Energy efficiency solutions for RO desalination plant

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ABSTRACT

Asea Brown Boveri (ABB) provides a portfolio of energy efficiency solutions for reverse osmosis (RO) based desalination plant. ABB has developed: (1) Energy and carbon footprint assessment tool in order to identify the opportunities for energy efficiency improvements and quantify them into economic benefits, (2) Membrane Performance (MP) tool to monitor and optimize the operations in RO plant, and (3) Decision Support System (DSS) to help the engineer while planning the membrane maintenance and production activities. In this study, the energy assessment was first performed on a RO plant to identify the opportunities for improvement. Subsequently, the identified opportunities are evaluated using MP tool on the plant data. Further, the benefits associated with DSS are also discussed using the simulated data.

Keywords: Energy efficiency; Energy assessment; Desalination; Reverse osmosis; Cost benefit; Membrane performance monitoring; Decision Support System

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