



Your partners to achieve superior asset availability



Intertek

# CERTIFICATE OF REGISTRATION

**intertek**  
Total Quality. Assured.

This is to certify that the management system of:

## Global Engineering Solution Co.

Main Site: Area No. 114/42, 14th Neighborhood, Third  
District, 34518

New Damietta , Damietta, Egypt

has been registered by Intertek as conforming to the  
requirements of:

## ISO 9001:2015

The management system is applicable to:

**Provision of Engineering Services:**

**Static Mechanical Integrity (Non-Destructive Testing)**

**Condition Monitoring (Vibration Analysis, Alignment  
and Balancing) Maintenance of Relevant Machines.**

**Provision of Training in Non-Destructive Testing (NDT)  
and Condition**

**Monitoring (CM)**

**Certificate Number:**  
0107666

**Initial Certification Date:**  
20 November 2020

**Date of Certification Decision:**  
06 January 2021

**Issuing Date:**  
06 January 2021

**Valid Until:**  
19 November 2023



Intertek



014

**Calin Moldovean**

President, Business Assurance

Intertek Certification Limited, 10A

Victory Park,

Victory Road, Derby DE24 8ZF,

United Kingdom

Intertek Certification Limited is a

UKAS

accredited body under schedule of  
accreditation no. 014



In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organization maintaining their system in accordance with Intertek's requirements for system certification. Validity may be confirmed via email at [certificate.validation@intertek.com](mailto:certificate.validation@intertek.com) or by scanning the code to the right with a smartphone. The certificate remains the property of Intertek, to whom it must be returned upon request.

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requirements of:

## ISO 45001:2018

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A handwritten signature in black ink, appearing to read 'Calin Moldovean', positioned above a horizontal line.

**Calin Moldovean**

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**Testing and  
Commissioning  
Services**



## Partial Discharge Test

According to the National Fire Protection Association (NFPA 70B)  
The leading cause of electrical failures is insulation breakdown. In MV/HV equipment partial discharge is the first indication of insulation breakdown.



## TEV Sensor

detect abnormal internal activities of high voltage equipment.



## HFCT Sensor

detects current pulse signals generated by partial discharge.



## AE Contact Sensor

detecting the surface vibration produced when an acoustic signal is generated by partial discharge that spreads through the surface of the equipment.



## UHF Sensor

in detecting UHF electromagnetic waves/signals, with a frequency range between  $300\text{MHz} \leq f \leq 1.5\text{GHz}$ , generated by partial discharge on the power device, to get relevant information resulting in the occurrence of this phenomenon to achieve partial discharge live measurements.



## Optional accessories

Ultrasonic Parabolic Dish sensor with Laser  
Ultrasonic Wand Sensor.



# Motor Winding Test



Surge test up to 12kV

1

Dc hipot

2

Rotor influence check (RIC)

3

Impedance Measurement

4

Resistance measurement in 4 wire technology with temperature compensation

5

LCR inductance measuring bridge

6

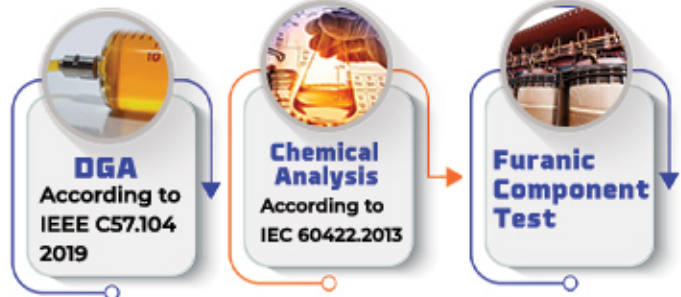
Partial discharge according to IEC 61394, DIN EN 60034-18-41

7

Insulation resistance test with automatic PI/DAR – measurement

8

# Transformer







# **CIRCUIT BREAKER ANALYSER**

It's recommended that contact travel and speed are tested , as well as closing and operating times , resistance of the main contacts and synchronization of contact operation  
GES offers an integrated set for circuit breaker analysis acc. To IEC62271-100

1

**Circuit  
breaker  
timing  
test**

2

**Circuit  
breaker  
traveling  
test**

3

**Circuit  
breaker  
Contact  
resistance**

4

**Min.Pick up  
test**

5

**First trip  
test**

6

**Dual side  
grounded**



## **Current and Voltage transformer test**

GES offers a complete test ensuring reliable and correct operation for instrument transformers such as

**Low  
resistance  
test**

**1**

**Insulation  
Resistance**

**2**

**Polarity**

**3**

**Burden test**

**3**

**Power  
factor or  
dissipation  
factor test**

**4**

**Excitation  
test on CTs**

**5**



## **Protective relay testing**

**To ensure efficiency  
and productivity and  
above all safety our  
company provides the  
necessary test needed  
for the reliability of  
your relay system**

## Power quality analysis

GES provides an integrated solution for monitoring power system quality and parameters analysis for abnormal issues as described in IEC61000 such as



Measurement of total VA , W and VAR power as well as values per phase

1

2

Integration of all DC components

Capture transient as short as 1/256 of the period

3

4

Measurement , calculation of harmonic up to 50th order

K-factor calculation

5

6

PF&DPF calculations



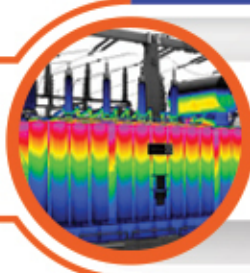
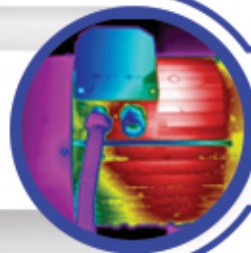
## Thermography

NFPA found out that 10% of the fires happening in properties are associated to electrical system failures, like failure of terminals, electrical insulation and insulation and related components



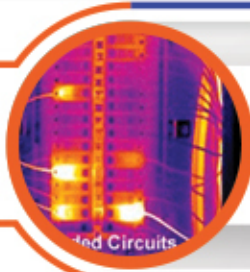
**Power cables**

**Electrical motor**



**Power transformer**

**Motor starter circuit**



**Transfer circuits, switchgears and relay**

**Electrical panels, power control boxes, and MCC**





# LV & MV Cables



## Hipot Test

1



## Partial Discharge

Using HFCT sensor while the cable is online

2



## Insulation Resistance

Insulation Resistance

3

- 1 Performing Spot test
- 2 Calculating Dielectric Absorption Ratio (DAR)
- 3 Calculating Polarization Index (PI)

## **Earthing system Testing**

The International Electrical Testing Association specifies ground electrode testing every three years . Through annual inspections are often recommended as part of routine facility maintenance plans. GES provides varies methods for measuring ground / earth resistance such as :

**Clamp on  
method**

**Point  
(Fall-of-potential)  
method**

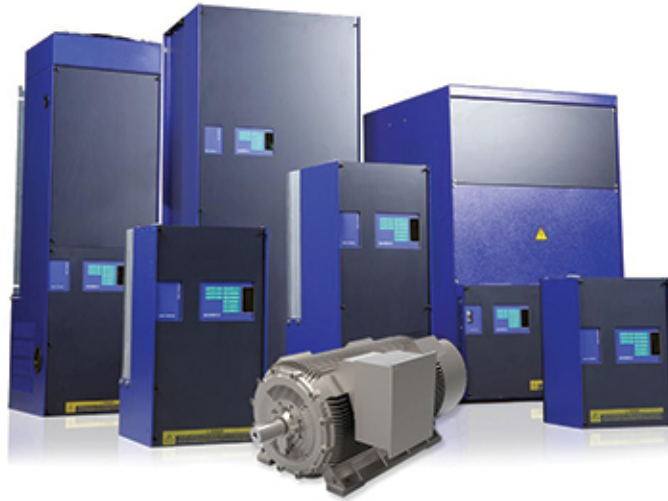
**4 point  
method**



**Maintenance  
Services**



**SERVICE CENTER FOR ELECTRICAL  
(MV, LV VFDS & MOTORS)**



1

**Commissioning  
& Startup**

2

**PM  
measurements**

3

**Maintenance and  
Overhauling**

4

**Troubleshooting  
& Call technical  
support**



# Maintenance Services

maintenance is a final image of  
Overhauling scheduled

1

## Audit & Inspection Service

Audit & Inspection Service for all Electrical Equipment in the plant to put Electrical overhauling planned

2



## Power and Distribution Transformers

Maintenance for all power and distribution Transformers and tap changer according to IEC standards

3



## Switchgear

Maintenance for Medium and Low Voltage Switchgear Circuit Breakers and check its protection relays Functionality (making Calibration if needed) and Low Voltage Switchgear Circuit Breakers and check its tripping functionality

4



## Motor Control Center (MCC)

Maintenance for Motor Control Centers (MCC) & testing its insulation resistance & check parts functionality for repair any damage mechanical parts

5



## Cables



Cable ends & joints for Medium Voltage & Low



Cable Laying : (on trays , underground cable laying)

6



## Power storage systems

Maintenance for Battery charger & UPS Systems (& testing if needed)

7



## Power factor correction

Maintenance for Power Factor Correction & testing its Capacitors

8



## Lighting system

Repairing for old Lighting Systems or replacing it by LED lighting to save power consumption with keeping the same luminosity

9



## Lightning system

10



## Electronic cards

Repairing for damage electronic cards and equipment

11



## Fire Fighting

Maintenance & testing for Fire Alarm & fire fighting Systems



**Instrumentation  
and Control**



# Instrumentation



## Calibration and validation



calibration of measuring is required any where because the slightest error in measurement can drastically affect the safety of production process or product quality

## Instrumentation commissioning



Our experienced technical experts will partner with you to ensure that your instrumentation installation testing and process design are fully aligned to your requirements for your optimal instrumentation commissioning

## Onsite calibration & loopchecking and instrumentation service :

GES group has the capability to service and calibrate a range of instruments at your own premises resulting in reduced turnaround time and improve efficiency

## PLC Checking



GES group provide PLC hardware and software problems for different kinds of PLC

## Piping installation work



install and fabricate all piping work for production line auxiliary (steam & air & fluid ) is one of our specialties

## Adjusting sequence control:



One of our services is adjusting sequence control for production line such as MILK- GUM-SODA- SOAP- BEER production line



**Client**

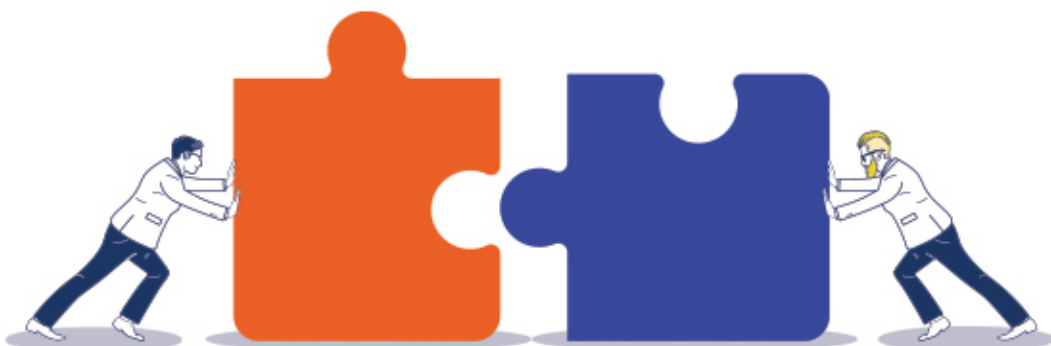


# Partners

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INTERNATIONAL REPRESENTATIVE





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