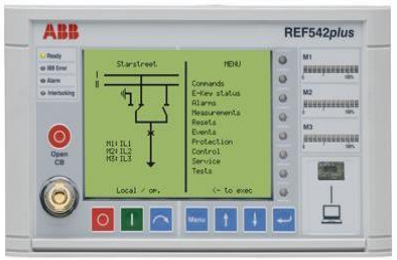
R-Aletqan Profile & Ref List in Electrical Protection, Excitation control and Synchronization

Electrical Protection System



Supply

- Protection Relays
- Protection Panels

Services

- Coordination studies
- Testing, calibration & Commissioning
- Design, Engineering & Supplying complete Protection Panels
- Re-programming existing protection relays
- Revamping old protection relays by modern Intelligent electronic devices IEDs
- Maintenance services
- Training

ABB SIEMENS

الشركة السعودية للكهرباء
Saudi Electricity Company

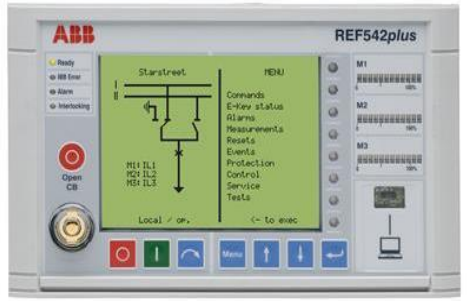
المؤسسة العامة لتحلية المياه المالحة
Saline Water Converstion Corporation

KJO
عمليات الخفجي المشتركة
AL KHAFJI JOINT OPERATIONS

Reprogramming existing protection relays example:

Client:

الشركة الكويتية لنفط الخليج
KUWAIT GULF OIL COMPANY
KJO
AL KHAFJI JOINT OPERATIONS عمليات الخفجي المشتركة
أرامكو لاعمال الخليج
Aramco Gulf Operations
ABB



Execution Year: 2019 & 2020

Scope:

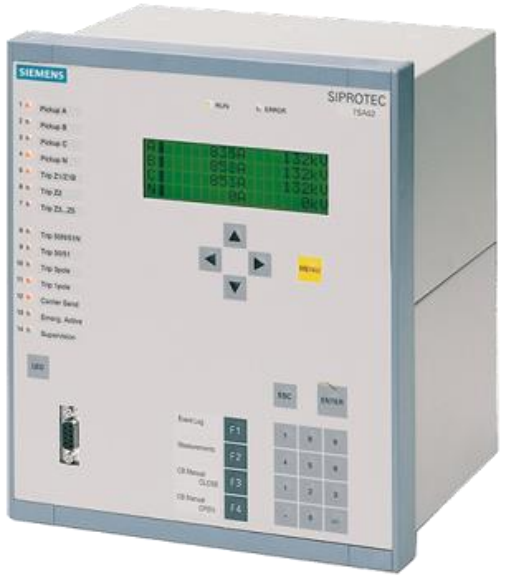
- Protection Relays configuration and reprogramming (Phase#1) , Qty:150 Relays
- Implementation of new Protection relays settings for all Electrical power system at KJO as per co-ordination study. (Phase#2) , Qty:150 Relays
- Relays Brands (GE - ALSTOM - SEL - ABB - SIEMENS – AREVA – Toshiba - Schneider)

Maintenance & testing of protection relays example:

Client:

ورق WARAQ

SIEMENS



Execution Year: 2022

Scope:

- **MAINTENANCE AND TESTING WORKS OF GPR RELAYS, SIPROTEC 7UM6221, SIEMENS MAKE , Qty: 6 Relays**

Reprogramming existing protection relays example:

Client:

الشركة السعودية للكهرباء
Saudi Electricity Company

ABB

Execution Year: 2021 (On going)

Scope:

- Protection Relays In house configuration and reprogramming (Phase#1) , Qty: 9 Relays
- Implementation of new Protection relays settings (Phase#2) , Qty: 9 Relays
- Relays type : ABB REG216

Protection relays Integration with DCS example:

Client:

Execution Year: 2022

Scope:

- Integration of SIEMENS SIPROTEC4 & SIPROTEC5 relays with ABB RTU system using IEC60870-5-103 communication protocol, Qty:23 Relays

Protection relays Integration with DCS example:

Client:

Execution Year: 2021

Scope:

- Integration of SIEMENS SIPROTEC4 & SIPROTEC5 relays with ABB RTU system using IEC60870-5-103 communication protocol, Qty:40 Relays

Protection relays Integration with DCS example:

Client:

المؤسسة العامة لتحلية المياه المالحة
Saline Water Converstion Corporation

Execution Year: 2019

Scope:

- **Integration of ABB REF615 relays with ABB Symphony Plus system using IEC61850 communication protocol, Qty:53 Relays**

Upgrading old protection relays example:

Client:

المؤسسة العامة لتحلية المياه المالحة
Saline Water Converstion Corporation

شركة الراشد للتجارة والمقاولات
AL-RASHID TRADING & CONTRACTING CO.

Execution Year: 2020

Scope:

- Upgrading MV switchgear including, supply, installation, modification and testing & commissioning of two cubicles ABB REF615 relays and components

Training on protection relays example:

Client:

المؤسسة العامة لتحلية المياه المالحة
Saline Water Converstion Corporation

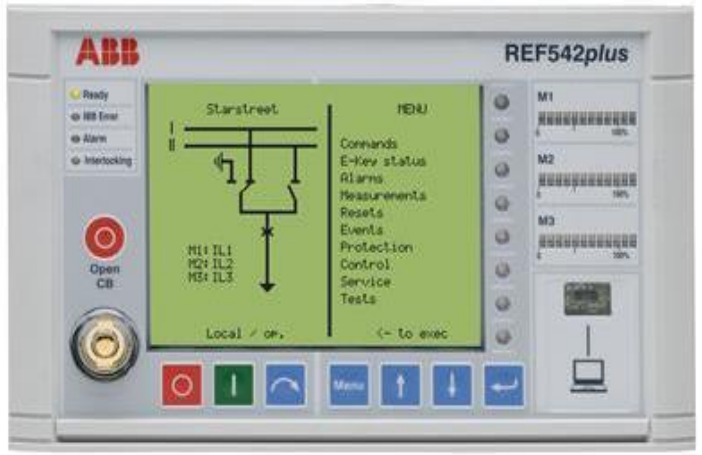
Execution Year: 2019

Scope:

- Training for SWCC BAHA Plant end user on ABB Protection Relays

Protection relays Testing example:

Client:



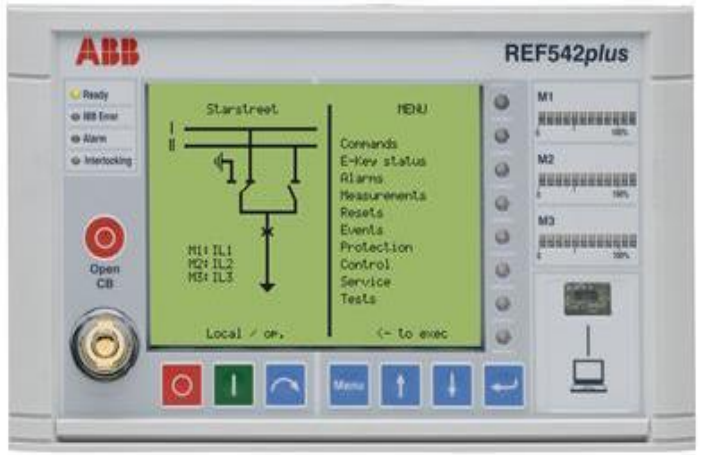
Execution Year: 2020

Scope:

Testing of Qty:72 ABB protection Relay (REF542 Plus & SPAD 346C) and Testing of Qty:70 ABB VD4 MV C.B's

Reprogramming existing protection relays example:

Client:



Execution Year: 2017

Scope:

Re-programing of Qty (74) ABB REF 542 PLUS

relays as per new co-ordination study recommendations

By adding new functions and modifying exist settings.

Revamping protection relays example:

Client:

Execution Year: 2016

Scope:

Revamping of protection relays of 10MVA steam turbine by Supplying, installing and programing ABB REG630 IED protection relay.

Revamping protection relays example:

Client:

Execution Year: 2020

Scope:

Revamping of protection relays for 6MVA steam turbine generatorby Supplying, installing and programing GE 889 IED generator protection relay.

New Protection relays Panels example:

Client:

Execution Year: 2019

Scope:

Turnkey Contract of Design, supply, installation, testing & commissioning of ABB MV metal clad switchgear with protection relays with type RET670.

Generator / Motor Excitation Control

Supply

AVR

AVR Panel

Service

- Design & Engineering for AVR system
- Installation & Commissioning
- Retrofit of AVR in same existing panels
- Retrofit of AVR components
- Retrofit of AVR panel
- Design, Manufacture & Supply of AVR Panels
- Maintenance services
- Training

الشركة السعودية للكهرباء

Saudi Electricity Company

ABB UNITROL 6080 example:

Client:

Execution Year: 2022

Scope:

- **Commissioning & Training on ABB UNITROL 6080 AVR EXCITATION SYSTEM**

Revamping BASLER Excitation control Panels Example:

Client:

Execution Year: 2019

Scope:

Design, Supply, Installation & Commissioning of Qty:2 DIGITAL EXCITATION SYSTEM, MANUFACTURER: BASLER, MODEL DECS-250 COMPLETE REGULATION SYSTEM W/ HARTING CONNECTORS, (USED FOR SIEMENS GENERATOR)

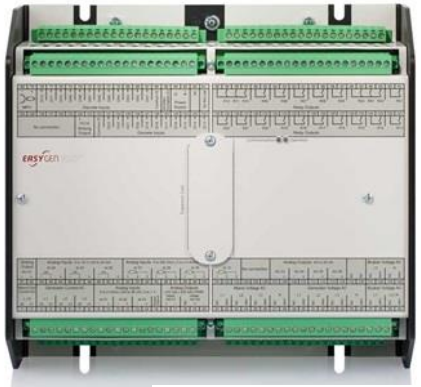
Revamping Generators control Panels Example:

Client:

الشركة السعودية للكهرباء
Saudi Electricity Company

SAECO
Saudi Arabian Engineering Co. Ltd.
الشركة العربية السعودية للهندسة المحدودة

REZAYAT GROUP



Execution Year: 2021 (On going)

Scope:

Design, Supply, Installation & Commissioning of Qty:2 generator control panels including Protection, AVR Excitation Control, Synchronization control, Gen Set control & Qty:1 PLC Panel

Revamping Excitation control Example:

- **Client:**

- **Execution Year: 2017**
- **Scope:**

Revamping for Excitation control system of Qty.(6) steam turbine generators by using ABB Unitrol 1020 AVR.

Excitation control Example:

- **Client:**

- **Execution Year: 2018**
- **Scope:**

Replace defected old AVR module by new ABB Unitrol 1000 considering rehabilitation for all control circuit components.

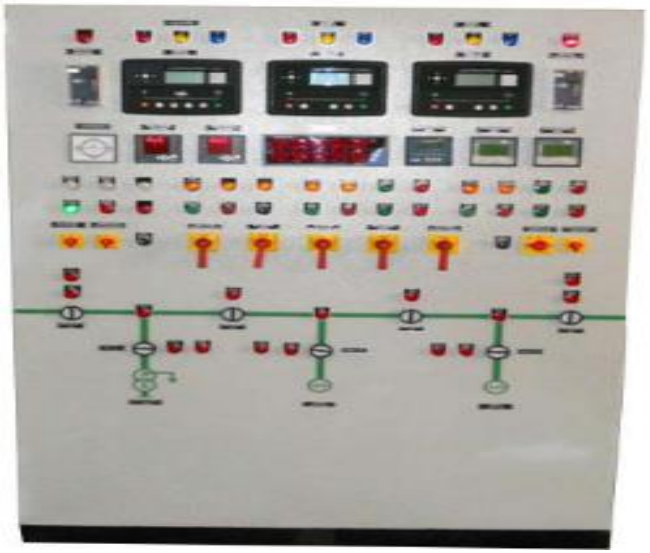
Revamping Excitation control Example:

- **Client:**

- **Execution Year: 2015**
- **Scope:**

Revamping for old Siemens AVR system by new System using ABB Unitrol 1020 considering rehabilitation for all control circuit components.

Gen Set Synchronization and Load sharing



Services:

- Design & Engineering
- Installation & Commissioning
- Retrofit of Synchronization controllers in same existing panels
- Retrofit of Synchronization components
- Retrofit of Synchronization panel
- Design, Manufacture & Supply of Synch. Panels
- Maintenance services
- Training

Supply

Synchronization Relay
Synchro Check
Synchronization panel

ABB
SIEMENS
WOODWARD

الشركة السعودية للكهرباء
Saudi Electricity Company

المؤسسة العامة لتحلية المياه المالحة
Saline Water Converstion Corporation

SCMC
شركة الجنوب لصناعة العلب المحدودة
SOUTHERN CAN MAKING CO. LTD.

New Synchronization Panel example:

- **Client:**

المؤسسة العامة لتحلية المياه المالحة
Saline Water Conversion Corporation

- **Execution Year: 2017**
- **Scope:**

Design and install synchronization panel

To synchronize MV CAT generator with SEC supply

Using ABB Synchrotact5 synchronizer.

Replacing Synchronization Controller example:

- **Client: SEC MAKKAH**

الشركة السعودية للكهرباء
Saudi Electricity Company

SAECO
Saudi Arabian Engineering Co. Ltd.
الشركة العربية السعودية للهندسة المحدودة

- **Execution Year: Ongoing / 2022**
- **Scope:**

Replacing the faulty ABB Synchrotact5 synchronizer with a new one with installation and commissioning activities

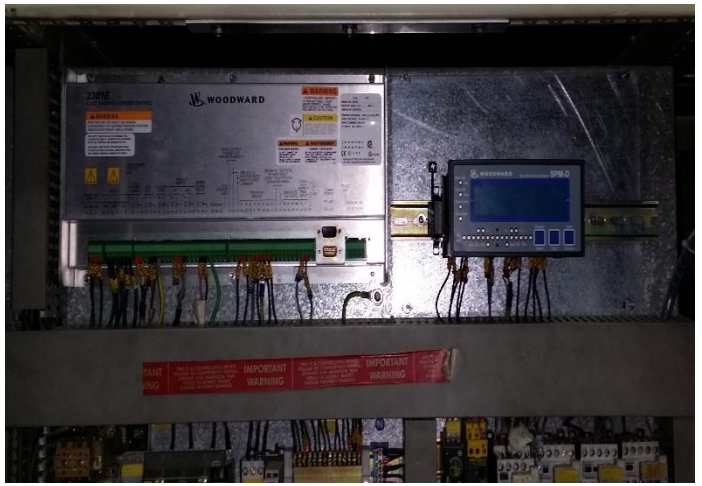
Revamping Synchronization example:

- **Client:** SCMC شركة الجنوب لصناعة العلب المحدودة SOUTHERN CAN MAKING CO. LTD.

- **Execution Year: 2016**

- **Scope:**

Revamping for synchronization and engine control Panel to synchronize CAT generator with other 3 generators Using WOODWARD synchronizer.



Synchronization IEC61850 Configuration example:

- **Client:**

- **Execution Year: 2019**
- **Scope:**

- Achieve communication between service PC and Synchrotact 5 device.
- Download required IEC61850 configuration on . Synchrotact 5 device
- Support SAS engineer to assign required signals.

New Synchronization Panel example:

- **Client:** SIEMENS SHAKER CONSULTANCY GROUP

Execution Year: 2018

- **Scope:**

Design and install synchronization and load share System for 3 CAT generators 2500 KVA using WOODWARD synchronizer And Siemens S7 PLC at Zeweil university.