

LG Chem Application Questionnaire



The following information will allow LG Chem to propose a solution that best meets your needs. For additional information about LG Chem and our industry-leading high performance SWRO membrane elements, please visit www.LGwatersolutions.com.

1. General

1.1 Prepared by: _____ E-mail: _____

1.2 Company Name: _____ Phone: _____

1.3 Project Name: _____ Location: _____

1.4 What is your application? _____

Seawater Desalination Brackish Water Treatment Industrial Water Reuse

1.5 How do you want to use LG Chem membranes? _____

Retrofit Existing System Plant Expansion New Build

1.6 Prioritize your goals by ranking the choices below (High=1; Low=6): _____

() Maximize/Increase Production Capacity () Minimize Energy () Minimize Footprint

() Minimize Capital Expenditure () Improve Product Quality () Other: _____

1.7 Which design options do you allow? _____

1-Pass System 2-Pass System pH Adjustment Recycling Staging with Booster Pump

2. System Overview (Current design for existing system or desired design for new build)

2.1 Plant Capacity: _____ (gpm gpd MGD m³/d m³/hr)

2.2 Number of 1ST Pass Trains: _____ Number of 2ND Pass Trains: _____

2.3 Number of Stages in 1ST Pass: _____ Number of Stages in 2ND Pass: _____

2.4 Overall Recovery: % 1ST Pass Recovery: % 2ND Pass Recovery: %

2.5 Product Maximum Acceptable Levels: _____

TDS: (ppm mg/l μS/cm) Chloride: (ppm mg/l) Boron: (ppm mg/l) Other: _____

2.6 System Startup Date: _____ Current RO Element Installation Date: _____

3. Feedwater Description (Please provide the feed water analysis)

3.1 Feed Water Salinity: (ppm mg/l μS/cm) at Temperature: (°C °F)

3.2 Feed Water Temperature Range: (°C °F)

3.3 SDI: Turbidity: (NTU)

3.4 Water Source:

| | | | | |
|-------------|------------|---------------|------------------------|----------------|
| Open Intake | Beach Well | Brackish Well | Brackish Surface Water | Tertiary Waste |
|-------------|------------|---------------|------------------------|----------------|

3.5 Pretreatment:

| | |
|---------------------------|-----------|
| Filtration | Describe: |
| Cartridge Microfiltration | Describe: |
| Chemical Dosing | Describe: |
| Other | Describe: |

4. System Design

4.1 1ST Pass Design per Train:

4.1.1 Equipment:

| | | | | |
|--|----------------------------|-----------------------|--------------|--------|
| Number of Pressure Vessels (PV): | Number of Elements per PV: | | | |
| Current RO Element Manufacturer and Model: | | | | |
| High Pressure Pump (HPP) Type: | Centrifugal | Positive Displacement | Other: | |
| HPP Model and Make: | | | | |
| HPP Size: | HP | VFD: | YES NO | |
| Energy Recovery Device (ERD) Type: | P/W Exchanger | Turbo | Pelton Wheel | Other: |
| ERD Model and Make: | | | | |
| ERD Booster Pump Description: | | | | |

4.1.2 Operating Parameters:

| | | | | | |
|--------------------------|---|----------------------------------|---|--------|-------------|
| Feed Flow: | (gpm gpd m ³ /hr m ³ /d) | Brine Flow: | (gpm gpd m ³ /hr m ³ /d) | | |
| Permeate Flow: | (gpm gpd m ³ /hr m ³ /d) | | | | |
| Operating Feed Pressure: | (psi bar) | Maximum Allowable Feed Pressure: | (psi bar) | | |
| Brine Feed Pressure: | (psi bar) | Permeate Back Pressure: | (psi bar) | | |
| Current Product Quality: | | | | | |
| TDS: | (ppm mg/l μ S/cm) | Chloride: | (ppm mg/l) | Boron: | (ppm mg/l) |

4.2 2ND Pass Design Per Train:

4.2.1 Equipment:

| | |
|--|----------------------------|
| Number of Pressure Vessels (PV): | Number of Elements per PV: |
| Current RO Element Manufacturer and Model: | |

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High Pressure Pump (HPP) Type: Centrifugal Positive Displacement Other:

HPP Model and Make:

HPP Size: HP VFD: YES NO

4.2.2 Operating Parameters:

Feed Flow: (gpm gpd m³/hr m³/d) Brine Flow: (gpm gpd m³/hr m³/d)

Permeate Flow: (gpm gpd m³/hr m³/d)

Operating Feed Pressure: (psi bar) Maximum Allowable Feed Pressure: (psi bar)

Brine Feed Pressure: (psi bar) Permeate Back Pressure: (psi bar)

Current Product Quality:

TDS: (ppm mg/l μS/cm) Chloride: (ppm mg/l) Boron: (ppm mg/l)

5. Control

5.1 PLC Model and Make: SCADA/PCS: YES NO

6. Operating Cost

6.1 Electricity Cost: US\$ /kWh

7. Additional Comments

Official Use Only

Reviewed by: Date:

Notes:
