

Hydro Aluminium



Maintenance activities reduced down time by 54%

Selling close to three million metric tons of aluminium annually, Hydro Aluminium counts itself amongst the three major producers in the world. Since 1969, a large aluminium smelter has been operating in Kurri Kurri.

An important part of the aluminium smelting process is the conversion through electrochemical process of aluminium oxide to molten aluminium, which is carried out in huge smelting pots. These pots ultimately break down, needing repair. Hydro outsources the maintenance of the 360 pots (3 lines of 120) to SKILLED. SKILLED manages most related maintenance activities, a flexible workforce, spares inventory, materials and specialist sub-contractors.

Due to the nature of the works undertaken at Hydro, SKILLED established a site office within the aluminium smelter, which has strengthened our relationship with Hydro.

Hydro schedules production 24 hours per day, 7 days per week, producing 420 tonnes of

aluminium per day, with each smelting pot having a working life span averaging 1700 days.

To maintain the quality of the aluminium, to adhere to export standards, Hydro routinely assesses the purity of the aluminium produced by each pot. If a deviation is detected, Hydro bypasses the affected pot, reducing the plants capacity by approximately 1 tonne per day.

Once cooled, from 950 degrees Celsius, the maintenance crew are then deployed and charged with the task of rebuilding the effected pot. Prior to 2002, the average turn-a-round was 24 days.

To increase profitability of the plant, management of Hydro initiated a performance-based contract, challenging their maintenance provider to increase the efficiency of the plant by reducing the down time of each pot, which would increase the production of aluminium.

SKILLED was engaged due to their demonstrated experience in effectively managing maintenance in the manufacturing industry and their willingness to work closely with Hydro. A model was designed

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that allows for flexibility in resourcing.

Awarded the contract in 2002, SKILLED operates via a performance-based contract. The core crew manages the maintenance of each of the three pot lines. SKILLED is required to deliver a turn key solution within 13 days. If SKILLED completes the earlier than the 13 day maximum, SKILLED is rewarded.

SKILLED has achieved such efficiencies, which has allowed Hydro to maximise their productivity, through the minimisation of delays through:

- The appointment of an onsite planner that works closely with Hydro and subcontractors to manage workflow; and
- Through the removal of duplicate tasks, multi skilling and effective planning.

SKILLED coordinates a core maintenance crew of 45 that cover three shifts per day, five days per week. SKILLED is able to supplement the workforce when required to ensure Hydro experiences minimum downtime.

SKILLED has reduced downtime by 39%.