SHELL IN NIGERIA

THE AFAM VI POWER PLANT & OKOLOMA FACILITY

APRIL 2011

The Afam VI Power Generating Plant and Okoloma NAG Facility

In November 2005, The Shell Petroleum Development Company of Nigeria Limited (SPDC) was awarded the contract for the Afam VI power plant and the Okoloma gas plant in Rivers State, in the Niger Delta. The project is supporting economic growth and providing power for millions of people in the Niger Delta and elsewhere in Nigeria. The Afam integrated gas and power project took less than three years to achieve first power in August 2008. The 650-megawatt (MW) combined-cycle power plant is an advanced design that requires only two-thirds of the gas needed by many of Nigeria's existing power plants to generate each unit of electricity. Afam VI's three gas turbines were fully commissioned in July 2009 and the steam turbine fully commissioned in December 2010. In the combined cycle commercial operation, they are generating 624MW net dependable capacity, some 14-24% of overall generation contribution to the national grid. Since initial commercial operations in January 2009, Afam VI has cumulatively supplied over 5.5 million megawatt hours (MWhrs) of electricity to the national grid.

In the combined cycle operating mode, waste heat from the gas turbines is used to generate an additional 200MW of very low emission electricity by steam turbine. SPDC started commissioning the steam turbines in April 2010 and achieved combined cycle operations in December 2010 amidst challenges from the Nigerian grid system.

"This is an extremely important project for Nigeria," said Mr. Mutiu Sunmonu, Country Chair, Shell Companies in Nigeria and SPDC Managing Director. "As a Nigerian, I know that more power will raise the standard of living for millions of my countrymen. When there's power, students can study at night for a brighter future."

The integrated gas and power project is the largest of its kind in the country, where many lack access to reliable power and electricity shortages are common. The plant will offer consumers more reliable electricity supplies and a cleaner low-emission alternative to diesel and petrol generators that are widely used when blackouts occur.

Work on the project began in 2005 and includes a new high voltage switchyard, a gas receiving facility and six new gas wells. The power plant is delivering electricity to the government-owned Power Holding Company of Nigeria (PHCN), which operates the other Afam power plants I-V.

The Okoloma gas plant

The Okoloma plant provides the gas for Afam VI power plant and equally support domestic gas supply network. It combines both the conventional and advanced Twister technology, the first of its kind in Africa for gas processing.

Okoloma can process 240 million cubic feet of gas each day and is being supplied from six gas wells drilled for the project. From here, the plant supplies gas both to the Afam VI power plant and the Nigerian Gas Company, which manages the domestic gas network and supplies industrial users around the country.

The Afam VI Power Plant & Okoloma Facility

At its peak, the project employed approximately 4,000 local construction workers. Nigerians made up approximately 95% of the labour force. All the unskilled workers and 60% of the skilled workers came from local communities and the project offered them opportunities to learn new skills. For example, some received training in scaffolding to international standards and have since found work outside their

Aerial view of Afam integrated gas and power plant

communities. Nigerian companies supplied over 90% of the building materials. The Afam project hosted a number of events for employees and members of the community. These include a voluntary HIV testing programme and counseling for workers.

As part of SPDC's community development efforts, the project supplied and installed equipment to connect 16 local communities impacted by the project to the electricity grid for the first time. All the communities have now been connected, but work is ongoing on upgrading infrastructure to accommodate increased energy requirements for the communities and complete installation for others yet to be connected.

In 2006, SPDC signed agreements – Global Memoranda of Understanding (GMoU) – with 16 local communities impacted by the project. These agreements are renewed annually. GMOUs give responsibility to communities for their own development. (For more on what these agreements are and how they are implemented, see separate briefing note on GMoUs). Under the GMoU, over 90 projects were funded at a cost of $20 million, including the construction of roads, health centres, schools, town halls, markets, water schemes, youth enterprise training and the introduction of micro-credit schemes for small businesses.

Furthermore, the Oyigbo Cluster GMoU with a five-year tenure and with an annual value of more than 130 million Naira (over $850,000) was signed in August 2010, covering 22 communities in the area. A major objective of this GMoU is to empower the Oyigbo Cluster to take ownership of its development.

Switchyard – Afam Power Plant

More information on the operations of Shell companies in Nigeria can be found at www.shellnigeria.com

Published by Shell Companies in Nigeria: Shell Petroleum Development Company of Nigeria Limited, Shell Nigeria Exploration and Production Company Limited and Shell Nigeria Gas Limited.