to asphalt at a total investment cost of $460,000. The effects of this improvement were immediate with increased capabilities in surface drainage, housekeeping and dust prevention. The key challenge in implementing this work was the flat terrain of the site, which is difficult to provide sufficient fall to install working drainage and make surface water flow where required. Significant time was spent grading and preparing the ground pre-asphalting to successfully direct water flow with very small margin for error.

Noise management

To effectively manage noise and ensure we continuously improve our noise emissions over time, we consider potential sources of noise across our operations and apply a long-term strategic focus. We implement effective plant maintenance, conduct ongoing reviews, improve noise control processes, and trial and adopt advancing technologies. A key driver in prioritising noise improvement opportunities is focusing on the areas of site that offer the best noise reduction outcomes for our neighbouring communities and developing an effective plan that delivers sustainable noise improvement over the long term.

Our employees and contractors are integral to our effective noise management. We invest in ongoing workforce training and education to ensure the awareness and management of potential noise impacts remains front of mind during operational activities. Ongoing regulatory compliance is demonstrated through our routine noise monitoring programme, this includes regular assessments of our performance by external consultants, against noise criteria and long-term goals. Throughout 2023, regulatory compliance was maintained in accordance with the noise related conditions specified in our project approvals.

Where regulatory criteria are absent, Port Waratah has developed stringent internal noise goals to measure and monitor our performance. Performance against our internal noise goals continued to improve in 2023, with only one minor elevated result recorded at the Carrington Terminal's closest residential monitoring location. The elevated noise level was recorded at our Tighes Hill receiver over the night period in May 2023, and was influenced by several factors, including proximity to our site and weather that produced conditions that increased noise levels at the Tighes Hill location.

Noise management improvements

Low-noise roller trials have been ongoing at both Kooragang and Carrington terminals. More than 60 rollers have been replaced on a conveyor at the Kooragang Terminal wharf as part of the trial. In early 2023, the ongoing trial was assessed and after 16 months of use, the low-noise rollers demonstrated a sustained 2.7dB reduction in sound power. Following these results, the Kooragang trial will continue to be monitored and assessed for sustained noise reduction and operational performance.

Similar to Kooragang, the Carrington low-noise roller trial has continued to demonstrate sustained reduction in sound power. These results, combined with durability and ergonomic assessment outcomes, will be used to determine long term suitability for implementation at other locations across our operations.

In mid-2023, Port Waratah commenced working collaboratively with a noise specialist to develop and trial a real-time operational noise model aimed to quantify our current and forecast noise levels based on what is or what will be operating onsite, where it is operating, and how weather conditions will impact those noise levels. The trial will determine if the technology will support our teams to proactively manage our operations.

Throughout 2023, Port Waratah developed a new business wide five-year Noise Improvement Strategy. The early focus of the strategy is embedding expanded internal capabilities, new technologies, and re-baselining noise performance at both Carrington and Kooragang terminals.

CASE STUDY

Performance dashboard for community available online

Each quarter, Port Waratah publishes a Community Dashboard on our website to provide regular updates to the community about our operational and environmental performance.

The dashboard highlights a three-month snapshot that focuses on air quality, noise performance and water management. It also includes year-to-date results for water reuse, electricity efficiency, the number of trains and vessels received, and tonnes loaded for export.

Our Community Meeting Group members worked collaboratively with us to develop the dashboard to include information relevant for local residents and of high interest to stakeholders.

The dashboard is published on the website in February, May, August and November each year.

HOW PORT WARATAH MANAGES NOISE

At Port Waratah we work to identify and continually reduce potential noise impacts

TO REDUCE CONVEYOR NOISE WE UTILISE:

- ✓ Low-noise conveyor drives
- ✓ Regular roller changeouts

TO REDUCE COAL-FLOW NOISE OUR TRANSFER POINTS:

- ✓ Utilise soft-flow chutes
- ✓ Minimise drop heights
- ✓ Are fully enclosed, where possible

All these systems **work together** to make sure that we manage noise **before it becomes an issue.**

OUR TECHNOLOGY UTILISES:

- ✓ Site-specific noise models for each terminal
- ✓ Detailed sound library of all plant and equipment
- ✓ Measured onsite weather conditions
- ✓ Local geographic simulations
- ✓ Recorded operational noise levels in the community

OUR PEOPLE:

- ✓ Proactively assess noise levels in neighbouring suburbs
- ✓ Design and implement continuous improvement projects
- ✓ Are empowered to make decisions and respond immediately to reduce noise