Nouryon Äänekoski

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Nouryon

Äänekoski - EUPF-30560-AKI-Distillation MVR integration

Main cost reduction and sustainability improvement project

Scope and Objective

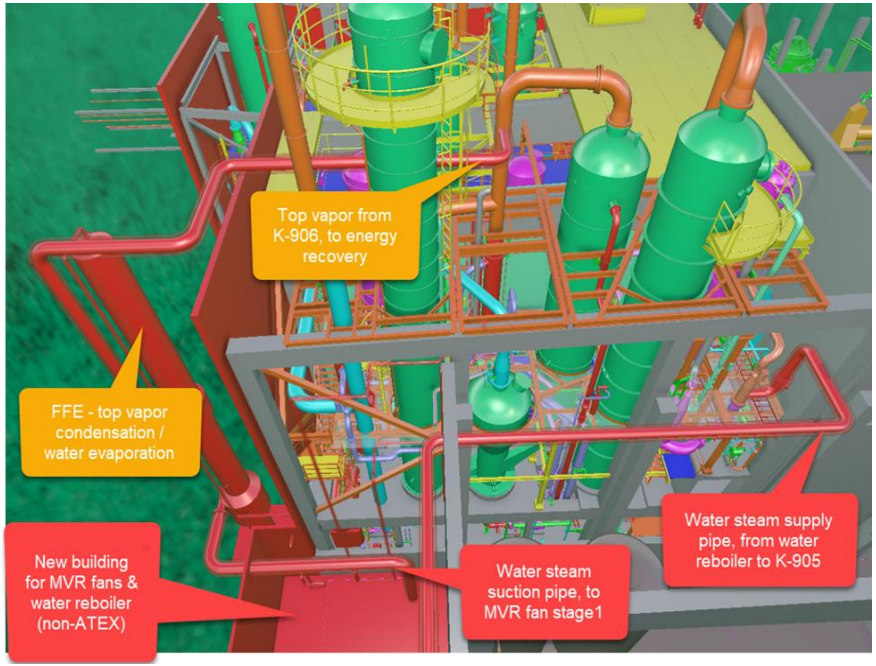
The purpose of this BROC project is to reduce the energy costs of the solvent distillation section of the Äänekoski CMC plant. Mechanical Vapor Recompression (via a Heat pump) increases the energy efficiency of the distillation, lowering variable operational cost.

Highlights

Why: The MVR unit decreases the direct steam usage in the distillation process, thus generating savings by lower need of purchased direct steam and by steam peak-price avoidance for future steam supply needed. Annual steam energy consumption reduction is 115 TJ/a (32 GWh/a), which is about 10% of the total plant steam energy consumption.

Financials

- **Net Capex (MEUR)** **4.9**
- **IRR** **34.8%**
- **Payback** **3.4 y**



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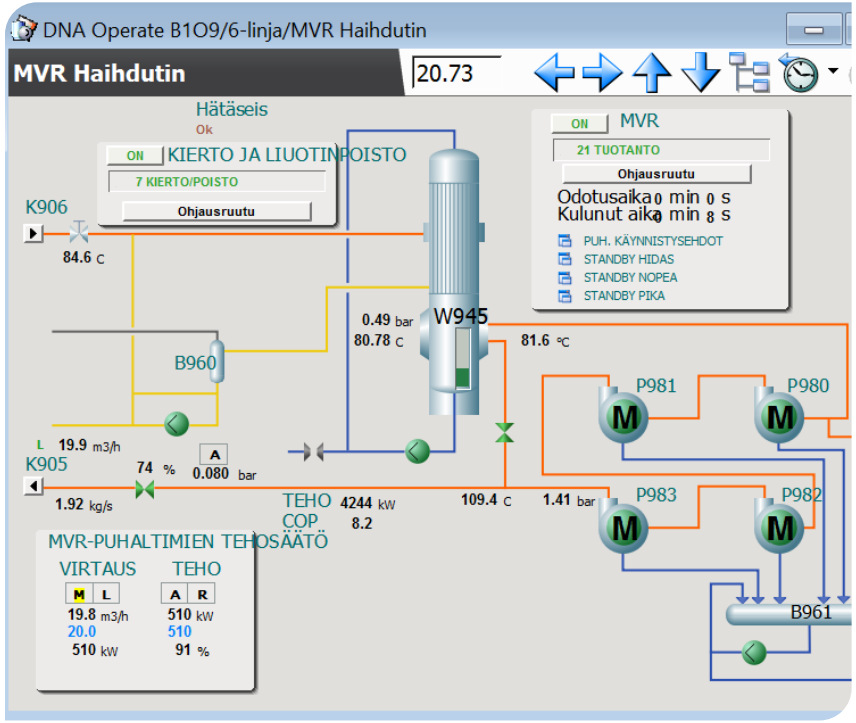
Distillation MVR



- Safe execution achieved
- MVR has been operating now since February continuously
- Design COP of 7.8 have been reached
- ✓ Own personnel is now fully trained to operate MVR process
- Final energy optimization model to be done to maximize MVR benefits
- Spending stayed in +/-3% of budget.

MVR evaporator and Fan room