

## Reduce costs and preserve quality by improving processing practices

South Australian Research and Development Institute's (SARDI) new process engineer, based at the South Australian Food Centre, is saving seafood businesses' time and money by identifying inefficient practices and plant layouts.

The growth of seafood processing operations from small family businesses to larger processing centres sometimes results in poorly laid out operations with inefficient work practices, inappropriate infrastructure and poor process flow. This can lead to increased production costs through excessive labour and energy usage.

A typical case study is presented below which examines the effect of improved processing methods based on best practices (HACCP and Food Safety), energy efficiency, optimised manpower use, economical use of utilities (particularly water and steam), improved hygiene and sanitation.

### Common practices sometimes observed

- Raw material offloading and finished goods dispatch in the same area.
- Offal crosses the packing and raw material-receiving section.
- Packing done in wet area.
- Product passes through main processing hall intersecting with ice, packing material and packed goods movement.
- Freezing is poorly controlled.

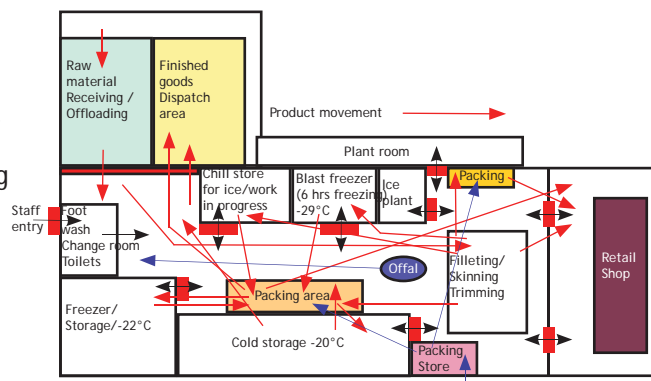
### Disadvantages of common practices

- Cross contamination.
- Raw material and finished goods in same area.
- Spoilage of packing material.
- Multiple handling, reduced throughput, high man hours, delays in processing.
- High electricity costs and lower yield %.

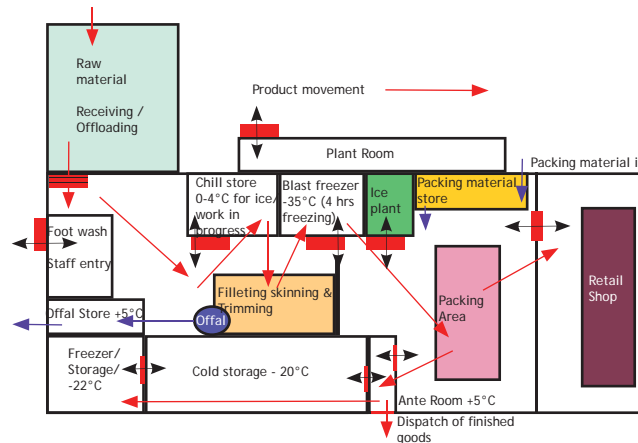
### Suggestions for increasing efficiencies

- Raw material flow in one direction.
- Goods dispatch in a separate area.
- Offal is taken out early in process.
- Packing done in dry area.
- Clean storage of packing materials.
- Improved cold storage practices.
- Improved freezing practices.
- Faster product flow and reduced multiple handling.

FISH PROCESSING PLANT - EXISTING LAYOUT



FISH PROCESSING PLANT - SUGGESTED LAYOUT



### Advantages of improving layout and work flow

- No cross contamination.
- Better hygiene and sanitation.
- Efficient manpower use:
- 20 - 25% reduced handling effort.
- 15 - 20% reduction in time for order processing.
- 10 - 15% increase in product throughput.
- 8 - 12% energy saving.
- Water saving.
- Product retains freshness.
- Shelf life improvement.

## Key Points

SARDI's new seafood process engineer is working directly with industry to identify current inefficiencies and suggest layout improvements, saving time and money.

Potential savings of 20-25% of product handling time, energy savings of up to 15%, 10-15% increase in product throughput and improved final product yield from 2-5%, have been identified.

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## Key Contact

Andrew Barber  
Principal Scientist  
Food Innovation and Value  
Chain  
SARDI  
Phone: 08 8348 2488  
E-mail: andrew.barber@sa.gov.au

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MISA  
South Australian Food Centre  
SARDI

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