

"Now users both on and offshore can access critical facility and maintenance information, improving safety and reducing downtime"

Qatargas streamlines operations with Cimage Oil & Gas information solution

In the early 90s Qatargas was a \$4.3 billion construction project – by the end of 2001 it was a production operation that had delivered over 25mm tonnes of Liquefied Natural Gas. In total it represents an investment by Qatargas and its major customers of some \$14 billion. Project handover information, from a wide range of contractors based all over the world, has been captured, stored and updated in an information management system from Cimage NovaSoft. Now users both on and offshore can access critical facility and maintenance information, improving safety and reducing downtime.

Qatar Liquefied Gas Company Ltd (Qatargas) is Qatar's leading Liquefied Natural Gas (LNG) provider, with major contracts to supply Chubu Electric, Japan's third largest power company, as well as seven other Japanese buyers.

Central to the operation is the North Field, which was discovered in 1971 and is one of the world's largest non associated gas fields.

The North Field is considered to be the single largest gas reserve in the world, with over 500 trillion cubic feet (some three times greater than those of the entire United States). The development, utilization and export of these massive reserves have been a primary national goal and the cornerstone of much of Qatar's projected economic revenue.



North Field Platform

Qatargas shareholders are Qatar Petroleum, TotalFinaElf, ExxonMobil, Mitsui and Marubeni.

The activities of Qatargas are divided into two main joint ventures: a downstream LNG plant and an upstream joint venture that covers both the offshore platforms and the onshore receiving facilities. It has a fleet of 10 dedicated LNG vessels delivering to Japan.

MULTIPLE CONSTRUCTION PROJECTS RISK DOCUMENTATION OVERLOAD

The Qatargas facilities were designed and constructed on an EPCC (Engineer, Procure, Construct and Commission) basis and five main contractors (based in Japan, Europe, Abu Dhabi and Dubai) were commissioned to carry out the contracts. On completion of the projects the facilities were handed over to the operating company, Qatargas.

The original contracts outlined what documentation was needed for each new facility at project handover stage. The majority of documentation would be hard copy – on a mixture of paper and microfilm.

Furthermore, multiple copies would be handed over to facilitate dissemination of the information, as no





One of the Qatargas fleet of LNG vessels

provisions had been made to require electronic documentation and the associated metadata to be provided.

When Lawrence Collins joined Qatargas as Head of Documents and Standards, midway through the contracts, he quickly identified that receiving handover documentation in many diverse paper-based formats could present considerable business issues for the company. There would be the obvious problems of storage, information dissemination, accessibility, updates and subsequent re-use of this critical set of documents.

Over 2 million man-hours of engineering effort went into the design and documentation of the facilities. Information contained in the documents represented the resulting intellectual property, now owned by Qatargas. In essence this was the result of the money that had been spent on design. In total, the documentation to be handed over for the five contracts exceeded 20 million pages which needed to be catalogued and made available to operations personnel. They would be critical, not only in their own right as key support documents to the safety, operations and maintenance functions but also in the development of other documents, such as operation and maintenance processes and procedures.

Collins explains: "Data integrity was a major issue

for us due to the huge volumes of paper-based documentation involved. In total, the complete documentation for the five contracts, if handed over as planned, would have stretched to over 4km end-to-end on delivery".

"Our priority had to be to transform the data we were due to receive into instantly accessible information and, to achieve this goal, we needed an electronic information management solution that had a proven track record in our industry".

CAPTURING INFORMATION ELECTRONICALLY REDUCES ADMINISTRATION

Lawrence Collins immediately set about devising an interim solution whereby the contractors each agreed to supply key specified content in electronic format only. Qatargas then needed to migrate this electronic data to a system that would form the nucleus of an advanced information management system, where key data could be swiftly located and where the integrity of data could be assured.

"We needed to find a supplier that had a proven track record in delivering solutions to the Oil & Gas industry. The system proposed needed to cope with multiple file formats, workflow, mark up, version control and have the ability to use and launch native applications." It also needed to manage

CASE STUDY

relationships between related documents and information, for example, equipment data sheets to relevant P&ID's, or equipment tag number to relevant document(s).

Collins continues "Above all, the system needed to be easy to use, given the fact that 90% of Qatargas employees and contractors do not have English as their first language".

CIMAGE NOVASOFT DEMONSTRATES PROVEN EXPERIENCE IN THE OIL & GAS SECTOR

During the initial pre-qualification process, 39 companies collected pre-qualification documents and 10 companies elected to pre-qualify. Following a detailed review of the pre-qualification submissions, 3 companies were invited to tender for provision of a Technical Document Management Solution, the 1st phase of Qatargas's strategy for implementation of a Corporate Document and Records Management Solution.

"The emphasis at Qatargas has always been on solutions not systems," explains Collins. "Systems are only tools, most systems share an element of common functionality and each system has some unique features. However, many of those unique features are often glitzy, eye-catching distractions which do not support, or sometimes mask the absence of business-critical functionality".

"The key to successful implementation hinges on being able to identify a supplier who can provide the necessary core-product functionality, robustness and flexibility, combined with the ability to understand your business, its immediate and potential future needs and implement a solution using core-product, which addresses those needs".

After a detailed technical evaluation of the tenders, the solution put forward by Cimage NovaSoft in conjunction with local business partner Omnix was selected.

Collins says "Cimage NovaSoft provided customer reference sites that demonstrated a wealth of relevant experience. Furthermore, it was very important to work with a supplier that had a strong local presence, that could readily provide the consultancy and on-going support that this project required".

The Cimage Oil and Gas system encompasses information management and workflow capabilities along with integration with AutoCAD. Omnix seconded a consultant from Cimage NovaSoft to act

as project manager; working directly with the Qatargas project manager. Development of the system specification and applications was a collaborative undertaking with Cimage NovaSoft, Omnix and Qatargas working in partnership to achieve the desired solution.

Despite being supplied in seven different formats, data from each contractor was directly mapped onto the data attributes developed in the new system. Initially, only information essential to the support of ongoing operations, maintenance and safety needs was loaded into the system. However, the system was designed and configured to accommodate and manage all contractor-generated information. For non-operations critical information such as commissioning dossiers, construction QA records, etc., Qatargas adopted a policy of loading on demand, thereby minimising the time taken to get a system containing critical information into the workplace.

Following a successful prototype trial, full system rollout followed. Within six months of work commencing there were over 100 users, both on and offshore, benefiting from immediate access to critical project information contained in the new system.

Collins comments: "System rollout went extremely quickly and smoothly. Omnix handled any technical issues seamlessly with behind the scenes back-up from Cimage NovaSoft".



"Information from the system is used to respond electronically to detailed technical queries from the many contractors who are tendering or undertaking work at any one time. Previously it may have taken days or even weeks to find, copy, collate and transmit such paper-based information, whereas now responses are normally provided within hours".

Collins adds "It helps make sure project schedules stay on course and helps us keep our costs under control".

The system currently manages 68,000 drawings (including 6,000 CAD files), 97,000 documents, 908,000 pages and 170,000 records. The documents managed include all engineering design and vendors drawings, data sheets, specifications, etc., vendors equipment IOM manuals, Qatargas operations manuals and procedures, modification projects close-out documentation and corporate Policy and Procedure documents.

CIMAGE NOVASOFT SOLUTION SUPPORTS QUALITY STANDARDS

Qatargas commenced rollout of its Cimage NovaSoft solution in January 1998. In July 2000 Qatargas achieved ISO 9002 (Quality) and ISO 14001 (Environmental) Certification – making Qatargas the world's first LNG company to achieve this double endorsement of its operations. It later went on to become the first organisation in Qatar to achieve the new ISO 9000/2000 Quality Certification. During these rigorous evaluations, particular emphasis was placed on the quality and efficiency of the company's information management processes.

Looking to the future, the company is considering plans to make information even more widely available by providing secure access to specific data to contractors and suppliers via the internet – helping to reduce project timescales even further and facilitating full electronic handover.



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