RECP Best Practice Catalogue

Optimisation of the CIP program according to the nature of the products

Developed within the framework of MED TEST II

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

switchmed

The SwitchMed Programme is funded by the European Union

Best Practice - Optimisation of the CIP program according to the nature of the products

SECTOR:	**Food & Beverage**
SUBSECTOR:	Manufacture of beverages
PRODUCTS	Still drinks, carbonated drinks and fruity drinks in PET packaging and cans
CATEGORY	Process control or modification
APPLICABILITY	Utilities
COMPANY SIZE	330

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Description of the problem (Base scenario):	The current cleaning program includes rinses, 3-step CIPs, 5-step CIPs, and 7-step CIPs. This program uses water and chemicals such as NaClO; NaOH; HNO_3 and APA. It has been found, for some productions, that certain cleaning steps were not necessary, for example, using 7 cleaning steps while 5 steps are sufficient to ensure the quality of the cleaning. These cleaning practices lead to overconsumption of water, energy, chemicals and pollution flow into the waste water.
Description of the Solution	The improvement measure consists in optimising the sanitation program in order to reduce the cleaning stages by taking into account the nature of the production, the temperature and concentration of the solutions, the laboratory controls and the preventative measures.

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Economic Benefits	A reduction in NaClO consumption by 30% which is 2,700 €/year A reduction in NaOH and HNO_3 consumption by 40% which is 14,550 €/year Reduction in APA consumption by 30%, or 1,530 €/year Total savings = 18,780 €/year Energy savings has not been quantified
Environmental Benefits	Reduced consumption of: NaClO, 3,874 litres/year NaOH, 15,248 litres/year HNO_3, 110 litres/year APA, 486 litres/year Water, 1,972 m^3/year Energy and corresponding GHG emissions: not quantified
Health and safety impact	Positive impact because of less handling of dangerous chemicals

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Capital investments & financial indicators	No investment Return on investment: not applicable
Suppliers	Not applicable
Other aspects	No negative impact on product quality subject to laboratory monitoring
Implementation	The action has been carried out