

REFERENCE CASE REFINERY



Inspection and Verification of a Demountable Flare Stack in the United Arab Emirates

A major oil and natural gas company in Saudi Arabia required inspection and verification services of its supplier of the flare stack system which was fabricating the company's largest gas plant in the United Arab Emirates. That's why they turned to TÜV Rheinland.

Basic Facts	
Client	A major oil and natural gas company in Saudi Arabia
Timeframe	October 2012 – October 2013
Project location	One of the largest gas plants in the United Arab Emirates
Main services	<ul style="list-style-type: none">▪ Verification of documentation▪ Verification of manufacturing procedures▪ Material testing and inspection▪ Inspection during manufacturing
Involved regulations/standards	<ul style="list-style-type: none">▪ American Welding Society (AWS) D1.1▪ American Society of Mechanical Engineers (ASME) Sec B 31.3

Initial situation and requirements

The Saudi Arabian state-owned oil company entrusted a leading international licensor and equipment supplier of the refining, petrochemicals and gas processing industries to manufacture and design the demountable flare stack for the company's largest gas plants in the United Arab Emirates.

A flare gas system is an important safety solution, particularly at gas processing plants. In an emergency situation during over-pressuring of plant equipment or pipe, special valves on the equipment automatically release gas through piping to flare stacks.

Solutions, results

A demountable flare stack has a special role in plant safety to prevent over-pressurization and potential explosions. The effectiveness of a flare design depends on the expertise and experience of the flare designer. To ensure all materials and equipment comply with quality and safety standards, the gas plant owner required comprehensive inspection and verification services.

As a leading provider of inspection services for the oil and gas industry, TÜV Rheinland was the preferred choice for this project. Our expert team at TÜV Rheinland began the inspections with the testing of incoming materials, verification of the manufacturing process, including inspection of manufacturing procedures, such as welding, welding equipment, and supplier qualifications. The trial assembly of the demountable derrick structure and flares was also inspected. Upon completion of the inspection, our experts performed final verification of painted material and release for shipment.

We also verified all required documentation and certification based on the AWS D1.1 standard, which covers all requirements for welded structures, and ASME Sec B 31.3 standard for piping equipment in petroleum refineries and oil and gas plants.

Did you know?

The gas plant is one of the largest gas plants that the Saudi Arabian company has ever built and is scheduled to be commissioned in 2014. The plant will produce 1.75 billion standard cubic feet per day (scfd) of sales gas from two offshore fields.

Benefits for the client

TÜV Rheinland helped the Saudi Arabian oil and gas company to:

- **Guarantee the high-quality of all components manufactured by the supplier.**
- **Ensure that flares are manufactured in compliance with applicable codes and standards.**
- **Avoid planning and manufacturing errors and ensure trouble-free operation.**

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About TÜV Rheinland:

Founded more than 140 years ago, TÜV Rheinland is a global leader in independent inspection services, ensuring quality and safety for people, the environment, and technology in nearly all aspects of life.

We inspect technical equipment, products and services, oversee projects and help to shape processes for companies around the world. Since 2006, we have been a member of the United Nations Global Compact to promote sustainability and combat corruption.

We offer a comprehensive range of services for supply chains, including auditing, assessing or verifying suppliers, according to specifications or applicable international codes and standards.

As a provider of comprehensive inspection services for the oil and gas industry, we can help to reduce risk, prevent material defects and ensure maximum safety of plants, pipelines and equipment. We can support our clients with certification, inspection and testing services and help to comply with all applicable standards and regulations.