

Think ahead to engineered solutions

Two scenarios where an engineered solution prior to work would have practically eliminated the risk:

1. Dropped Object

During turbine refurbishment works, a 1.2m long scaffold pole, used for edge protection, was dropped and found its way through drop mesh between the turbine casing and floor, falling to the basement 15m below.

2. Broken 3rd digit of finger

When installing a smaller packing head to an IP casing of approximately 115kg, the packing head became unbalanced on the pallet as it was being positioned under the casing. The person on the inside, instinctively tried to stop its fall and caught their hand underneath causing the injury to their finger.

Taupo

What did we learn?

1. Drop protection to cover the area between the turbine lower casing and mesh floor has often focussed on smaller items such as bolts. Larger items such as tools often have lanyards attached so these are secure but not everything can have a lanyard connected. As the casing is made of steel, drop mesh is attached via duct tape across the majority of areas but this has its limitations on the weight it can hold and regularly requires refreshing.

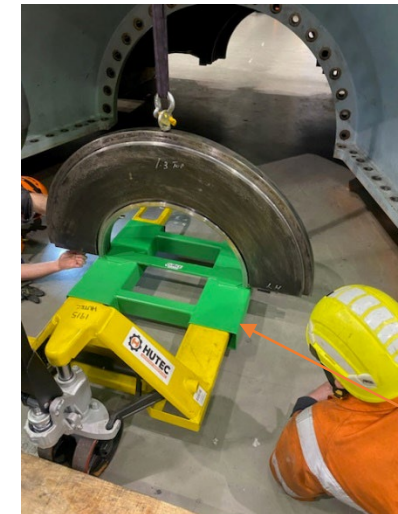
An engineered solution of a plywood kitset was built to fit across the area of concern. No additional modification required throughout the outage and can be used for future works

2. A smaller packing head on the IP casing requires fitment before installation (unlike the larger packing heads rigged and fitted directly from above the turbine). This smaller packing head has often been supported by dunnage or by persons when being installed.

An engineered jig was built overnight to be able to support this packing head, being fully stable once bolted from underneath



Plywood drop protection



Specialised packing head jig bolted from underneath