

# AG&P announces integrated plug-and-play solutions for LNG supply network in Asia

### New, standardized solutions will drive down production costs and accelerate delivery

**Tokyo, April 4, 2017** – AG&P (Atlantic, Gulf and Pacific Company), the global leader of infrastructure solutions, today announced two standardized modular products for the LNG supply network that will drive down costs, accelerate schedule and enable last-mile delivery to LNG demand centers scattered across Southeast Asia, South Asia and the Caribbean.

Speaking at Gastech 2017, the company presented designs incorporating standardized equipment to deliver a scalable LNG delivery platform and a fit-for-purpose, onshore modular regasification unit. These 'plug and play' packages, based on standard solutions, are built in AG&P's dedicated, state-of-the-art, 150-hectare modularization facilities which helps speed delivery times and significantly reduces the cost of customized engineering and project man-hours while increasing productivity and quality. Cost-effective and built for transportation across the world, AG&P believes these off-the-shelf products have the potential to bolster the small and mid-scale LNG market. Key benefits include:

## Scalable LNG delivery platform

- AG&P has focused on optimizing the storage and marine design to drive cost efficiencies and adoption
- Selection of shallow draft barge design and conventional vessel hull design allow for fixed cost hull construction over a scalable range, typically:
  - Platform 1: 4,000 to 8,000m³
    capacity for shallow water delivery
  - Platform 2: 6,000 to 16,500m³ for open water delivery
  - Utilizes identical hull design and equipment from 6,000, 7,500,10,000 up to 16,500m³
- Products utilize existing GTT hull designs specifically configured to optimize membrane tank configuration
- Geometrical membrane tanks are standardized which reduces re-engineering costs
- Detailed designs are completed by AGP/GET, integrating standardized equipment/technologies and prefabricated in our manufacturing facilities in Manila, Philippines,
- All kits, including accommodation fitments and bridge equipment are standardized packages

# Onshore modular, standardized regasification unit

- Modularized and pre-commissioned in our state-of-the-art facilities in the Philippines
- Each unit consists of:
  - TEMA NJN plate and tube exchanger utilizing indirect glycol/water heat transfer
  - Uses configuration of 125mmscfd process train, typically, in 250mmscfd modularized package
- Each individual 250mmscfd module consists of:
  - o High-pressure pump
  - Tube and shell exchanger
  - o Boil-off gas (BOG) recondenser
  - o HIPPS
  - ESDV/F&G/CAMS
  - Central control room (E-house)
- Off module equipment or shared utilities consisting of:
  - Glycol water plate exchanger circuit
  - BOG compressor
  - LP booster pumps
- All equipment is purchased utilizing an inhouse approved vendor list
  - Allows competitive pricing based on standard product requiring no reengineering
  - Enables shorter procurement times based on standard product
- Typical schedule -12 months ex-works



"While there is increasing preference for small-scale and mid-scale LNG solutions in emerging economies like Indonesia and India, uptake remains slow with few projects underway. Standardization and modular solutions will be the circuit-breaker that will bring projects online, enabling the switch to LNG as a clean and affordable energy source," said Mr. Albert Altura, President AG&P.

"AG&P is combining its modularization capabilities and unique alliances with engineering and technology partners to provide the complete spectrum of infrastructure assets that enable LNG distribution and last-mile delivery. Serving as a single point of contact for customers across the LNG value chain, we deliver a whole terminal and sell tolled gas to power plants, mines, bunker fuel operations, transportation fleets, cold storage and other industrial applications," added Mr. Albert Altura.

AG&P has a long and successful track record of delivering pragmatic solutions for the oil and gas industry with expertise in LNG. It is only one of three companies worldwide to have a global technical and licensing agreement for membrane tank design from the French giant, GTT. In addition, AG&P owns a major stake in GAS Entec, the leading Korea-based engineering firm and has entered a joint venture with Risco Energy Group of Indonesia.

For more information about AG&P's LNG capabilities visit http://www.agp.ph/.

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#### **About AG&P**

Based in the Philippines, Atlantic Gulf & Pacific Company of Manila (AG&P) is a global leader in infrastructure solutions, delivering cutting-edge modularized products and support services to vessels, projects and plants for the energy, resources and industrial sectors. From its state-of-the-art facilities that span 150 hectares, each with its own deep-water port, AG&P modularizes infrastructure for refineries, LNG export and import facilities, power, petrochemical, and mining plants, building dense and complex modules of up to 125,000 tons each year.

AG&P is now at the forefront of the LNG infrastructure evolution providing tolled gas to our customers via integrated LNG receiving terminals and the supply chains that emanate from them. From sourcing gas to last-mile delivery, AG&P is the unique integrator that brings all parties together to drive projects that deliver economic value. We design, manufacture, finance, charter, lease, operate and maintain regasification and storage terminals, LNG transportation vessels and demand-stimulated assets. We leverage our world-leading franchise and relationships with experts who have chosen to partner with us, to rapidly deploy innovative products that customers want across the LNG value chain.