



# Prime Services



Industry Solution Partner  
with  
**Schneider**  
Electric



# Services

## 1) START-UP, TESTING, COMMISSIONING & UPGRADING OF LV SWITCHGEAR

- a) Main Distribution board
- b) Motor control centers
- c) Capacitor Bank
- d) ATS Panel
- e) Distribution Boards & Feeder pillars
- f) Protection Relays
- g) Programmable Logic Controllers, Relay panels

The purpose of commissioning is to satisfy pre-determined standards that all the equipment connections is as per standards and cables have been installed in accordance with the approved drawings and Specifications.

## RESOURCES, ROLES & RESPONSIBILITIES

- Commissioning Engineer
- Technician

## Roles & Responsibilities of Commissioning Engineer

- Commissioning Engineer will be in charge of all operations during Testing and Commissioning of LV switchgear units following HSE requirements and Project Quality Plans.
- Maintains work permits with coordination of the HSE Supervisor.
- Coordinates with QC Engineer for inspections and raise RFIC with complete attachments such as approved (ITP, shop drawing, check list etc.).
- Ensures that only trained and competent personnel are involved for Testing and Commissioning of the LV switchgear assembly units.
- Ensures that all the required documents and related drawings to execute the works are up to date.
- Shall prepare open front for his crew, liaise with planning department for progress reporting, and schedule monitoring.

## Roles & Responsibilities of Technician

- The Technician will carry out his duties by maintaining continuous coordination with the commissioning engineer on daily basis, and ensure proper distribution of the workforce in the required and planned locations.
- To ensure that his assistant / charge hand are aware of the job requirements and they have enough information to carry out their duties properly.
- To ensure in consultation with the site engineer that the labor involved in the works are moving as agreed and planned for the work.
- To ensure that the daily work is progressing as planned and advice the commissioning engineer of any requirement for additional resources.
- To ensure full coordination with the safety officer to maintain safe working and proper housekeeping of the site, following the approved safety measures and further ensure that all his working team are aware of the same to prevent accident and losses.
- To inform the commissioning engineer and of the areas ready for inspection.



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## 2) REPAIR, SERVICE, MAINTENANCE AND INSTALLATION OF EXISTING LV SWITCHGEAR



Motor control center is an important element in electrical control systems due to its important operating role they play in controlling motors and production processes. Over the years, Motor Control Centers have evolved from cabinets that housed basic electro mechanical devices such as circuit breakers, conductors and overload relays to centers of automation that may include variable frequency drives, soft starters and programmable controllers.

### PEM SERVICE INCLUDES /AFTER SALES

- a. Annual Maintenance for LV Switchgear
- b. Annual Maintenance for VFD s.
- c. Retrofitting or replacing the MCCs.
- d. Panel retrofitting work at site
- e. Testing & commissioning of LV systems & Protection Relays
- f. Coordination study and Thermography
- g. VFD & Soft starter programming & commissioning
- h. PLC programming & commissioning
- i. Upgrade / Migration of PLC system
- j. Trainings and After Sales Support
- K. Power Quality Audit

Normal maintenance of Motor Control Centers occurs in two ways, by inspecting energized or de-energized equipment. One of the most common methods of inspecting energized equipment could be infrared thermography. While infrared thermography is a part of an program, it is not the only method of checking.

- Infrared/Thermography used to detect potential electrical fault conditions such as loose or corroded connections (hot spots), poor contacts, unbalanced loads, overloading and overheating. Electrical fault conditions can lead to electrical system failures, bridging, equipment fires and high level short-circuits.
- The second type of Motor Control Center preventive maintenance is inspecting de-energized equipment. This requires more training than visual inspections. To start, engineers would follow specific guidelines on de-energizing, isolating and grounding the equipment to be inspected.
- Structure: Check for moisture or any signs of dampness or drippings inside the Motor Control Center. Condensation in conduit and moisture from an outside source is a common cause of Motor Control Center failure. Eliminate any source of moisture and seal off conduit, cracks and openings that have allowed or could allow moisture to enter the Motor Control Center. Dry, replace and/or clean wet insulation material. Replace damaged or malfunctioning parts. Ensure that you've identified and eliminated the source or cause of wetness or contamination. Check for excessive wear and dirt accumulation on starters and conductors. Vacuum or wipe components with a soft cloth to remove dirt.
- Bus bar and splice connections: For horizontal and vertical bus connections, some manufacturers do not need servicing for the life of the Motor Control Center. Follow your equipment manufacturer's specific recommendations. For Motor Control Centers that permit servicing bus connections, check the integrity of the bus splice connections. Bus splices are normally identified with labels on the Motor Control Center structure or referenced in the Motor Control Center elevation drawings or user manuals. You'll usually find recommended torque values on the structure, in wiring diagrams or in the manufacturer's user manual.



- Wiring and branch circuit preventive devices: Make sure conductors are not damaged, worn or obstructing moving mechanical parts. Check wires and cables to indicate overheating such as discolored insulation; inspect fuses for discoloration and check for loose power and control connections. If any of these conditions are present, analyze the cause and replace wiring as necessary.
- Handle mechanisms: Analyze for proper function and flexibility of movement of the detach handle and door interlock mechanisms. Lubricate as directed according to the manufacturer's instructions as replace broken, deformed, malfunctioning or badly worn parts.

### Retrofitting of Old Motor Control Centers

- It's not always easy to regulate when and with what to replace an older Motor Control Centers. Some users consider Motor Control Centers be old or out of date after 10 years of service. Other users base equipment updates on application and duty cycles. Technological improvements, such as process speed control with VFDs, feedback monitoring and network interfaces can give incentives to upgrade older equipment. Modern Motor Control Centers designed to accommodate a variety of user needs, ranging from complete replacement to integration with older existing equipment. For example, many newly designed Motor Control Centers are good for installation in older facilities because they built to the latest industry standards and technological updates. Conversely, sometimes, newer Motor Control Centers designs can retrofit into structures built 30 years ago.

### Power Quality Audit Outline:

Harmonics are AC Voltages and Currents with frequencies with integral multiples of the fundamental frequency. Rapid advancement of power electronics in the industrial applications makes industrial load non-linear which generates harmonics. Since the load is non – linear, the current will be distorted and become non – sinusoidal. Harmonics arise from inverters, VFDs,

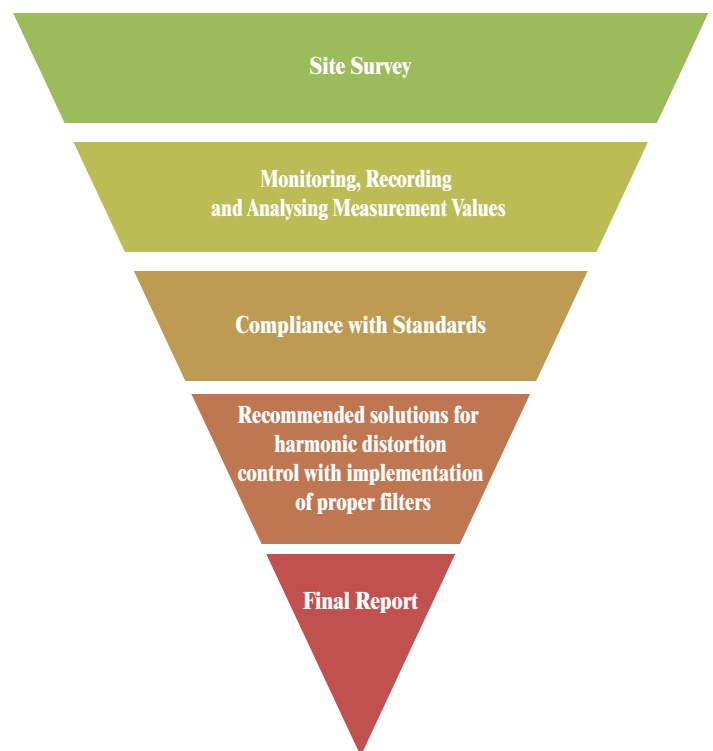
rectifiers, voltage controllers, frequency controllers and other semiconductor switching devices generators, transformers, welders and arc furnaces.

Prime Electrical Manufacturing LLC under the Guidance of Schneider Electric Middle east offers Harmonic Study Analysis as preventive maintenance to safeguard electrical and electronic equipment's from damage due to rise in harmonic levels.

### Objective of Harmonic Analysis Study

- Identification of harmonic sources
- Protecting the equipment's from power related problems
- Safety against loss and interruptions
- Suggestions to use filters

### Survey Methodology



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## Application



- To prevent Voltage and current harmonics as per IEEE 519:1992 and CEA Regulations
- To limit current and voltage harmonic distortions as per IEEE 519 - 2014, ER-G5/4 and local utility regulations.
- To limit Voltage and Current Unbalance.
- To Improve Power Factor Analysis and maintain close to Unity.
- To limit Voltage fluctuations as per utility guidelines.

## Advantages of Harmonic Study Analysis

- Improved system efficiency.
- Suppress the magnitude/frequency of power variations
- Add solution to mitigate the power quality problems.
- Safety measures against harmonics
- Decrease the liability of failure of electrical equipment's
- Avoids line loading and losses

## Expertise

- Engineers undergone Power Quality Training from Schneider Electric FZE
- Interpretation of results based on international guidelines/good engineering practices.
- Rich experience in carrying out the study for industries, Hospitals ,Manufacturing units and also service sector.
- Use of Power Quality Analyser.

## Area of Application

- 1.Commercial & Industrial Buildings
- 2.Petrochemical Process Plants
- 3.Metal processing Plants
- 4.Oil & Gas Process plants
- 5.Gas & Leakage Monitoring systems
- 6.Fuel Tank Farm Monitoring systems
- 7.Water Pumping Networks
- 8.Sewerage Treatment Plant
- 9.Energy Management system
- 10.School & Hospitals
- 11.Military & defence
- 12.HVAC
- 13.Villa & Complex
- 14.Industrial Plants



Our highly qualified Technicians are available during emergency 24/7

If you have an emergency involving your Panels under AMC, we are ready and prepared to address your electrical emergency.

We specialize in everything from small emergency service calls to major emergency response situations, including emergency temporary repairs and permanent wiring, Cable Rerouting /Retrofitting.







# MAJOR PROJECT REFERENCE LIST

## AIRPORT



ABUDHABI MIDFIELD TERMINAL



JIFF-JOINT INDUSTRY FUEL FARM (ENOC)

## COMMERCIAL



ABUDHABI PLAZA-KAZAKHSTAN



BURJUMAN CENTRE MALL

## FOOD INDUSTRY



BRAZIL FOOD FACTORY, KIZAD



NESTLE MIDDLE EAST



# MAJOR PROJECT REFERENCE LIST

## INDUSTRIAL



DUBAL



EMIRATES STEEL

## EDUCATION



SUN MARKE SCHOOL- JUMERAIH VILLAGE



ADNOC SCHOOL- MADINATZAYED

## HOTELS



AL BADIE HOTEL -ABUDHABI



MOVENPICK- MEDIA CITY

# MAJOR PROJECT REFERENCE LIST

## HOSPITAL



AL JALILA HOSPITAL -DEWA



HEALTH POINT-MUBADALA

## OIL & GAS



SARB- ADMA OPGO



SAUDI ARAMCO-DCP

## POWER



HH SHEIKH MOHAMMED BIN RASHID AL MAKTOUM  
SOLAR PARK










JORDAN IPP3 POWER PLANT

## MAJOR PROJECT REFERENCE LIST








END USER	PROJECT	PROTECTION RELAYS
	<p style="text-align: center;"><b>Substation LVAC panels &amp; Dubai Revamp</b></p>	<p style="text-align: center;">7SR12 &amp; 7SR11 series, TesysT</p> 
 <p style="text-align: center;">هيئة كهرباء ومياه الشارقة Sharjah Electricity &amp; Water Authority</p>	<p style="text-align: center;"><b>Hamriya Power Station Phase 2</b></p>	<p style="text-align: center;">7SJ80 series &amp; micom p122</p> 
 <p style="text-align: center;">شركة التطوير والاستثمار السياحي <b>TDIC</b> Tourism Development &amp; Investment Company</p>	<p style="text-align: center;"><b>Sir Baniyas Island Wheel Wash</b></p>	<p style="text-align: center;">Sepam 20</p> 
	<p style="text-align: center;"><b>Dry Docks Substation LVAC</b></p>	<p style="text-align: center;">7SJ80 series</p> 
	<p style="text-align: center;"><b>MCC Package For food Processing</b></p>	<p style="text-align: center;">Tesys-T</p> 
	<p style="text-align: center;"><b>Supply of fuel gas Conditioning unit</b></p>	<p style="text-align: center;">7SR12 &amp; 7SR11 series</p> 
	<p style="text-align: center;"><b>Fresh water wells Iraq</b></p>	<p style="text-align: center;">Sepam T81 series &amp; G60 (with ATS)</p> 



# SITE TESTING INSTRUMENT

S.NO	Model	Range	Make	Purpose of the instrument
1	Fluke87 v / Fluke336 Clamp meter & Multimeter - fluke	0-1000V AC/DC,0-10A, 0-50M $\Omega$ /0-600V AC/DC, 0-600A AC/DC, 0-6000 $\Omega$		Measure Voltage, Current (milliampere), Resistance & Continuity check, Measure Voltage, Current, Resistance & Continuity check
2	MIT310EN Insulation Tester (Megger)	0-1KV, 0-1000M $\Omega$		Measure the insulation resistance
3	DLR 10- Megger Digital Low resistor Ohm Meter	0-10A		Contact resistance of Breaker, Bus Bar
4	Avtm23-1j Biddle High Pot (Megger) Tester	0-4KV AC		Measuring the current leak of a device under test.
5	BM223- Insulation Tester (Megger)	0-1KV, 0-1000M $\Omega$		Measure the insulation resistance
6	TT100-Norbar Torque wrench	20 to 100 Nm		To check tightness of bus bar
7	ODEN A/1S Primary Current Injection Test System	Output current 2000A, Max load time 40sec,		Primary injection of CT Breakeretc

## SITE TESTING INSTRUMENT

S.NO	Model	Range	Make	Purpose of the instrument
8	RCDT320 RCD Tester Megger	30mA,100mA,300mA, 500mA,10mA,1A		To perform Earth Leakage Circuit Breaker test
9	48155-330-50 Full functional test kit			Check operation of control unit tripping and pole opening system by sending a signal simulating a short circuit mechanical operation of a circuit breaker.
10	715 Loop Calibrator (Fluke)	0-200mV,0-20V,4-20mA		Measuring input,out put volt, milli volt and milliampere.
11	V73 IR/HV Tester Ac/Dc (VITERK)	0-5000V HV,1000V IR		Measure the insulation resistance and leakage current
12	WT 3200 Crimp tool tester -Mark	Wire Range AWG30 AWG 3 [0.01 - 0.25 in (0.3 - 6.3 mm)]		measure the pull-off force of wire and tube terminations
13	Sverker 760 Megger Relay Test Unit	0-10A,40A,100A, 0-250V AC, 0-300V DC		For AC Current, DC Current & AC Voltage Relay Test
14	Power Harmonic Analyzer	Circuitor AR-5		Measures all of the main electrical parameters of an electricity network



T&C AT SITE



SITE TRAINING TO CLIENT



FACTORY ACCEPTANCE TEST



PLC TESTING



T&C AT SITE



T&C AT SITE



T&C AT SITE



**رخصة صناعية / Industrial License**

License No: 578741

Company Name: PRIME ELECTRICAL MANUFACTURING (L.L.C)

Trade Name: PRIME ELECTRICAL MANUFACTURING (L.L.C)

Legal Type: LICENSE (Category: LICENSE)

Issue Date: 11/03/2016

Expiry Date: 11/03/2016

OSR O.A.N.S No: 58156460

Register No: 7083

Remarks: 01/03/2016

**رخصة تجارية / Commercial License**

License No: CN-1179749

Unified ID for ADCCI: 277887

Legal Form: UAE Branch - Dubai

Trade Name: Prime Electrical Manufacturing (Llc) - Abu Dhabi Branch - Sale Ex

Issue Place: Abu Dhabi

Establishment Date: 11/04/2010

Issue Date: 28/08/2016

Expiry Date: 27/08/2017

الرقم No.	الوصف Description	الجنسية Nationality	نوع العلاقة Partner
11093	برام للمصناعات الكهربائية (إل.إم.إم.إم) - فرع أبوظبي - مبيعات	دولة الإمارات العربية المتحدة United Arab Emirates	Partner
	PRIME ELECTRICAL MANUFACTURING (L.L.C) - ABU DHABI BRANCH - SALE EX		Owner

**Regd. No. 400020**

Manufacturer: PRIME ELECTRICAL MANUFACTURING L.L.C

Issue Date: 01.08.2017

Expiry Date: 01.08.2018

Renewal Fee: Dh. 500/-

Lab. Priority: Dh. 100/- per month

Tel: 04-3215588

Fax: 04-2809977

Website: www.few.gov.ae

**Certificate**

Prime Electrical Manufacturing LLC

Certified Power Builder (CWB)

Phone TT & Signal Systems

Schneider Electric

**TUV NORD CERTIFICATE**

Management system as per ISO 9001 : 2008

Prime Electrical Manufacturing L.L.C.

Dubai Industrial City

P. O. Box 523496, Dubai

United Arab Emirates

**Approval of LV Switchgear Material**

Ref: ADCC/LV/DC/17/2870765-45

To: M/s. Prime Electrical Manufacturing L.L.C

Subject: Approval of LV Switchgear Material

No.	Product Reference	Manufacturer - Exact notation	Rated No.
1.	PRIMA SWITCHBOARD with 800A/7 (100)	SIEMENS	11LT
2.	PRIMA SWITCHBOARD with 800A/7 (100)	SIEMENS	11LT

**Facsimile Transmission**

Date: 17/Dec/2013

To: M/s. Prime Electrical Manufacturing, D

FAX NO: 046131662

ATTN: Mr. Wasim Mohammed Ali

Subject: PRE-QUALIFICATION OF LVAC SWITCHBOARDS FOR 132KV SUBSTATIONS

**Abu Dhabi Distribution Co.**

4. All the breakers (both the incoming and outgoing) shall be restricted to the components used in the test or to be tested by any of the approved certified authorities.

5. Submission of certificate of conformity for every switchgear assembly, at every delivery.

6. Provision of the performance data of the switchgear from the owners of the installation for a period of 3 years.

7. Any malfunction or repeated faults during this period may lead to the cancellation of the ADCC approval.

8. It is the responsibility of the manufacturer to comply with any updated IEC Standards that would be released during this period by means of additional test as required.

**شهادة تسجيل فرع مؤسسة**

وزارة الاقتصاد والتجارة

Ministry of Economy and Commerce

Registration and Licensing Department

2013/0015

2013/0015

2013/0015

**وزارة الاقتصاد والتجارة**

Ministry of Economy and Commerce

Registration and Licensing Department

2013/0015

2013/0015

2013/0015



## Our Location

GPS Co-ordinates :

24° 49'40.33"N, 55° 5'28.74"E



برام للصناعات الكهربية (ش.ذ.م.م.)



**DUBAI**  
PO Box 122496  
DIC Jebel Ali, Dubai, UAE  
Tel : +971 4 4531 666  
Fax : +971 4 4531 662

**ABU DHABI**  
PO Box 132566  
Musafah, Abu Dhabi, UAE  
Tel : +971 2 5506 133  
Fax : +971 2 5506 134

**DOHA (QATAR)**  
PO Box 2121  
Tel : +974 40164298-99  
Fax : +974 40164300

**RIYADH (KSA)**  
Tel : +966 1 4322795  
Fax : +966 1 4322795  
CR No. : 1111002224

Franchised  
Panel Builder of

