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Water Reduced Small Stock Evisceration Table Wash

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Project Description

Red meat processing plants utilise large amounts of water for evisceration processes. As part of a wider improvement and upgrade project related to a meat processor Small Stock Slaughter floor, a need was identified to reduce water usage across the facility. A purpose built evisceration table cleaning system was designed to complement the facilities small stock slaughter floor upgrade in 2020.

Evisceration cleaning technology was identified as an area of high hot and cold water usage across the industry, resulting in unnecessary costs associated with water usage, treatment, and power consumption.

The objective of this project was modify, integrate, and evaluate the upgraded evisceration system to prevent ongoing maintenance demands, production stops and excessive water leaks through new pump technology and SCADA integration.

Project Content

Specific objectives for the project to be successful were deemed to be

- Maintaining water savings achieved with initial instillation of Small Stock Slaughter evisceration table.
- Proven reduction in time and labor required associated with ongoing break downs of Small Stock Slaughter evisceration table cleaning system
- Identify pump technology capable of operating at temperatures $>110^{\circ}\text{C}$
- Proven reduction in processing down time associated with Small Stock Slaughter evisceration table
- SCADA integration of parameters of performance data and operational status

Project Outcome

- Increased monitoring of critical plant infrastructure
 - Successful integration into on sight SCADA systems has resulted in monitoring of evisceration table speeds, pumping status and synchronisation with main processing chain. Allowing for fault identification and correction in a timely manner.
- Water Savings
 - 118,560 L per year of hot water savings per year
 - Reduction in water treatment chemical costs to facility in excess of \$850 annually
- Operational Savings
 - Reduced production down time
 - Reduced process halts directly related to the evisceration table
 - Reduced wages associated with irrigation wage costs
 - Reduced maintenance required on evisceration infrastructure
- Power Savings
 - Instrumentation was unable to be implemented to assess this parameter.

Benefit for Industry

The project has shown that there is scope within the industry to reassess existing technology and operational processes for improvements and efficiency through engineering methods.

Reductions related to man hours, water savings and chemical spend are vital to the read meat industry that is increasingly being challenged by increased labour shortages, rising costs of utilities and chemical products.