

23 June 2021 (Wednesday)

7.00pm-8.30pm (SGT) (GMT +8)

Session 1.2 – Optimising Network Operations

Session Chair(s): Raziye Farmani, University of Exeter (UK)

CALM NETWORK TM: The Next Generation Of Pressure Management For A Healthier Lifestyle For Water Systems

P. Bonardet, A. Chazerain, D. Duccini, A. Rossi, H. Yin, G. Cussonneau, R. Wright. SUEZ Water Technology & Solutions (France)

Thanks to its proven impact on reducing water losses and slowing down the degradation of network infrastructure, water pressure has always been a lever for action for planners and operators. In the evolution of pressure reduction and modulation practices, SUEZ has been working since 2016 on a performance-based management system called the "Calm Network". One of its components, in combination with Inflowmatix, is the elimination of all point or cyclic pressure variations and excesses. Recent work includes: Solutions that can minimize pressure variations while meeting the minimum pressure at all points; solutions where DMA limits can be dynamically modified to minimize pressure drops during peak demand; and pump planning solutions that can automatically adapt to real-time conditions to meet water demand while optimizing performance. In our analysis, it is observed that by calming systems with appropriate methods, tools and accessories, pipe stresses can be avoided, resulting in noticeable tangible benefits.

Optimisation Of Pump Operations: NRW Management And OPEX Reduction

K. Garcia. Maynilad Water Services, Inc. (Philippines)

Maynilad Water Services, Inc. (Maynilad) has recently shifted its focus on the optimisation of pump operations. Its main objective is to maximize the operational efficiency of all water supply facilities and their influence areas. This comes with a plethora of benefits such as reducing non-revenue water (NRW) and electrical consumption, and prolonging asset life.

There are three components of the optimisation: (1) pre-screening -- uses criteria scoring matrix to determine prioritisation, (2) pump establishment -- ensures that a pump's physical condition, status and influence area are within accepted parameters, and (3) pump monitoring -- uses SPRA which provides the optimal setting for a pump.

On April 2018, the Sta. Quiteria Inline Booster was chosen as the pilot facility for this study. Instead of the usual 7-day operation during its peak hours, the pump operation schedule was optimised to weekend mornings, and later on, the pump status itself was tagged for standby. The same process can be applied to other water supply facilities in order to minimize operational expenses.