

GCC Lab

May 14, 2024



Strategic Drives

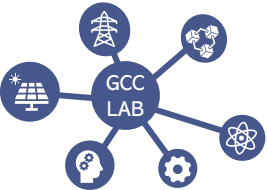
- Contribute to the Arab Countries' Mission & Visions
- Enable Economic Integration
- Enhance Manufacturing & Increase Local Content
- Support Safety, Quality & Standardization
- Develop Local Workforce & Transfer Technologies
- Secure Efficient & Effective Supply of Strategic Services
- Build Robust Knowledge Economy & Drive Innovation

GCC Lab is built to provide a wide-spectrum technical services to conventional and renewable energy sectors

Conventional Energy



Renewable Energy



Introduce one-stop-shop technical excellence center



Provide opportunity for hiring & career growth



Increase local content & sustain excellence to industry sector



Boost technical readiness for emerging specialties

GCC Lab Occupies a Unique Position Globally

Capital **1** Billion SAR

Certified 

9001	17020
14001	17024
45001	17065
	17025

Accredited  
مركز الاعتماد الخليبي
GCC Accreditation Center
الاعتماد السعودي
Saudi Accreditation

Shareholders



أرامكو
aramco



سابك
sabk



هيئة الربط الكهربائي لدول مجلس التعاون لدول الخليج العربية
Gulf Cooperation Council Interconnection Authority



GCC Lab | World's Largest Power
المفتبر الفليبي | Testing Complex

General Background

- The Gulf Electrical Power Lab is an independent lab to Strengthen World Energy Infrastructure.
- Offering a world-class TIC & Consultation Services
- Most Advance Testing Center in MENA region
- 100,000 MSQ + 70,000 MSQ outdoor field test area
- More than 350 Standard Tests
- Accessibility to the market



Achieving Global Leadership in Testing, Inspection, Certification & Consultation in Conventional Energy

- Testing Capability Up To:
- 800kV Rated Voltage
- 7000 A Continues Current
- 80 kA Short Circuit Current

• Study By :



• Designed BY :

CESI

Inspired with innovation

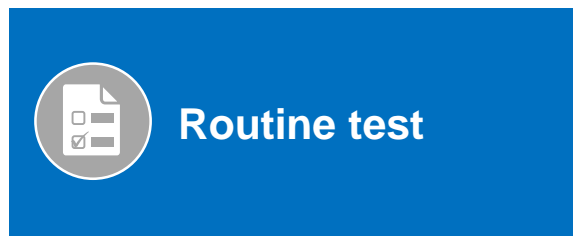
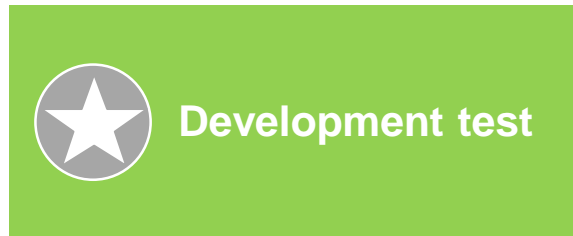


GCCLAB Complex at Modon 3



GCC Lab Currently performs 3 main types of testing in the electrical testing lab across the 10 different testing facilities

Test types



Testing facilities

1	Low Voltage Facility
2	Dielectric Facility (test on HV, MV, LV equipment)
3	Transformer Test Facility
4	Mechanical Lab Facility
5	Short Time Current Facility
6	Type Test and Special Test on cables (HVC Facility)
7	Environmental Facility
8	Pre-Qualification (PQ) test on High Voltage Cables
9	Pollution Facility (test on HV, MV insulation)
10	Type Test and Special Test on cables Accessories

GCC Lab Complex Inauguration by HRH Minister of Energy

The official inauguration and full operations of GCC Lab Complex by HRH Minister of Energy



Gulf Electrical Power Lab Services Portfolio

GCC Lab
المفتبر الفليجي



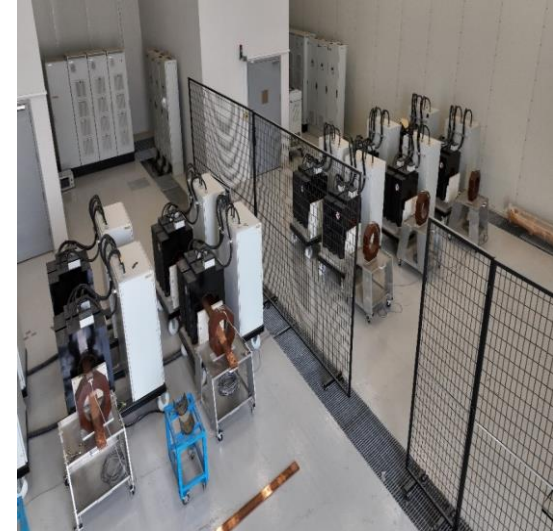
LV & MV 52 KV



HV & EHV 800 KV



Cable 720 KV



Continuous current 7000 A



High Power 80 KA



Mechanical & Material Lab



Environmental Lab



Pollution Lab

GCC Lab Services Portfolio



Advanced Lab Tests



Renewables



Energy Efficiency



Equipment Calibration



Compliance Management



Technical Consultation



Asset Management



Training & Certification



GCC Lab - Fire Services

Fire Tests



Fire tests

- Fire resistance
- compatibility
- Heat transfer

Test material:

- Doors/ windows/
- Walls / claddings



Fire Protection Eq. & Chem. Test



Types of tests:

- Foam and Dry Powder
- Ladders /nozzles
- pumps
- Fire Fighting Systems
- Fans

International Standards:

- NFPA 11 /UL 162
- BS EN 13565-1&2
- EN 1568 /ISO 7203



Audit & Investigation



- Standardization
- RCA
- Equipment calibration
- SMS compliance
- Benchmarking
- Lesson learned
- Arbitration



Consultation



- Design and supr.
- Safety & security risk assessment
- Conformity assessment
- Awareness/ SHE alerts
- Business Resilience
 - ERM
 - BCP



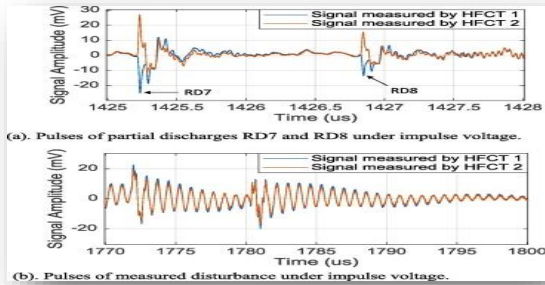
Training and R&D



- Trainings
- Master degree in safety
- ERT
- Dashboard & perf. measurement
- Simulation & digital modeling



Technical Services- On Site Testing and Commissioning Services



PD Measurement



Onsite Testing System



Transformer Treatment



Site Commissioning



OLTC Services



Mobile Testing Services



FAT & SAT

Power Systems Studies

GCC Lab meets the need for grid security with a comprehensive suite of power system analysis tools, and with capabilities of examining and optimizing system performance.

- Short Circuit Studies
- Coordination Studies
- Harmonic Studies
- Operational studies
- Expansion and demand increase.
- Arc Flash Studies
- Unit connection & Grid Compliance Studies
- Interconnection studies
- Renewable connection studies
- HVDC studies
- Economic dispatching



GCC Lab is Accredited Internationally, Regionally & Locally

GCS Riyadh –ISO/IEC 17025



GCS Smart meter –ISO/IEC 17025



GCCLAB – ISO/IEC 17020:2012



GEPL –ISO/IEC 17025



GCS Riyadh ISO/IEC 17025



GRL ISO/IEC 17025



TUV ISO/IEC 9001



Foster Regional & International Partnerships



Achieved Qualifications

Approved



Under Approval



GCC Lab Partners

Government



aramco



وزارة الطاقة
MINISTRY OF ENERGY



Regulatory and R&D



Manufacturers



International



Site Testing



- Upgrading Renewable standards to Reflect Arab Climate



- Mobile Towers: an Innovative Solution for Enhanced Reliability



- Contribution to The International Institutes



GCC Lab - International Training Center

GCC Lab
المفتبر الفليبي



GCC Lab provides international training and certification programs in multiple disciplines.

Our Services

- Provide International Certifications Programs
- Customize & implement special training programs
- Develop Test Banks & Curriculumms
- Contractor qualification
- Certification Testing Center

Our Customers

Conclusion

GCC Lab is well-positioned to collaborate with the energy department in The Council of the Arab League and Arab power utilities to support the Arab energy strategy, promote industrial localization, enhance standards, and facilitate information exchange.





شكرا جزيلًا – Thanks