

OUTOTEC CUSTOMER eNEWSLETTER 1/2019

SOUTH EAST ASIA PACIFIC



CONTENTS

- Roaster Nyrstar Hobart, page 1
- Case Study - Kevista, page 3
- Business News, page 6
- Analysers - Top 8 sample flow problems, page 8
- Person in focus - Peter Nilsson, page 11

ASSET PERFORMANCE SERVICE AGREEMENT SECURED THROUGH STATE-OF-THE-ART REMOTE REFRACTORY DEMOLITION CONCEPT AT NYRSTAR HOBART, AUSTRALIA

Nyrstar Hobart is located on the western bank of the River Derwent in Hobart, Tasmania. The company is one of the world's largest zinc smelters in terms of production volume with a capacity of 285,000 tonnes. Zinc is converted from concentrate from their various mining operations: special high grade (SHG), zinc galvanizing alloys, and zinc die casting alloys as an outcome of their zinc smelting process for use in numerous different end use applications.

We were approached to perform shutdown services on the fluid bed zinc roaster #6, a 123m² nozzle grate vessel the beginning of 2017. The scope included refractory demolition of the upper vertical wall, descaling of accretion on the sloping wall and lower vertical wall, as well as removal of rubble and cleaning of the nozzle grate bed during a major shutdown.

For safety reasons, the refractory and wall accretion to the large roaster vessel had to be removed without human intervention, which was a concept that did not exist but not entirely new to us for such application. We, therefore, developed an entirely remotely operated demolition solution. Our proprietary product solution, Outotec® Roasting Refractory Demolition Platform, makes use of robotic demolition machines suspended on an H-frame within the roaster. Operation is conducted remotely and safely via camera by highly experienced operators ensuring no damage of the roaster insulation material.

Our remote concept was eagerly accepted by our customer upon the analysis of our value-based solution. The time restriction was very challenging and needed to be implemented and completed swiftly during the upcoming

CHALLENGES

- Personnel safety
- Confined space
- Time constraints

SOLUTION

- A remote concept without human intervention
- Correct shutdown scheduling for careful execution
- Experienced team with effective proprietary equipment

BENEFITS

- Demolition completed on time and without incidents
- Innovative demolition within confined space
- Minimal labor resources
- First class service for first of its kind roaster remote demolition worldwide



Outotec remote demolition robot machine and experienced operators

While not an entirely new concept to us, we custom-designed the remote demolition platform to fit in the wide diameter of 16m and the unique shape of the roaster vessel in which the machine needed to operate. In addition to, safety, speed and efficiency were crucial to minimizing the overall shutdown time, to enable our customer to return to production as soon as possible.

The frame was pre-assembled in front of the roaster, moved the roaster nozzle grate (roaster floor) then lifted to the upper vertical wall where the roaster vessel widened to a diameter of 16m, all without human entry in the confined space. This was accomplished by incorporating telescopic, hydraulic stabilizers to brace the frame against the vertical walls, creating the required support for the robot to operate. A second machine was mounted on the opposite side of the frame to balance the entire setup.

Despite weather delays during the critical shutdown period, our shutdown service was completed on time within the planned 10-day period without safety incidents, making Outotec the first company worldwide to accomplish a remote shutdown project on such a large vessel and in such confined space.

Our customer was extremely impressed with our ingenuity and execution meeting their needs in a fast, safe manner.

“A great effort with zero incidents, highly skilled operators and an excellent outcome”

— **stated Mark Breen, Turnaround manager, Mark Breen.**

Despite weather delays during the critical shutdown period, our shutdown service was completed on time within the planned 10-day period without safety incidents, making Outotec the first company worldwide to accomplish a remote shutdown project on such a large vessel and in such confined space.

During an unexpected shutdown at the end of 2016, our shutdown service team was able to get the plant operational several days faster than expected, due to their fast and immediate support at site, which was commended by Richard Curtis, Plant Manager, Nyrstar Hobart.

“We sincerely thank the Outotec team for all the support provided during our recent unplanned Roaster shutdown. We greatly appreciate the sacrifices that were made, the hard work and focus on safety during the Christmas and New Year period.”

Upon the completion of the shutdown service in June 2017 on roaster #6, we were awarded an asset performance service agreement, with a minimum contract period of 3 years, to provide shutdown services at both operating Outotec-designed zinc roasting plants.



Outotec Roasting Refractory Demolition Platform on upper vertical wall



Safe, remote cleaning and removal of rubble from roaster nozzle grate

Our technical expert team members are able to work alongside our sales resources to develop and deliver unique, industry-leading solutions. “We encourage sales to engage with our technical experts during the sales process”, Leigh Mercieca, Director of Shutdown Projects, Outotec.

TO DISCUSS FURTHER PLEASE CONTACT:
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