



Case Study

# BHP Drives Better Outcomes for Smelter Upgrade Project Through C.H. Robinson's Global Network of Experts



As part of BHP's plans to upgrade their nickel operations in Kalgoorlie, Australia, the company needed to replace the filtration system for their main stack. Careful coordination and precise timing were top priorities for BHP during this process to avoid additional shut down time. This required a well-developed logistics plan backed by people they could rely on.

## **Situation**

### **An upgrade for BHP's Nickel West facility**

BHP is recognised as the world's largest mining company. Accordingly, they have operations in countries all over the world. In Kalgoorlie, Australia, BHP processes sulphide ore. The ore is crushed and processed onsite to produce nickel concentrate, which is used by multiple market sectors across the globe including, but not limited to, global battery suppliers.



Proper gas filtration is a large part of their operations in Kalgoorlie. Because BHP's sulphide ore operations require very specific electrostatic filtering procedures, replacing the filtration system with the latest technology was an early step of a larger improvement plan for the facility.

BHP chose a manufacturer based in Ohio, United States, that was able to construct the filtration system in four shipments to be assembled and installed on location in Kalgoorlie. The completed units weighed 24.4 metric tonnes each. Even when moving in separate sections, the modules were still considered out of gauge cargo. Due to the production schedule from the manufacturer, the four shipments would span nearly 11 months from start to finish.

### **Success required careful coordination and timing**

As with any project of its kind, shutdowns are inevitable—and costly. The smelter in Kalgoorlie can produce 200 tonnes of nickel concentrate per hour. Every hour the smelter is inoperable can significantly impact the production schedule.

The installation of the filtration system upgrade had to be carefully timed to avoid as much downtime as possible. An early shipment delivery could cause just as many challenges as a late delivery.



*During our initial meeting with C.H. Robinson, it became apparent we had found professionals we could rely on.*

**Stephen Reynolds**  
Acid Plant Project Manager at BHP



## **Opportunity**

### **An initial shipping proposal**

Initially, BHP asked the manufacturer to handle the logistics of the move. The Ohio-based company proposed shipping from the Port of San Diego, which would require more than 3,700 kilometers of over the road transportation across the United States. From there, each shipment would also need transloading—leading to additional shipping time and the potential for damage from extra handling.

Stephen Reynolds, acid plant project manager at BHP recognised this as an opportunity to find a better logistics solution. "One of the reasons for our success is that we find people who know what they're doing. We're mining experts. When we started planning this project, we realised we'd need to find logistics experts."

### **The right logistics provider for the job**

C.H. Robinson's office in Perth is already part of BHP's daily shipping needs to and from Kalgoorlie, so it was a natural choice to work with C.H. Robinson's specialised project team in Melbourne for the four shipments of the filtration system.

"During our initial meeting with C.H. Robinson, it became apparent we had found professionals we could rely on," shared Stephen. "Our account



manager, Kane, and the whole C.H. Robinson team were easy to turn to for advice. We trusted them to coordinate the moves and keep us informed of the project's progress."

## Solution

### A logistics perspective brings a new solution

Once involved in the project, Kane and the C.H. Robinson team used BHP's priorities to analyse the situation and propose a different shipping scenario to the team at BHP.

Instead of using the Port of San Diego, as the manufacturer had originally proposed, C.H. Robinson recommended shipping the modules through the Port of Baltimore. While this choice would require the shipments to travel through the Panama Canal, it came with several other benefits:

- Reduced over the road transport in the United States to around 800 kilometers, which saved an estimated \$100,000 USD from the budget
- Eliminated the need for transloading, with all ocean transit occurring on one vessel
- Stowed freight under deck, using roll-on/roll-off, to protect it from the elements

Once in Australia, the freight would travel via flatbed trailer across 600 kilometers from the Port of Fremantle to Kalgoorlie. As the items were out of gauge, C.H. Robinson needed to secure necessary permits and coordinate truck transit times to ensure all laws were followed without foregoing the schedule.



*At times, keeping the project moving required almost daily updates. This was especially true when COVID-19 affected our plans for the third shipment.*

**Kane Dunleavy**  
Project Logistics Manager  
at C.H. Robinson



## Ah-Ha Moment

### Communication is key

Naturally, a multi-continent project move comes with many complexities. This means communication was key for the project. According to Kane Dunleavy, project logistics manager at C.H. Robinson, "At times, keeping the project moving required almost daily updates. This was especially true when COVID-19 affected our plans for the third shipment."

For the first two shipments, Kane was onsite in Ohio, Maryland and Western Australia, to oversee the loading and unloading of the freight. In addition to making sure the moves went smoothly, Kane took pictures of the process and sent live updates to the BHP project team as the loading was taking place.

### Overcoming COVID-19 disruptions

But as news of COVID-19 began to spread, and travel restrictions were put into place, Kane was unable to be onsite for the loading and transportation of the final two shipments. Instead, his team worked with surveyors and local colleagues at each port to ensure both loading and unloading went smoothly. Standard operating procedures developed from the first two shipments helped streamline this process.



*Thanks to the extraordinary team on this project, we completed the move on time and on budget*

**Stephen Reynolds**

Acid Plant Project Manager at BHP



The carefully laid plans for the third and fourth shipments could have been further jeopardised by lockdowns in Australia. Due to quick thinking and fast planning, BHP worked with the manufacturer and their own employees in Kalgoorlie to ship the third section a full seven days early. This small timing shift was significant in that it gave BHP much needed time to receive and install the section prior to COVID-19 lockdowns.

## **Outcome**

Ultimately all four shipments moved as planned without any delays. Because the logistics strategy was so well-developed in advance, the Kalgoorlie plant only needed to shut down for a total of 16 hours from the original planned 100 hours. By keeping the project on track, C.H. Robinson and BHP limited the Kalgoorlie plant's downtime and kept the larger upgrade process moving.

"Thanks to the extraordinary team on this project, we completed the move on time and on budget," stated Stephen. "We estimate the solution C.H. Robinson brought to our team successfully saved us a large portion of our initial budget for this part of the plant upgrade, which in turn allowed us to make other upgrades that would have only happened in the 2021 budget. With C.H. Robinson on our side, the project was everything we could have hoped for and more."

To learn more about C.H. Robinson  
visit [chrobinson.com](https://chrobinson.com), call **03 9644 7222**  
or email [info-oceania@chrobinson.com](mailto:info-oceania@chrobinson.com)