

Survey Form for Collecting Reverse Osmosis Plant Operation Data

1. General Information

Plant Name:

Physical Address:

Mail Address:

Contact Name:

Contact Title:

Contact Email:

Contact Phone:

2. Plant Information

Plant start-up year:

Plant capacity (including raw water blending capacity):

Reverse osmosis unit capacity:

3. Source Water Information

Name of the aquifer:

Well field location:

Depth of water table (feet):

Screen interval (feet):

Physical parameters of raw water.

pH:

SDI:

Temperature (°C):

Turbidity (NTU):

Please write values for the chemical parameters of raw water in the table below.

Date (when chemical parameters of raw water was analyzed):

Parameters	Value	Parameters	Value	Parameters	Value
Hardness (mg/L as CaCO ₃)		Potassium (mg/L)		Fluoride (mg/L)	
Radionuclides (pCi)		Magnesium (mg/L)		Bicarbonate (mg/L)	
Silica (mg/L)		Manganese (mg/L)		Nitrate (mg/L)	
TDS (mg/L)		Sodium (mg/L)		Nitrite (mg/L)	
Aluminum (mg/L)		Ammonium (mg/L)		Sulfate (mg/L)	
Arsenic (mg/L)		Nickel (mg/L)			
Ferrous (mg/L)		Strontium (mg/L)			
Ferric (mg/L)		Zinc (mg/L)			
Calcium (mg/L)		Chloride (mg/L)			
Copper (mg/L)		Carbonate(mg/L)			

Note: Provide available data for a typical feed water sample

4. Plant Operation Information

a) Membranes

Membrane manufacturer:

Membrane Model:

Years in service:

Media filter(media type):

Cartridge filters (manufacture/size/frequency replacement):

Antiscalant (manufacturer, concentration/dosing rate):

pH adjustment (adjusted pH, acid type, concentration/dosing rate):

Permeate TDS (before blending):

Recovery:

Flux:

Total Permeate Flow:

Stage 1 Permeate flow:

Stage 2 Permeate flow:

Feed pressure:

Number of RO skids:

Array configuration per skid (1, 2 or 3):

Element size (8", 16", etc.):

Number of elements per stage:

Elements per vessel (6 or 8):

Inter-stage boosting or permeate throttling to maintain flow:

Inter-stage boost pressure:

Permeate back pressure:

b) Scaling/Fouling

Calcite:

Silica:

Gypsum:

Other (including organic and biological fouling):

c) Membrane cleaning

Frequency (monthly/bi-monthly/quarterly/semi-annually/annually/bi-annually/):

Membrane cleaning triggered by (increased pressure/decreased production):

Cleaning solution(s) used:

Cleaning procedure (solution(s) concentration/duration(s)):

Average flux recovery/pressure reduction post cleaning:

d) Membrane replacement (<2,<4,<6,>6 yrs)

Never: NA

Membrane Age: >6 yrs:

Reason for replacement (increased pressure/decreased production):