

Analyse and Improve Internal Water Treatment System at STENA Recycling: Master's Programme in Mechanical Engineering.

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Analyse and Improve Internal Water Treatment System at STENA Recycling: Master's Programme in Mechanical Engineering

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2018 (English) Independent thesis Advanced level (degree of Master (One Year)), 10 credits / 15 HE credits Student thesis

Abstract [en]

The thesis work is done at STENA Recycling Halmstad. The recycling facility has a yearly capacity to process 110.000 tonnes of material. There is an internal water system that circulates water to each of the separation processes and cleans before recirculation. Due to environmental concerns and government regulations the internal water cannot be let out of the facility. In addition, the internal water treatment system at STENA was not efficiently cleaning the internal water causing frequent plant maintenance issues.Â Â

The aim of the thesis is to improve the quality of the cleaned water from the internal water system. Qualitative data such as interviews and observations were combined with quantitative data that is measurements to reach the results, using

a method called triangulation. Six Sigma (DMAIC) model was followed for the work execution. Å

The internal water treatment has five process steps. Five improvements are identified, implemented and evaluated. The thesis work goal of less than 2% dirt in the clean water is achieved by improving the overall performance of the cleaning system by 48.5% after implementing improvements. As a part of the last phase of six sigma approach which is control phase, an operation manual is developed to maintain the internal water treatment system.

Place, publisher, year, edition, pages

2018. , p. 46

Series

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Keywords [en]

Six Sigma, Improvement, Water treatment

National Category

Mechanical Engineering

Identifiers

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External cooperation

STENA

Subject / course

Mechanical Engineering

Educational program

Master's Programme in Mechanical Engineering, 60 credits

Presentation

Supervisors


▶ Chibba, Aron, Dr.

Examiners

▶ Petersson, HÅŕkan

Available from: 2018-06-14 Created: 2018-06-14 Last updated: 2018-06-14
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