Evaluation of the first seven years operating data of a RO brackish water desalination plant in Las Palmas, Canary Islands, Spain

Alejandro Ruiz-García a,*, Enrique Ruiz-Saavedra b, Sebastián O. Pérez Báez c

aDepartamento de Ingeniería Civil, Escuela de Ingenierías Industriales y Civiles, University of Las Palmas de Gran Canaria, Edificio de Ingenierías, Campus Universitario de Taifira, Las Palmas de Gran Canaria 35017, Spain, Tel. +34 928 451851; Fax: +34 928 454388; email: aruizgarcia84@gmail.com

bDepartamento de Cartografía y Expresión Gráfica en la Ingeniería, Escuela de Ingenierías Industriales y Civiles, University of Las Palmas de Gran Canaria, Edificio de Ingenierías, Campus Universitario de Taifira, Las Palmas de Gran Canaria 35017, Spain

cDepartamento de Ingeniería de Procesos, Escuela de Ingenierías Industriales y Civiles, University of Las Palmas de Gran Canaria, Edificio de Ingenierías, Campus Universitario de Taifira, Las Palmas de Gran Canaria 35017, Spain

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ABSTRACT

The present research describes the graphical evolution of the operating information of the first seven years. A study of the normalization and standardization of the information about the seven years of evolution of the plant for fixed feedwater conditions, operating pressure, and system recovery are also shown, so that the performance evaluation of the plan can be indicated correctly. From these results, it has been deduced that the compaction and fouling factor values and the average ionic permeability coefficients of the reverse osmosis (RO) membrane were utilized. Likewise, this paper describes the graphic evolution of the brine Langelier saturation index and Stiff and Davis stability index (actual and theoretic values). The conclusions of this work and the operating experience are intended to get a practical and optimum design of RO brackish water desalination plants without using acid in the pretreatment and having a reasonable operating life between 7 and 8 years.

Keywords: Brackish water; Reverse osmosis; Desalination plants; Operating data; Normalization

*Corresponding author.

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