The RO System and DI System will require level legs. The units should be fork-liftable.
3. **Question:** We are not sure about the UL508A spec. Does the NEMA enclosure need to have a UL508A sticker on it or does it refer to system labeling that needs to conform to UL508A "information content" requirements?
Answer: The Nema Enclosure must have an authorized UL508A sticker verifying the control system was manufactured by a company with UL508A certification.
4. **Question:** The RO filter housing is required to be 2.5" x 20" and to be stainless steel. What material are the DI filter housings supposed to be?
Answer: The RO membrane housings are 4" x 40" stainless steel. The particulate filter housing must be 2.5" x 20" commercial polypropylene units to maintain system integrity with our other units (replacement filters are common among systems).
5. **Question:** The plumbing material for DI is spec'ed as PVC. What about the RO plumbing?
Answer: The RO plumbing can be other materials, but must be rated for the pressures associated with the RO pump. No compression fittings with tubing.
6. **Question:** What material is required for the 100 gal tanks? Are they closed, open, or floating lid? Do they need to be anchored to a frame?
Answer: The tanks must be compatible with DI water (polypropylene or polyethylene). The tanks are closed, but must breathe through a 1 micron clear filter housing 2.5" x 10". The tanks do not have to be anchored to the floor. Space in the polypropylene containment tray must be available for the tanks.
7. **Question:** What is the purpose of the UV light? Is it for sterilization of the feed water?
Answer: The UV light is for the DI recirculation loop to eradicate algae and bacteria. UV lights are a basic element for any quality DI plant.
8. **Question:** Does the "chart recorder" require hard copy output (paper)? Or does it only need to display charts on the touchscreen and send data out the Ethernet?
Answer: The data recorder needs to provide real time data via the Ethernet to a remote computer. Essentially the screen on the data recorder must be duplicated at the remote computer.
9. **Question:** Do the alarms need to be audible or is a stack light required as well/instead?
Answer: The alarms must be audible and appear on a separate screen on the touch screen. Every alarm condition must have a distinct destination on the touch screen to quickly identify the alarm condition. The audible alarm must be able to be disabled for 5 minutes, and the automatically turn on.