



AnsaldoESG

A Finmeccanica Company



OSP Original Service Provider™



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Ansaldo ESG a fully owned company of Ansaldo Energia from Genoa, Italy, is located near the historical city of Baden, in the German part of Switzerland (Canton Aargau). Ansaldo ESG was founded ten years ago by talented people fascinated by and highly knowledgeable in steam turbines. It was no coincidences that the company was situated near a town where in 1905 the first patent for a Turbocharger was issued (which is fully present in our industry today).

Not only this High-Tech product is made in the region but also turbines and generators which requires many qualified engineers.

Establishing a small service company was not difficult in this highly industrialized environment, where the OEMs (Original Equipment Manufacturers) in both Switzerland and in neighbouring countries lent strong support to the new founded company ESG Energy Service Group Ltd.

Over the years ownership has changed, but not the expertise in providing after-sales service on steam and gas turbines.

The service activities of the company soon expanded to worldwide customers (Power plant owners and manufacturers).

This was not least due to its reputation for competence, professionalism, speed and flexibility but also to its unique capability to do machining and repair work on-site, mainly in power plants, using a mobile horizontal and vertical lathe with special tooling, developed by engineers familiar with major components of steam turbines. These servicing activities were later extended to generators.

In 2006 ESG Energy Service Group AG. was bought by Ansaldo Energia and recently renamed Ansaldo ESG AG. The core competence remains focused on servicing steam turbines and generators and divided in the following main areas;

- Inspections, overhauls and commissioning
- Job site machining and repair (not only during overhauls but also for new installations)
- Workshop repair, spare parts and reverse engineering
- Supporting customers with qualified supervisors for maintenance jobs done by other service providers

OSP™ Original Service Provider

Finally, in partnership with Ansaldo Energia and sister company Ansaldo Thomassen, based in the Netherlands, Ansaldo ESG is enhancing its role as Original Service provider (OSP™) with the mission to develop the group into a “one-stop-shop” for the Power Generation market, by drawing on a broad portfolio of services and products, mainly relating to non-OEM technologies.



Ansaldo ESG supports the range of steam turbine and generator models made by the preceding companies, designed for a life span of twenty years, but remain in service for thirty years and more. Operating data for these older turbines is not always available however, with good practice expertise and engineering capabilities within the group, a sound background for solving today's service problems is provided. Activities within the service portfolio are:

Engineering

Reverse engineering, finite element analysis for mechanical integrity and rotor stability, redesign/verification, component design upgrades, material specifications, engineered repairs, component development and reverse engineering.

Field service

Activities in the field are overhauling, inspection, failure root cause analysis, balancing and alignment, assessment, inspections, NDT, welding, supervision and commissioning for steam turbines and generators. Repair portfolio on steam turbines: rotating & stationary blades - casings - valve seats - rotor machining - re-sealing; on generator: stator and rotor re-winding - re-wedging - core repairs - retaining ring inspection and replacement - slip ring repair and replacement.

Repair

Turbine casing - valve seat - steam chest - diaphragm and nozzle - Stellite® - steam turbine rotor disk build up. Spare parts: for valve parts - turbine blades - packing & seals for turbines - generator spares - mechanical parts

Job site machining

The "do-it on-site" philosophy embraces the following activities: customer involvement in the quality assurance, elimination of risk of damages/loss during transport, expedited mobilization with portable machining and low speed balancing equipment. This enables better planning of overhaul activities, cost efficient solutions in connection with repair and work is always

handled as a top priority issue. For machining on the job site we have the following mobile equipment: Lathe - CNC Controlled - Grinding, Polishing - Root machining - Balancing - Retaining ring tools - Vertical Turning Lathe - Line Boring < 3500mm - Horizontal Boring & Milling: Attachable in all angles - Threads - Fine surfacing (Flanges) - Modules for combination - Large wooden boxes with special tools, all suitably packed for immediate shipment.

Job site balancing

Low speed balancing with following characteristics;

- Maximum rotor length < 10 meters
- Maximum swing rotor D < 4.5 meters
- Maximum rotor capacity 100 tons

e.g. after tip grinding of the repaired and replaced LP steam blades with the mobile lathe, the low speed balancing on the job site take place.

Spare Parts

Our group of companies can supply a broad range of spare parts for gas and steam turbines, generators and auxiliary equipment for power plants; (i) Valve parts, (ii) turbine blades. Stationary; rotating diaphragms (new & repair).

Nozzles for both impulse and reaction turbines, packing seals for turbines, J-L-U profile for seal strips, hydraulic bolts and steam turbine components. For turbine and hydro driven generators: spares, retaining rings, re-wedging, insulation material.

Turbo and Hydro Generators

In this field for Analysis and Maintenance some of the tasks include: electrical testing, magnetic field analysis, winding test with surge-waves, generator acceptance tests, expertise and damage analysis, winding repair and excitation modernization, as well as general consulting services. All of the above can be executed with capabilities from Ansaldo Energia and their 150 years of experience in the business of electrical and mechanical equipment, and facilities.



Together with our international team of engineers in Switzerland, the Netherlands and Italy we are ready to support the power service industry in the years to come.

You can reach us as first point of contact in Switzerland at the following location, and after having analyzed your needs we will provide further support using our specialized teams within our group of companies and partners.



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