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EVALUATION REPORT - GENESOL 704 CIP

Country : Algeria
Client : -
Site : -
Date : 24/02/22
Prepared by : S. Jarrige

System details

- Water type : Open seawater intake
- Feed flow : 434,800 m³/d
Permeate flow : 200,000 m³/d
Recovery : 46 %
Feed water T° : 15-26 °C
- Number of RO units : 10
Feed flow - per unit : 1,893 m³/h
Permeate flow - per unit : 871 m³/h
Reject flow - per unit : 1,022 m³/h
- PV - per train : ~222 [U2 : 220 / U3 : 228 / U4 : 221]
Membranes - per PV : 7
Membranes - per train : 1,554
Membrane type : Hydranautics SWC5-Max
- CIP tank : 2 x 100 m³
CIP pump characteristics : 3 x 1,008 m³/h @ 4.1 bars
Accessories : electrical heating system
Suspected foulants : aluminosilicates + organics

CIP particulars

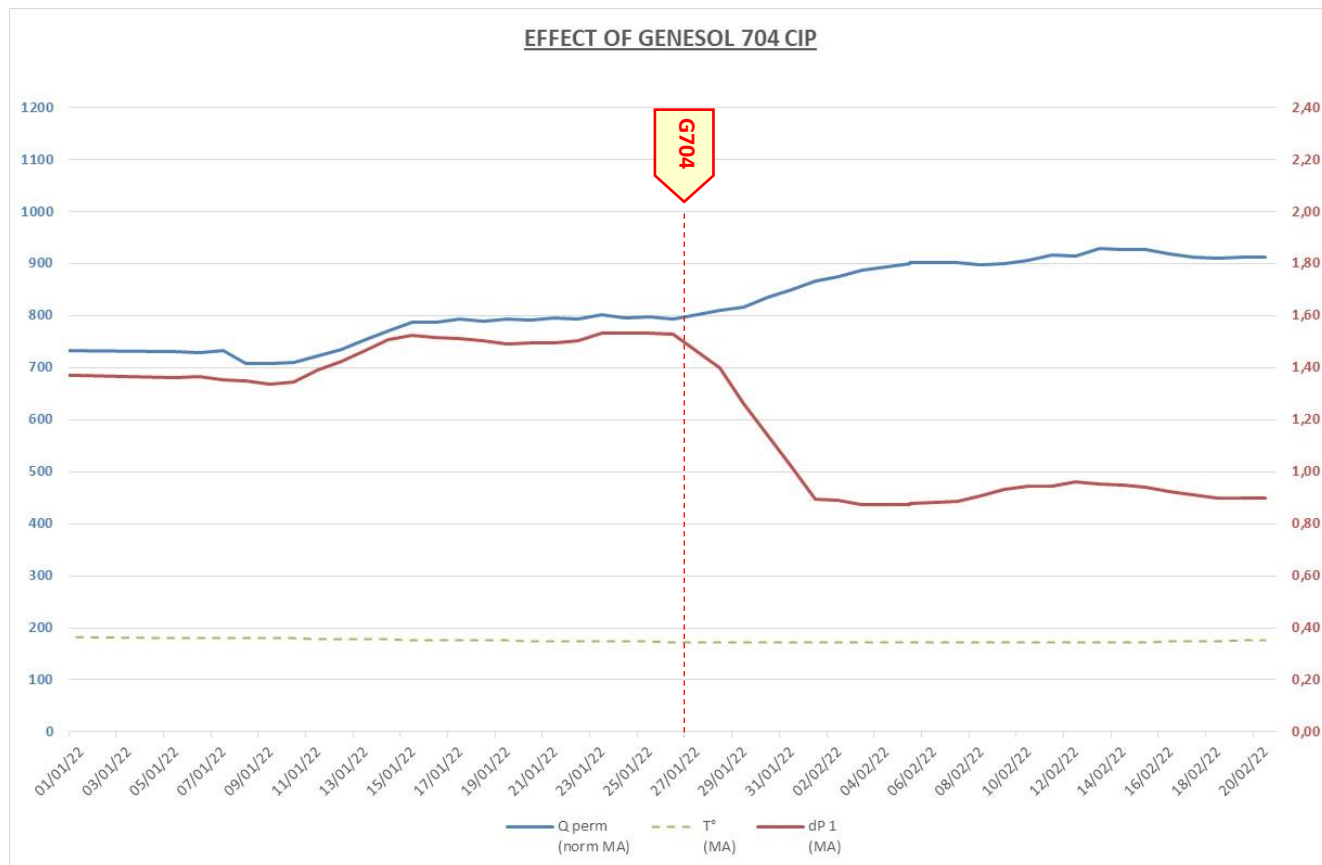
The cleaning product selected is again Genesol 704, a wide spectrum alkaline cleaner which proved its efficiency during the cleaning of previous racks in September & December 21.

The amount of Genesol 704 required is 2,000 kg due to the high volume of the cleaning system.

After homogenization, cleaning solution conductivity stabilizes around 13.5-14.0 mS/cm, equivalent to a concentration of 1.05-1.10%.

The total CIP volume (i.e. CIP tank + pipework + RO unit) is estimated at **185 m³**.

Cleaning results



In order to compare results, average values have been used :

- before cleaning : from 15/01 to 26/01 (12 values)
- after cleaning : from 28/01 to 20/02 (24 values)

Results show a very positive effect of the clean :

- | | | | | | |
|------------------------------|-----------------------|------------|---|-----------------------|-----------|
| - normalized permeate flow : | 794 m ³ /h | before CIP | ⇒ | 893 m ³ /h | after CIP |
| - differential pressure : | 1,51 bar | before CIP | ⇒ | 0,96 bar | after CIP |
| - feed pressure : | 67,0 bar | before CIP | ⇒ | 63,0 bar | after CIP |
| - permeate conductivity : | 640 μS/cm | before CIP | ⇒ | 1 173 μS/cm | after CIP |

The CIP results are therefore extremely satisfactory :

- permeate flow : **+ 99 m³/h** i.e. +12.5%
- dP : **- 0,55 bar** i.e. - 36.4%
- electricity consumption : **- 6.0 %** per m³ of permeate produced