

## Case History

### Remote Pressure Vessel Inspection (BHP – Macedon Gas Plant)



#### The Challenge

Industry guidelines require internal inspections of pressure vessels on a periodical basis.

Recommended practice is to open the vessels, prepare them for man entry (under confined space entry procedures), and enter the vessels to carry out a detailed inspection. This methodology was going to be time consuming, labour intensive and was going to introduce additional safety risks during the Macedon Shutdown.

The challenge was therefore to provide an innovative technique (for selected vessels) that would be safer, reduce out-of-service time, reduce costs, and deliver equivalent or better inspection data than human entry methods.

#### The Solution

EM&I proposed a solution to use our remote inspection equipment, NoMan<sup>®</sup>, normally utilized for tank inspections on offshore facilities, to undertake the inspections without putting people in the vessels.

EM&I provided a multiskilled team of inspectors from within the EM&I global alliance, who were competent plant inspectors as well as operators of the NoMan equipment. This multiskilling reduced manning levels.

The team's task was to inspect the selected vessels and obtain high-definition visual inspection data to provide both general visual and close visual inspection data for the BHP and EM&I engineers to enable analysis of any defects and to provide assurance on the integrity of the vessels.



#### The Outcome

The outcome was that BHP were able to inspect the internals of their selected pressure vessels and meet the regulatory requirements with reduced HSE risk, costs and shutdown duration by using the NoMan remote inspection system.

Remote laser scanning is being planned to increase the data content to include inspection for distortion and measurement of internal components.