



AUSTRALIAN MEAT PROCESSOR CORPORATION

RED MEAT PROCESSING INNOVATION FOOT OPERATED BAND SAW COVER

PRIMO (SCONE ABATTOIR)

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AIM

The innovation devised by Primo Scone focuses on the operation of bandsaws in a processing environment. Two key problems face processors with regards to the operation of this machinery.

Anecdotal evidence suggests there may be 6 to 10 serious accidents per year in Australia with many being wrist amputations.

Combined with safety issues, the operation of a bandsaw is notoriously difficult to manage given its repetitious nature. Personnel find this area of the processing environment stressful due to perceived safety concerns.

Due to recent changes to OH&S legislation bandsaws are no longer able to run unprotected, requiring the machinery to be shut down when the operator is not within the operational vicinity boundaries. This therefore leads consistent shutdown and restart, burning out the motor and contributing to significant cost increases in plant operating costs and maintenance.

Primo Scone operates 3 band saws on it processing floor, processing between 500 and 600 animals daily. Following the implementation of the stop/start process for bandsaw operation, operators were required to stop and start the machinery up to 1200 times in a single processing shift. Within a 7 week period Primo Scone costs to replace motors quadrupled to in excess of \$10,000, having been required to replace motors on a fortnightly basis during that period. Despite several trials variable speed control did not alleviate the problem of motor burnout.

METHOD

Following the exponential increases in costs to replace its bandsaw motors, Primo Scone Plant Engineer Scott Lye, began to develop a foot operated guard mechanism that could be retrofitted to Primo's existing bandsaws.

The Primo Scone operation uses Thomson Meat Machinery bandsaws – a widely recognized supplier across the Australian red meat processing industry.

In conjunction with Thompson's, Primo developed an automatic blade guarding system that completely covers the bandsaw blade when it is not in use. A pneumatically controlled foot pedal operation allows the blade guard to automatically release when the operator releases the pressure on the foot pedal and all exposed blade is immediately covered.

During a 4 week period and utilising Primo engineering staff, Scott developed several prototypes. After trialling the prototypes on site, the final design was implemented across all of the machines in use.



OUTCOMES

The Primo Scone foot operated band saw guard has successfully achieved both of the objectives it set out to. The benefits of the guard mechanism include:

- Increased safety for personnel with no reduction in cutting efficiencies;
- Prevents the motor from burn out in high stop and start operation situations; Have not burnt out a motor for 6 months.
- The blade guard can operate from interchangeable heights by placing a pin and either higher or lower levels;
- The mechanism can be retrofitted to existing machinery.

The use of the guard system has had a direct impact on the costs associated with the use of the machinery.

Since implementing the guard device Primo has run each of its three band saws for between 3 and 4 months without motor replacement. The increased safety element that the guard system has provided to the operation of the band saw has also been anecdotally supported by the Primo workforce, particularly within the foreign members who were previously quite timid in operating the machinery.

Thomson Meat Machinery has recently patented the design with the express objective of rolling out the guard device across the industry. Scott Lye has been credited as the inventor.