Sub System Dynamics

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This document provides all of the maths and dynamics used in Sub System's simulation calculations.

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I know nothing about physics, mechanics, etc, nor have any interest in it.
I just accidentally fixated on industrial plant simulation and wanted to design it properly.

Contents

1. Systems

1.1. Water Treatment

1.1.1. Desalination

1.1.1.1. Variable Definitions

- F_f = Feed flow rate (L/s) - at evaporator chamber input
- Q_e = Evaporator chamber heat input (W)
- P_e = Evaporator chamber pressure (psi)
- L_e = Evaporator chamber level (L)
- S_b = Evaporator chamber brine concentration (salinity, ppt / ‰)
- C_f = Condenser coolant flow (L/s)
- C_g = Condenser non-condensable gas concentration (ppm)
- F_p = Product flow (L/s)
- K_p = Product conductivity (salinity, Siemens/m)
- V = vacuum health (Pa / pascal)

Bibliography