From:	J. van der Linden	Date:	22-12-2022
To:	T. Buzink	Refnr:	
Cc:	M. Sinnema, T. Snijders Blok		
Subject:	Internship assignment – RAP steamtracing mapping & optimization	Rev:	0

Background and problem definition

At RAP, steamtracing is used in combination with insulation as part of the winterizing procedure to prevent unwanted freezing of liquids, such as benzene and cyclohexane. It is currently unclear where steamtracing is applied and whether it is working properly or not. Moreover, it is currently impossible to do any monitoring on the amount of steam used for this tracing, making it difficult for operations to ensure lines are properly protected from freezing. In order to improve operability, we would like to map out the existing steamtracing. This exercise may also provide insights in potential condensate losses, which may currently be resulting in significant energy losses. In addition to this we would like to identify opportunities to improve monitoring of the steamtracing system.

Finally, the winterizing procedure is currently started based on an assessment of the weather forecast, typically once a year for starting and once a year for stopping the winterizing. We would like to evaluate the possibility for automate this for the steamtracing system.

Approach

Map the current RAP steamtracing system by

- Checking RAP procedures and P&ID's for available information
- Executing field surveys to check procedures and P&ID's

Based on the mapping exercise, identify and evaluate opportunities for

- Improvement of monitoring the steamtracing system
- Energy optimization

Deliverables

A (simplified) flowdiagram of the current RAP steamtracing system.

An internship report containing implemented and suggested improvements.

A close-out presentation for technical management, the business team and site process engineers.

Available support

Functional support: RAP contact engineer (Joep van der Linden)

Administrative support: RAP Technical Console Leader (Mirjam Sinnema)

Knowledge and background of the plant within Process, Technical and Technology organization