



FIRE FIGHTING SYSTEMS

POWER PLANTS FIRE FIGHTING AND DETECTION

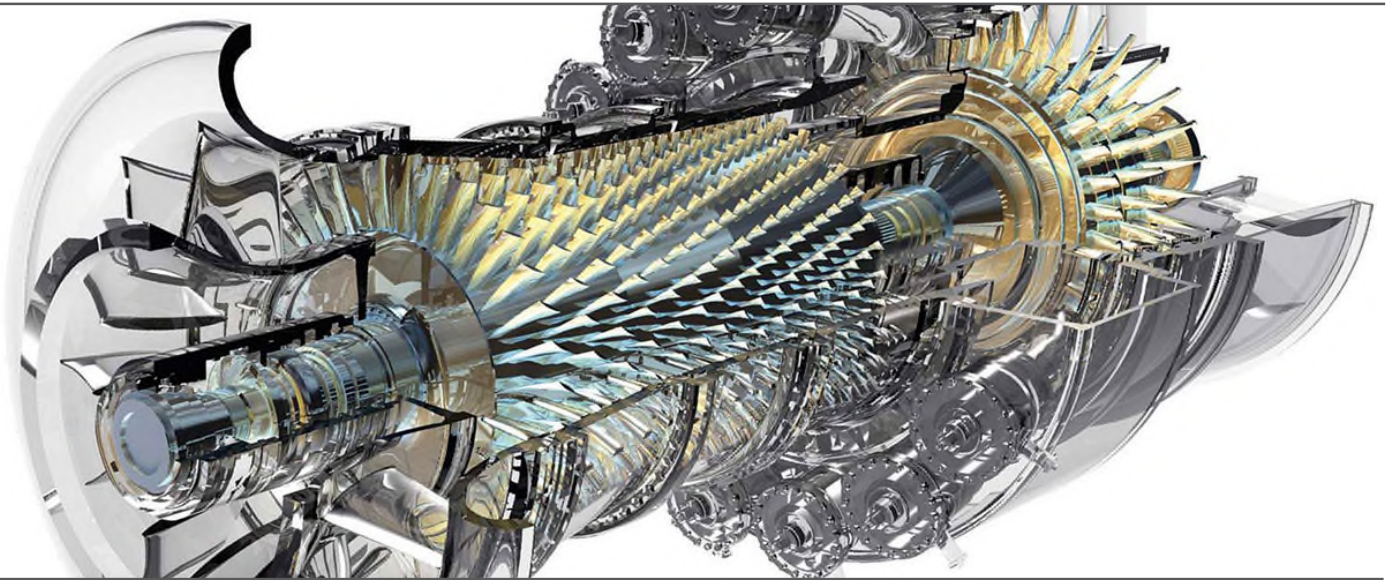
FIRE HAZARDS IN ELECTRIC POWER PLANTS

Power Plants are large and complex industrial facilities where the process of generating electric power can lead to various high fire hazards such as large quantities of fuel, combustible/flammable materials liquids, electrical hazards, combustible dusts and warehousing.

Fires can cause serious injuries, have detrimental effects on the environment, endanger energy supplies and can have severe business impacts and costly consequences.

Many fires can be prevented and damage minimized by improving the reliability of fire detection and fire suppression systems.

This is where SIA is focused and well prepared, based on the long and diversified experience gained during many years of development and improvement in this specific branch of firefighting.



SIA offers fully engineered, pre-assembled and even self-sufficient systems, specifically designed to protect Gas Turbines, Steam Turbines, Generators, Compressors, Transformers auxiliaries such as Skid Gas, Lube Oil Tanks and Pipes, as well as Electrical and Control Buildings, EDG and other utilities.

SIA's Fire & Gas Detection and Extinguishing systems are designed and installed according to national and international standards, such as UNI, EN, ISO, Standards, NFPA Regulations as well as widely recognized guidelines such as VdS, UL and FM Global.

Reliability and efficiency of the systems designed and realized by SIA are assured by a strict and complete Quality Control Plan applied before, during and after manufacturing and extended even to Site Acceptance, Commissioning and Start-up tests and inspections.



FIRE & GAS DETECTION AND SUPPRESSION

Automatic Fire Suppression System for Power Plants include High Pressure CO₂ Systems, Clean Agent Systems, Water Deluge, Pre-action and Sprinkler Systems, Water Mist Systems.

Fire & Gas Detection Systems include high-performance fixed detectors such as Optical Flame detectors, Catalytic and Infrared Gas detectors, Heat and Smoke Detectors all supervised and controlled by single or multiple Fire Alarm Control Panels and combined with all types of manual control devices and visual and acoustic alarms.

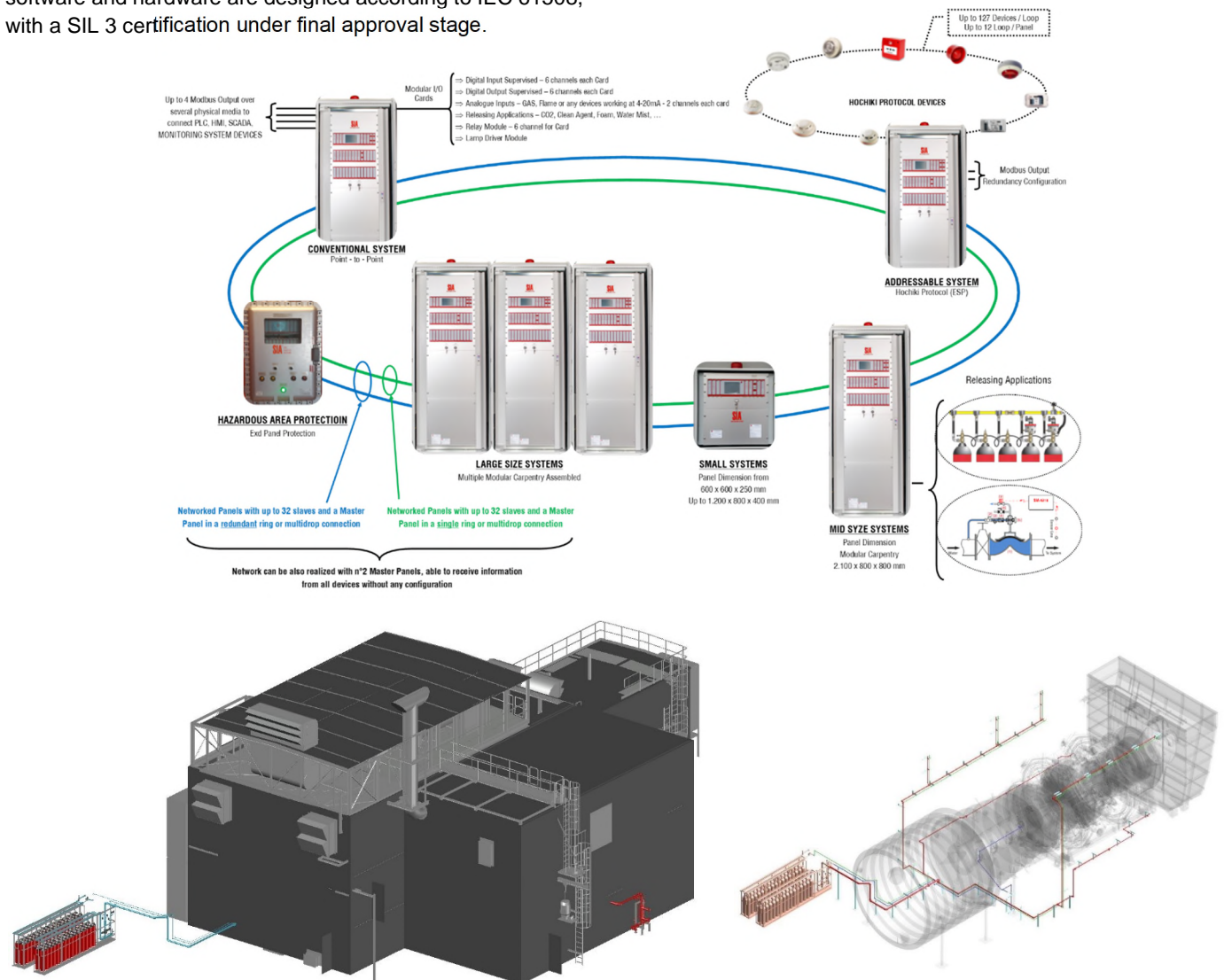
SIA has developed its own Fire & Gas Integrated Control Panel, SIA-5319. It is a fully configurable panel which can be totally set up and programmed for detection and extinguishing control and monitoring.

A redundant CPU (master-slave) guarantees the supervision of the system in any critical conditions, without status modification or system arrest. Redundancy is also provided for all cards, as well as hot swap backup, and for power supply and racks.

SIA-5319 is manufactured and tested according to EN 54-2, EN 54-4 Standards and complies with EN 12094-1 for Control and Actuation of Gaseous Extinguishing Systems, while the software and hardware are designed according to IEC 61508, with a SIL 3 certification under final approval stage.

KEY COMPONENTS AND SERVICES

- 1 Technical analysis and detailed engineering of the complete safety system according to the highest quality standards and accuracy, using various dedicated software and 3D modelling.
- 2 Manufacturing and assembly of own Fire & Gas Integrated Control Panel SIA-5319, to supervise and control the Fire & Gas Detection System and multiple Fire Extinguishing Systems.
- 3 Manufacturing and assembly of different fixed Fire Extinguishing Systems, Gaseous or Water based, considering the configuration of the Power Plant and precise requirements of the client.
- 4 Quality Assurance and Control process to monitor engineering, procurement and production steps, internal and external, and to meet international standards and specific client requirements.



POWER PLANTS CASE HISTORY

ANSALDO ENERGIA

MARGHERA LEVANTE BROWNFIELD Project – Italy (GAS & Steam Turbine in Combined Cycle)

CENTRALE TERMOELETRICAL DI TURBIGO – Italy (GAS & Steam Turbine in Combined Cycle)

ACCIAIERIE ARVEDI SERVOLA – Italy (GAS Turbine in Combined Cycle Power Plant)

ROSEN 2017 EPCM Project – Italy (GAS Turbine in Combined Cycle Power Plant)

CCPP PANCEVO Project – Serbia (GAS Turbines in Combined Cycle Power Plant)

ARVEDI SERVOLA Project – Italy (GAS & Steam Turbine in Combined Cycle)

COCHRANE THERMOELECTRIC POWER PLANT Project – Chile (Steam Turbines for Thermoelectric Plant)

ISAB GT1 NG Fuel Conversion Project – Italy (New Skid Gas & Filtering and Metering Station)

FLEXIBILITY SPARANISE Project – Italy (New Filtering and Metering Station for Auxiliary Boiler)

EDISON

MARGHERA LEVANTE BROWNFIELD Project – Italy (GAS & Steam Turbine in Combined Cycle)

VENINA REVAMPING Project – Italy (Hydro Power Generating Plant)

GANDA REVAMPING Project – Italy (Hydro Power Generating Plant)

**GENERAL ELECTRIC**

KIRIKKALE Project – Turkey (GAS Turbines for Natural GAS Combined Power Plant)

AT-BASHI HHP Rehabilitation Project – Kyrgyz Republic (Hydro Power Generating Plant)

**ALSTOM POWER**

KELAR THERMAL POWER STATIONS Project – Chile (GAS Turbines for Combined Power Plant)

AL ANBAR Project - Iraq (GAS Turbines for Combined Power Plant)

**TECHINT**

Al Shabab Power Project Phase II – Egypt (Converting Existing Simple Cycle to Combined)

West Damietta Power Project Phase II – Egypt (Converting Existing Simple Cycle to Combined)

SOLAR TURBINES

MARINER, GRESMALT, VENATOR, TIVOLI, CASTELVETRO, AHLSTROM Projects – Italy (GAS Turbines)

LSHM Project – China (3 x GAS Turbine)

GENSER GHANA Project – Ghana (4 x GAS Turbines)

PNG Project – Papua Nuova Guinea (4 x GAS Turbines)

HAMAKANG Project – Nigeria (4 x GAS Turbines)

MONDOU POWER STATION Project – Chad (1 x GAS Turbine)

AVIKO Project – Belgium (2 x GAS Turbines)

DEEPAK Project – India (1 x GAS Turbine)

ALCANTARA / TAU PORCELANICO / PAPELERA ECKER Projects – Spain (3 x GAS Turbines)

Solar Turbines

A Caterpillar Company

WHO WE ARE

SIA is an international company operating in the firefighting and detection industry. We offer complete engineering, project management, customized production and assembly, installation and maintenance services for Fire Extinguishing and Fire & Gas Detection systems.

SIA management team has more than 30 years of diversified experience operating as system integrators, providing its customers with engineering solutions, supported by a wide range of products and downstream services.

SIA's Quality Assurance and Quality Control management, throughout the entire project development from bid to final product acceptance tests, ensure the highest standards of design and construction required in the Power Generation Industry.

With its Quality & Environmental Policy and strategic direction, SIA is committed to meet all applicable requirements of its customers and international standards such as ISO 9001:2015, as well as to continually improve.

COMPANY ORGANIZATION

