



ELECTRICAL, MECHANICAL AND INSTRUMENTATION SERVICES

MAINTENANCE, CALIBRATION, ASSEMBLY AND COMMISSIONING OF INDUSTRIAL FACILITIES

WWW.SGS.COM/COMMISSIONING

SGS



ELECTRICAL AND INSTRUMENTATION AREAS

Backed by a global network of more than 1,250 offices and laboratories in over 140 countries, SGS provides a wide ranging portfolio of onshore and offshore electrical and instrumentation services, including maintenance, calibration, design, assembly and commissioning of industrial plants.

Competent and reliable automation experts apply state-of-the-art technologies in commissioning, assembly and maintenance of process plants, mainly for the following industries

- Oil and Gas (Onshore and Offshore)
- Chemical and Petrochemical
- Pulp and Paper
- Steel Mills
- Food Processing

CALIBRATION AND MAINTENANCE OF INSTRUMENTATION

SGS works towards guaranteeing the metrological and operational reliability of all instruments and devices designed to monitor, control and supervise industrial processes. These activities can be carried out on SGS premises or at a client's site

- Instrument calibration laboratories
- Valve shop facilities
- Traceable reference instruments following RBC - Brazilian Calibration Network and international standards
- ISO IEC 17025 accredited laboratories for pressure and temperature

- Activity Management Software controls
 - Certificate issuance according to NBR ISO/IEC 17025
 - Management of Reference Instruments' Calibration
 - History of Interventions
 - Next calibration due date
- Pressure, level, temperature and flow transmitters
- Magnetic, Vortex, positive displacement and mass flow meters
- Flow computers, pressure gauges and pressostats
- Thermometers and thermodevices
- Convertors
- Level gauges

CUSTODY TRANSFER/FISCAL METERING

SGS carries out audits and adequacy inspections in oil and gas metering stations

- Adequacy to legislation, commissioning and training
- Calibration of testing equipment
- Calculation of system uncertainty
- Generation of uncertainties table
- Fiscal metering system design as per uncertainty levels, compatible with ANP-INMETRO 64 and OIML R-117

ASSEMBLY

SGS has experienced teams for assembling electrical and instrumentation systems.

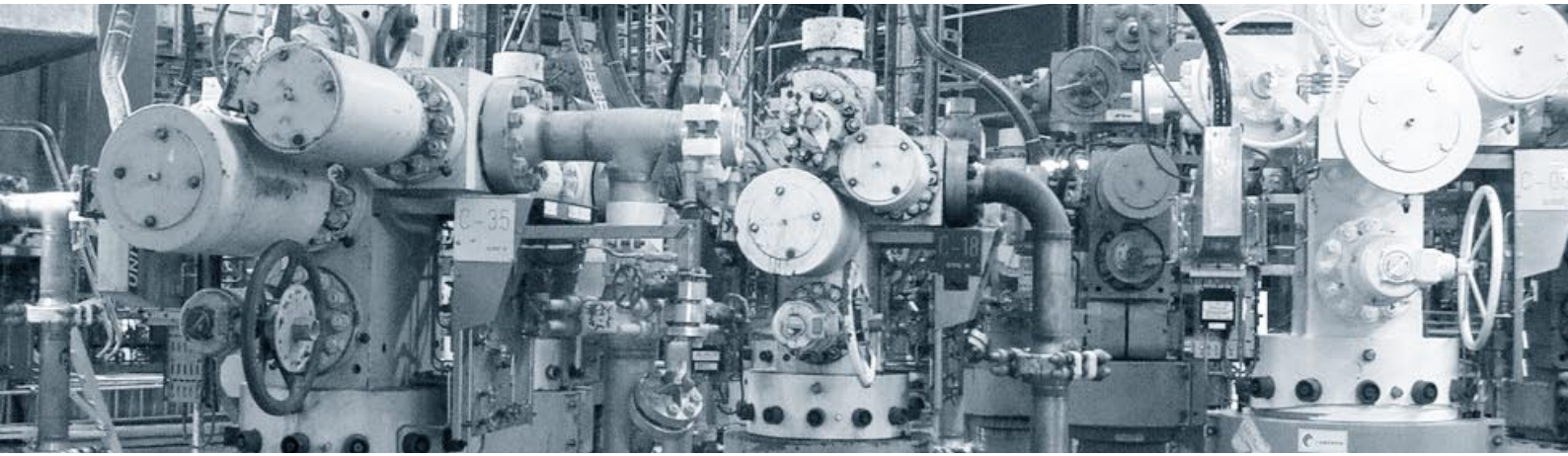
DESIGN

SGS has an Automation Engineering Design Department that supports assembly and commissioning activities.

TRAINING/CONSULTANCY SERVICES

SGS operates a Training Centre to provide open training or in-company consultancy services. The main areas covered are

- Basic Industrial Electricity
- Basic Instrumentation – pressure, flow level and temperature measurement
- Control valve training
- PSV training
- NR-10 (mandatory electrical safety training)



COMMISSIONING SERVICES

SGS provides all tests necessary to transfer a plant from construction to operations. Commissioning services provided by SGS can include the following areas

- Instrumentation
- Electrical
- Mechanical / VAC
- Safety
- Telecommunication
- Piping

SGS has developed a 5-stage model for commissioning

- Stage 1 – Planning and Engineering
- Stage 2 – Conditioning and Preservation
- Stage 3 – Commissioning
- Stage 4 – Start up
- Stage 5 – Assisted Operation

COMMISSIONING MANAGEMENT

SGS has developed dedicated Commissioning Management Software; the C.R.I. system includes a database capable of generating management reports on mechanical, piping, instrumentation and electrical services. The software presents the actual commissioning situation and generates information about

- Pending work to be executed and physical advance by
 - System/subsystem
 - Subject
 - Item
 - Activity
- Identification of critical path for start up
- Precise and updated information for use in daily meetings

- Contracted versus finished services
- Issuance of measuring bulletins
- Document control (Data Sheets, Certificates, etc.)
- Calibration and Testing Situations (Hydrostatic, API 598 etc)
- Loop Tests

MAINTENANCE GLOBAL OUTSOURCING

MAINTENANCE DOWNTIME REDUCTION

SGS is well organised and can quickly be at a client's premises to provide

- Instrumentation and electrical work teams for turnarounds
- Mobile instrumentation and electrical maintenance workshops
- Mobile calibration laboratories
- Mobile valve maintenance and calibration workshops

VALVE EXCELLENCE CENTRE

- Valve calibration in-situ
- Predictive maintenance in control valves through the use of a portable microprocessed diagnosis system
- Safety and relief valves (ASME I and ASME VIII) inspection, calibration and maintenance

INSPECTION

SGS inspects all work from project stage to materials and equipment, assembly work in the field including commissioning and final acceptance tests. All work is carried out in accordance with relevant standards as well as the best available techniques.

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