SGS INSPECTION AND CERTIFICATION SERVICES: LINDE VIETNAM GAS PIPELINE

ISSUED – JUNE 2013

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SGS was awarded a contract by Linde Vietnam Limited Company (LGV) to provide third-party inspection and certification services for an industrial gas supplying system in the Phu My II Industrial Zone. Dated 14 June 2013, the eight-month agreement marked the first partnership between SGS and a member of the Linde Group, a well-known global leader in gases and engineering with approximately 50,000 employees working in more than 100 countries around the world. SGS was chosen for this particular project due to its extensive experience and proven expertise in similar projects.

ABOUT LINDE GAS VIETNAM

Established in May of 2006, LGV is one of the leading gases players in the Vietnamese market operating the largest hydrogen production facility in Vietnam and running the longest industrial gases pipeline network to serve key customers in Phu My.

THE PROJECT:

LINDE INDUSTRIAL GAS SUPPLYING SYSTEM – PHU MY II INDUSTRIAL ZONE

This particular project included three pipeline systems transporting industrial gases of oxygen, nitrogen and hydrogen from LGV air separation unit 2 (ASU2) to Posco SS Vietnam, Fuco Steel and LGV ASU1 accordingly:



- Oxygen
 - OD 8"
 - approximately 12 km in length
 - ASU2 → Posco SS Vietnam, Fuco Steel, ASU1
- Nitrogen
 - OD 8"
 - approximately 2.8 km in length
 - ASU2 → tie-in point, roads 2B & 09 in the Phu My I Industrial Zone
- Hydrogen
 - OD 3"
 - approximately 2.8 km in length
 - ASU2 → tie-in point, roads 2B & 09 in the Phu My I Industrial Zone

SGS EXPERTISE IN VIETNAM

Five SGS experts were in office and on site in Vietnam providing third-party inspection and certification services for work in the main project work packages of:

- · design review and appraisal
- on-site & vendor inspection (procurement)
- site surveillance during construction and installation
- witness pre-commissioning and commissioning
- inspection report and certification







SGS design review and verification services ensured that every design was compliant with all relevant industry standards and met established regulatory operational, safety and environmental requirements. SGS provided highly-trained staff, state-ofthe-art technology and global resources to assist LGV in verifying industrial product and installation design, testing engineering assumptions, design methods and approaches and making sure that industrial products and installations were in accordance with required design and safety standards, criteria and legislation.

Vendor assessment and technical audit provided by SGS assessed the ability of vendors and suppliers to deliver orders and ensured regulatory compliance. With its global reach, SGS accurately assessed vendors and suppliers serving the LGV industrial pipeline project in Phu My. Experts conducted thorough independent evaluations of the LGV premises and construction sites, assessed vendor and supplier ability to deliver LGV-specific orders, ensured that partnering vendors and suppliers met all relevant statutory regulations and quality standards and made informed decisions based upon detailed SGS assessment reports.

Throughout the entire construction phase of the LGV project, SGS inspectors kept tight control over the quality of procured materials and services. It was equally crucial that SGS inspectors made sure that environmental factors during construction would not affect start-up operations.

By ensuring the right processes, the progress of the project and the quality of services, SGS saved owner Linde Vietnam Limited Company time and money and increased asset value.

SGS is especially pleased to have successfully completed its role in this pivotal project to the ultimate satisfaction of this prestigious company.

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