



CASE STUDY

SGS PROVIDES PIPELINE WELDING INSPECTION FOR SEPTA ENERGY LIMITED IN NIGERIA

In February 2010, SGS was awarded a contract to provide Pipeline Welding Inspection for a new 60km long gas pipeline project in Nigeria by SEPTA Energy Limited. For the duration of the construction works, scheduled to run until December 2010, SGS has performed the independent inspection of 5,500 welds, utilizing the Non-Destructive Testing method Radiographic Testing.

INTEGRITY AND RELIABILITY OF INSTALLATIONS ARE OF UTMOST IMPORTANCE

SEPTA Energy Limited is a Nigerian subsidiary of the Seven Energy Group, an independent gas development and production company providing integrated solutions to the gas supply chain from field to generator. With the focus to supply gas for the domestic market in Nigeria, SEPTA has invested \$420 million in the development of two main gas fields and the construction of a gas pipeline in Nigeria for the delivery of gas to the Ibom Power Plant. The installation of this new pipeline, which began in April 2010, includes 60km of pipes, linking Ikot Abasi to the Eket Power Station, Nigeria. The 60km long gas pipeline will supply the average energy requirement for one million Nigerians. Over the next two years, the expansion of the project will increase to other hubs in South East Nigeria, delivering gas to 10 million Nigerians.

In order to secure financial investment for the project and to assure the integrity and reliability of the welds during the pipeline installation, SEPTA sought a reliable inspection, verification, testing and certification company.

Due to its extensive experience and competence in similar, international projects, SGS Nigeria was awarded the contract, in February 2010, to provide independent Pipeline Welding Inspection services for the 5,500 welds of the 60km long gas pipeline project organised by Septa Energy.

SGS PIPELINE WELDING INSPECTION FOR SEPTA ENERGY LIMITED IN NIGERIA

In February 2010, SGS began the preliminary work and set up an inspection team of ten highly qualified and experienced experts for the 60 km long gas pipeline project. The inspection process began in April 2010 and was completed in December 2010.

For the duration of the eight months of the installation works, SGS has provided Pipeline Welding Inspection services for 5,500 welds, using Radiographic Testing, a Non-Destructive Testing method.

Based on more than 50 years' worth of experience in pipeline inspection, SGS' main aim is to verify that the welds conform to all international and local quality standards as well as specific requirements of SEPTA Energy. The SGS experts conduct precise inspections in order to identify, analyse and eliminate failed welds and to assure the safe functioning of the pipeline. Due to their extensive know-how and experience, the SGS inspectors indicate discontinuities in welds and make suggestions for repairing them, utilising Radiographic Testing.



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With this method which uses X-rays and Gamma-rays, the SGS team of experts measures the thickness of the piping walls and thereby detects internal imperfections and corrosion. In order to conduct the inspection, SGS experts direct a homogenous ray from a radioactive isotope or an X-ray tube at the pipeline girth weld with a negative film, positioned behind the material to be examined. This film is in turn processed, and the images are displayed as a sequence of grey shades, varying between black and white. Thickness and density differences are shown as black shades. SGS experts analyse and interpret the resulting image of the weld and deduce whether the image examined indicates a defect or not.

For the Radiographic Testing of the circumferential welds, a type of weld produced around the outer surface of a pipe, SGS inspectors use remotely controlled X-ray crawlers. These crawlers X-ray the inside of pipes and produce single image radiographs of the welds.

The biggest challenge for SGS has been how to conduct the Pipeline Welding Inspection for 5,500 welds along the 60 km long route both under difficult terrain conditions and in a tropical climate. Nevertheless, SGS has successfully performed the independent inspection of the welds to the full satisfaction of the client, which may result in further contracts being awarded by SEPTA Energy.

ABOUT SGS PIPELINE WELDING INSPECTION

For more than 50 years, SGS has been testing pipelines from all over the world and is familiar with the various mill and site inspections on pipeline projects, wherever they may be located. SGS offers an extensive portfolio of Non-Destructive Testing services for Pipeline Welding Inspection, including Radiographic Testing, Ultrasonic Testing, Magnetic Particle Testing, Visual Inspection, Dye Penetrant Examination, Dimensional Control, Mechanical and Chemical Testing of Welds, Damage Investigation, Expertise on Pipeline Girth Weld Damages, Phased Array, Time of Flight Diffraction as well as Digital Radiography.

ABOUT SGS

With advanced testing technologies and experienced and qualified staff, SGS operates an extensive network of offices and laboratories in various fields, offering a wide range of mechanical, physical and chemical testing facilities. The SGS worldwide network has accreditations to all major standards and is recognised as a leading global benchmark in the field of inspection, verification, certification and testing.

SGS IS THE GLOBAL LEADER AND INNOVATOR IN INSPECTION, VERIFICATION, TESTING AND CERTIFICATION SERVICES. FOUNDED IN 1878, SGS IS RECOGNISED AS THE GLOBAL BENCHMARK IN QUALITY AND INTEGRITY. WITH MORE THAN 67,000 EMPLOYEES, SGS OPERATES A NETWORK OF OVER 1,250 OFFICES AND LABORATORIES AROUND THE WORLD.