



THE STAFF NEWSLETTER OF THE TRANSPORT GROUP - ALSTOM NEW ZEALAND. ISSUE 38, MAY 2005

NEW BRAKE TESTING SYSTEM HONES IN ON FAULTS

Maintainers may have a valuable new tool to incorporate into their visual brake inspections on wagons.

ALSTOM quality improvement engineer, Mark Wilson, has designed a tool to verify if the hand brakes on wagons are working as advertised.

The device is comprised of a small load cell in a custom housing which replaces the brake block during testing.

"It's a way to check the actual performance of

the wagon brakes. It gives you a numerical reading of how much force brakes are exerting on the wheels."

Mark built the device using an off-the-shelf electronic meter and sensor encased in a custom built housing.

"It gives you an instant indication if everything is performing as it should."

Mark has made six so far which are being trialled at the Wellington and Addington wagon depots.



FOCUS ON WAGON WHEEL BEARINGS

A number of options are being considered to minimise the risk of wagon bearing failures.

ALSTOM general manager business improvement, Bill Pala, is facilitating and training the bearing failure project team to use the internationally renowned Six Sigma benchmark for quality for bearing service and inspections.

Six Sigma takes its name from the statistical term, "Sigma", which describes how far something deviates from a set standard.

"Six Sigma quantifies failures in terms of one million opportunities. We look at historical data and establish the root cause of the failures and look at fixing it and hopefully preventing it from re-occurring."

There are approximately 34,000 wheel bearings in service which are inspected, on

average, every nine months.

When 9.4% of all wheel bearings were inspected in December 2004, 0.5% was found with loose backing rings. Defective grease leaks and locking tabs were discovered with 0.1% each. This equates to a sigma process level of 4.3 (i.e. around 250 defects per million opportunities).

If the project team can initially reduce these defects to around 50 then they would have achieved a sigma process level of five. The aim of the project team is to achieve a Six Sigma process level, thus reducing the risk of significant failure to one in eight years.

Over the past couple of years, Hutt Workshop has put considerable effort into updating and improving the bearing overhaul practice. This includes getting the right tools, gauges and fixtures, and ensuring the components being used are purchased or re-qualified to best practice.

Chris Wakeling is project leader of the Six Sigma implementation.

"We believe loose backing rings or bearings leaking grease can indicate the risk for a potential failure. The idea is to reduce the number of

premature failures by assisting the people in the field to identify these issues readily."

Wheel set bearings are intended to last for the 10-year lifespan of a wheel set.

Bearings can fail as a result of loose components as well as lack of lubricant and other component failure modes. Significant numbers of bearings in service have loose end cap bolts. Checking the tightness of these bolts for the whole wagon fleet or specific fleets is one option. More frequent bearing inspection and overhaul would reduce the risk of bearing failure.

It will take around 10 years to overhaul all the wagon bearings to the new standard with the current time period between overhauls.

All ALSTOM staff that inspect and maintain wheel bearings have recently been trained on the new gauges for bearing adaptors and post-derailment inspection.

ALSTOM is also keeping a close eye on the use of new technology overseas.

Some countries have experimented with installing automated wheel-bearing monitors alongside rail tracks. The Hot Bearing Detector (HBD) system and the Acoustic Defective Bearing Detector (ADBD) have had varying levels of success. The ADBD is able to detect defective bearings before they heat up but also raises a high level of false alarms and has a significant initial cost.



ACC PARTNERSHIP PROGRAMME AUDIT IN PROGRESS

Onsite internal safety audits will take place at the loco and wagon depots at Westfield on 24 and 25 May as well as the Dunedin depot on 26 May.

These assessments are critical to check the systems in place responsible for creating a safe workplace and to maintain ALSTOM Transport's participation in the ACC Partnership Programme. Under the programme, The ACC quantifies hazard management capabilities and then allows ALSTOM to manage its own work injury risk. Over 180 large employer organisations or about 25% of New Zealand's employed workforce take part in the programme. Although this is an internal audit, it is being conducted by an ACC approved assessor. The external audits, conducted by the ACC will take place 26-28 of July at a location to be determined. ALSTOM's partner in the programme is WorkAon which manages any workplace injury claims and rehabilitation. ALSTOM has qualified for the secondary level in ACC's Partnership Programme.

ACC account manager, Rod Smith, said that shows ALSTOM has a certain level of safety systems and processes in place.

"Before we grant that status to an organisation, we expect to see injury prevention and management systems that are of a suitable standard. ALSTOM has very good hazard identification and return to work practices."

Risk engineer Trevor Rees has been working with ACC to facilitate the current audit process.

"When you're not having serious harm accidents, everyone benefits. Basically what happens with the programme is making

people more aware of things and how to manage things. The idea is to get them rehabilitated and back into work and get movement as soon as possible."

WorkAon process posters are posted up all around offices and depots detailing where people need to go in the event of an injury and how to manage it.

Trevor said the audit is to determine if the system is working.

"They want to know, did the injured party get treated well? Were they happy with how we looked after their rehabilitation process?" The audit is divided into two parts.

THE FIRST PART COVERS:

- ▶ employer commitment to safety management practices.
- ▶ planning review and evaluation
- ▶ hazard identification assessment and management.
- ▶ information training and supervision
- ▶ incident and injury recording and investigation
- ▶ employee participation in health and safety management
- ▶ emergency planning and readiness
- ▶ protection of employees from onsite work undertaken by contractors and subcontractors
- ▶ workplace observations.

The second part assesses the management of injuries.

Trevor said he is confident ALSTOM's extensive safety programme will prove to be robust.

The long term injury rate has reduced considerably since the inception of the ALSTOM contract with Toll Rail and that pattern is set to continue.

POWER ASSEMBLY NOW WITH LEANER AND MEANER JIG

The cunning people at the ALSTOM power assembly plant have managed to turn a Cummins engine rebuild stand into a fully-customised cylinder jacket overhaul jig that uses the Lean Production principles.

The new jig was designed to be a workstation which jackets can be mounted onto for overhauling.

Special projects Manager, Alastair Horsfield, said the jig represents a significant improvement in workflow.

"We used to overhaul the 220kg jackets on the ground using cranes to move them around. Now everything a person needs to do the job is found on the jig - from parts to consumables to tooling."

The jig allows the operator to rotate the jacket around and perform all the overhaul operations much more easily. It is portable and is moved around using a fork lift.

The new jig is part of the power assembly plant's conversion to Lean Production methods. Lean aims to eliminate wasted activities which do not contribute to the end product thereby increasing productivity.



Alastair is also obtaining some specialised handling devices from the United States used for transporting and manipulating liners.

"They will allow us to rotate and spin the liner and transport it more easily."

Alastair is trying to cover as many lean principles as possible so the power assembly plant will be an example for other areas of the workshop to follow.

"It's really the first serious implementation of lean here. It has been a bit of a mission because it was almost a start from scratch. Taking it through from concept through to final picture has been a bit of an evolutionary process."

But things are progressing. An internal store room system has already been put in place.

"We have a miniature store in our group to supply parts to the entire group. It is all leaned out and colour coded. We have three storage racks. One for stripped and cleaned but not qualified another for qualified material and the third for new material."

Once additional equipment arrives from overseas and the final painting is complete, the 50 by 20 metre workshop will be totally outfitted according to Lean Principles.



GREAT NEWS !

After some seven months of extensive negotiations with Toll Rail, I'm delighted to report that David Jackson and I signed a deal on 12th May.

This agreement covers:

- ▶ An agreement by Toll that they will have no objection to the transfer of our Maintenance Contracts to United, at the time that the sale is completed.
- ▶ An extension of the Wagon Maintenance Contract, from 1 July 2005 to 22 March 2009.
- ▶ A settlement of all outstanding contractual claims.
- ▶ An agreement to change the form of our Locomotive Maintenance Contract from lump sum to target price, effective from 1 June 2005.

SO WHAT DOES THIS MEAN FOR US?

First, it means that Toll will not object to our sale to United, which will allow us to continue our work maintaining their locomotive and wagon fleets.

Secondly, it provides certainty and security for all our people, and in particular our Wagon team.

However, David Jackson and his team are rightly expecting to see significant benefit for Toll in exchange for his signature on the agreement.

We all know there have been times when our performance has been poor and this made it more difficult for Toll to commit to an extended and continuing relationship.

In Toll we have a customer who is committed to make the NZ rail business work. They need safe, reliable and available rolling stock to please their customers, and to secure even more business for rail. We are fundamental to their success, and must never forget it. Our behaviour must at all times be geared to excellent customer service.

GOING FORWARD THEN, WHAT NEEDS TO CHANGE ?

- ▶ A determination at all levels to improve our productivity and efficiency. This translates into finding better ways to do things, purchasing through better deals which drive down costs and improving quality so rework is eliminated.
- ▶ A drive to continuously improve reliability across all fleets under our care, to minimise breakdowns and their effect on our customer.

This translates into a target of 40,000 km/failure for the locomotive fleet, and a reduction of 30% in the number of wagons stopped for reliability failures. These targets will be subject to review within a spirit of continuous improvement. We are currently defining a target for the Auckland Passenger Fleet.

- ▶ We must strengthen our management of safety, through the introduction of the Du Pont system of risk assessments.

This will ensure we can continue to drive down accidents through prevention, entailing a zero tolerance approach to unsafe acts and unsafe working conditions.

- ▶ Fostering a culture of continuous improvement, where we're never satisfied with our current performance, and are always looking for ways to do things better.

In line with this, our quality management system is being improved, and we expect to be accredited to an international standard for environmental site management within the next 12 months.

Our management team are currently setting targets for cost, down-time and quality. These will be translated into workable plans to ensure we can deliver the improvements.

I will ensure everyone is aware of the targets and plans, and you will have input into them through the LCCs.

Our customer has shown they are willing to continue working with us to improve the rail system in NZ – we will not let them down, and I look to you all to both propose and support new initiatives going forward, at all levels within our organisation.

SALE

This continues to move forward, and there are signs of completion being not too far away. As always, I'll let you know details as soon as they hit my desk.

Once the Sale is complete, we plan to hold a number of roadshows, involving myself and senior representatives of United, at a number of sites across both islands.

Our intention is to visit as many people as possible, with a separate briefing from myself for the few who we won't see.

TORQUE TRANSPORT

Part of our drive to cut cost will entail a significant reduction in our overheads. Sadly, this means we have to reduce Torque Transport to quarterly, with two more issues this year.

Mike Yeoman

MOBILE PDA TO HELP KEEP THE WAGONS ON THE MOVE

Mechanical engineer level five, Lindsay Proffitt, has begun using his mobile PDA to receive e-mails while on the move.

Lindsay maintains wagons between Taumarunui and Karioi and said his new PDA helps him in every way possible.

"I don't have to go to a railway station to access AMICUS. It's with me at all times and just twice the size of a cigarette packet."

Lindsay said the mobile PDA is being set up so that he can place bad orders on wagons and obtain wagon repair work that is required to be done on a daily basis.

"It is a very valuable machine and when the system is completely up and running, it will be even better," said Lindsay.

Project manager Chris Wakeling said the intention is to make it so Lindsay can

dial directly into the ALSTOM network.

"We're currently e-mailing a file out to him every day. Ordinarily, the file would have to be faxed to Taumarunui for Lindsay to pick up," Chris said.

The hand-held device utilises the standard Windows CE operating system used on palm pilots.

Lindsay has been with the railway for 36 years. He maintains the Karioi wagon fleet that travels 600km each day.

"Wood chip comes up every day from Masterton and Upper Hutt to feed the Karioi pulp mill. A train carries the pulp back down to Wellington port where it's exported to China, Japan and Korea for making paper."

The mobile PDA doubles as a mobile phone and is one more tool Lindsay will have to keep the vital supply-line moving.



COMPREHENSIVE TRAINING PLAN BEING DEVELOPED

A new training plan is being developed to determine the individual training needs of each ALSTOM employee.

Risk manager, Mark Dingle, and Training Manager, Alex Currie, have been liaising with business managers and service managers to determine what training is needed so that a comprehensive plan can be developed.

Alex said a spreadsheet has been sent to managers with a list of all staff and the range of training programmes available for each person, so they can give feedback on the number of people to be trained and the type of training required.

"As soon as we formulate this plan, which should be by the end of May, we can then start rolling out the specific training packages."

The training plan has been divided up into three categories: technical training that will include both electrical and mechanical systems for locomotive and wagon classes; health and safety related training that will include the ALSTOM certificate in health and safety in the workplace; and management training that will include a range of

topics and skills for both middle and higher level management.

Technical training courses and the health and safety programme will be delivered in-house using a range of presentation methods. The management training courses will be outsourced to a specialised off-site training provider. The courses will be based on NZQA unit standards wherever possible.

"We need to see what type of training is required for how many people and then lay out courses to suit. We have pulled together a whole raft of programmes and materials over the past 18 months. Once we have assessed feedback a comprehensive plan, covering the next 12 to 36 months will be finalised. What I don't want to do is promise something that we cannot deliver."

Alex said that this plan will be focused on the individual needs of all staff and provide clear pathways for new employees in ALSTOM Transport.

This will ensure that ALSTOM employees have the sharpest skill-sets possible to respond to Toll Rail's needs.



AND THE WINNER IS...

Congratulations to LANCE LUCAS from the MOUNT MAUNGANUI depot who is the winner of the Torque Transport April competition. Lance was only two points off the final score of the Highlanders and Hurricanes match on 22 April. The Highlanders scored their first-ever win at Westpac Stadium beating the Hurricanes 26-16. Lance had them at 27-17. HE RECEIVES A \$50 GIFT VOUCHER FROM THE WAREHOUSE.

DR CULLEN AND DAVID JACKSON TOUR HUTT WORKSHOPS

Finance minister, the Hon Dr Michael Cullen, and Toll New Zealand CEO, David Jackson, went on a tour of Hutt Workshops at the end of April to familiarise themselves with the latest goings on at ALSTOM's largest workshop.

Dr Michael Cullen's senior advisor, Chris Mackenzie, said they were most impressed with the locomotive refurbishment operations.

"It was interesting to see how you can rehabilitate a rusty piece of metal into a modern locomotive which can take off out on the tracks."

The visitors were given a full presentation by Hutt Workshops business manager, Brian Fearnley, before being introduced to various team leaders and engineers.

Team leader, Andrew Shipp, gave the tour of the wheel set production area. Andrew showed the progression of the wheel sets as they are manufactured and the machinery involved.

Production planner Karl Boutery then took the visitors on a tour of the ARC passenger locomotive reinstatement line to have a look at the prototypes of the ADK passenger cars. On the locomotive production line, team leader, Peter Mason hosted an inspection of DX 5241 which is having a BrightStar retrofit and mechanical engineer, Robbie Burns, led a tour of DXB 5206 which is having a full overhaul as well as a BrightStar refit.

Team leader, Chris Richardson, then explained "rotten row" and showed how locomotives are fully overhauled and reinstatement into the fleet.



Dr Cullen is a shareholding minister in the New Zealand Railways Corporation, (NZRC), OnTrack. Chris said that Dr Cullen was interested in seeing how such a major employer like ALSTOM was doing to deal with staff shortages and training.

"The presentation that ALSTOM gave to the Minister was thorough and easily understood. We came away with an understanding of ALSTOM's employment and training issues." Chris said they appreciated how ALSTOM is continuing to engage and up-skill the workforce as technology continues to advance.



DXR 8022 UPGRADE TO FEATURE MODULAR CAB

As part of Hutt Workshop internal reorganisation prototype loco DXR 8022 now comes under the control of the locomotive centre. Elwin Bosma has been appointed as acting Project Planner.

The DXR will feature the new modular cab. Elwin said that the finalised modular cab would be easy to fit on any DX loco, and will be the prelude to when the DXR production run commences in

December this year. Because the modular cab is new, all wiring plans have to be sorted out and finalised to make the installation of the new cab as flawless as possible.

In addition to the newly designed cab the DXR has had its underframe straightened and, also as part of the new design, is getting new style hoods and a new short nose. As part of the BrightStar traction control system it will get a horsepower upgrade from 2700 to 3300 and will be fitted with upgraded A24 traction motors.

The loco will soon be undergoing a trial-fitting of all major components including the hoods to make sure all dimensions are correct and all its new parts fit together before the final assembly takes place.

The target pass out date is 31 October, 2005.



PICK THE SCORE AND WIN!

WARRIORS TAKE ON THE DRAGONS

Be in to win at WIN Stadium on Saturday 4 June. Have your final score predictions in to Christine Meads by midday 4 June for your chance to win a \$50 voucher from The Warehouse.

E-mail: christine@hansenmccconnell.co.nz
Fax: 09-918-8145 or mail your picks to
PO Box 97 140, Manukau City.



TWO NEW MECHANICAL ENGINEERS AT WESTFIELD

THE WESTFIELD DEPOT HAS RECENTLY TAKEN ONBOARD TWO NEW EXPERIENCED MECHANICAL ENGINEERS.



MIKI TINI previously contracted to TranzRail has decided to return to the rail industry. Before coming to ALSTOM, Miki worked for Tecc in west Auckland as a sales representative. But he said his previous experience in rail influenced him back into the trade.

"My first day back on the job was a big learning curve. It was like learning all over again – getting

back to basics."

Miki is from Port Waikato and now lives in Papatoetoe.

VALENTIN BUCCO worked on track maintenance for Transfield Services before joining ALSTOM. Valentin has four years of mechanical engineering experience from his native Romania and said he has now 'found his feet' working with rail wagons.



CHECK OUT THE 'SUPPLY CHAIN SIZZLE' - by Noel Gessler

FOR THE LATEST NEWS ON WHAT'S OCCURRING IN THE SUPPLY CHAIN

DEMAND & SUPPLY PLANNING SERVICES

Traction Motor Planning & Outsourcing Initiative Update

- ▶ The Supply Chain Group has put together an outsourcing plan which involves working with ABB, Australia and ALSTOM Engineering Group, NZ regarding the repair of the 16 D29 traction motors.
- ▶ 16 Traction motors have been shipped to ABB as of 29/04/2005. Engineering will be reviewing the scope and work with ABB in week of 6 May 2005.
- ▶ 20 additional un-refurbished DX traction motors will be shipped to Toll Rail, Lower Hutt based on a request by our customer. These traction motors will be forwarded by Toll Rail for re-manufacture in China.

Logistics Integration Initiative

- ▶ The Supply Chain Group is involved in an initiative to improve the data flow from our logistics freight forwarder Toll International into our MAXIMO system so that improved information of dates of delivery of parts is readily available. Update: From further discussions with Toll International, this integrated data flow will be trialed with the EMD/GM orders.
- ▶ The Supply Chain Group purchasing team now has access to the Toll International's tracking web portal, which has been installed as an initial trial in conjunction with Toll International. This allows the tracking of all containers and shipping related to the TGNZ purchased orders. This will be further expanded as the portal develops, in conjunction with Toll International.

Warehousing Services

- ▶ An initiative is in the early stages of development to further improve inventory accuracy by determining the causes and setting actions to correct these for 113HUT & 113HWS-using data from the cycle counting process implemented last year.

ALTERNATE SOURCING & PURCHASING SERVICES

The Supply Chain Group is continuing to move forward with the Strategic Procurement initiative started in 2004. This will involve some of the following activities namely:

- ▶ Revisiting alternative materials in conjunction with the engineering group
- ▶ Working with the global sourcing manager, Australia and ALSTOM Parts Group, Australia to enhance further price reductions and alternate sources.
- ▶ Trialling components in conjunction with the Engineering group

SUPPLY CHAIN PEOPLE:

- ▶ The Supply Chain Group is pleased that Campbell Gray is back at home after his recent heart problems and will be returning to work in May. In the interim, his activities are being handled on a rotation basis to allow several of the warehouse staff to gain experience in this type of work for future personal development.
- ▶ Due to the extreme importance of master data management within the MAXIMO system, the Supply Chain Group is currently looking to recruit a central master data analyst to be based at Lower Hutt as part of the Supply Chain Data Management team.