

final report

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Industry Ergonomic Project – Gundagai Meat Processors

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1 Introduction

This final Milestone report provides a brief summary of the achievements of this final phase of the project as well as a summary of the overall achievements of this industry ergonomic project for Gundagai Meat Processors project. The elements that are likely to be most transferable across the industry have also been described.

1.1 Objectives of Milestone 8:

The objective of Milestone 8 was to:

- Finalise all recommendations and reports to conclude the project and present these to Gundagai Meat Processors.

1.2 Achievements of Milestone 8:

The final collated document describing the changes made during the project and any further or outstanding recommendations for implementation has been completed and presented to Gundagai Meat Processors. This report “PIP 0152 Final Report, Gundagai Meat Processors, Recommended Changes and Improvements” has been attached to this milestone report. GMP will now continue to work their way through any outstanding recommendations on a priority basis. An unscheduled task was also conducted during this final Milestone. This was the review of a Bunging tool and the development of ergonomic (operator) considerations to assist GMP conduct a trial of this tool. The detail of this assessment has been attached as a separate report as this tool is not part of current operations.

2 Project Outcomes & Industry Implications:

The following sections summarise the achievements of this industry ergonomics project. Please see the accompanying document “PIP 0152 Final Report, Gundagai Meat Processors, Recommended Changes and Improvements” for a detailed description of the changes made during this project and further recommendations for implementation.

2.1 Major Outcome of this Project

In describing the outcomes of this project it is important to highlight one of the initial drivers of this project. Approximately 12 months prior to the commencement of this project, GMP had installed a new boning and packing room. These changes had been implemented over a short time frame and areas within the room, in particular the packing area, were not operating as effectively or efficiently as intended. Accordingly, the focus of this project was on identifying the areas that required improvement to then work with GMP to develop strategies for change.

These improvements were developed and GMP introduced significant changes to the packing, weighing and distribution areas. GMP reports that, once these changes were “bedded down” that a range of improvements occurred. These included:

- Improved flow of product through these areas
- Less down time due to improved workflow. This change was so significant that the duration of the shift was reported to have been reduced by approximately 2 hours – a significant productivity gain.
- Reduced repacking of items, although this issue is not fully resolved.
- Positive response from staff working in these areas.

- Lower incidental leave of staff working in these areas, which was attributed to overall improvements to the area and the reduced length of the working day.

Other general and area specific outcomes and benefits are described below.

2.2 General

Integration of ergonomics as a standard consideration for work changes and improvements.

This project has demonstrated an effective capacity to apply ergonomic considerations as a normal part of the planning process. The integration of ergonomics as part of the planning process was reinforced and supported by the repetition of successful outcomes and demonstration of effectiveness.

This integration was demonstrated with a request from GMP during final phase of the project for the ergonomic assessment of the expected requirements of an employee to operate a mechanical bung removal machine on the Kill Floor. The trial of this tool was part of a separate MLA project and as part of GMPs involvement, they required the preassessment of the likely demands and hazards for the operator. This information was then used to devise a setup that would place the operator in a near optimal position to minimise operator variables and maximise the effectiveness of the trial in evaluating the merit of the tool.

These further reinforced GMP of the value of ergonomic considerations at a planning or redesign stage, even with projects considering semi automation and greater mechanisation.

The Plant Manager, Mr Sam Barton, has stated that he now not only has an improved appreciation of ergonomics but has a greater understanding as to how ergonomics can be used to predict the impact of the physical environment and planned work tasks and methods on human capabilities and behaviour.

Mr Barton has stated that when having to redesign a job, area or process that he would include an ergonomic review as an inherent part of the process because, as demonstrated in this project, this consideration can influence the success of the changes made.

General improvements for this workforce: A positive impact was delivered to employees with the improvements implemented during this project, particularly in the packing, weighing and distribution areas.

These benefits include:

- Lower physical work demands for all packing jobs (with the most demanding job of trimpacking being converted to one of the least demanding jobs in the area).
- Improved workflow of product through the packing areas with a resulting lower level of employee frustration.
- Involvement in the improvement process.
- Less pressure on other employees from incidental or unplanned employee leave and an improved productivity gain where less hours are worked to process the same, and even greater, product volumes. (Note: GMP is being asked to provide measures of these changes so they can be quantified and demonstrated to the industry as an outcome of this project).

2.3 Kill Floor

GMP had implemented a range of contemporary design improvements on the Kill Floor prior to the commencement of this project. These included:

- Mechanical head removing device
- Brisket rolling machine in the fore quartering area

- Flanking machines
- Shoulder and hide pulling machines
- Mechanical hock cutters
- Mechanical carcass inversion process
- An elevated gutting platform so the gut and offal can be dropped down to a tray that runs underneath the carcass, rather than having to lift it up to a tray located behind the operator.

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Further improvements to be implemented include:

- Redesign of the sticking and shackling table.
- Improved layout for some items of equipment in the fore quartering and offal sorting areas.

2.4 Chillers

This area was reviewed but no design changes were made in the chillers.

- Methods to limit the number of carcasses pushed at once and how to distribute carcasses to minimise force exertion have been made.

2.5 Offal Processing

This area was reviewed but no changes were made or have been recommended for the offal processing and packing areas.

2.6 Boning

Improvements were identified for:

- Pushing carcasses into the boning room from the chiller.
- Boning and slicing bench heights.
- Methods for boning and slicing.
- Methods for capping and bagging product.
- Reduction of the level of manual capping and bagging work performed by using mechanical packing with the Multivac machine.
- Conveyor operation to bagging and capping workstations.
- Stringing machine operation and product flow.
- Mini roast product flow.

2.7 Packing

The major outcomes of this project were with the redevelopment of the packing area.

Improvements were identified for:

- Cryovac operation.
- Vacuum sealed product flow.
- Relocation of the dip tank (to eliminate a hot water droplet hazard and to reduce the slipperiness of the product).
- Redesign of trim and rib packing.
- Redesign and relocation of mini roast packing.
- Inclusion and integration of the Multivac packing machine within the packing area.
- Redesign of product flow to and from these workstations and the Multivac machine.
- Redesign of the pack off area (packing of vacuum sealed product into cartons).

- Redesign of product flow to and from the pack off area.
- Redesign of carton distribution for all packing workstations and the pack off area to introduce a dispenser type of design.
- Redesign of the carton making room and methods of distribution of cartons and monitoring of the variable demand for cartons at each workstation.

2.8 Dispatch

- Introduction of a second weighing and labelling workstation
- Redesign of product flow through the dispatch area.

2.9 Value Added (Marinade)

- Definition of the limitations of the current layout and workflow.
- Definition of the criteria to improve the design of the layout and access to this equipment and the flow of product through the area.

2.10 Skins Processing

This area was reviewed but no design changes were made in the skins processing areas.

- Work methods for some skins processing tasks were recommended.

2.11 Yards

This area was reviewed but no changes were made in yards area.

- Work methods for some yards tasks were recommended.

3 Industry Implications:

Any of the specific improvements developed during this project has implications for the possible introduction across the industry.

However, the most significant design changes made during this project were with the:

- Development of a new layout for the flow of product through the packing areas.
- Distribution of cartons to directly to packing workstations in a position and height that is accessible to operators from their workstation.
- Design of these packing workstations that (almost) prevents the need to lift tubs and cartons of product – a significant reduction in physical work demands.
- Development of a new method of operating stringing machines, in particular a more efficient method of dispatching the strung product through the rear of the machine, rather than removing it via the front.

The broader implications for the industry arising from this project include:

- Practical project outcomes that demonstrate that the early investment of an ergonomics review of planned changes can be effective and should be part of any change process that affects how employees perform their work.
- How ergonomics can be integrated as part of the day to day management of operations that look at work design, work methods and workflow.

How improvements to the work design, work methods and workflow can produce broader benefits to support efficiency gains and lower incidental leave (although this reported gain still needs to be quantified).

4 Concluding Comments:

In concluding this project and report I wish to thank management and employees at Gundagai Meat Processors, and in particular the Plant Manager Mr Sam Barton, for their commitment to this project and its principles.

This commitment was demonstrated by the provision of significant resources and funds during the project to develop and implement changes and improvements to an area that had only recently been constructed. GMP was able to develop these changes with a high degree of confidence in the expected outcomes and in some areas the outcomes appear to have exceeded expectations.

GMP are to be congratulated and I wish them well as they continue to implement progressive improvements.

Should there be any queries regarding this report please contact Mr. Chris Fitzgerald on 039889 0704, 0412 363 376 or via email at "chris.fitzgerald@rimservices.com.au".

A handwritten signature in black ink, appearing to read 'C. Fitzgerald', with a large, stylized flourish at the end.

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