



final report

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Industry ergonomic project – Stanbroke Beef

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Contents

	Page
1	Introduction..... 3
2	Objectives of Milestone 4..... 3
3	Achievements of the project 3
3.1	Changes implemented to date 4
3.2	Changes under development or construction..... 4
3.3	Changes to be implemented but may vary from the original recommendations..... 5
3.4	Changes not likely to be developed and implemented by Stanbroke 5
4	Implications for the Meat Processing industry 5
5	Concluding comments 6
6	Appendix 7

1 Introduction

The following progress report provides a detailed review of the outcomes of this project and the broader implications for improvements across the industry. On May 2006 the final review of progress with the implementation of the risk controls recommended in Milestone 2 was conducted, as required of the 4th Milestone of this PIP industry ergonomic project for Stanbroke Beef.

2 Objectives of Milestone 4

The objectives of Milestone 4 were to:

1. Prepare this final report and evaluation of the project outcomes
2. Describe and evaluate the risk controls that have been implemented
3. describe any training methods or materials that could be transferred to industry training resources
4. Present any OHS data and feedback from employees that provides a measure or indication of the impact of the change introduced

3 Achievements of the project

A detailed description of the current status and plans for further improvement for each of the jobs assessed in this project has been provided as attachment 1 of this report.

In general, it is apparent that Stanbroke Beef has taken the recommendations of this project on board and has endeavoured to implement a number of changes to work processes.

The majority of improvements recommended in this project have been design based and engineering changes are required to enable employees to improve postures and movements and reduce levels and frequency of force exertion. Accordingly, since receiving the recommendations report in early march 2006, Stanbroke Beef has implemented several of these design changes. However, the majority of these improvements involve relatively complex or extensive engineering changes and, while not implemented at the time of the final review, the majority of these engineering changes are being developed with a plan to progressively implement them over the next 8 months (including the end of year shut down period when most larger scale engineering changes would be installed).

It will not be possible to fully evaluate the outcomes of this project until all changes that are to be put in place have been fully implemented.

Accordingly, to report on the outcomes of this project at this relatively early stae of implementation, four categories of implementation have been identified. All of the recommendations of this report have been assigned to the category that best describes the current status of implementation or the plan for implementation. These categories are:

- Changes implemented to date
- Changes under development or construction
- Changes to be implemented, but may vary from the original recommendations
- Changes not likely to be developed and implemented by Stanbroke due to their high level of complexity and development cost

Some jobs have been included in more than one category to reflect the status of the different types of recommendations made for that job.

3.1 Changes implemented to date

The changes made to date include:

- Pushing carcasses – 1 chiller modifier to date
- Cryovac packing – a strut has been attached to the gate in the conveyor to make it easier to lift up for access and egress
- Rodding – rod steriliser has been moved closer
- Floor person – trolley modifications
- Gut room – all jobs in this room are to be modified, changes have commenced

3.2 Changes under development or construction

The jobs for which changes are being constructed or the designs finalised but are expected to be implemented. Accordingly, the changes that are to be implemented in this category include rotations between jobs where this has been previously recommended as well as engineering based changes.

- Quartering carcasses
- Pushing carcasses- other chillers to be modified
- Bolars testing of individual height adjustable platforms
- Blades – rotation to be established
- Brisket – rotation to be established
- Chucks - rotation to be established
- Cube roll - rotation to be established
- Striploins - rotation to be established
- Trim sorting - rotation to be established
- Lidding – this is job to be automated
- Cryovac packing – the rollers to make it easier to push the boxes onto the conveyor
- Re inspection, lidding & strapping – modification to roller conveyor height and lid storage
- Evisceration- new platform for the first position and means of raising the carcass up for the final stage of evisceration
- Offal room – hook guards to be implemented
- Gut room – change to all jobs to be completed
- Loading plate freezer – automated system to be installed (long term). Alternative loading / unloading system to be used (short term)

3.3 Changes to be implemented but may vary from the original recommendations

A number of recommended improvements have proven difficult or very costly to implement.

For changes that have been found to be very costly, Stanbroke Beef is seeking to create alternative changes to achieve an improvement but at lower cost. This type of improvement includes:

- loading pallets

3.4 Changes not likely to be developed and implemented by Stanbroke

A final group of changes that are either too complex or too costly for Stanbroke to develop but have implications for development and testing to create a standardized improvement that may benefit the whole industry are:

- Aitch boning
- Top sides
- Rodding
- 1st leg
- 2nd leg
- Loading containers

4 Implications for the Meat Processing industry

At this relatively early stage of implementation there are not many outcomes to highlight with regard to the broader benefits that may be applied across the industry. That is, at this stage there are no work process solutions or training materials to disseminate.

However, Stanbroke Beef has demonstrated a high level of commitment to the implementation of changes to create work process and manual handling injury risk control improvements, particularly when compared to previous RIMS Plant Initiated projects where the level of uptake of changes has varied considerably.

It is likely that in 6 to 8 months, once changes have been implemented and utilized for a period of time that a review of the outcomes of this project will provide a range of strategies relevant to the industry.

In addition, this project has highlighted and quantified the jobs with the highest physical work demands and defined both broad and specific recommendations for improvement. That is, this project and the methodology used by RIMS to conduct a detailed task analysis and assessment of the physical work demands, appears to provide a practical diagnosis of the peak areas and jobs requiring improvement. This information can then be used to set priorities and clear direction for intervention as well as creating standards for the improvements that are to be finalized and implemented.

The main limitation of this project method would appear to be the time frame that is required to develop and implement engineering based changes, where a realistic time frame is likely to be 12 months and even then this time frame would be based on the follow up a committed employer.

With regards to the evaluation of outcomes, currently injury data at Stanbroke Beef is collected at broad (process) level. While injury rates at Stanbroke are currently relatively low, the data that is collected is not isolated to the job level. Accordingly data is evaluated at a whole of process level, such as production, boning and packing, and the capacity to evaluate OHS outcomes at a job level may prove to be difficult.

It is expected that comment and feedback from those who perform and manage the targeted work processes will provide an effect means of evaluation of the changes introduces as a result of this project. The reassessment of jobs using the same assessment method used by RIMS would provide an objective evaluation where it would be expected that changes introduced would have improved postures, movements, force exertion and exposures to repetitive or sustained work.

It is recommended that a more formal evaluation of this project occur early in 2007b and that all changes relative to the original RIMS recommendations be assessed. Where relevant, changes that have implications for improvements across the industry should be described so this information can then be disseminated.

5 Concluding comments

With milestone 4 now complete, this project has now concluded. However, Stanbroke Beef will continue to implement the changes described in this, and previous reports. Stanbroke Beef has indicated a very positive response to the recommended changes as well as the possibility of being a participant in any future industry based projects that target specific jobs or sections within a process (for those jobs for which it may not be practicable for them to address at this time). Given Stanbroke's active participation in this project, I would expect that they would be a welcome and active member in any broader industry based or syndicated projects.

6 Appendix

Milestone 4 Final Report – Appendix 1

Progress with the Implementation of Recommended Risk Controls

This appendix has been prepared to describe Stanbroke Beef's progress in implementing the risk controls developed during the first 2 milestones of this project. The report repeats the summary description of the recommended risk controls and then describes the implementation progress to date (as of 24 May 2006)

Process / Job	Priority	Recommended Risk Controls
<i>Boning and Packing (in order of the performance of each job)</i>		
Quartering carcasses	20 / 24	Devise a means of achieving better height access to, and position between, carcasses. A low, mobile platform is indicated but needs to be able to be easily moved about the chillers and be secured. Cutting half of the carcasses should only occur in the chiller. The other halves should be cut after they leave the chiller.

Implementation Outcomes or Progress to Date

As a short term strategy, a platform is being constructed to test if this is a suitable option for this job. The platform will be consistent with the RIMS recommendations. Once complete the platform should be tested and any refinements made. The usual operators should test the device and advise the maintenance employees of any changes or improvements that are required or whether the device is not practical to use.

As a longer term strategy, Stanbroke Beef is considering the option of having this job performed on a height adjustable stand in a fixed position, where the carcasses will move past the operator and the spine of every second carcass would be cut with a manual hacksaw or, preferably, a mechanical (air) saw. This is the preferred option, and would be the most effective and durable, risk control strategy for this job.

Pushing carcasses	6 / 24	Eliminating the manual pushing of carcasses around the corners at the end of each long rail as the carcasses leave the chillers would appear to significantly reduce the risks. Determine options of mechanically moving the carcasses along the ends of the long rails and onto and along the feeding rail that leaves the chiller.
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Implementation Outcomes or Progress to Date

The final chiller closest to the boning room has been mechanized so carcasses are pushed out of the chiller to the process line. This system was reviewed and 2 of the pushing devices above the rails were not fully operational. Feedback was provided to Stanbroke to have this problem rectified.

Plans have been made to install the same system to other chillers to further minimize the need to manually push carcasses. While the medium to long term plan is to progressively upgrade the other chillers, these changes should remain as a moderate priority as this work involves the pushing of 2 sides per time to ensure that they are kept together.

To parallel this change, employees and supervisors will need to be instructed to use these systems. They should not bypass them and continue to unnecessary manual methods of pushing carcasses where the mechanical option exists.

Process / Job	Priority	Recommended Risk Controls
Boning and Packing (continued)		
Bolars	5 / 24	<p>Test the effectiveness of better height adjustability during the job.</p> <p>Provide individual rise and fall platforms for all Boners.</p> <p>Arrange line so the carcass stops at each workstation for the duration of this job.</p> <p>Relocate the 1st bolar boning position to the "spare" workstation one position ahead of the current position (where brisket sawing is conducted).</p> <p>Introduce a formal rotation system between other boning jobs.</p>

Implementation Outcomes or Progress to Date

Stanbroke is planning to test the options of using single height adjustable platforms for these 3 positions. This will be done by relocating a single boner on to the previous platform and getting him to test the use of the platform at different heights. Two height settings are expected. The first being an initial higher so the belly trim can be performed without reaching above the shoulder. The second position will be lower to enable the bolar to be boned at or just below the boner's shoulder height.

Active instruction and monitoring will be needed to get the boner to set the platform height for the bolar boning, as the boners are currently used to performing this at a lower position (mid chest height) and it may take some practice to get used to being in a more upright posture. Also, this postural change may slightly increase shoulder demands and repeated feedback as to the best platform position will be needed to determine the optimal height.

A means of delivering the cuts to the slicing table from this platform will need to be established.

While this strategy is expected to provide greater options of height adjustment for individual boners, tests to confirm this and a means as to how this may be logistically achieved need to occur. This is complex, particularly as this may change the nature of boning on this line, where the carcass would need to be presented in a static position to the boner to enable him to set the platform height for the different tasks of this job. Three carcasses per time would need to be boned and, after a set completion period, they would then need to be simultaneously moved along the line to the next process as the 3 new carcasses are delivered. This stop and start method has implications for work flow before and after this position.

Rotation between this and other boning jobs have not yet been introduced. While opinions on the likely impact on rotation are divided at Stanbroke, it is planned to commence a trial of rotation every hour between a small number of selected jobs. Rotation away from the topside, aitch bone and blades jobs have been recommended as priorities. If this trial is successful then it is likely that it would be expanded to cover all or most jobs along the boning line.

Process / Job	Priority	Recommended Risk Controls
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Boning and Packing (continued)

Blades	4 / 24	<p>Test the effectiveness of better height adjustability during the job.</p> <p>Provide individual rise and fall platforms for all Boners.</p> <p>Introduce a formal rotation system between other boning jobs.</p>
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Implementation Outcomes or Progress to Date

If individual height adjustment platforms are found to be effective for the Bolars boning job, then consideration of the same type of platforms for each of blades boning jobs should also be made and tested in the same way.

Rotation between this and other boning jobs have not yet been introduced. While opinions on the likely impact on rotation are divided at Stanbroke, it is planned to commence a trial of rotation every hour between a small number of selected jobs. Rotation away from the topside, aitch bone and blades jobs have been recommended as priorities. If this trial is successful then it is likely that it would be expanded to cover all or most jobs along the boning line.

Brisket	11 / 24	Introduce a formal rotation system between other boning jobs.
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Implementation Outcomes or Progress to Date

Rotation between this and other boning jobs have not yet been introduced. While opinions on the likely impact on rotation are divided at Stanbroke, it is planned to commence a trial of rotation every hour between a small number of selected jobs. Rotation away from the topside, aitch bone and blades jobs have been recommended as priorities. If this trial is successful then it is likely that it would be expanded to cover all or most jobs along the boning line.

Chucks	8 / 24	Introduce a formal rotation system between other boning jobs.
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Implementation Outcomes or Progress to Date

Rotation between this and other boning jobs have not yet been introduced. While opinions on the likely impact on rotation are divided at Stanbroke, it is planned to commence a trial of rotation every hour between a small number of selected jobs. Rotation away from the topside, aitch bone and blades jobs have been recommended as priorities. If this trial is successful then it is likely that it would be expanded to cover all or most jobs along the boning line.

Process / Job	Priority	Recommended Risk Controls
Boning and Packing (continued)		
Cube roll	10 / 24	Introduce a formal rotation system between other boning jobs.

Implementation Outcomes or Progress to Date

Rotation between this and other boning jobs have not yet been introduced. While opinions on the likely impact on rotation are divided at Stanbroke, it is planned to commence a trial of rotation every hour between a small number of selected jobs. Rotation away from the topside, aitch bone and blades jobs have been recommended as priorities. If this trial is successful then it is likely that it would be expanded to cover all or most jobs along the boning line.

Striploins	7 / 24	Test the effect of better height adjustability and if appropriate, provide individual height adjustable platforms. Introduce a formal rotation system between other boning jobs.
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Implementation Outcomes or Progress to Date

Rotation between this and other boning jobs have not yet been introduced. While opinions on the likely impact on rotation are divided at Stanbroke, it is planned to commence a trial of rotation every hour between a small number of selected jobs. Rotation away from the topside, aitch bone and blades jobs have been recommended as priorities. If this trial is successful then it is likely that it would be expanded to cover all or most jobs along the boning line.

Aitch boning	3 / 24	Introduce a formal rotation system between other boning jobs. Explore or develop a means of mechanically pulling the cut of meat away as it is boned to eliminate manual pulling. Test the effect of better height adjustability and if appropriate, provide individual height adjustable platforms. Arrange line so the carcass stops at each workstation for the duration of this job.
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Implementation Outcomes or Progress to Date

Stanbroke has determined that the resources and costs required to develop this type of mechanical tool are likely to be extensive and almost impracticable.

Coincidentally, the MLA has commenced a mechanization project to develop such a device that can pull down on the aitch bone while the boner trims it. It is strongly recommended that when it comes to testing this device in Australia, that Stanbroke Beef be considered as a test site as they are now fully aware of the design changes needed to reduce the physical demands of this job and could provide a critical evaluation of this mechanism and method.

Rotation between this and other boning jobs have not yet been introduced. While opinions on the likely impact on rotation are divided at Stanbroke, it is planned to commence a trial of rotation every hour between a small number of selected jobs. Rotation away from the topside, aitch bone and blades jobs have been recommended as priorities. If this trial is successful then it is likely that it would be expanded to cover all or most jobs along the boning line.

Process / Job	Priority	Recommended Risk Controls
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Boning and Packing (continued)

Top sides	2 / 24	<p>Introduce a formal rotation system between other boning jobs.</p> <p>Explore or develop a means of mechanically pulling the cut of meat away as it is boned to eliminate manual pulling.</p> <p>Test the effect of better height adjustability and if appropriate, provide individual height adjustable platforms.</p> <p>Arrange line so the carcass stops at each workstation for the duration of this job.</p>
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Implementation Outcomes or Progress to Date

As found with the Aitch Bone device, Stanbroke has determined that the resources and costs required to develop this type of mechanical tool are likely to be extensive and almost impracticable.

The MLA project to mechanize the task of pulling pull down the aitch bone while the boner trims it will have a direct impact on how the trimming of top sides can be mechanized. It is strongly recommended that the development of this device also considers, at the outset of the design process, a means of adapting it to bone the Topsides (and patella or knuckle). If this is possible then it is likely to have a similar (significant) impact on reducing the physical demands and injury risks for this job.

As recommended with the Aitch Bone device, it is recommended that Stanbroke Beef also be considered as a test site for the adaptation of this device for the boning of top sides.

Rotation between this and other boning jobs have not yet been introduced. While opinions on the likely impact on rotation are divided at Stanbroke, it is planned to commence a trial of rotation every hour between a small number of selected jobs. Rotation away from the topside, aitch bone and blades jobs have been recommended as priorities. If this trial is successful then it is likely that it would be expanded to cover all or most jobs along the boning line.

Trim sorting	21 / 24	<p>Introduce a formal rotation system between this job and packing jobs in this area to relieve sustained neck flexion.</p>
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Implementation Outcomes or Progress to Date

Rotation between this and other packing jobs have not yet been introduced. A rotation system between this and other packing jobs should be implemented as soon as practicable.

Process / Job	Priority	Recommended Risk Controls
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Boning and Packing (continued)

Lidding	17 / 24	<p>Review trimming to ensure that smaller cuts of meat that will better fill the box are being consistently delivered for packing.</p> <p>Improve bag tension within box.</p> <p>Mechanically press meat down and into box.</p> <p>Improve access to lids.</p> <p>Easier (more mechanical) means of placing lid on box.</p> <p>Should automatically move onto next conveyor.</p> <p>Introduce a formal rotation system between this job and other packing jobs in this area.</p>
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Implementation Outcomes or Progress to Date

Means of modifying this job are still being considered. In addition to the recommended strategies, different shaped bags are being considered to see if they can reduce the level of tension that needs to be applied to the bag or is a mean of mechanically applying this tension are possible.

The focus of redesign of this job is to automate it, and Stanbroke is considering how this may be achieved within the available space.

Cryovac packing	23 / 24	<p>Improve area access and egress.</p> <p>Reduce force to push boxes onto conveyor.</p>
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Implementation Outcomes or Progress to Date

An additional ram has been added to the conveyor gate to reduce the force needed to open it. While this enables the gate to be opened and provide greater clearance for access and egress, apparently employees do not consistently use it as the cryovac packages siting on top of the conveyor need to be more effectively displaced over the conveyor when it is raised up. The design of this system appears to require further review to ensure that the gate is used at all times for access and egress to and from the carousel area.

The conveyor system that takes boxed cryovac meat away from the carousel area is to be extended to increase its storage capability and increase the rate of removal of boxes from the area to prevent blockages.

Once this is achieved, the effectiveness of the rollers to make it easier to push the packed boxes onto this conveyor should be realised. Currently these rollers are yet to be fitted.

Process / Job	Priority	Recommended Risk Controls
<i>Boning and Packing (continued)</i>		
Re inspection / Lidding and Strapping	18 / 24	Improve access to lids. Lower the conveyor height to reduce shoulder movement to access boxes. Consider slightly lower height for pulling bags up. Introduce a formal rotation system between these jobs and the near by cryovac packing jobs.

Implementation Outcomes or Progress to Date

Stanbroke is considering improving lid placement and delivery as well as lowering the height of the conveyor to reduce shoulder movement when pulling of the bags and applying the lids. When altering the height, Stanbroke will use adjustable feet to enable the height to be "fine tuned" as needed.

Automating the other lidding job will (apparently) reduce the volume that is processed through here, reducing the overall manual effort required to lid and strap boxed product.

No changes have yet been made to introduce rotations between this and other beef boning jobs. Rotation between this and other near by jobs is recommended.

Process / Job	Priority	Recommended Risk Controls
Beef Production (in order of the performance of each job)		
Rodding	22 / 24	Move work point and equipment closer together. Have a capacity to raise the beast as needed to rod the weasand (ie. enable operator to get a better height relative to the animal). Introduce a formal rotation system between this job and other near by beef production jobs.

Implementation Outcomes or Progress to Date

A new rodding tool sterilizer has being installed near the hocks chute, bringing it and the related equipment closer to the point of use.

Means of raising the height of the carcass to provide more consistent access to it while rodding are not planned at this stage. This modification is probably a lower level of priority as most of the beef processed along this line are of a relatively standard (moderate) size and the relatively infrequent processing of very large stock is likely to reduce exposure to the more awkward postures when rodding the weasand of larger stock. If the proportion of larger stock is, or becomes, higher than this then reconsideration of this modification to elevate the carcass as needed should be made.

During the final review, it was observed that the hock chute needs to be extended to create more of a hopper or funnel at the bottom third of the chute opening to "catch" the hocks that can be directed into the chute once they are severed. Currently a plastic tub on the floor performs this function, but this would require the manual handling of the tub to lift it up and tip the contents into the chute.

No changes have yet been made to introduce rotations between this and other beef production jobs. Rotation between this and other near by jobs is recommended.

1 st Leg	15 / 24	Test the effect of better height adjustability and if appropriate provide a rise and fall platform. Test the effect of shorter knife blade length and a restraint to hold the leg being trimmed. Develop and implement a fall prevention system. Introduce a formal rotation system between this job and other near by beef production jobs.
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Implementation Outcomes or Progress to Date

Changes to the platform to modify it are not planned at this stage.

This type of modification would be suitable as an industry based project as the same workstation design issues are likely to occur with all fixed height boning platforms. Such an industry based project should also incorporate falls from height protection / prevention and Stanbroke Beef could be a good example to trial as they use a third person in this area who moves between the first and second leg positions, creating an additional level of complexity for the design and installation of an individually based fall prevention system.

No changes have been made or are planned to introduce rotations between this and other beef production jobs. Apparently the specialist nature of first and second legging results in very little or no rotation. None the less, it is recommended that rotation from this area to other production jobs occur to provide physical variety for these employees, particularly as solutions to improve posture and movement are only likely to be provided in the longer term.

Process / Job	Priority	Recommended Risk Controls
Beef Production (continued)		
2 nd Leg	16 / 24	Use a two handed hock cutter. Test the effect of better height adjustability and if appropriate provide a rise and fall platform. Test the effect of shorter knife blade length and a restraint to hold the leg being trimmed. Develop and implement a fall prevention system. Introduce a formal rotation system between this job and other near by beef production jobs.

Implementation Outcomes or Progress to Date

Changes to the platform to modify it are not planned at this stage. This type of modification would be suitable as an industry based project as the same workstation design issues are likely to occur with all fixed height boning platforms.

It is planned that a 2 handed hock cutter be installed to replace the single handed hock cutter. A chute, immediately below the leg, to capture the hock as it is removed and to prevent any need for it to be manually handled to discard it is required.

No changes have been made or are planned to introduce rotations between this and other beef production jobs. Apparently the specialist nature of first and second legging results in very little or no rotation. None the less, it is recommended that rotation from this area to other production jobs occur to provide physical variety for these employees, particularly as solutions to improve posture and movement are only likely to be provided in the longer term.

Evisceration	5 / 24	Improve size / security of work platform. Provide a fall prevention rail on the open side of the trays. Modify rail so the carcass can raised higher up (by approximately 800 mm) at the end of the job to improve posture for pluck removal. Introduce a formal rotation system between this job and other near by beef production jobs.
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Implementation Outcomes or Progress to Date

A rise and fall platform is to be installed at the location for the first stage of this job (this is currently being built). This will eliminate the step(s) and provide the operator with a secure single platform from which he can perform the different tasks of this job (sawing the brisket and opening the belly / gut)

A fall prevention / protection system to be implemented where the second stage of this job is performed by installing a barrier at the open side of the trays. This is planned but yet to be constructed or installed.

Options of raising the carcass higher for the second stage of this job are still being considered and Stanbroke intends to create the solution for this job.

No changes have yet been made to introduce rotations between this and other beef production jobs. Rotation between this and other near by jobs is recommended.

Process / Job	Priority	Recommended Risk Controls
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Beef Production (continued)

Floor person	13 / 24	Mechanize tub movement on the floor and tipping. Alternatively, introduce a more effective handle system for the tubs for movement on the floor.
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Implementation Outcomes or Progress to Date

Quotes for tub tippers have been obtained and once finalized, this will be installed.

A two handed, handle system that can be raised and lowered as needed to clear under carcasses and enables the tubs to be pushed while adopting an upright posture has been developed and is being trialled. If successful this design will be attached to all of the tubs used on this floor and in the boning room as well.

Offal room	24 / 24	Redesign. Relocate hooks over bench and lower them. Reduce scales height. Improve box storage. Make better use of benches and basins. Use trolleys or a mechanical tug to get tubs of offal into the room.
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Implementation Outcomes or Progress to Date

A small number of hook latches have been obtained and will be installed to test their effectiveness in preventing exposure to the sharp hooks.

Other layout issues for this area are being considered to provide better and more functional design to improve layout and work flow.

Process / Job	Priority	Recommended Risk Controls
Beef Production (continued)		
Gut room	14 / 24	<p>Lower side edge of runners elevating bin so material can be slide into it, preventing the need to lift this material.</p> <p>Obtain a mechanical bible cutter that automatically cuts and discards.</p> <p>Improve design of far edge of the table so material doesn't get caught there (and has to be removed).</p> <p>Reduce the width of the bench by approximately 150 to 200 mm to improve access to the chute.</p> <p>Increase length of the table so all items can be slid into the far chute. Current items are lifted and tossed into it as other guts are sitting on the table waiting for the next step in the process.</p> <p>Use a mobile mechanical hoist that can lift the washed stomach off the washing stand and transport it to the frame / hooks where it can be trimmed. The stomach should be held by the frame for this task and if it is accepted then it should be mechanically taken to the tub trolley and dropped (using the hoist).</p> <p>Introduce a formal rotation system between each of the jobs performed in this area.</p>

Implementation Outcomes or Progress to Date

The entire gut room is being refitted. These changes are being undertaken progressively to comply with all of the RIMS recommendations.

No changes have been made or are planned to introduce rotations between this and other gut process jobs in this area. Rotation between this and other jobs in this area is recommended.

Process / Job	Priority	Recommended Risk Controls
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Load Out (in order of the performance of each job)

Loading Pallets	19 / 24	<p>Extend conveyors or use trolleys to take boxes to more distant pallets (short term).</p> <p>Increase pallet separation to limit excessive reaching / sliding practice.</p> <p>Redesign the area (long term)</p>
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Implementation Outcomes or Progress to Date

Extension of conveyors is being considered to reduce the manual carrying of boxes to the furthest pallets.

Pallet separation has not been trialled yet, but is still recommended to see if access to pallets can be improved (per the original recommendations).

An overall redesign of this area is also being considered, but there are no immediate plans to significantly change the layout.

Loading Plate Freezer	1 / 24	<p>Extend conveyors, and height of the platform on the taking out side, to load ½ from the current side and ½ from the other side of the freezer and plates short term).</p> <p>Mechanize loading and unloading as found in the other plate freezer area (long term).</p>
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Implementation Outcomes or Progress to Date

This job is to be mechanized where the pushing in action of new boxes will push the frozen ones out the other side.

However, this change is not likely to occur before the end of year shut down, so the implementation of the shorter term system to push ½ of the load in from each side should be implemented to create an immediate reduction in the demands of this job (that was assessed as being the most hazardous due to the very high forces that are exerted).

Loading Containers	12 / 24	<p>Develop a method of transfer of chilled product for all or part of a pallet load to the forklift with 4 tynes. A means of then leaving this load in the container also needs to be designed.</p> <p>Consider the use of corflute sheets on which boxes sit and are transferred until the material is removed from under the boxes once in the container.</p>
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Implementation Outcomes or Progress to Date

No further progress has been made on improving this job. The complexity of how this job may be controlled indicates that the development of solutions may best be obtained via a combined industry project. At this stage Stanbroke Beef does not have intention to test alternative methods of packing containers with chilled boxed product.