LNG REGASIFICATION

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Comprehensive LNG Regasification Solutions

For more than 60 years, McDermott has been a leader in the design and construction of LNG facilities. McDermott provides an integrated EPC solution for regasification facilities, performing the work from concept to completion. Our services include conceptual design, detailed engineering, material procurement, fabrication, project management, construction, permitting support, commissioning, start-up and operator training.

More than a century of project management experience has given us the expertise to develop specialized solutions for our customers. McDermott designed and built the first marine LNG storage facility and distribution terminal in the United States, and over the years, McDermott has developed a number of proprietary processes and technologies that benefit our LNG customers. McDermott is the only contractor that direct performs both LNG mechanical and tank work. This direct perform model allows McDermott to control the critical path of LNG projects, helping to minimize schedule and reduce risk.

With our knowledge of LNG related services, McDermott has the extensive capabilities to meet any customer need. Our employees are highly skilled in the full scope of design and construction of LNG regasification terminals.

Our integrated services include:

- Boil-off and flash vapor handling systems
- Civil structure and foundations
- Communication and security-monitoring systems
- Fire/hazard detection and protection
- Loading and offloading systems
- Piping systems and power distribution
- Primary and secondary pumping
- Process controls
- Regasification process systems
- Storage tanks and secondary containment
Local Knowledge Around the Globe

Recognized and respected globally, McDermott has the resources to engineer and construct LNG regasification facilities anywhere in the world. McDermott has designed and built marine import terminals for LNG customers in Puerto Rico, Turkey, Dominican Republic, the Peoples Republic of China, Chile, the United Kingdom and the United States.

McDermott can provide complete design, engineering, fabrication and construction of terminal receiving, storage, vapor handling and sendout systems. Due to our extensive experience in LNG projects, McDermott has an in-depth understanding that spans the entire LNG lifecycle.

McDermott has the people and expertise to perform an entire project from start to finish with our own integrated resources worldwide. Our in-house operations include procurement offices, fabrication facilities and specialized construction crews located around the world. Whenever possible, McDermott direct-hires and trains local labor.
One McDermott Way

McDermott employees have embraced one culture – in all areas of our business and across our global footprint – in the way we execute projects. This creates company-wide consistency in systems, processes and execution. We are all part of one organization, doing things the same way so we can share work across regions to better match our capacity and capabilities to customer demand.

This culture drives efficiency and facilitates growth by enabling us to make full use of our global capabilities. With McDermott, customers can count on uniform processes and systems that uphold our consistently high standards worldwide.
LNG Regasification and Storage Capacity

McDermott has provided integrated technology and EPC solutions for many LNG import terminals throughout the world. No job is too big or too small. Our project experience encompasses a broad scope, ranging from 93 million standard cubic feet per day (MMSCFD) or 2,630 thousand standard cubic meters per day (10^3Sm^3/d) of sendout capacity to more significantly sized terminals with sendout capacities as high as 2,100 MMSCFD (59,500 10^3Sm^3/d). In addition, McDermott has provided LNG storage tanks for these facilities with capacities from 377,400 to 1,258,000 barrels (60,000 to 200,000 cubic meters).
Innovative Solutions

McDermott has developed innovative LNG solutions that include numerous proprietary processes and designs.

Recent technological advances:

- Processes for recondensing boil-off gas more economically
- Semi-automatic ultrasonic equipment and test procedures for examining tank welds
- McDermott’s proprietary recondenser design and technology to manage vapor recovery
- Patented BTU reduction processes that are seamlessly integrated into the design of regasification facilities
- Patent pending vaporizers that can thermally integrate an LNG terminal with a power generation plant

These innovations allow us to design and build terminals that provide low total cost of ownership while enabling our customers to meet quality and safety standards.

Taking the Lead with QHSES

McDermott is committed to setting a leading example in all areas of Quality, Health, Safety, Environment and Security, and encourages our partners, subcontractors and clients to join us in the pursuit of outstanding QHSES performance.

Taking the Lead is a company-wide initiative that brings a single, united QHSES culture to our diverse workforce and organization, a culture where setting the right example in QHSES attitude and behavior is simply ‘In our DNA.’

Integrated Approach

We have the people and experience to perform an entire LNG project from start to finish. Our in-house operations include engineers, supply chain experts, fabrication facilities and specialized construction crews around the world. Moreover, our LNG subject matter experts work directly with our customers from the earliest phase of a project all the way through operations and consulting.
**BTU Reduction Process**

Imported LNG can contain ethane, propane and heavier components, which prevent the gas from meeting quality specifications and compromise interchangeability. McDermott’s family of patented BTU reduction processes address these composition and combustion characteristic issues. Our innovative cryogenic processes are completely integrated with the LNG sendout and regasification facilities and can be designed to remove any desired quantity of heavier hydrocarbons, which can then be sold or transferred into the market. The BTU reduction process does not consume additional energy beyond what is required for regasification.

**Inlet Air Cooling Loop**

A recent and uniquely developed system technology is the thermal integration of an LNG terminal with a power generation plant, improving both its operating efficiency and capacity. The LNG terminal recovers some of the refrigeration from the LNG as it is vaporized to cool the combustion (i.e., inlet) air to the power plant’s gas turbines and other utilities. In turn, the power plant provides heat to vaporize the LNG. The system is designed as a closed loop, exchanging heat and refrigeration between the LNG terminal and the power plant. McDermott has used this technology on integrated receiving terminals in conjunction with power generation plants of up to 300 MW.

**Recondenser Design**

Our customized system includes a recondenser that provides an efficient and economical method of managing vapor generated during unloading and tank boil-off. The recondenser design minimizes capital and operating costs required to manage gas that vaporizes during various plant operating scenarios.
McDermott is a premier, fully-integrated provider of technology, engineering and construction solutions to the energy industry. For more than a century, customers have trusted McDermott to design and build end-to-end infrastructure and technology solutions to transport and process oil and gas into the products the world needs today. Our proprietary technologies, integrated expertise and comprehensive solutions deliver certainty, innovation and added value to offshore, subsea and downstream energy projects around the world.

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