



CURRICULUM VITAE

Salama Ahmed Mohammed Khalil
Senior Protection Engineer

Alexandria – Egypt

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- Education** : Protection Department – Electrical Engineering – Faculty of Engineering – Menoufia University – Shebin El-Kom (1997 – 2002)
- Qualification** : B.Sc. Electrical Engineering (Power System and Protection), 2002
General grade: Very Good (**With Honor Degree**)
Graduation Project (Design and Implementation of Two Zones Quadrilateral Distance Relay): **Excellent**
- Postgraduate** : Arab Academy for Science and Technology
- Work Experience** : **15** Years' Experience As Sr. Protection Engineer / Site Manager
In 380/220/132/66/33/22/13.8/12 KV Power Systems.
- Professional experience** : **The Egyptian Electricity Transmission Company (EETC)** – Ministry of Electricity and Energy (**EGYPT**) as Protection engineer in Protection and Testing Department for 220 / 66 / 11 KV Substation, Alexandria zone. (**Since Sep. 2015 up to date**)



Saudi Services for Electro Mechanic Works Co. Ltd (K.S.A)
as 380/110/13.8 KV Senior Protection Engineer / Site Manager
in 380 KV Substations Division, (**Since June 2013 to Aug. 2015**)

- Construction of 380/110/13.8 KV Taif Central-2 BSP SEC-WOA
- Construction of 380/132/13.8 KV Bisha BSP SEC-SOE



- **Al-Toukhi Company for Industry, Trading and Contracting (K.S.A)**
as 132/33/13.8 KV Senior Protection Engineer in Protection and Testing Division,
Transmission Sector (**Since April 2008 to April 2013**)



Key Achievements: (Filed of experience)

- Approved as Protection Engineer/Coordinator (Testing and Commissioning) from Saudi Electricity Company SEC- CRB

Substation 8156

- Protection Engineer/Coordinator for AL-OLAYA Project (Construction of New Substation 132/13.8 KV S/S 8156)

Substation 8128

- Protection Engineer/Coordinator for AL-AZIZIA Project (Construction of New Substation 132/13.8 KV S/S 8128)

Substation 8160

- Protection Engineer/Coordinator for AL-RABIA Project (Construction of New

Substation 9008 – Feeder 8160

- Replacement The Pilot Cable Differential Protective Relay MBCI 01 **ALSTOM** by Numerical Cable Differential Relay MICOM P543 **AREVA**
- Fiber optic cable connection and testing
- Scheme, Drawing and Wiring Modifications
- Relay Testing And Commissioning

Substation 8022 – Feeder 8160

- Replacement And Testing The Pilot Cable Differential Protective Relay MBCI 01 **ALSTOM** by Numerical Cable Differential Relay MICOM P543 **AREVA**
- Fiber optic cable connection and testing
- Scheme, Drawing and Wiring Modifications
- Relay Testing And Commissioning

Substation 9013 – Feeder 8128

- Replacement And Testing The Distance Relay Type REL 512 (**ABB**) By Numerical Distance Relay Type MICOM P442 (**AREVA**)
- Installation and Testing For Tele-Protection panels at two ends
- Scheme, Drawing and Wiring Modifications

Substation 8007 – Feeder 8128

- Replacement And Testing The Distance Relay Type REL 512 (**ABB**), DEF Type MICOM P442 (**AREVA**), Auto-Reclose Type REX and Auto Synchro-Check Relays by Numerical Cable Differential Relay MICOM P543 (**AREVA**)
- Fiber optic cable connection and testing
- Scheme, Drawing and Wiring Modifications
- Relay Testing And Commissioning

Substation 8102

- Design And Implementation Of Oil Cable Pressure Alarm Circuits For Feeders 8043 & 8100 132 KV, Drawing Modifications And Testing.
- Testing Of The Protective Relays In 132 KV Relay Panels (Feeders 8034 & 8100) Including Wiring Modifications, Drawing Modification, On-Load Test & End To End Test.
- Pilot Wire Testing For 132 KV Feeders 8034 & 8100
- Inter Lock Modification On The GT1, GT2 And GT3 At 13.8 Sides, Wiring Modifications And Drawing Modifications.

Substation 8034

- Calculation Of The Relay Settings For 132 KV Feeder 8102.
- Testing Of The Protective Relays In 132 KV Relay Panel (Feeder 8034) Including Wiring Modifications, Drawing Modification, On-Load Test & End-To-End Test.

Substation 8100

- Calculation of the Relay Settings for 132 KV Feeders 8102.
- Testing of The Protective Relays In 132 KV Relay Panel (Feeder 8100) Including Wiring Modifications, Drawing Modification, On-Load Test & End To End Test

Substation 8067

- Installation Of Voltage Transformer For Spare Feeder 132 KV, Wiring Connections, Drawing Modifications And All Electrical Tests
- Inter Lock Modification On The GT1, GT2 And GT3 At 13.8 KV Sides, Wiring Modifications And Drawing Modifications.

Substation 8021

- Restoration work in D08 feeder – Installation of VT, Earth Switch / Disconnecter Switch/ High Speed Earth Switch, Cable Compartment etc.
- Inter Lock Modification On The GT1, GT2 And GT3 At 13.8 KV Sides, Wiring Modifications And Drawing Modifications.

Professional experience and ability

- ❖ 11 years of experience in the field of: configuration, testing and commissioning of main and back-up protection functions, Distance 21, Transformer Differential 87T, Bus Bar Differential 87BB, Pilot wire 87PW, Line Differential 87L, Restricted earth fault 64 REF, Breaker Failure 50BF, Directional over current 67, Directional earth fault 67N, Under/Over voltage 27/59, Under/Over frequency 81, Over current 50/51, Negative sequence current 46, Thermal over load 49RMS.
- ❖ Configuration, testing and commissioning of main and back-up protection relays with different manufacturers like ABB, Siemens, ALSTOM, GE, REYROLLE and SCHNEIDER
- ❖ Checking, testing and commissioning of control functions, trip circuit supervision, CT/VT supervision, DC supervision, Auto reclose, Synchro-check, Automatic bus transfer, mechanical and electrical interlocks and automatic voltage control
- ❖ Testing and commissioning of 220/66/11 KV, 66/11 KV, 132/13.8 KV and 33/13.8 KV substations
- ❖ Testing and commissioning of 220/66/11 KV, 132/13.8 KV Power transformers, C.B's, Isolators, Surge arrestors and Capacitor Banks
- ❖ Using of Primary Test Equipment (CPC 100, ODEN, CTAnalyzer, H.V Injection Kit, C.B Analyzer, etc) and Secondary Test Equipments (OMICROM CMC 156, 256 and 356, FREJA 300 and SVERKER 870).
- ❖ Testing and commissioning, design modification of all types of Electrical schemes
- ❖ Upgrading of old protection system and schemes (mechanical or static) to digital or numerical systems with modification of all the control and power circuits.
- ❖ Troubleshooting of all substation equipment with deep technical investigation and analysis to find out the root cause of the failure and recommend the preventive

actions to protect the system from repetition of the failure.

Professional Experience : **The Egyptian Electricity Transmission Company (EETC)** – Ministry of Electricity and Energy (EGYPT) as Protection engineer in Protection and Testing Department for 220 / 66 / 11 KV Substation, Alexandria zone. (Since May 2002 to April 2008)



Key Achievements: (Filed of experience)

- Protection Engineer/Coordinator (Testing and Commissioning) for **RAS EL SODA SUBSTATION 66/11 KV**
- Protection Engineer/Coordinator (Testing and Commissioning) for **AL NAHASS SUBSTATION 66/11 KV**
- Install and commissioning (ABB Protective relays, control relays and switch gear) Ma'moura 66/11 kv, Gleem 66/11 kv & Abis 220/66/11 kv Substations
- Electrical protection relay programming for setting & hardware configuration and faults analysis (ABB (CAP), SIEMENS (SIPROTEC series), and AREVA (Micom S1 & studio) protective relays)
- Carry out the adaptation work for Alexandria east substations to interface with SCADA such as circuit breakers and isolators status and command signals, alarms transfer and metering.
- Install and commissioning new electrical protection relays in Alexandria east region (over current – distance relay – transformer differential relay – load shading)
- Expertise in test equipments (ISA/AVO/PROGRAMMA/OMICROM)(automatic relay testers)
- Routine Tests for
 - ✓ Protective Relays
 - ✓ Voltage & Current Transformers(Sensors)
 - ✓ Circuit Breakers, Isolators, control and Cables
- Teasing for power transformers (220/66 kv & 66/11 kv)
 - ✓ Tan Delta, Winding Resistance, Turns Ratio Test, Vector Group test
 - ✓ Oil breakdown, Excitation Current, Fan Motors

Software

Protective Relays:

- ✓ Micom S1 Studio/AGILE (**ALSTOM / AREVA** Relays)
 - Have skills to program, test and get fault recorder from MICOM relays like
 - MiCOM P741/ P743 Low Impedance Bus Bar Protection
 - MiCOM P633 Transformer Differential
 - MiCOM P643 Transformer Differential
 - MiCOM P543 Line Protection (Differential – Distance)
 - MiCOM P442 Line Protection (Distance – D.E.F Relay)
 - MiCOM P443 Line Protection (Distance – D.E.F Relay)
 - MiCOM P127 Auto Reclosur Relay
 - MiCOM P142 O/C and E/F Relay
 - MiCOM P122 O/C and E/F Relay
 - MiCOM P821 Circuit Breaker Failure
 - MiCOM P 923 Under Voltage /Under Frequency Relay

- Have skills to test static Relays Like
 - I. MFAC34 Bus Bar Differential Relay
 - II. MBCI Pilot Wire Cable Differential Relay
 - III. MVTP C.T Supervision Relay
 - IV. MFAC14 Transformer Restricted Earth Fault Relay
 - V. KAVS100 Synchrocheck Relay

- ✓ CAP(316,501,531,540)(REF 541+ , 610) (ABB relays)
- ✓ DIGSI 4.6 (SEIMENS relays)

Testers Software:

- ✓ Omicron CMC 356
- ✓ FREJA 300
- ✓ TDMS (for ISA tester DRTS6, T3000)

Operating System:

- ✓ Dos, Windows

Spread sheets:

- ✓ MS Excel, MS Access

Word processors:

- ✓ MS Word

Professional Training

[Network Training Center - Cairo South \(NTC\)](#)

- ✓ Instrument Transformers & Power Measurement (P1)
- ✓ Protection Fundamentals (P2)
- ✓ Control Circuits Substation (CCS)
- ✓ Maintenance of power transformer (TR)
- ✓ BUS-BAR protection system and testing (P16)



[Cairo University \(Energy Research Center ERC\)](#)

- ✓ Gas Insulated Systems study & maintenance
- ✓ Partial Discharge in Gas Insulated Systems



Languages Arabic : Mother Tongue
 English : Very Good in Speaking, Writing & Reading

Date Of Birth : 08/10/1978

Nationality : Egyptian

Social Status : Married & Three Children

Religion : Muslim

Military Service : Exempted

Driving License : Valid in Egypt & K.S.A