

## Al Hosn Gas: Raising the Bar

**Saif Al Ghafli**, CEO of Abu Dhabi-based Al Hosn Gas, says the Shah gas field development has raised the technical benchmark for sour gas field development in the Middle East.

**Abdelghani Henni**, Middle East Staff Writer



**Saif Al Ghafli**, has been chief executive officer of Abu Dhabi Gas Development Company (Al Hosn Gas) since Jan 2009. The company is developing the Arab A, B, C, and D sour gas reservoirs located in the Shah gas field onshore Abu Dhabi. Prior to this appointment, Al Ghafli served as general manager of Abu Dhabi Gas Liquefaction Company (ADGAS) from 2006 to 2008, the first LNG company in the Middle East region to process feed gas.

Before that position, he served as general manager for Ruwais Fertilizer Industries, manufacturing and marketing nitrogen fertilizer both locally and internationally. He also worked for 17 years with Abu Dhabi Gas Industries (GASCO), where he was ultimately responsible for the daily operations and management of four plants associated with NGL extraction, propane, butane, and pentane fractionation, storage, and loading.

### **What is the main scope of the Shah gas field development project and what are the main technologies you are using to process the sour gas?**

The scope of the whole company, Al Hosn Gas, is to drill for gas in the Shah gas field, which is a sour gas field located in northern Abu Dhabi. The scope of the company is to process 1 Bcf/D of raw gas, feed gas from the Shah gas field, and treat the gas for production of different products in order to produce condensate, sales gas, natural gas liquids, and elemental sulfur.

The project is being developed by Abu Dhabi National Oil Company (ADNOC) and Occidental Petroleum. The project was initially planned to be developed in a joint venture with ConocoPhillips, but after it withdrew from the project, ADNOC continued for a year working on the project as a wholly owned project, in which the engineering department at ADNOC developed the procurement of the long lead items. Things kept on going while ADNOC was looking for another partner, and it eventually selected Oxy.

### **What is the status of the project? Is it on track for 2014 delivery?**

It is progressing according to plan and we are targeting startup in the last quarter of 2014. All engineering, procurement, and construction contractors are working to reach the same goal, and we are on track for a 2014 startup.

### **Are you expecting to reach full capacity shortly?**

Yes, indeed. The plant will ramp up quickly in production, and our aim is to reach full production from the first year notwithstanding any technical problems.

### **Was “cutting-edge technology” used in the project?**

The technologies in this project involve drilling, gas gathering, and processing. This field was discovered in the mid-1960s, and due to the high acid level of the gas contained in the field, plus its remote location and the reservoir characteristics of the field, it was almost impossible to develop the field. But over the years, drilling technologies have improved, and prospects of adhering to health, safety, and environmental guidelines have also improved, along with safety measurements. All these developments have allowed us to exploit the field.

Several technologies have been used during development—those related to health, safety, and the environment; drilling; processing; corrosion resistance alloys employed in the piping and machinery; and many others. These are some of the technical advancements that have enabled us to develop this field.

If we look at the detail of the design, there are really new ideas that have been applied during the project, mainly from the process side. The size of the facility has really pushed the limit when we talk about a plant that will handle 1 Bcf/D, in addition to the size of the train and the sulfur recovery unit. They are really big units.

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**Developing a sour gas field is challenging from an HSE point of view. Were there precautionary measurements your company took to ensure the safety of staff and the facility?**

The design of the facility, equipment, the safety protocols, and the hardware and software that have been employed in the design and that are going to be running and operating the facility, have taken into consideration the highest HSE standards. The footprint of the plant is really big, about 5 km in length and 3 km in width, which gives you an idea how the facility is spread out. This will help in case of emergency management and safety of people.

This is an example of how the safety aspect of the facility has been reflected in the layout of the facility. Added to that, safety supervision equipment systems that are in place have all taken into account the toxicity of the gas that we are dealing with.

**What are the major challenges you faced during the execution of the project? How did you manage them?**

The location of the field is really remote, deep in the desert, and the project is a grassroots project, whereby the infrastructure was not there, and the utilities and telecommunication systems were not there either. Part of the project is building this infrastructure to start with, laying down the highway to the site, working on leveling the sand dunes and the site, and providing water and electricity.

In addition, drilling and developing wells in such reservoirs and at such depths is a challenge by itself, and the exotic material that has been used for our well design and well completion systems is very critical, and these are some of things that have been employed here in the field in particular.

**What are the key lessons you learned from developing the first sour gas field in the United Arab Emirates? Will these lessons be applied to the Bab field?**

We have learned key lessons through the development that will provide good knowledge and expertise for future projects that will be developed here in Abu Dhabi, including the Bab field, and other fields.

This project raised the bar for technical advancement in developing similar sour gas fields, not only in Abu Dhabi but also around the world, because there are many things that we learned here that can be beneficial for other companies. We are part of the oil and gas community, and we help improve the way the oil and gas industry does business in general through knowledge sharing.

**After successfully managing the sour gas development, can we expect Al Hosn Gas, as part of ADNOC, to take part in developing the first shale gas/tight gas field in the country?**

Al Hosn Gas, which is up and running, will certainly have rich experience in operating and processing the sour gas field and managing it. But so far, our mandate is to deal with the Shah sour gas field, and regardless of who will be a partner for any future developments, we remain focused on the development of sour gas fields.

**Some international operators have remarked about a shortage of technical talent in the industry. Is this a challenge that your company is facing?**

That is true. When we first started, especially for the field development and drilling site, and the subsurface, we faced problems finding talented and skilled people. The industry was booming, and rig availability was tight and experienced people to handle the work volume was tight. It is a problem that faces the industry in general, and we are working on solving it. **JPT**