

QUALITY SERVICES
GUARANTEED

SEP SERVICES

BRANCH OF SYSTEM HOUSE
FACTORY FOR ELECTRIC PANELS CO.

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TOMORROW'S SOLUTION TODAY

COMPANY PROFILE

SEP - System House Factory for Electric Panels- was established in 2006. Centrally situated in the Kingdom’s capital, Riyadh, SEP is a leading ISO certified, Aramco and Saudi Electricity Company (SEC) approved manufacturer and supplier of Relay, Control, Automation, SAS and Distribution panels up to 380kV level from its 8000sqm weather protected industrial unit. Establishing within a very short period of time an enviable reputation as a dynamic, innovative and specialized company with expert and current resources offering a comprehensive and professional service, our dedicated and knowledgeable team plans project and delivers industrial solutions through its proven products, innovative technology and first class services. The recent merger of GESCO (Gihaz Energy Services Company) with SEP further strengthens SEP’s abilities in the transformer& GIS testing services. GESCO herein after will continue to operate in the name of Branch of System House Factory for Electric Panels Co.



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OUR SERVICES

Having more than 50 qualified protection & 15 qualified automation engineers, SEP offers below mentioned services in kingdom of Saudi Arabia.



Testing and commissioning
(LV, MV, HV & EHV
Substations)



Retrofit Services
(Protection & SAS)



Automation & SAS
Solutions



Training (Protection &
Control System with
IEDs & SAS Solution)



Accessories

OUR SERVICES

Complete Testing and commissioning Services of LV, MV, HV & EHV Substations

- We offer complete Testing & commissioning Services for Substations up to 380 kV level.
- The testing and commissioning of substations up to 380kV level are handled by a team that combines technical and domain competence.
- Our team is properly organized, with roles and responsibilities specified for each category of engineer in accordance with Saudi Electricity Company guidelines.

- GIS & AIS Systems up to 380kV (LV, MV, HV & EHV)
- Control & Protection Panels
- AMR & AMI Metering systems
- ABTS & ACCS Systems
- SAS panels
- AC & DC Distribution systems
- High voltage test for GIS, AIS & Power cables up to 132kV
- Power Cables' Electrical tests up to 380 kV level
- Power Transformers up to 750MVA
- Over Head & UGC transmission lines
- Distribution feeders & Transformers
- Shunt Reactors, SVCs & Capacitive VAR Compensators/ Capacitor Banks
- Mobile substations & Compact Substations
- Ring Main units



Our team is very well equipped and specialized on the following testing equipment

- Omicron CMC 356 with GPS
- Omicron CPC 100 with CB2 Boosters
- Omicron CT Analyzer
- Megger FREJA 546 with GPS
- Megger FREJA 306 with GPS
- Megger FREJA 300
- Megger Sverker 780/760
- Zera On load measurement test kit TK326
- Megger Timer TM200
- CALPORT 300 Energy meter calibration test kit
- Megger Micro Ohm Meter MOM 200/ 600 A
- Megger T/R Turns Ratio tester TTR310-47
- AVO Mutli-Amp- Transformer Polarity Tester
- Omicron CP CU1 & CP GB1
- Omicron CP AL1 & CT SB2
- Megger Turns Ratio Tester TTR310-47
- DILO - SF6 Gas leak Detector, Multi Detector, Moisture Detector
- Megger Insulation Resistance tester MIT520, MIT525, MIT1025, BM 11D
- High Volt High voltage Kit (250 kV)
- Phenix High Volatge Kit (130 kV)
- High Volt VLF Hi Pot 6022CM (F)
- Hyundai Partial Discharge tester
- UHF Pulse Generator
- ODEN Primary injection equipment with Current Units
- Kyoritsu Phase Indicators with Open Phase checker
- Omicron Earth tester DET4TCR2
- Clamp meters, Multi meters, leakage testers, LCR meters, temperature calibrators, etc.
- Programma Circuit Breaker Analyzer TM1600
- Megger Circuit Breaker Analyzer Egil TM1720
- Megger Circuit Breaker Analyzer PME 500 T/R
- Megger Power supply & Trip Coil tester Circuit Breaker B10 E
- Megger/ Multi Amp OHMMETER MTO250 Winding Resistance Measurement
- Megger Micro Ohm Meter DLRO



OUR SERVICES

Retrofit Services CTs, Transformers and Control & Relay Panels

- We can offer services that will help the clients to replace the aged/faulty equipment in the existing substation with new ones.
- Our team is very well experienced in the retrofit services as we commissioned more than 100 UG/OHL circuits all over KSA in recent years with National Grid and Saudi Electricity company.
- Our team is having greater exposure to all types of protection relays & SAS systems which helps us to complete the retrofit services on time as required by clients.

HERE AN EXAMPLE

Location: Riyadh (SS#8016-8038A Feeder)

Requirement

The customer identified to replace old relays to avoid unscheduled operation downtime. Also, they identified to add Back up protection relay.

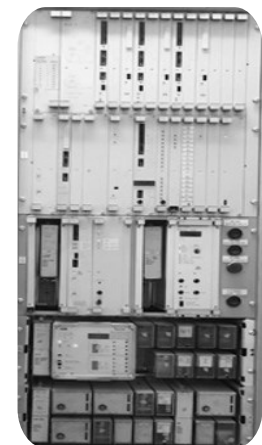
SEP Solution

Our service team installed new panel including two new version of numerical relays (ABB RED 670 as main protection and Siemens 7SD522 as back up protection)

Benefits

- Upgrade to new version of relay.
- Better reliability of electric power system.
- Less spare parts

Before



After



OUR SERVICES

Automation Services & SAS Solutions

SEP's portfolio of Substation Automation Solutions (SAS) provides our customers with state-of-the-art control and automation solutions by ensuring highest level of interoperability through international standards like IEC 61850, IEC 101, IEC104, RSTP, MODBUS, TCP/IP

Key features and functionalities of SEP Automation Solutions consist but not limited to the following:

NG / SEC SAS SOLUTION	NG/SEC Approved Substation Automation System Integrator SAS Solution with ZENON SAS for NG/SEC substations.
QUALIFIED TEAM	SAS team consists about 15 qualified engineers with certifications from various manufacturers. COPA-DATA, SCHNEIDER, GE, ALSTOM & SEL are to name a few.
ABTS / ACCS SOLUTION	Approved supplier of ABTS/ACCS solutions for NG/SEC substations.
ARAMCO PSA SOLUTION	Approved PSA Integrator - PSA solution with ZENON platform as per ARAMCO standard.
SAS TRAINING FACILITY	SEP has one of its kind Testing and Simulating facility used as platform for troubleshooting in real Substation environment as well as for training purpose.

Team Ability:

- All Engineers having good knowledge on NG SAS requirements
- 2 Certified trainers on ZENON SAS software by COPA-DATA
- 15 Engineers certified by COPA-DATA on ZENON software
- 7 Engineers certified by Schneider Electric on SE SAS solution



Services We Offer:

- Testing & troubleshooting of all types of SAS systems
- Testing of all types of PLCs
- Testing of all types of Bay control units
- Testing and commissioning of ABTS/ACCS Panels
- Renaming of Existing signals for bay modifications on all types of SAS solutions
- Remote end Modification works for all types of SAS systems
- Upgrade of Nonperforming SAS systems in the network



OUR SERVICES

Training Services

- We offer complete Testing & commissioning Services for Substations up to 380 kV level.
- The testing and commissioning of substations up to 380kV level are handled by a team that combines technical and domain competence.
- Our team is properly organized, with roles and responsibilities specified for each category of engineer in accordance with Saudi Electricity Company guidelines.

Protection Training:

Our team can offer basic & advanced training programs on testing of below mentioned protection relays

MICOM P54X - P44X P64X - 63X P14X - 12X P74X	SIEMENS 7SD52X - 7SA52X 7UT63X - 7UT61X 7SJ64X - 7SS52X 7SJ64X 7SA87 - 7SJ82&85 - 7UT87	ABB RED670 - REL670 RET615 - RET670 REF615
SEL 411L - 421 487E - 387E 451	GE L90 - D60 T60 F650 - C70	ZIV 6RTV 8IDV

SAS Training:

- We have certified trainers from COPA-DATA for SAS solution training
- Dedicated simulator platform facility is available in SEP factory & NPA premises, Dammam.
- Our training techniques will help clients to learn quickly & naturally with real time experience.

OUR SERVICES

Accessories Supply

- To support our clients on their requirements during commissioning we are offering accessories/loose material supply for substations which includes:
 - Simple & Advanced numerical relays
 - Stainless steels & Traffolyte labels
 - Auxiliary & Supervision relays
 - Trip & Lockout relays
 - Annunciators
- SEP also offers the Supply, splicing & installation of single & multi core fiber optic cables for SAS substations.



OUR SERVICES

Team Approvals

- Testing and commissioning contractor for Power System Substations up to 380 kV including GIS/AIS, Power Transformers, Protection & Control Panels & Metering Systems, etc.
- Testing and commissioning contractor for Protection & Control modification works up to 132 kV Voltage Level.
- SAS Integrator for substation up to 132 kV
- Testing and commissioning of SAS systems for SAS upgrade and modification works.

REFERENCE PROJECTS

WOA

380 kV/ 110 kV/ 13.8 kV Makkah BSP Project complete testing & Commissioning

WOA

380/110 kV SS Expansion of Modon Jeddah complete testing & Commissioning

WOA

110/ 13.8 kV Azizia SS & ICY Extension in Madinah complete testing & Commissioning

WOA

110/ 13.8 kV MKH-2 SS & MKH-3 SS complete testing & Commissioning

WOA

Maintenance of Control & protection devices

WOA

Replacement Of 13.8 kV Busbar & Overcurrent protection In Makkah

COA

132/13.8 kV Airport SS complete testing & Commissioning

COA

132/ 13.8Kv Majmaa King faisal College SS#8533 complete testing & Commissioning

COA

New Qurtubah BSP 9053 Connecting With 132kV Network Riyadh Area

COA

Replacement a Portion of the Existing 132kV DC OHTL 8078-8051 in Conflict with MISK City Project in Riyadh City

COA

Modification Of 33kv Feeders Protection Scheme At Main Substations At Qassim Area

COA

Upgrade Remote Terminal Unit to SMTB in SS#8001 to Smart Solution in North Dalha

EOA

115/33/13.8 kV As-Sarrar-2 Substation complete testing & Commissioning

SOA

132/33/13.8 kV Khamis West SS complete testing & Commissioning

SOA

132/1.8 KV Gregar Substation complete testing & Commissioning



“
QUALITY ISN'T AN ACT;
IT IS A HABIT - Aristotle

SOA

SEP engineers worked in Design, Engineering, FAT & SAT under Schneider supervision of AL FARAH 380/132/13.8KV SS

SOA

SEP engineers worked in Design, Engineering, FAT, site testing & commissioning under Schneider supervision of New Abqaiq Central 230/115 KV SS

WOA

Design, Engineering, FAT & SAT by SEP engineers of 110/13.8kV FURSYAH

ARAMCO PSA

Design, manufacture, inspect, supply and testeing of PSA for North Al-Ghawar oil field

COA

SEP engineers worked in Design, Engineering, FAT, site testing & commissioning under Schneider supervision of Layla 9049 380/132/13.8kV SS

EOA

SEP engineers worked in Design, Engineering, FAT, site testing & commissioning under Schneider supervision of New Abqaiq Central 230/115 KV SS

OUR CLIENTS

