Australian Industry WINS!

WTIA National Diffusion Networks Project (NDNP) funded by the Federal and State and Territory Governments and industry

SUCCESS STORY NUMBER RO6: AXLE BOX REPAIR HAS POTENTIAL FOR EXTENSIVE SAVINGS – *In a project identified through a WTIA Product and Process Review, weld repair procedures for Queensland Rail have proven cost effective*

Product and Process Reviews

Activity 12 of the NDNP involved conducting a Product and Process Review (PPR) for each of the participants in the Industry Sectoral Projects (ISPs) or, on request, their suppliers or contractors. The common outcomes and issues identified from the PPRs, combined with the feedback from SMART Industry Groups and industry through Technology Forums and other feedback, gave WTIA a profile of the current needs of each sector. These identified needs could then be addressed by a number of means, including Technology Demonstrations, free technical support and the creation and distribution of a range of Expert Technology Tools.

Queensland Rail

As a member of the Rail Industry Sectoral Project, which is supported in Queensland by the Department of State Development, Trade and Innovation, Queensland Rail (QR) requested PPRs to be conducted with both their Redbank and Rockhampton facilities.

At Rockhampton, the objectives of the review were to:

- Determine QR's conformance to national and international standards;
- Assess QR's operations against current industry practice; and,
- Identify areas where product or process improvements can be made in order to improve the efficiency, safety and competitiveness of QR's operations.

Axle boxes

One area where it was found that welding technology could possibly play an important part was in the reclamation of cast axle boxes.

Currently thousands of axle boxes are being scrapped annually due to worn bores which take the boxes out of bearing seat tolerance or alternatively due to wear on the crown area of the axle box. These could be reclaimed, by welding of the head or crown areas and internal bore cladding of the bearing journal areas. This can be preformed on both the cast steel and cast iron axle boxes.

A cost benefit analysis based on the large volumes of axle boxes involved was carried out to establish the feasibility of weld reclamation and associated machining versus new cast axle boxes.

It was found that repair would be cost effective, and WTIA Queensland Technology Manager Leon Rosenbrock, Coordinator of the Rail ISP, worked with QR staff to develop welding procedures appropriate to the various axle boxes.

After extensive testing, a number of repaired boxes are now in service and Mr Andrew Nelmes, QR Principal Engineer, commented that "This trial represents an large potential benefit to QR's business in terms of prolonging component lifetime for wheelsets that utilise axle box technology."

For further information contact: The Technology Transfer Coordinator, WTIA PO Box 6165 SILVERWATER NSW 1811 Tel: 02 9748 4443 Fax: 02 9748 2858 Email info@wtia.com.au