



CASE STUDY

SGS SECURES QUALITY DURING UPGRADE OF THE SINES THERMAL POWER PLANT IN PORTUGAL

SGS supported the Desulphurisation Project of the Sines Thermal Power Plant in Portugal by providing comprehensive Quality Control and Inspection Services, enabling reliable and continuous operation of the plant in accordance with the LCP Directive on the limitation of emissions.

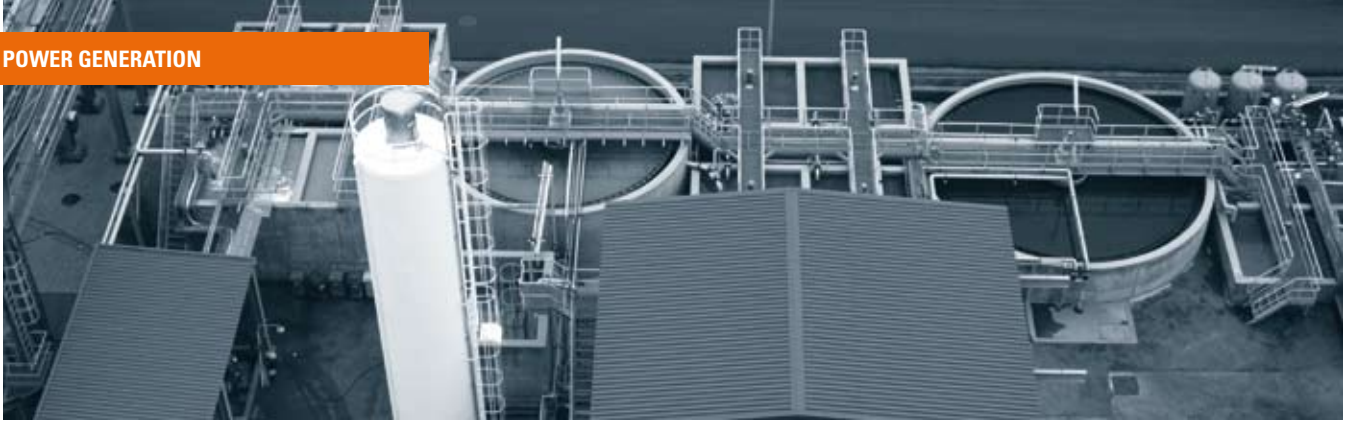
IMPORTANT PROJECTS REQUIRE DEDICATED QUALITY AND SAFETY MEASURES

The main environmental impact caused by the combustion of fossil fuels in thermal power plants is the emission of carbon dioxide (CO₂), sulfur dioxide (SO₂), nitrogen oxide (NO_x) and particles. In the fight against climate change, energy production plants represent a great potential to reduce green house gas (GHG) emissions.

In May 2006, Energias de Portugal (EDP), one of Europe's major electricity operators being aware of its environmental responsibility, launched a Desulphurisation Project with the objective of reducing SO₂ in the Sines Thermal Power Plant. Flue Gas Desulphurisation (FGD) is a catalytic chemical process widely used to remove sulfur from natural gas and refined petroleum products. The purpose of removing the sulfur is to reduce the sulfur dioxide emissions that result from using fuels in gas or oil burning power plants.

The Desulphurisation Project ensures that the future energy production of the plant is in accordance with the Portuguese law DL178/2003, also known as the LCP Directive, which implements the European Directive 2001/80/EC on the limitation of emissions of certain air pollutants into the air from large combustion plants. A consortium between Hitachi Ltd. and Cobra Instalaciones y Servicios, S.A was the main subcontractor for this project and was responsible for the turnkey solution for the desulphurisation plant engineering, design, construction and implementation, as well as for the initial operations.

The project consisted of four units, one in each of the concerned production groups. The desulphurisation facility was installed in the pieces where SO₂ neutralisation occurs, as well as in absorbers and in the preparation and storage facilities for plaster. To accomplish this project, a great amount of financial, human and material resources was needed. Alejandro Suárez Serrats, Director of the Desulphurization Project at the Sines Thermo Power Plant on behalf of Cobra gives as an example: "There were 800 workers on-site, with more than two million working hours. Additionally, we needed a lot of extra resources for support, transport, elevation, etc."



CASE STUDY

THE RIGHT COMPETENCE AND EXPERIENCE TO MANAGE QUALITY IN A COMPLEX PROJECT

Due to SGS's experience in power generation and in similar desulphurisation projects, the Hitachi-Cobra Consortium assigned SGS Portugal to manage and supervise all quality-related activities during the whole upgrade process. SGS proved to have competent, highly experienced professionals, thus enabling smooth workflow in the most critical and complex stages of the development.

SGS paid particular attention to the continuous availability of dedicated technical staff for the evaluation of technical conformity with engineering specifications of both materials and equipment used during the entire project. Throughout the evaluation of technical conformity, continuous quality supervision was implemented during the production of in-line equipment, filters, instrumentation, pipes and plates for several tank assemblies on-site. The quality supervision by SGS aimed to avoid failures in future operation caused by poor material quality or wrong choice of material. It also ensured that performance tests of the equipment on manufacturers' premises were carried out before delivery to the plant site.

In addition, the SGS team on-site assured conformity with engineering specifications during project execution. Activities involved among others, Mechanical Testing, Non-Destructive Testing, Pressure Equipment Certification, Equipment Licensing and CE-Marking. SGS services during assembling and instrumentation, electrical and automation activities focused on reviewing the subcontractors' specifications, evaluating their conformity with requirements, monitoring the tests, testing the welds, and final commissioning.

SGS also provided the Consortium with an entire support team whose job was to calculate and verify equipment and structures under different circumstances of the project assumptions or before changing specifications on-site. The team also assisted in finding proper materials and welding solutions and elaborating corrosion and anti-corrosion plans. In addition, SGS consulted with the competent official authorities and handled all details related to licensing.

The SGS team provided real time information and participated proactively in resolving any difficulties. Project Director Alejandro Suárez Serrats concluded saying: "The collaboration between the Hitachi-Cobra Consortium and SGS came through without any problems. Generally, the Consortium was very pleased with SGS, especially with the importance they gave to quality in this project."

SGS Industrial Services is one of the biggest business lines of the SGS Group, a global service provider for technical verification, inspection, testing and conformity assessment, ensuring that the customer's installations, materials, equipment, facilities and projects meet all quality and performance requirements, whether they are regulatory, voluntary or customer-based.

SGS IS THE GLOBAL LEADER AND INNOVATOR IN INSPECTION, VERIFICATION, TESTING AND CERTIFICATION SERVICES. FOUNDED IN 1878, SGS IS RECOGNIZED AS THE GLOBAL BENCHMARK IN QUALITY AND INTEGRITY. WITH OVER 59,000 EMPLOYEES, SGS OPERATES A NETWORK OF OVER 1,000 OFFICES AND LABORATORIES AROUND THE WORLD.