

## **DEPLOYABLE, READY-TO-OPERATE PACKAGED PLANT MBR System Supply Quality Assurance**

The most important consideration when looking at a MBR System Supplier experience is to choose the vendor that has experience relevant to the needs of the project at hand. Water applications, general wastewater experience, companies with limited system supply and/or international support from a parent company, membrane manufacturer or another licensee, just does not provide the actual MBR know-how necessary to provide continued success when it comes to customer satisfaction and ultimately, plant performance.

Continued success depends on customer satisfaction throughout the project execution process and ultimately to plant performance. The MBR System Supplier should have sufficient US based experience and personnel available to demonstrate superior design support during the engineering and construction phases of a project, and most importantly, in maintaining reliable after sale support.

ISO certification of the MBR System Supplier will show a commitment to the market place. ISO drives improvement of Membrane Systems Technology with continual evaluation of technology, applications and customers' needs. In every department within the company, each employee, is charged with the responsibility to insure that the design concept, an item of material or equipment proposed, meet the function, quality, durability, appearance, strength, and design characteristics to the requirements of the presented specification. The item of material or equipment shall reliably perform for the function imposed by the design concept of the completed system work as a functioning whole.

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The following is suggested specification language to capture this topic:

**Note to design Engineer: Verify values and statements bounded by square brackets, [ ], and remove highlighted alternates and instructions.**

### **SECTION [XX XX XX] SPECIFICATION - QUALITY ASSURANCE**

#### **1.01 MBR SYSTEM SUPPLY QUALITY ASSURANCE**

##### **A. Definitions**

1. MBR System Supplier / Supplier: The Company responsible for providing all equipment and services as described herein and for providing warranty support.
2. MBR System: A fully inclusive MBR System of equipment, tankage, and controls, pre-engineered to be ready-to-operate upon delivery.

##### **B. Qualifications of MBR System Suppliers**

1. MBR System Suppliers shall be experienced in providing the Goods and Special Services as described herein. MBR System Suppliers shall possess sufficient equipment, capital and manpower to provide the Goods and Special Services within the time allowed. A Bid may be rejected if MBR System Suppliers cannot show that they have the necessary ability, plant, and equipment to provide the

Goods and Special Services at the time prescribed and thereafter to prosecute and complete the supply of Goods and Services within the time specified.

2. MBR System Suppliers may be asked to furnish additional data to demonstrate their qualifications.

### C. Quality Assurance

1. All the equipment and services specified under this Section shall be furnished by a single manufacturer, and shall be standard units of proven ability as manufactured by a competent organization that is fully experienced, reputable and qualified in the manufacture of the equipment to be furnished. The equipment shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed.
2. To show evidence of being able to provide the quality of equipment and services described in this specification, the Membrane System Supplier shall submit their quality system ISO 9001 certification applicable to design, manufacturing, supply, installation, and servicing of wastewater and water treatment plants, associated equipment and systems. The quality system shall be audited by a third party independent inspector. Certification shall remain in effect throughout the project startup. Proof of current certification shall be provided.
3. The MBR System Supplier shall have a minimum of ten-year history of designing packaged MBR wastewater treatment facilities. The history shall include a direct successful record of manufacturing systems, servicing equipment and systems specified herein for a minimum of ten (10) years within the US. Experience must be direct experience of the Supplier. Experience related to Membrane only supply will not be considered. MBR System Supplier shall provide documentation to support the history as noted.
4. The MBR System Supplier shall have a multidiscipline staff of at least thirty (30) employees dedicated to the MBR product line. Fifteen (15) of those employees shall have at least five (5) years experience in MBR System Supply. Contracted resources will not be considered. MBR System Supplier shall provide documentation to support staff resources available.
5. The MBR System Supplier shall have at least three supplier owned regional MBR service centers and must have qualified local MBR support available to be at the plant within 24 hours. Submit documentation on qualifications and capabilities of the regional and local service centers including number of staff, staff qualifications and distance from project site.
6. The MBR System Supplier shall have a registered Professional Engineer on staff with the credentials:
  - a. Capable of signing & sealing process calculations and system design.
  - b. Capable of signing & sealing structural calculations and drawings.

#### D. References

1. The MBR System Supplier shall provide documentation for a minimum ten-year history of complete system supply for ten (10) operational packaged MBR systems. Limited supply related to membrane only projects or third party system supply will not be acceptable.
2. Referenced projects shall:
  - a. Have been a pre-engineered package design & complete system supply.
  - b. Have the capability to operate at high mixed liquor suspended solids (18,500 to 30,000 mg/L).
  - c. Have a plant or process train design capacity between 10,000 gallons per day to 125,000 gallons per day.
  - d. Utilize the same type of headworks (aperture/slot size) and MBR as the proposed system.
  - e. Have been in operation for at least one year at time of bid.
    - i One plant shall have been in operation for ten years.
  - f. Have operated within 25% of nominal rated capacity for a minimum of 12 months at time of bid.

#### END OF SECTION

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The following is suggested specification language to capture and evaluate the MBR System Supply Quality Assurance & Experience:

Note to design Engineer: Verify values and statements bounded by square brackets, [ ], and remove highlighted alternates and instructions.

#### SECTION [XX XX XX] PROCUREMENT BID EVALUATION – QUALITY ASSURANCE

##### 1.01 BID EVALUATION

- A. The MBR System Supplier shall provide all of the information required by the Bid Documents. This information, along with other design and equipment information contained in the Bid Documents or available to the Owner through information included in the Bid will be used by the Owner to determine the apparent successful Bidder. The Owner may verify information and references provided in the Bid as part of the Bid evaluation.

- B. In accordance with applicable law, the Owner reserves the right to reject any or all Bids and to waive any informality in any Bid. By submitting a Bid, each Bidder agrees that the Owner, in determining eligibility for the award, may consider the Bidders conduct and performance under other contracts, financial condition, and other factors, including claims against the Bidder, which could affect the Bidders ability to provide the Goods and Special Services. The Owner may conduct such investigations as the Owner deems necessary to assist in the evaluation of any Bidder and to establish the responsibility, qualifications and financial ability of the Bidder to provide the Goods and Special Services in accordance with the Contract Documents to the Owner's satisfaction within the prescribed time. The Owner shall be the sole judge of responsiveness as well as who is considered a Responsible Bidder and reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to the sole satisfaction of the Owner.

**1.02 QUALITY ASSURANCE QUALIFICATION CRITERIA**

- A. MBR System Suppliers shall be experienced in providing the Goods and Special Services as described herein. MBR System Suppliers shall possess sufficient equipment, capital and manpower to provide the Goods and Special Services within the time allowed. A Bid may be rejected if MBR System Suppliers cannot show that they have the necessary ability, plant, and equipment to provide the Goods and Special Services at the time prescribed and thereafter to prosecute and complete the supply of Goods and Services within the time specified.
- B. Membrane System Suppliers submitted for consideration shall meet qualification criteria as described below. A "yes" answer shall be provided to all questions below to satisfy the qualification criteria for participation in Membrane Bioreactor Equipment Procurement.
  - 1. The Membrane System Supplier shall maintain a quality system ISO 9001 certification applicable to design, manufacturing, supply, installation, and servicing of wastewater and water treatment plants, associated equipment and systems. The quality system shall be audited by a third party independent inspector. Certification shall remain in effect throughout the project startup.

The Bidder hereby certifies that the above is true.

Yes \_\_\_\_\_

No \_\_\_\_\_

Proof of current certification shall be provided.

- 2. The MBR System Supplier shall have a multidiscipline staff of at least thirty (30) employees dedicated to the MBR product line. Fifteen (15) of those employees shall have at least five (5) years experience in MBR System Supply. Contracted resources will not be considered. MBR System Supplier shall provide documentation to support staff resources available.

The Bidder hereby certifies that the above is true.

Yes \_\_\_\_\_

No \_\_\_\_\_

Provide an organizational chart with personnel names, titles and years of experience with MBR System Supply.

3. The MBR System Supplier shall have and submit documentation on the qualifications and capabilities of at least three (3) Supplier owned MBR regional service centers and one (1) local MBR service centers including number of staff and staff qualifications.

The Bidder hereby certifies that the above is true.

Yes \_\_\_\_\_

No \_\_\_\_\_

List the centers to satisfy the above criteria.

- 1) Supplier owned regional service center #1

Name of Service Center:

Location:

Distance from Project Site:

# of Staff at this Location:

Location Capabilities:

Contact Name:

Contact Phone Number:

- 2) Supplier owned regional service center #2

Name of Service Center:

Location:

Distance from Project Site:

# of Staff at this Location:

Location Capabilities:

Contact Name:

Contact Phone Number:

3) Supplier owned regional service center #3

Name of Service Center:

Location:

Distance from Project Site:

# of Staff at this Location:

Location Capabilities:

Contact Name:

Contact Phone Number:

4) Local MBR service center #1

Name of Service Center:

Location:

Distance from Project Site:

# of Staff at this Location:

Location Capabilities:

Contact Name:

Contact Phone Number:

4. Membrane System Experience - The MBR System Supplier shall have at least ten (10) MBR systems in operation treating municipal wastewater for one year or more with a design capacity between 0.01 MGD and 0.125 mgd. One system shall have been in operation for at least ten (10) years. All of these references must have been direct complete system supply of the MBR System Supplier.

The Bidder hereby certifies that the above is true.

Yes \_\_\_\_\_

No \_\_\_\_\_

List the facilities below used to satisfy the above criteria.

Name of Facility	Design Capacity (MGD)	Start Date Continuous Operation	Contact Name	Contact Phone#
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

**END OF SECTION**