



## ADGAS

### ADGAS Builds on Tradition of Innovation and Leadership with a New Flaring and Emissions Reporting System

Alcoa Abu Dhabi Gas Liquefaction Company or ADGAS is a recognized industry leader serving its customers and community in a socially responsible manner by building on the expertise of its shareholders – including its parent company, Abu Dhabi National Oil Company (ADNOC).

“We will strive to sustain our recognized international reputation for reliability, integrity and efficiency and to continually improve HSE and business performance,” says the ADGAS mission statement. (1) Recently, the company demonstrated its commitment to excellence in health, safety and environmental (HSE) management by launching a major new project focused on Flaring Handling and Emissions Reporting system. The ADGAS information technology (IT) group collaborated with the HSE team to prepare the business case for introduction of a company-wide Flares and Emission Reporting information system. When the project was approved, they shortlisted four vendors and conducted an extensive technical evaluation.

In 2011, ADGAS selected the Sphera Environmental Performance Solution™ and began implementing its air emissions module to enhance data management and reporting of daily flaring data, daily emissions, flare volumes and fuel gas data. The first goal of the ADGAS project was to provide information for compliance with ADNOC’s HSE Codes of Practice - guidelines for how ADNOC Group Companies must manage HSE that align with UAE Laws & Regulations as well global oil and gas industry standards. “Full compliance with ADNOC guidelines is essential to maintain our license to operate and our ISO 14001 certification,” said Mohamed Zamzam, HSE Division Manager of ADGAS. “We are also using emissions information from the Sphera system to proactively measure, analyze and report on our performance in relation to other industry leaders - so our shareholders have greater transparency into ADGAS leadership position and our managers have clearer insights into how we can continuously improve our operations.”

Prior to implementation of the Sphera system, ADGAS air emissions were tracked on more than 100 spreadsheets, many of them highly complex. Data input, emission calculations, and analysis of results were all carried out manually, requiring significant investments of time and effort by HSE professionals, and increasing the risk of inconsistency and errors. Compiling data and generating the necessary reports for senior management (daily, weekly, monthly, quarterly and annually) was also done manually, resulting in more overburdened staff and data integrity questions.

#### Challenge

- Ensure compliance with government, industry and corporate standards – especially ADNOC
- Continuous improvement of air emissions data management and reporting work processes
- Meet commitment to HSE excellence by reducing environmental impact of oil well flaring

#### Solution

Environmental Performance Solution

- Air & GHG Emissions

#### Results

- Implemented state-of-the-art enterprise-wide air emissions information management and reporting system
- Eliminated 100+ complex spreadsheets previously used for emissions tracking/reporting
- Reduced time required to prepare monthly air emissions report from 3 days to 3-4 hours
- Developed 23 flaring and emission report formats to meet demands of multiple stakeholders
- Supports workforce continuity and personnel optimization with standardized system
- Using emissions information to proactively measure, analyze and report on emissions performance in relation to other industry leaders

# ADGAS Implements Enterprise Air Emissions Reporting

Now demands for air emissions data reporting were escalating both outside and inside of the company. ADGAS was now an organizational stakeholder in the Global Reporting Initiative (GRI), supporting its mission to develop universally accepted reporting guidelines. HSE management had also assumed a higher profile inside of ADGAS, with Mr. Zamzam reporting directly to the CEO, and the Flare Handling/Emissions Reduction project featured in the company's Sustainability Report.

"From the beginning, we focused on data quality as a top priority," said Vishwanathan Balakrishnan, Team Leader for Plant Systems at ADGAS. "As we migrated 10 to 20 years of data forward from those different legacy systems into the new system, we carefully cleaned and rationalized it. Fortunately, we are now automating the capture of real-time air emissions data directly from our PHD [process history database] into the Sphera system, which performs the necessary flaring and emission calculations and reporting, so we can accelerate our workflows and ensure data integrity."

ADGAS HSE professionals now have the time and toolset they need to focus on higher value work such as compliance verification and data analysis, including "what-if scenarios." They can also generate various emissions reports faster and more easily than before. Where it used to take up to 3 days for team members to collect and compile emissions data for a monthly report, the information is now at their fingertips and the report is generated in only 3-4 hours. To date, the ADGAS HSE team has used their flexible Sphera system to create 23 different reports on topics including air emissions, flaring frequency, KPI reports, flaring break-ups, flaring trends and more. The team has also provided ADGAS managers with a variety of complementary graphs that illustrate flaring trends, break-ups, power and stream generation and more.

With the Sphera Environmental Performance solution, the HSE team is successfully supporting the Flaring Handling and Emissions Reporting system while also making air emissions management more transparent and accountable across the entire company. They are leveraging the secure, auditable and easy-to-use system to not only submit reports as required by ADNOC but also trace emissions that are out of compliance back to their specific source so corrective action can be taken.

This ability to use air emissions information to drive operational excellence is helping ADGAS managers address a variety of business challenges. For instance, it helps the company manage its most important asset, its human resources, more effectively by promoting:

- Workforce continuity – standardizing processes and calculation models to facilitate knowledge transfer when skilled personnel retire or transfer.

- Optimizing personnel – enabling plant technicians to generate daily emissions reports while EHS experts work on analysis and new capabilities.

"Access to better air emissions data can help ADGAS operations managers make better decisions regarding core production activities," said Dr. Ahmed Abbas, Senior Vice President (Technical) on the flaring and emissions reduction project. "Our daily report might influence their choice of a light component that tends to produce more flaring. Or our monthly report, showing how our air emissions performance compares to the company's goals for emissions reduction, might be useful information to the senior management in deciding when and how long to shut down the plant for routine maintenance."

As ADGAS looks to the future, the HSE team is confident that they have the state of the art information system they need to meet future demands for air emissions reporting, including those associated with carbon accounting, and continue building on their tradition of innovation and sustainability leadership.

- 1 <http://www.adgas.com/En/SitePages/About%20Us/Mission%20and%20Vision.aspx>

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Mohamed Zamzam, Health,  
Safety and Environment Division Manager  
ADGAS