

### **Replacing failed low-temperature insulation with Armaflex Cryogenic Systems**

*Maximum functional reliability and high cost effectiveness*

**Münster, 5 May 2014 – The APA Group is Australia's leading gas transportation business. With over 14,000 km of natural gas pipelines across mainland Australia and various gas storage facilities, APA delivers approximately half of Australia's gas use through its infrastructure. In Dandenong, a suburb of Melbourne, APA operates an LNG (liquid natural gas) storage facility with a fully contracted capacity of around 12,000 tonnes. The facility injects liquid gas into the APA-operated Victorian Transmission System (VTS) to meet peak winter demands and also provides a truck loading station for LNG tankers.**

#### **Maximum functional reliability and high cost effectiveness**

In 2012, the disintegrated insulation on some LNG pipelines had to be replaced. The insulation had failed and when the pipelines were operated icing often occurred on the surface. Employees from the insulation firm Insulmet Pty Ltd (Moe) first had to remove the decayed cellular glass insulation and clean the pipes thoroughly. APA specified Armaflex Cryogenic Systems made by Armacell for insulating the pipelines. These flexible insulation systems were specially developed for cryogenic applications at temperatures ranging from -200 to +125 °C. The multi-layered systems ensure exceptional thermal insulation, reduce the risk of corrosion under insulation (CUI) and allow considerable cost savings during the installation process. The core of the new insulation system is Armaflex LTD, a specially developed polymer that prevents thermal stress. Armaflex Cryogenic Systems retain their flexibility even at extremely low temperatures. This flexibility ensures that vibrations and impact are absorbed and the risk of cracking as a result of extreme temperature cycles or external mechanical strain is prevented. An important advantage of the cryogenic foams is that the systems need neither additional expansion joints nor vapour barriers. This reduces the installation time significantly in comparison to traditional cryogenic insulation systems.

Two layers of Armaflex LTD with an insulation thickness of 25 mm and three 25 mm-thick layers of Armaflex were applied on the LNG pipelines of the APA facility and then clad. Before the installation work began, the six insulators from Insulmet received training in the application of Armaflex Cryogenic Systems from an Armacell employee. In May and June, the insulators installed a total of over 1,000 m<sup>2</sup> of Armaflex Cryogenic Systems sheet material and some 360 m of tube material.

#### **Mark Swift, Armacell Head of Technical – Engineered Systems:**

'Storing and transporting cryogenic media such as liquid natural gas requires highly efficient insulation materials. With Armaflex Cryogenic Systems Armacell provides the most cost-effective solution that ensures high functional reliability for this field of application. This is made possible by using a special polymer technology which minimizes thermal stress.'

*Armacell is a manufacturer of engineered foams and the world leader in the market for flexible technical insulation materials. In the financial year 2013, the company generated an annual turnover of 500 million euros. The group employs around 2,500 people and has 20 factories in 13 countries. It is headquartered in Münster, Germany. ARMAFLEX is the leading brand in the field of flexible technical insulation. The company also produces thermoplastic insulation materials, covering systems, fire protection and noise control solutions as well as special foams for a multitude of industrial applications. Over the last two years, Armacell has developed new insulation systems for the oil and gas market, core foams for composite materials, and low-smoke products that are setting new standards in the industry. Further information on the company can be found at [www.armacell.com](http://www.armacell.com).*

**Captions:**

- (1) The multi-layered Armaflex Cryogenic Systems ensure exceptional thermal insulation, reduce the risk of corrosion under insulation (CUI) and allow considerable cost savings during the installation process (Photo: Armacell)
- (2) The insulators from Insulmet Pty Ltd (Moe) received training in the application of the new Armaflex Cryogenic Systems from Armacell (Photo: Armacell)
- (3) Mark Swift, Armacell Head of Technical – Engineered Systems (Photo: Armacell)