



Systems Services

Cool and Clean, Forward



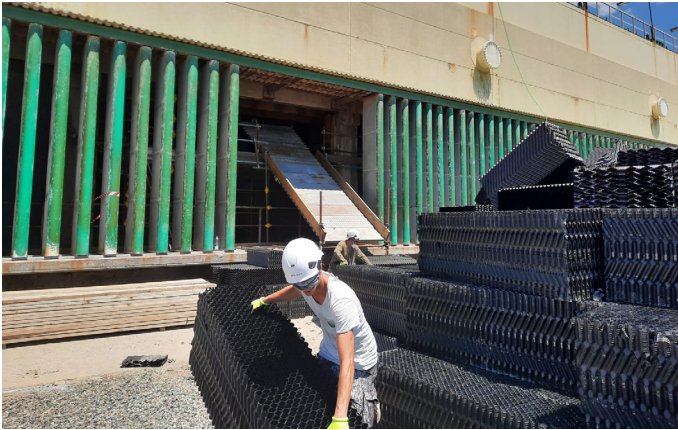
SPIG[®] Wet and Dry Cooling Systems Services

As a leading worldwide supplier of cooling systems solutions, SPIG provides comprehensive after-sales services including operational support, maintenance, equipment upgrades, replacement parts and training. Our worldwide team of expert service engineers provide flexible operating solutions to improve performance, efficiency, reliability and maintainability of existing equipment. We offer long-term service agreements to ensure your system operates at peak performance and remains highly available.

Site Services and Upgrades

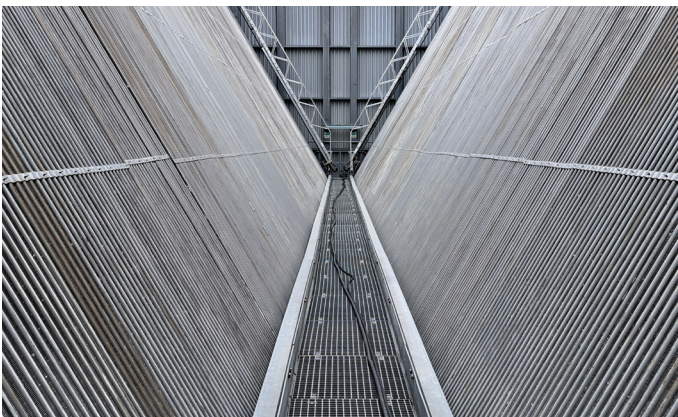
Wet Cooling Towers

- Complete replacement tower on existing basins
- Fill replacement
- Drift eliminator replacement
- FRP / PVC distribution replacement and reconstruction
- Hot water basin replacements
- Structural reconstruction
- Fan deck replacement
- Mechanical replacement of fans, gears, drive shafts and motors
- Hot water deck access ladders and plenum walkways
- Casing and louvers: FRP / plywood / PVC / cellular
- Stairways and ladders
- Fill and drift access, platforms
- FRP fan stack replacements
- Complete tower or individual cell refurbishment
- Crossflow to counterflow conversions
- Concrete tower internals and reconstruction
- Roof top replacement and repairs
- Fire and lightning protection



Air-Cooled Condensers and Air Fin Coolers

- Retubing
- Finned tube renovation
- Tube bundle supply and renovation
- Complete ACC upgrades
- Heat exchanger section expansion
- Mechanical improvements: fans, stacks, ducts, structural components and auxiliary systems



Safety

As one of our primary core values, we regard the health and safety of each employee of utmost importance and will never be satisfied until our workplaces and job sites are free of all accidents and injuries.

Stay Safe is a program that reflects SPIG's commitment to safety.

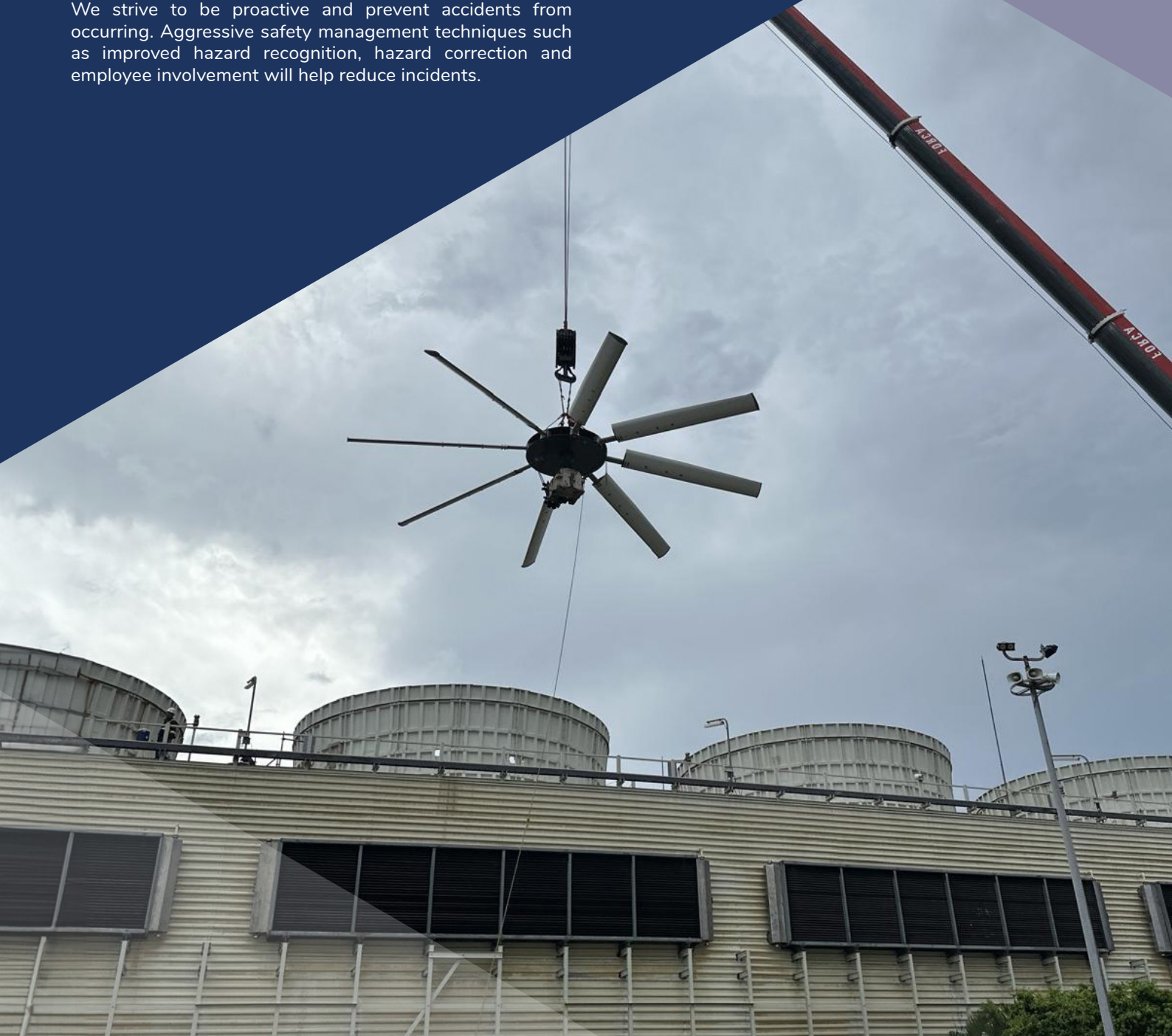
We are dedicated to preventing accidents and their associated costs by averting, eliminating or mitigating unsafe acts and conditions, and by responding properly to natural disasters and emergency situations.

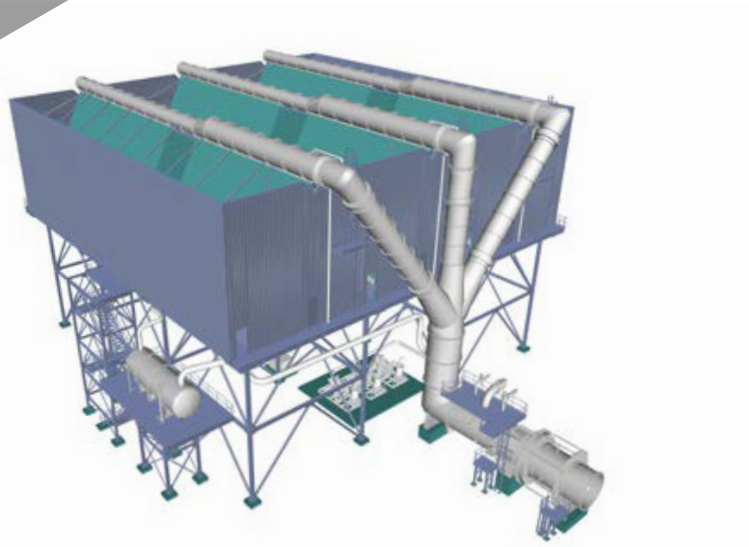
As a company-wide program, the **Stay Safe** process mandates that all employees, subcontractors, vendors and customers work together to practice and promote proper work habits, to develop positive attitudes, to use good judgment and to finish each and everyday injury-and-incident free.

We strive to be proactive and prevent accidents from occurring. Aggressive safety management techniques such as improved hazard recognition, hazard correction and employee involvement will help reduce incidents.

Stay Safe is promoted, reinforced and measured at all company locations across the globe and is based on these principles:

- Employee participation and accountability
- Management leadership, commitment and accountability
- Hazard prevention and control
- Training
- Procedural compliance
- Continuous improvement





Engineering Services

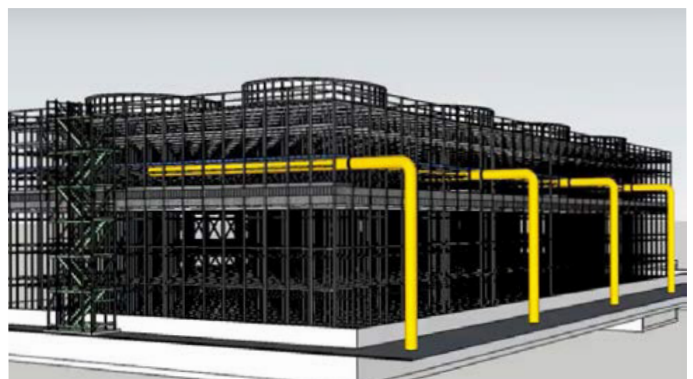
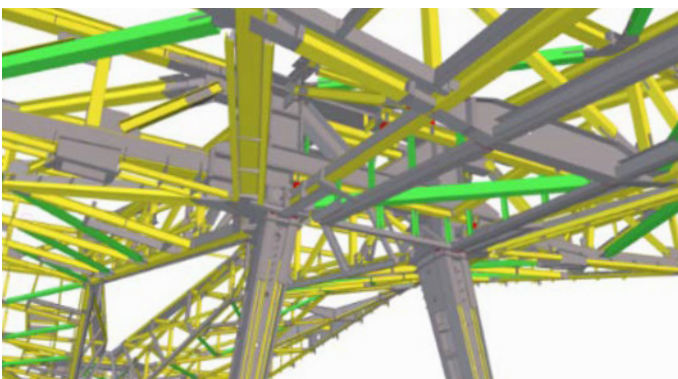
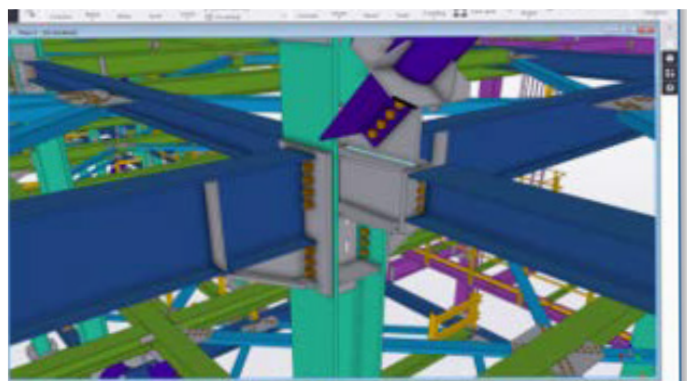
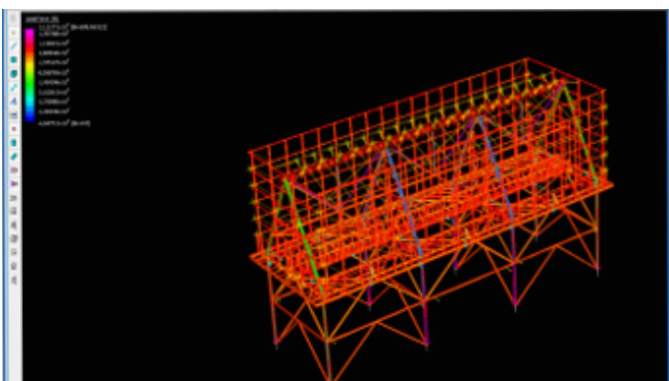
SPIG designs cooling systems engineered in accordance with national and international standards (UNI-EN, ISO, ANSI, AMSE, ASTM, AISC) and to the guidelines of the Cooling Technologies Institute (CTI).

Proprietary software developed from in-house research, along with performance data from commercial installations, is used to design our thermodynamic systems. Computational fluid dynamics (CFD) analysis is used to simulate critical plant

conditions to better define complex fluid dynamics models to design systems for optimum performances. In addition, we have developed in-house software for structural design of cooling towers, air-cooled condensers and air fin coolers.

Upon request, we can also provide detailed engineering for concrete cooling towers, fire walls and pump basins.

To prevent fire propagation, our fire-fighting systems include deluge valves, heat-detectors and sprinklers.



Research & Development/Testing

Wet and dry cooling systems product innovation and development is undertaken at our state-of-the-art research facility located at the SPIG technology center in Italy. The facility is specifically designed to analyze and test cooling towers components simulating a wide range of conditions and applications. A dedicated team of experienced R&D engineers conduct

Examples of technology upgrades developed at our R&D facility include:

- Propeller and slash type ECOJET spray nozzles
- H-MOON and CELLULAR2.0 drift eliminators

thermal performance research on fill and nozzles, drift eliminator efficiency tests, noise tests on a variety of components, nozzle efficiency tests, and multi-row bundle tests, among many others. These activities are aimed to improve product quality, performance and dependability, as well as constructability and maintainability.

- Y20, LC25 and TGR20 fill
- FUTURA and HP600 splash fill
- Single row bundles for ACCs



Spare and Replacement Parts

SPIG's facility in Paruzzaro, Italy, is home to engineering, sales, project management, procurement, logistics, quality control, administration, and other specialized service functions for our SPIG cooling tower technologies. In addition to office and R&W laboratory space, more than 8000

square meters of indoor and outdoor warehouse space is available to store parts and other equipment. The warehouse is equipped with three loading docks and includes a bar-coding system to enable timely shipment and deliveries.

- Film fills
- Splash fills
- Distribution nozzles
- Drift eliminators

- Noise attenuation systems
- Air inlet louvers
- Multi-row bundles
- Fan stacks



WATER DISTRIBUTION ACCESSORIES



ECOJET S



ECOJET L



Y 20



TGR20



STAR X25



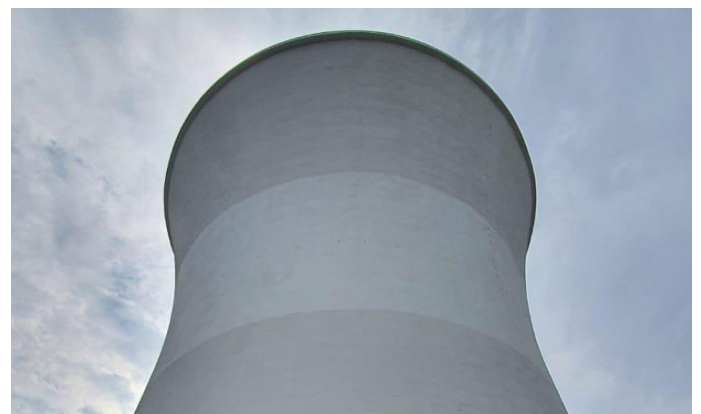
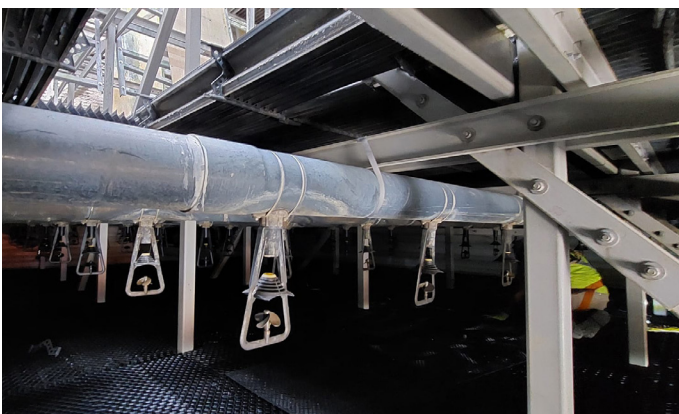
HP 600



H-MOON L H-MOON N



CELLULAR 2.0





GLOBAL PRESENCE

TURKEY

Şair Eşref Bulvarı 35/1
daire:403 İsmet Kaptan Mah.
No: Konak/ İzmir
Phone: +39 0322 245401

KINGDOM OF SAUDI ARABIA

Street King Faisal West 6690
35514 Al Jubayl
Phone: +966 (0)133612113

SOUTH KOREA

#702, 7th Floor, Kangnam-Officetel,
40 Seocho-Daero 73-Gil, Seocho-Gu,
Seoul, 137-857
Phone: +82 10 3248 6489

GERMANY

Marie-Curie-Straße 16
51377 Leverkusen
Phone: +49 15140709815

INDIA

6th Floor, New Excelsior Building
A. K. Nayak Marg, Off D. N. Road Fort,
Mumbai - 400 001
+39 0322 245401

UNITED ARAB EMIRATES

Office # 423,
Jafza 15, Dubai
United Arab Emirates

CHINA

Dong Cun Industrial Park, Dingxiang Country
035400 Xinzhou City
Shanxi Province
Phone: +86 17822038412

BRAZIL

Avenida João Antônio Mecatti, 1221
Galpão C Jardim Planalto 13211-223 Jundiaí
São Paulo
Phone: +55 1145227434

Quality, Health & Safety, and Environmental
Management System is certified by



Member in good standing in the Cooling
Technology Institute since Feb 1993.



Via Borgomanero 34,
28040 Paruzzaro (NO) Italy
Phone: +39 0322 245401

www.spig-gmab.com