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Project Abstract - Lifecore Biomedical, LLC

INTERN
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PROJECT FOCUS
Water

ADVISOR
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COMPANY
Lifecore Biomedical, LLC

COMPANY DESCRIPTION
Lifecore Biomedical, LLC, is a Minnesota based biopharmaceutical company that manufactures and supplies sodium hyaluronate in a variety of forms and molecular weights. The injectable grade sodium hyaluronate is used by multiple clients for applications in areas such as orthopedics and optometry. The company's mission is to provide high quality innovative product development and manufacturing solutions driven by their commitment to improving people's lives.

MOTIVATION
Purified water that meets the FDA's requirements for Water For Injection (WFI) is

required for making sodium hyaluronate and its derivate products. The need to maintain aseptic conditions leads to a high demand for WFI water throughout much of the production process. With production using approximately 46 million gallons of water each year, water use is an important component of the business that should be evaluated and optimized. Therefore, there is a need to account for all water intensive processes and consider ways to reduce water demand. In addition, by reducing the amount of WFI water Lifecore will be able to reduce operating costs and future capital investments for WFI water production.

INCENTIVE

Reducing water consumption can lead to large financial savings related to not only incoming supply, but also associated costs such as energy, sewer discharge, and permitting. Investigating water practices and identifying opportunities for water conservation could decrease demand for WFI water and allow processes in the building to conduct work without water shortage interruption. These water conservation opportunities, associated savings, and possible increase in production lead to monetary savings and increase longevity of existing equipment.

GENERAL APPROACH

The project consisted of two parts: mapping water intensive processes in the facility and identifying water reduction strategies. To map water usage, detailed measurements were taken and existing data was analyzed based on manufacturing technicians input. The information gathered was then used to create recommendations based around the most feasible and impactful changes. Any suggestions that could be carried out during the course of the project were implemented and for those that could not, any helpful information collected was provided.

FOCUS OF RESEARCH / RECOMMENDATIONS

A main focus of the project was changes to the standard operating procedures (SOPs) that decreased the amount of water used during cleaning procedures. Other recommendations included identifying locations and processes that would benefit from installing flow meters, adjusting condensate cooler water consumption, and changing the filter type used in the filter press.