Plant assessment protocol

Plant inspection form (RO/NF)

This document is designed to gather the appropriate information to allow Genesys International to design a suitable antiscalant treatment for the inhibition of of foulants and deposits and a cleaning protocol.

Prepared by:

Name:

Date:

Section 1:
Operation and design data

Contractors:

Construction Year:

Stages:

Elements per pressure vessel:

Membranes: Make:

Model:

Pressure vessels per stage:

Recirculation: No ☐ Yes ■ Flux:

Plant Details:

Water type:

Brackish Surface Tap Sea Waste

Plant reference:

Address:

Telephone:

Email:

Contact:

Operational Data	Units	Design values	Operation values
Feed Pressure:			
Reject Pressure:			
Feed Flowrate:			
Product Flowrate:			
Recovery:			
Product Quality:	µS/cm		
Average Temperature:		Winter	Summer

Comments:

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Section 2:
Pretreatment

Feed System (storage tanks):

Volume: Covered: ■ Yes ☐ No Material:

Sand filters:

N°: Configuration: ☐ Serial ☐ Parallel Ø:

Load type/ size: Speed: Other data:

Microfilters:

Type: ■ Wound ☐ Expanded (spun) ☐ Pleated Configuration: ☐ Serial ☐ Parallel

Cartridges/Housing units: / Replacement : ΔP Design/Current:

Filter characteristics: Length: Manufacturer/Model: Micron:

Other:

Setting tank ☐ Flotation ☐ UF/MF ☐

Characteristics:

Reagents Dosed	Product - Dose mg/l	Dosage point
Coagulant		
Flocculant		
pH Adjustment		
Chlorine		
Reducer (eg. SBS)		
Antiscalant		

On-line monitoring systems:

Comments:

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Section 3:
Post treatment

	Product - Dose mg/l	Dosage point
pH Adjustment:		
Chlorine:		
Corrosion Control:		
Remineralization:		

Other:

Section 4:
Feed water quality

(Please indicate the units of measurement for each parameter)

SDI15:		Salinity (TDS):	
Turbidity:		Total suspended solids:	
Calcium (Ca^{2+}):		Sulphates (SO_4^{2-}):	
Magnesium (Mg^{2+}):		Chlorides (Cl^-):	
Sodium (Na^+):		Fluorides (F^-):	
Potassium (K^+):		Bicarbonates (HCO^{3-}):	
Barium (Ba^{2+}):		Carbonates (CO_3^{2-}):	
Strontium (Sr^{2+}):		Nitrates (NO^{3-}):	
Iron (total/Fe^{2+}):		Silica (SiO_2):	
Aluminium (Al^{3+})		Phosphates (PO_4^{3-})	
Manganese (Mn)		pH: raw:	feed:

Analysis frequency: Design values recovery: Yes ☐ No ☐

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Section 5:
Membrane cleaning

CIP System:		No		Yes ■
Can different stages be independently cleaned?:		No ■		Yes
Can cleaning solution be heated?		No		Yes ■
Filtration system installed in cleaning circuit?		No ■		Yes
Flux/pressure recirculation pump:	Cleaning tank volume:			
Cleaning Frequency:		Design values recovery	No	Yes

Cleaning Protocol: (Products & doses – pH – time - temperature – flow)

Cleaning effectiveness:

Comments:

Section 6:
Plant Diagram

Please attach a separate file of the diagram to the email generated by the submit button below before sending.

Instructions & Comments:

All units (filters, deposits, RO/NF modules) and equipments (pipes, valves and pumps) identified during inspection must be included in this diagram.

Flow and pressure values between different stages, if identified, should be indicated. Also reagents dosing points are important. When both coagulant and flocculant are dosed, distance between dosing points must be reported.

On-line monitoring system position (conductivity meters, redox control etc.) must be also indicated, if present.