

## MAINTENANCE OF INTERLOCKED PHYSICAL BARRIERS ON PLANT

### Overview of company

Adelaide Resource Recovery (ARR) is a South Australian company committed to the comprehensive recycling of construction & demolition materials into valuable resources. ARR operates a 120-hectare resource recovery facility at the Wingfield Waste & Recycling Centre.

### The incident

An incident occurred within our recycling business. We have a separate observation deck to observe operating plant chains and sprockets and while inspecting unguarded chain and sprockets on working plant, a worker dropped a torch and instinctively grabbed for it. A centimetre of the worker's thumb was amputated when it became caught in the chain and sprocket.

Sorting plant within the recycling industry is constantly challenged due to the unpredictable and highly varied content of disposed materials. Plant maintenance is frequent and plant breakdowns occur regularly. Visual inspection of working parts is sometimes required to monitor operating plant performance.

Our company had evolved a two isolation switch procedure, first switching off power prior to ascending the plant platform and a secondary isolation switch prior to maintenance of the plant.

This isolating procedure was in breach of Regulation 208(2) of the *Work Health and Safety Regulations 2012 (SA)* which states in part that if access to the area of the plant requiring guarding is necessary during operation, maintenance or cleaning, the guarding must be an interlocked physical barrier that allows access when there is no risk, and prevents access at any other time. If this is not reasonably practicable, alternatives are a physical barrier that can only be altered or removed by the use of tools, or a presence-sensing safeguarding system that eliminates any risk while a person or any part of a person is in the area being guarded.

### Probable causes

- After frequent mechanical inspections of plant, the guards were not re-fixed in place.
- Shortcuts were taken by workers and supervisors to address ongoing maintenance issues.
- The procedure which evolved to regularly inspect and attend to plant maintenance contravened the company's own documented risk controls.
- Our company failed to properly apply the hierarchy of risk control: Eliminate – Substitute – Isolate – Engineering – Administrative Actions – Personal Protective Equipment
- The management, supervisors and workers were not fully aware of the detail of Regulation 208.
- Inspection of the particular plant area for safety non-conformances was infrequent.

### Corrective actions

- Educate all workers within the workspace about acceptable guarding standards and the requirements of Regulation 208.
- Install transparent guarding where ongoing visual inspection is required.
- Incorporate electrical interlock guarding where frequent inspection and access is required so that any attempt to access will automatically shut off plant.
- Installation of additional plant to more effectively pre-sort waste to reduce stress on existing plant.
- Increased frequency of plant maintenance.
- Increased frequency of management inspection of plant guarding.