

ENGINEERING CONSULTANCY & RECRUITMENT FOR INDUSTRIAL POWER PLANTS WORLDWIDE

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ROC Industrial is a technical consultancy and recruitment company in the oil, gas and renewable energy sector. Partnering with world-renowned clients, we place specialist power plant personnel in key project roles worldwide.

Starting as a small, dynamic European team in 2013, we've evolved into a global network with fast-growing capabilities. The result? We attract leading industrial energy companies to collaborate with us, and the highest calibre engineers to join our expert team.

COMPANY VALUES

- Trusted industry expertise
- · Best practice approach
- Sustainable energy focus
- International expansion







GLOBAL MOBILITY

- Established in 21 countries across 4 continents
- Offices in Europe, Africa, Middle East, North & South America
- Connected to a global branch & partner network

PROJECT FULFILMENT

We're driven by client requirements and specific project needs. Matching skilled engineers and supervisors to technical power plant jobs, we cover every discipline, throughout the complete project cycle.

Power Plants

Renewables: Solar, Hydro, Wind, Thermoelectric, Photovoltaic, Waste-to-Energy Oil & Gas: Combined Cycles, LNG Storage, Oil Refineries

Project Phases

Engineering, Construction, Commissioning, Operation & Maintenance

Disciplines

Mechanical, Electrical, Instrumentation & Control, Safety, Civil, Operation & Maintenance, Planning, Cost Control



CLIENT COLLABORATIONS













Leading corporations value the world-class standards we bring to each and every project.

- Competitive industry rates
- Flexible contract terms
- · Highly qualified engineers
- Experienced supervisors
- · Proven on-site expertise
- · Effective global collaborations
- · Long-lasting partnerships

CONSULTANCY & RECRUITMENT

Consultancy

Our consultancy team comprises 90 supervisors and engineers from over 30 countries. Clients benefit from experts that we know and trust for their precision and commitment.

- Experts in global power plant management
- Multi-skilled, multi-national & multi-lingual team
- · Highly qualified in a full spectrum of technical profiles
- Worldwide relocation to meet project deadlines

Recruitment

Our recruiters come from engineering backgrounds and have excellent industry contacts. As such, they are experts in the search, selection and relocation of power plant personnel.

- Placing top engineers in specialist roles
- Matching qualifications, skills & experience
- Filling immediate job vacancies fast
- Meeting short & long-term project needs

Relocation Service

With 10 years' experience in global relocation, we offer comprehensive support in compliance with each country.

- Immigration & work visas
- Employment contracts
- Payroll, tax & pensions
- Flights & accommodation
- Filling immediate job vacancies fast
- · Meeting short & long-term project needs



GLOBAL POWER PLANTS

Our portfolio includes pioneering plants and industry firsts. We've sent experts to operate ground-breaking molten salt technology and the largest thermosolar complex on earth.

We're proud to support green energy - from projects that optimise fuel production with recycled biomass materials, to powering millions of homes by the forces of nature.

We add value to high profile ventures, whether that be meeting construction deadlines for Africa's largest sugar mill investment, or managing a €400 million waste-to-energy plant in Scotland.

The projects we work on achieve client goals and change people's lives all over the world.





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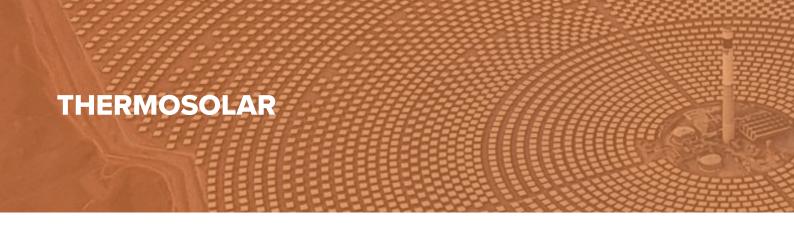
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WORLD'S LARGEST THERMOSOLAR COMPLEX - MOROCCO

Noor Ouarzazate I, II & III Thermosolar Plants

Located in a region that boasts one of the highest amounts of sunlight in the world at 2,635 kWh/m2/year, the three thermosolar plants are each equipped with a thermal storage system that produces electricity in the absence of solar radiation. With the greatest demand for power in Morocco being nightfall, the integration of these facilities in the Moroccan electricity system ensures optimal efficiency. In total, the complex produces enough solar energy to power 400,000 homes and saves annual CO2 emissions of 470,000 metric tonnes.

Collaborating on this vast project, ROC Industrial supervisors commissioned rotational equipment and ensured fully automatic operation.

Location: Ouarzazate, Morocco
Client: SENER for ACWA POWER
Total Production Capacity: 510 Mwe

Parabolic Trough Plant Noor Ouarzazate I - Morocco

Production Capacity: 160 MWe of power | 3.5 hours of thermal storage

Number of SCA/loops: 1,600/400 Technology: SENERtrough® collectors

Solar Power Supply: 115,000 homes per year

CO2 Emission Savings: 120,000 metric tonnes per year

ROC Industrial Consultancy: Mechanical Supervisors | Control Supervisor

Project Phase: Commissioning | Operation & Maintenance

Parabolic Trough Plant Noor Ouarzazate II – Morocco

Production Capacity: 200 MWe of power | 6 hours of thermal storage

Number of loops: 425

Technology: Parabolic trough collector - SENERTrough®-2

Technology: Molten salt technology

Solar Power Supply: 165,000 homes per year

CO2 Emission Savings: 170,000 metric tonnes per year

ROC Industrial Consultancy: Control Supervisor

Project Phase: Commissioning | Operation & Maintenance





Central Receiver Plant Noor Ouarzazate III - Morocco

Production Capacity: 150 MWe of power | 7.5 hours of thermal storage

Technology: SENER's high-power solar receiver with heliostats

Solar Power Supply: 120,000 homes per year

CO2 Emission Savings: 130,000 metric tonnes per year

ROC Industrial Consultancy: Control Supervisor

Project Phase: Commissioning | Operation & Maintenance









PIONEERING THERMOSOLAR TECHNOLOGY - CHILE

Cerro Dominador Thermosolar Project

Specialists in every discipline participated in this pioneering project. Located in a region that benefits from some of the world's highest levels of solar radiation, the plant is the first of its kind in Latin America. By constructing a CSP tower plant that joins the 100 MW photovoltaic plant already in operation, it is the continent's first renewable energy complex to combine both technologies and can save more than 400,000 tonnes of CO2 emissions per year.

Location: Atacama, Chile

Client: Acciona for EIG Global Energy Partners

Production Capacity: 110 MW **Storage Capacity:** 17.5 hours

Technology: Molten salt storage system

ROC Industrial Consultancy: Electrical Supervisor | Turbine Supervisor | Control System Supervisor | Health & Safety Supervisor | Mechanical Supervisor | Solar Field Supervisors | Piping Supervisors |

Instrumentation Supervisors

Project Phase: Commissioning | Construction | Operation & Maintenance









Kathu CSP Plant – South Africa

Our supervisors played key roles in three project phases of this Concentrated Solar Power plant, which will produce enough electricity for 150,000 homes and is expected to prevent six million tonnes of CO2 emissions over the course of 20 years.

Location: Northern Cape, South Africa

Client: SENER & Acciona for Engie & Kathu Solar Park

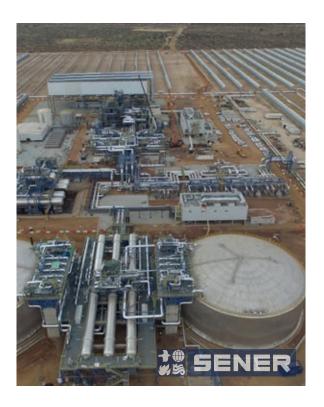
Production Capacity: 100 MW power | 4.5 hours of
thermal storage | Estimated net production of 500 GWh
per year

Technology: Parabolic trough collector technology | Thermal storage system using molten salts

ROC Industrial Consultancy: Operator Supervisors | Manager of Operations | Control System Supervisor

Project Phases: Pre-Commissioning | Start-Up |

Operation & Maintenance



Parabolic Trough Plant Kathu - South Africa

Control Room Operators were contracted to ensure the smooth working of a thermosolar plant that uses cuttingedge molten salt storage to provide electricity for 150,000 households and save CO2 emissions of 95,000 tonnes per year.

Location: Northern Cape, South Africa

Client: SENER & Acciona for Kathu Solar Park

Production Capacity: 100 MWe

Thermal Storage Capacity: 1,550 MWth | 4.5 hours

Technology: 250 loops using SENERtrough®-2 parabolic

troughs | Molten salt storage system

ROC Industrial Consultancy: Control Room Operators

Project Phase: Operation & Maintenance





Parabolic Trough Plant llanga 1 – South Africa

Skilled engineers were contracted to operate the Control Room at a thermosolar plant that uses high spec molten salt technology to produce electricity for 86,000 homes and save CO2 emissions of 90,000 tonnes per year.

Location: Upington, South Africa

Client: SENER & COBRA for KAROSHOEK SOLAR ONE Ltd

Production Capacity: 100 MWe

Thermal Storage Capacity: 1,250 MWht | 5 hours

Technology: 266 loops using SENERtrough® parabolic troughs and a molten salt storage system

ROC Industrial Consultancy: Control Room Operators

Project Phase: Operation & Maintenance









Shagaya 50 MW Solar Thermal Power Plant - Kuwait

Boasting one of the world's largest thermal storage systems, this plant is the first of its kind in Kuwait and one of the first to be developed in the GCC countries. Enhancing the Operation & Maintenance phase, ROC Industrial provided expert Control Operators.

Project Budget: EUR 362 million

Client: TSK for Kuwait Institute for Scientific Research

(KISR)

Production Capacity: 60 MW (50 MW solar thermal

plant & 10 MW photovoltaic plant)

Storage Capacity: 9 hours using molten salts
Technology: TSK parabolic trough collectors
ROC Industrial Consultancy: Control Operators

Project Phase: Operation & Maintenance



Thermosolar Plant Ashalim, Israel

This state-of-the-art thermosolar power plant in the Negev Desert is Israel's largest renewable energy project. Using one of the world's largest molten salt storage systems, it supplies eco-friendly power for 60,000 households and saves 245,000 tonnes of CO2 emissions per year. ROC Industrial provided experienced Control Operators for the Operation & Maintenance stage.

Location: Ashalim, Israel
Client: TSK for Negev Energy

Production Capacity: 121 MW

Technology: Parabolic trough | Molten salt storage

system

Storage Capacity: 11 hours

ROC Industrial Consultancy: Control Operators

Project Phase: Operation & Maintenance



WIND

WIND POWER EXPERTISE - NORTH & SOUTH AMERICA

6 Wind Farms

Bringing expertise to the construction of six on-shore and off-shore wind farms in the United States and Latin America, ROC Industrial was contracted to supervise the installation of turbines, along with best practice health & safety measures and documentation to meet project deadlines.

Location: USA | Chile | Mexico | Puerto Rico

Clients: Siemens-Gamesa & Vestas

Collective Number of Turbines: Approx 200
Collective Production Capacity: Over 1,000 MW

ROC Industrial Consultancy: Health & Safety Supervisor | Document Controller | Wind Turbine Supervisors

Project Phase: Construction





BIOMASS START-UP SUCCESS - BELGIUM

Ghent Biomass Plant

ROC Industrial consultants played key roles in the construction quality, electrical commissioning and turbine start-up of a new 19.9 MWe electricity generation and steam production plant to serve an adjacent plant. The efficient biomass project is designed to be fueled by recycled and reusable wood from demolition sites.

Location: Ghent, Belgium

Project Budget: EUR 86 million

Client: Elecnor for Gentse Warmte Centrale nv (GWC)

Production Capacity: 19.9 MWe

ROC Industrial Consultancy: Health & Safety Manager | Instrumentation Supervisor | Turbine Advisor

Project Phase: Start-Up









Biomass Plant of Cubillos del Sil - Spain

ROC Industrial provided civil and mechanical quality supervision during the construction of this biomass plant, which generates enough clean energy to power 50,000 households.

Location: Ponferrada, Spain **Project Budget:** \$101.453m

Client: ACCIONA for Forestalia Renovables

Production Capacity: 49.9 MW

Generates: 290 GWh per year from approximately

280,000 tonnes of vegetable biomass

ROC Industrial Consultancy: Quality Supervisor (Civil &

Mechanical)

Project Phase: Construction



Curtis Teixeiro Biomass Plant - Spain

We proudly participated in one of Europe's most important renewable energy projects and the largest forest biomass facility in the Iberian Peninsula and Southern Europe. With capacity to treat 500,000 tonnes of forest biomass (using pruning and eucalyptus wood waste), the plant supplies enough energy for a population of over 250,000.

Location: La Coruña, Galicia, Spain

Project Investment: EUR 135 million

Client: ACCIONA

Production Capacity: 50MW **Generates:** 324 GWh per annum

Technology: The latest biomass power generation technologies | dry cooling technology for minimal water

consumption and no effluent discharges

ROC Industrial Consultancy: Quality Supervisor (Civil &

Mechanical)

Project Phase: Construction



WASTE-TO-ENERGY

WASTE-TO-ENERGY EFFICIENCY – SCOTLAND

Ness Energy Project

Collaborating on this EUR 400 million project, ROC Industrial was contracted to supervise the electrical aspects, health & safety practices and chemical composition of fluids during Construction and Start-Up. Conforming to the latest strict European standards, the high-tech plant has capacity to treat 150,000 tonnes of non-recyclable municipal solid waste per year in a clean, sustainable and comprehensive way.

Location: Aberdeen, Scotland
Project Budget: EUR 400 million

Client: Acciona for Aberdeen City Council

Production Capacity: 14 MW

ROC Industrial Consultancy: Health & Safety Supervisor | Electrical Supervisor |

Commissioning Chemical Supervisor **Project Phase:** Construction | Start-Up



GEOTHERMAL

Geothermal Plant Los Azufres III - Mexico

Relocating a specialist Control Supervisor, we assisted the start-up phase of Mexico's second largest geothermal reserve and one of the largest in the world. Designed to capture steam from the Los Azufres Geothermal Field, the plant uses extraction wells that are drilled at depths up to 2.5 km.

Location: Michoacan, Mexico

Client: TSK for Federal Electricity Commission (CFE)

Production Capacity: 25 MW

Average Annual Generation: 200 GWh per year

Technology: Fuji Electric Steam Turbine

ROC Industrial Consultancy: Control Supervisor

Project Phase: Start-Up





GREENER ENERGY GOALS – GERMANY

Combined Heat & Power Plant Cycle

Experienced supervisors were sent to manage the construction quality, electrical commissioning and turbine start-up of a combined power plant that is designed to reduce and eventually eliminate coal consumption.

Location: Scholven/Gelsenkirchen, Germany

Client: SENER for UNIPER **Production Capacity:** 400Mw

Equipment: 2 gas turbine SIEMENS STG-800 & generator sets | 2 heat recovery steam generators

(HRSGs) | steam turbine & generator set | direct-fired boiler

ROC Industrial Consultancy: Health & Safety Supervisor | Quality Control Supervisor | Turbine Supervisor |

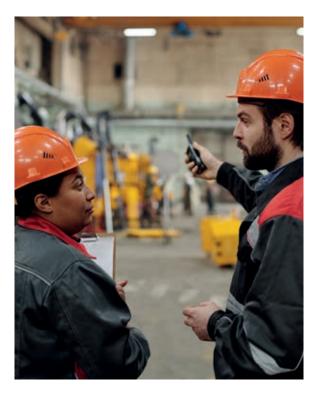
Electrical Supervisor

Project Phase: Construction | Commissioning | Start-Up









Azito Combined Cycle Power Plant - Ivory Coast

Enhancing output, a power extension of 253 MW in the current combined cycle thermal power plant generates a total of 700 MW. ROC Industrial consulted on two key phases with turbine and mechanical supervision.

Location: Abidjan, Ivory Coast Client: Cobra for Azito Energie Power Extension: 253 MW Total Power: 700 MW

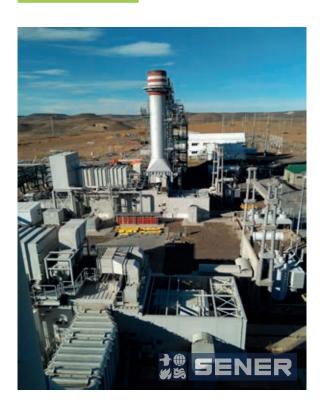
Equipment: 1 gas turbine | 1 double pressure steam turbine | 1 air-cooled condenser | 1 HRSG with bypass

stack

ROC Industrial Consultancy: Turbine Supervisor |

Mechanical Supervisors

Project Phase: Construction | Pre-Commissioning



Cerro Dragón Combined Cycle Power Plant - Argentina

A multi-skilled supervisory team were recruited for the Commissioning phase, in preparation to convert the power plant of the Cerro Dragón natural gas and oil field to a combined cycle 160 MW power plant.

Location: Comodoro-Rivadavia, Argentina **Client:** SENER for PAN AMERICAN ENERGY

Production Capacity: 160 MW

Equipment: 2x1 configuration | power island of 2 gas turbines dual fuel | 2 HRSG with dual pressure | steam turbine | dry cooling by air cooled condenser

ROC Industrial Consultancy: Electrical Supervisor | Control Supervisor | Mechanical Supervisor | Control Room Operators

Project Phase: Commissioning







Thermoelectric Combined Cycle Power Plant - Bolivia

A team of supervisors was enlisted for the Commissioning phase of Bolivia's largest new thermoelectric power plant (made up of three plants). The project includes expansion of existing plants and completing a total of eleven combined cycles with a final energy generation of up to 1,485 MW, without increasing consumption of fuel and obtaining energy in an eco-friendly way.

Location: Tarija, Bolivia

Client: TSK for ENDE ANDEAN

Current Production Capacity: SUR 295 MW + 80 MW

Cycle Closure

Final Production Capacity: 1,485 MW

Technology: 2x combined cycle based on STG-800 GT **ROC Industrial Consultancy:** Health & Safety Supervisor | Mechanical Supervisors | Control Room Operators

Project Phase: Commissioning



Warnes Combined Cycle Power Plant - Bolivia

Our experts were commissioned for a thermoelectric combined cycle project that aims to increase the supply of power and electrical energy to the National Interconnected System (SIN) and generate surpluses for the export of electrical energy, through the implementation of combined cycles in existing facilities and the expansion of the plant.

Location: Santa Cruz, Bolivia **Client:** TSK for ENDE ANDEAN

Production Capacity: 298 MW + Cycle Closure 82 MW **Technology:** 2x (2x1) Steam Tailing based on existing

STG-800 GT

ROC Industrial Consultancy: Health & Safety Supervisor |

Mechanical Supervisors | Control Room Operators

Project Phase: Commissioning







Kekeli Combined Cycle Power Plant - Togo

The precision of our Chemical Supervisor ensured the correct fluid composition at Togo's First combined cycle power plant. The plant will have a significant impact, meeting almost 40% of the country's electricity demand.

Location: Lomé, Togo
Client: TSK for ERANOVE
Production Capacity: 65 MW
Technology: 1x Siemens SGT-800

ROC Industrial Consultancy: Chemical Supervisor **Project Phase:** Construction | Commissioning



ATINKOU Flexible Gas Power Plant - Ivory Coast

ROC Industrial was responsible for civil, mechanical, quality and gas turbine supervision during the Construction and Commissioning of this combined cycle power plant. As the largest project of its kind in the Ivory Coast, as well as in West Africa, the plant produces enough energy to power one million homes.

Location: Jacqueville, Ivory Coast **Project Budget:** EUR 250 million

Client: TSK for ERANOVE

Production Capacity: 420 MW | 2,875 GWh annually Technology: Gas turbine technology SIEMENS SGT5-4000F | recovery boiler | SIEMENS SST-3000 steam

ROC Industrial Consultancy: Civil Surveyor | Mechanical Supervisor | Quality Supervisor | Gas Turbine Supervisor

Project Phase: Construction | Commissioning



COGENERATION

JAMALCO Cogeneration Plant - Jamaica

Providing technical supervision and quality management, our consultancy team played key roles in the Commissioning stage of this cogeneration power plant.

Location: Clarendon, Jamaica

Client: TSK for NFE South Power Holdings Limited **Production Capacity:** 100 MW | 140 ton/h steam

Technology: 2 x SGT-800 | 2 x HRSG

ROC Industrial Consultancy: Mechanical Supervisor | Instrumentation Supervisor | Electrical Supervisor |

Control Supervisor | Health & Safety Supervisor | Commissioning Manager







Zeebrugge LNG Regasification Plant – Belgium

Our Systems Supervisor provided such great support during the Commissioning phase that the contract was extended into the Warranty year. The project comprised provision of equipment for a second jetty at the Fluxys LNG plant and its connection to the existing LNG terminal to increase loading and unloading capacity.

Location: Zeebrugge, Belgium **Client:** SENER for Fluxys LNG

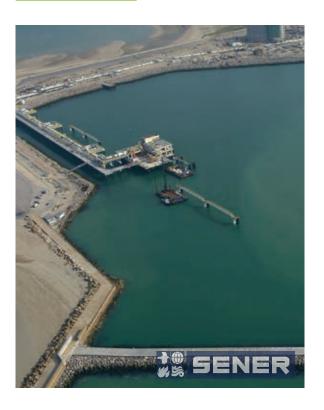
LNG carrier capacity: Up to 217,000 m3

Flow Rate Capacity: 14,000 m3/h for large ships | 1,500

m3/h for small ships

ROC Industrial Consultancy: Systems Supervisor **Project Phase:** Commissioning (continuing into the

warranty year)



Dunkirk LNG Regasification Plant - France

For this LNG unloading, storage and regasification plant, the vital role of our Mechanical Supervisor was extended from Commissioning into the Warranty year to ensure quality and consistency.

Location: Dunkirk, France

Client: SENER for Dunkerque GNL

LNG Carrier Capacity: Up to 267.000 m3

Flow Rate Capacity: 14,000 m3/h

Natural Gas Production Capacity: 13 BCMA (Billion

Cubic Metres Per Annum)

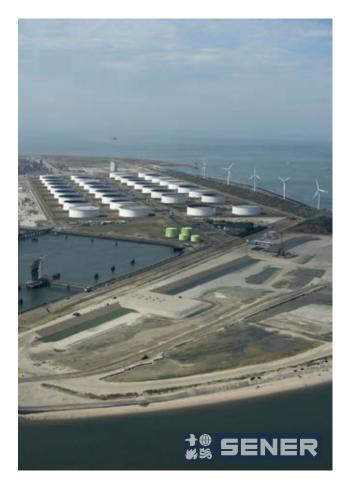
Nominal Capacity: 13 BCMA / 1.9 M m3/h

ROC Industrial Consultancy: Mechanical Supervisor **Project Phase:** Commissioning (continuing into the

warranty year)







Ethylene Storage & Regasification Terminal Kem One – France

ROC Industrial provided two types of mechanical support for the installation of an ethylene storage and regasification terminal. The project goal is to receive and unload ethylene from external suppliers, transport by ship and provide storage in a 30,000 m3 cryogenic tank, to process the BOG and vaporise the product for use in the chemical plant.

Location: Fos-sur-Mer, Marseille, France

Client: SENER for Kem One

ROC Industrial Consultancy: Mechanical Supervisor | Process Mechanical Supervisor

Project Phase: Commissioning

Gate Terminal Regasification Plant - Holland

Following the plant's construction in 2011, our client SENER was contracted to provide engineering, procurement and construction management (EPCM) services for more efficient operation and maintenance, and to ensure uninterrupted operation over the next decade. ROC Industrial was contracted to assist with the commissioning phase of this project.

Location: Rotterdam, Holland

Client: SENER

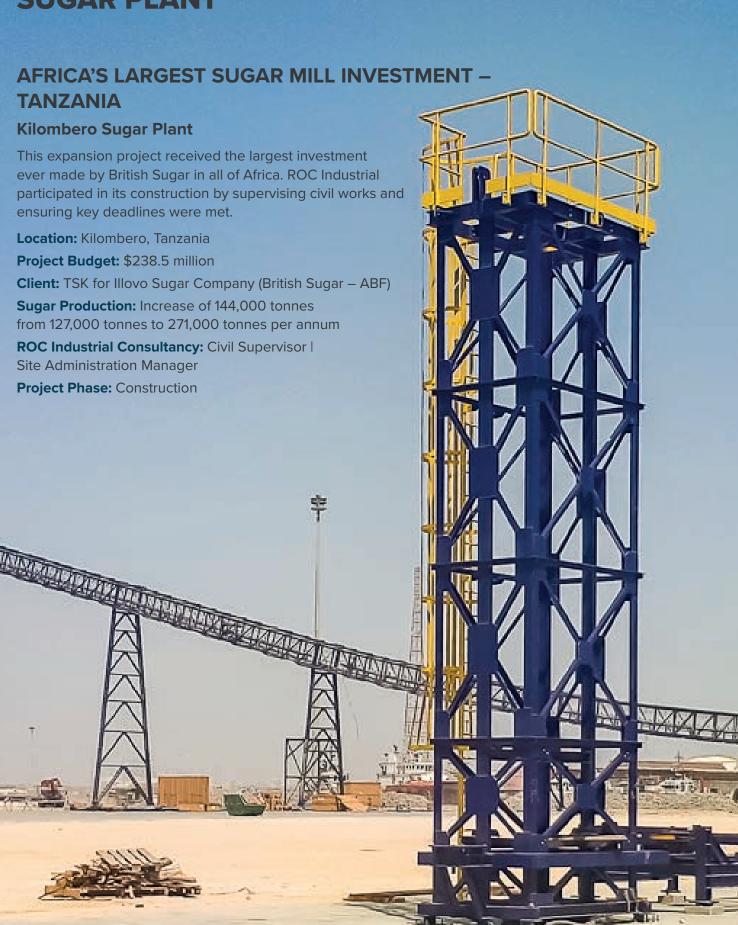
ROC Consultancy: Mechanical Supervisor |

Health & Safety Supervisor

Project Phase: Commissioning



SUGAR PLANT



Durrah Sugar Refinery - Saudi Arabia

When our client TSK was commissioned to build a turnkey sugar refinery at the King Fahd Industrial Port, ROC Industrial was contracted to provide piping and chemical supervision during the construction and pre-commissioning of the project.

Location: Yanbu, Saudi Arabia Project Budget: \$200 million

Client: TSK for Durrah Advanced Development Company

Production Capacity: 1500 tph



