

## Success Stories from the WTIA SMART TechNet Project

SUCCESS STORY NUMBER 5: HOT TAPPING HIGH PRESSURE GAS PIPELINES – NSW small company Specpipe Technology operates in an industry where technical problems have the potential to cause costly down-time and potential damage and injury. Knowing that expert WTIA technical advice is only a phone call away helps the company to remain competitive.

### The background

Specpipe Technology Pty Ltd is a small New South Wales company specialising in high-pressure pipe welding. After attending a OzWeld Technology Forum, the In-Service Welding International Conference, the Specpipe Technology team decided that they had the skills in-house to do that kind of work, and that it was a growth industry in Australia that would provide significant business opportunities.

### In-Service welding

In-service welding involves welding onto high-pressure gas pipelines without disrupting the flow of gas. This process is referred to as 'hot tapping'. "There is an obvious risk in applying heat to live gas pipes, so there are a large number of industry guidelines and standards documentation that must be followed. These are critical welds that simply cannot fail," said William Spence, Operations Manager for Specpipe Technology.

*Failures can be expensive! An in-service welding failure on the James River Interchange in 1992 in the USA cost an estimated US\$9M.*



Welding of 350 mm nominal bore stopple tee

### WTIA specialist assistance

A significant amount of testing and simulation needs to be done prior to commencing work to ensure the safety and longevity of the weld. Specpipe Technology called on the help of Paul Grace from the WTIA.

WTIA supported Specpipe Technology with:

- evaluation of pipeline operating conditions
- modelling of pipeline parameters to ascertain the heat transfer characteristics of weld cooling rates
- assistance with welding operator training to achieve required heat energy inputs
- development of welding procedures
- supervision of on-site in-service welding operations to ensure code compliance

By utilising the expertise available to them through the resources of the WTIA and the OzWeld Technology Support Centres Network, Specpipe Technology has been able to capitalise on the skills of their management and technical personnel to break into a new business area utilising leading-edge technologies.



Preheating, temperature checking and monitoring on 500 mm nominal bore stopple tee

### The benefits to industry

In Australia, pipeline owner-users, such as SMART Pipeline Industry Group members, are heavily dependent upon subcontractors to conduct in-service welding operations safely and efficiently.

WTIA is working closely with Australian SME sub-contractors to ensure the industry is updated with the latest technologies and assisted in their implementation, ensuring savings to the industry, improved safety and also helping to keep contracts within Australia.