



INTERNSHIP AT SAWA LAKE ELECTRO MECHANICAL

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***Faculty Supervisor:** Dr. Muhammad Akmal*

***Company Supervisor:** Eng. Hassan Sheikhly*



OUTLINE



Introduction



Internship Activities



Weekly Time Table



Problems Faced



Conclusion

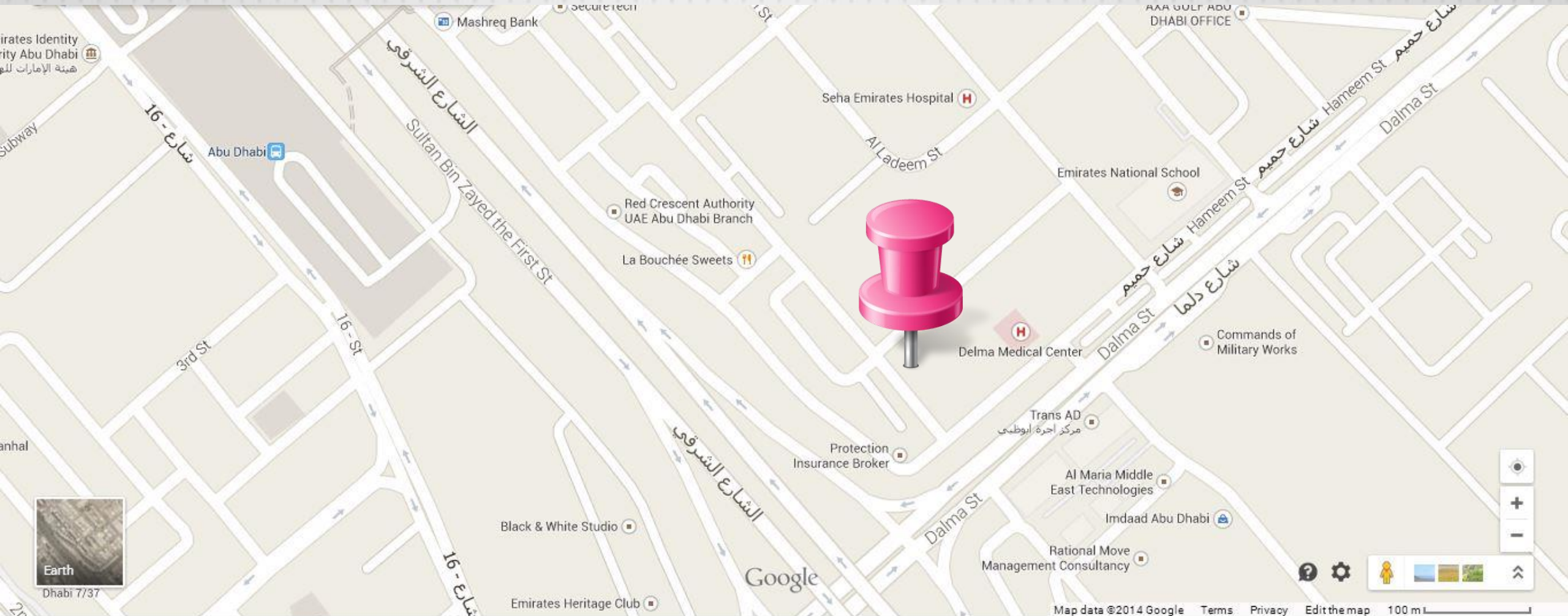




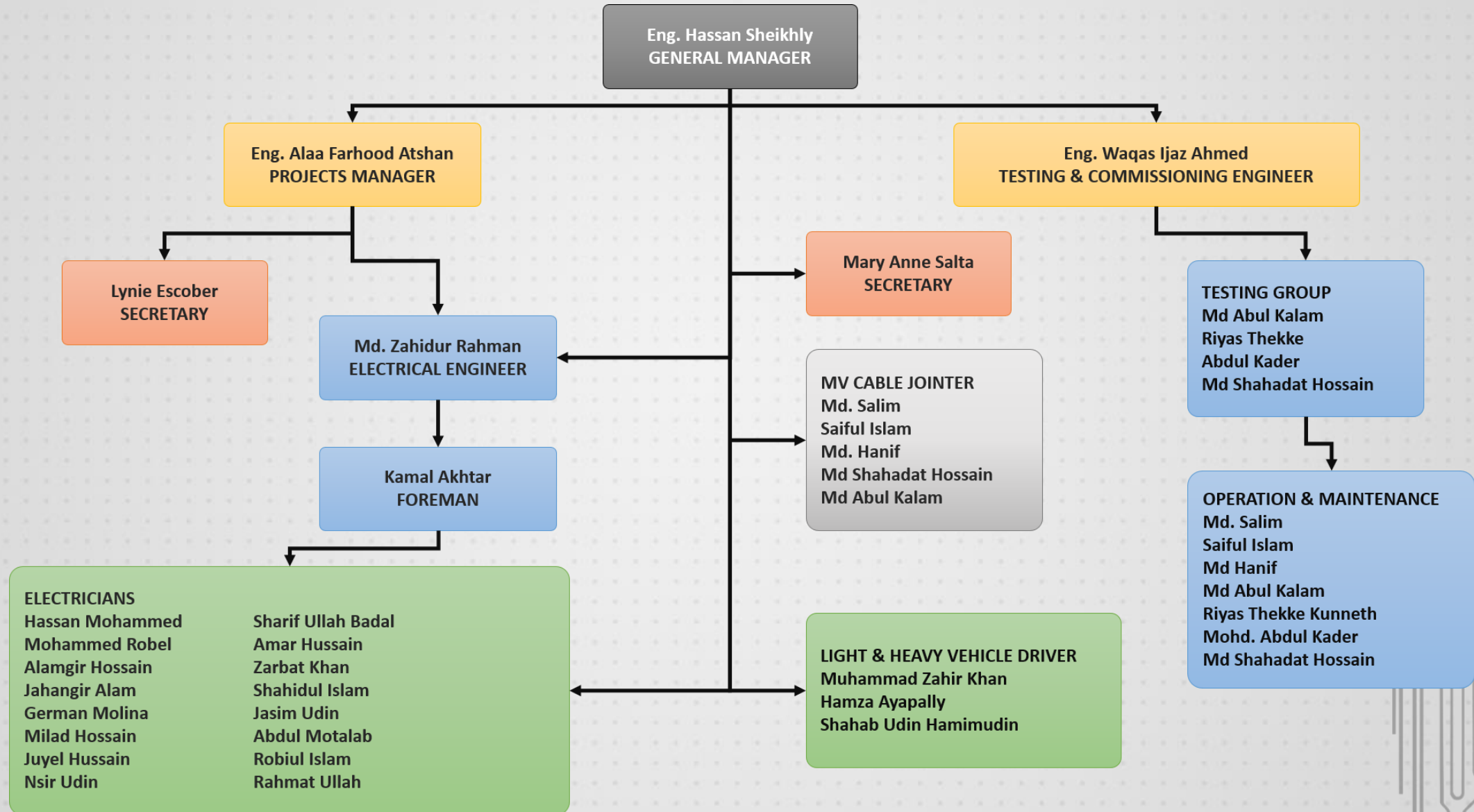
INTRODUCTION

COMPANY INFORMATION

Delma Street, Below Murror Bridge, Abu Dhabi U.A.E.



ORGANISATION CHART



PROJECTS

YAS MALL



مربعة الصوة
SOWWAH SQUARE



شركة أبوظبي للتوزيع
Abu Dhabi Distribution Company



مستشفى المفرق
Mafraq Hospital



ASTON MARTIN DUBAI



السعديات
SAADIYAT



SERVICES



Installation of LV Cable, DB, SMDB, Earthing systems



Cable Maintenance / Testing



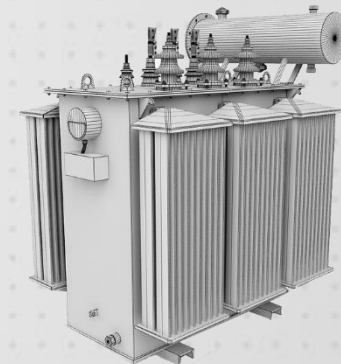
Street Lamps Maintenance / Installation



Relay Calculation Study



Supply and Installation of 33, 22, 11 kV Substations



Transformer Maintenance / Testing / Commissioning



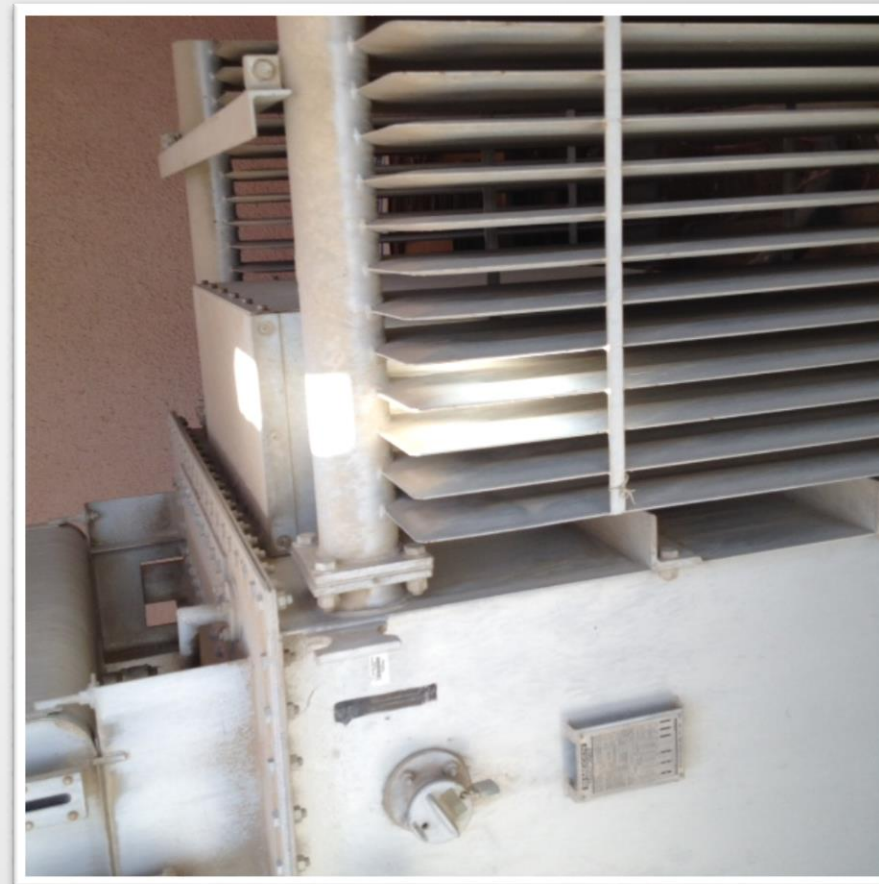
INTERNSHIP ACTIVITIES



3 SITE VISITS



W 10 – KHALDIYA AREA



YAS MALL

GEAFOL®
SIEMENS
SIEMENS Transformers LLC
P.O. BOX 128488 ICAD II MUSSAFAH, ABU DHABI (UNITED ARAB EMIRATES)

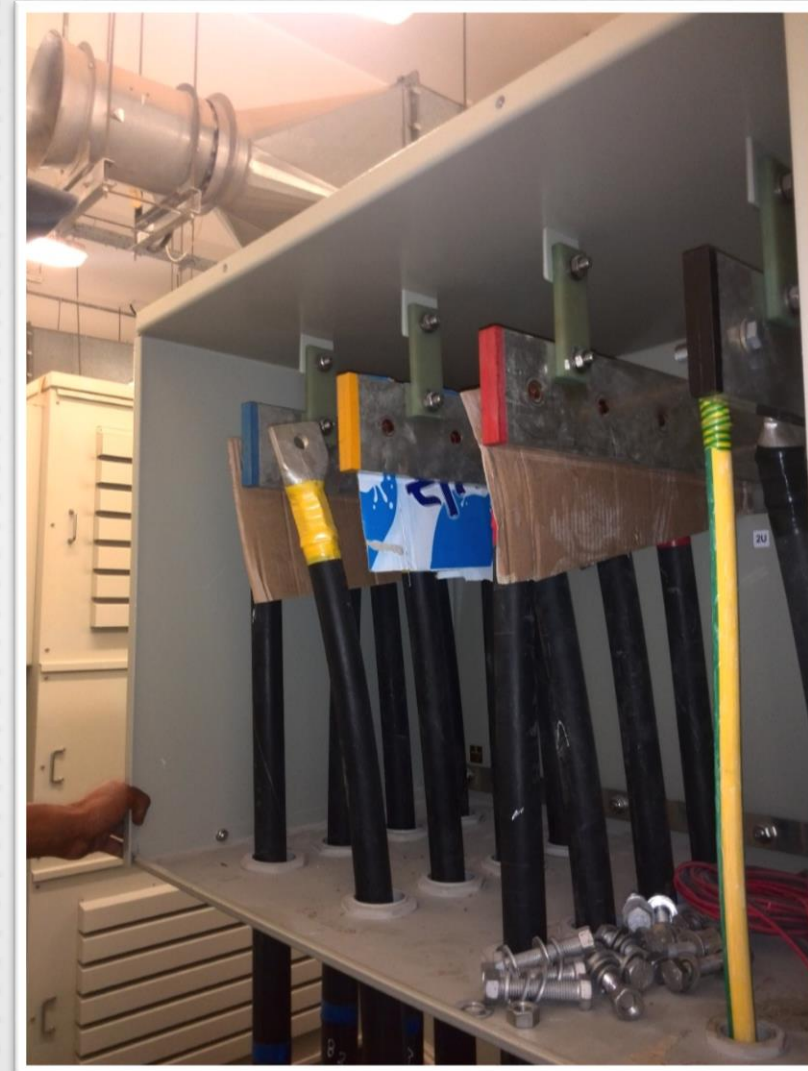
MADE IN U.A.E.

Rated Capacity (kVA)	2000		Transformer Serial Nr.	10001779
High Voltage	Conn.	Volts	Year of Manufacture	2012
	5 - 6	23100	Standard:	IEC 60076-11
Rated Voltage (V)	4 - 6	22550	Type of Cooling	AN
	4 - 7	22000	Rated Frequency	50 Hz
	3 - 7	21450	Number of Phases	3
LV Rated Voltage (V)	3 - 8	20900	Vector Group	Dyn11
	415		Enclosure protection	IP21
Rated Current (A)	HV	52.5	Transformer Weight (t)	5.6
	LV	3782.4	Enclosure Weight (t)	0.9
Reference Temperature °C	120	Impedance %	7.03	
Winding Temp. Rise °C	80	Thermal Class HV / LV		
Max. Short Circuit Duration	2 s	Min	AV	241.1
Insulation level (kV)	LV 120 / HV 23			
Environmental / altitude / sea level max. height	E2 / C2 / F1			
Purchase Order Number	EM-2123/6300006520			

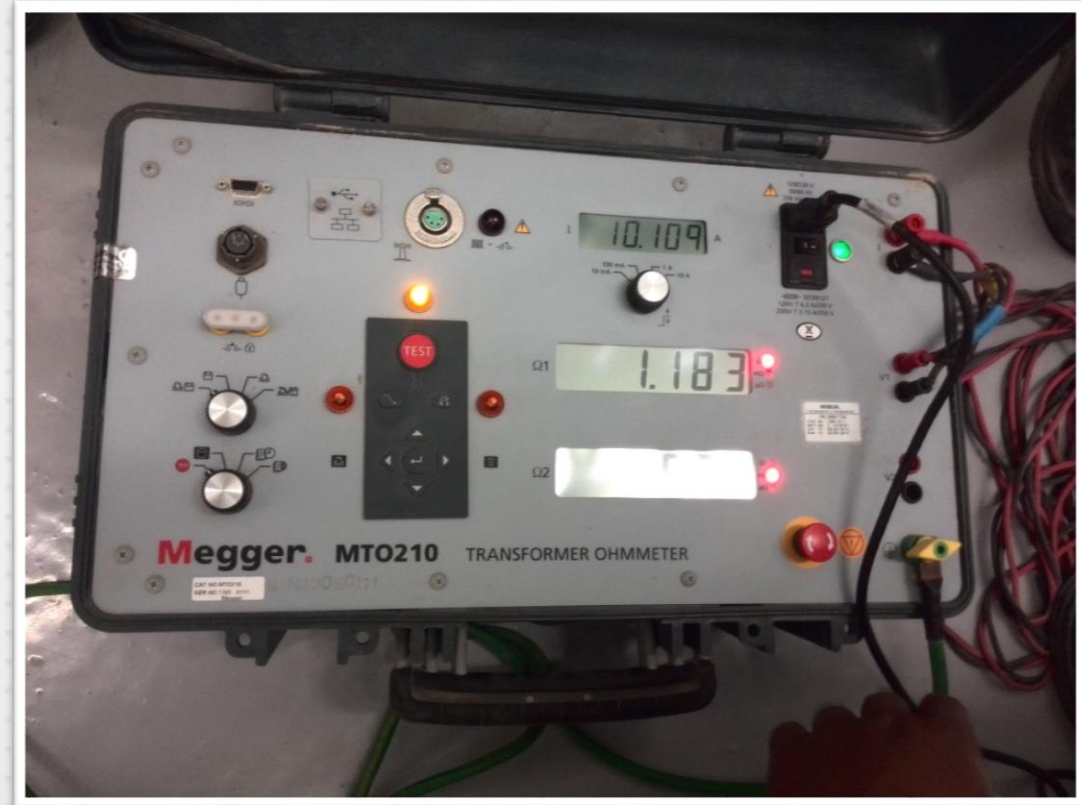
High Voltage
Low Voltage

1U 1V 1W 2U 2V 2W

1011 00007



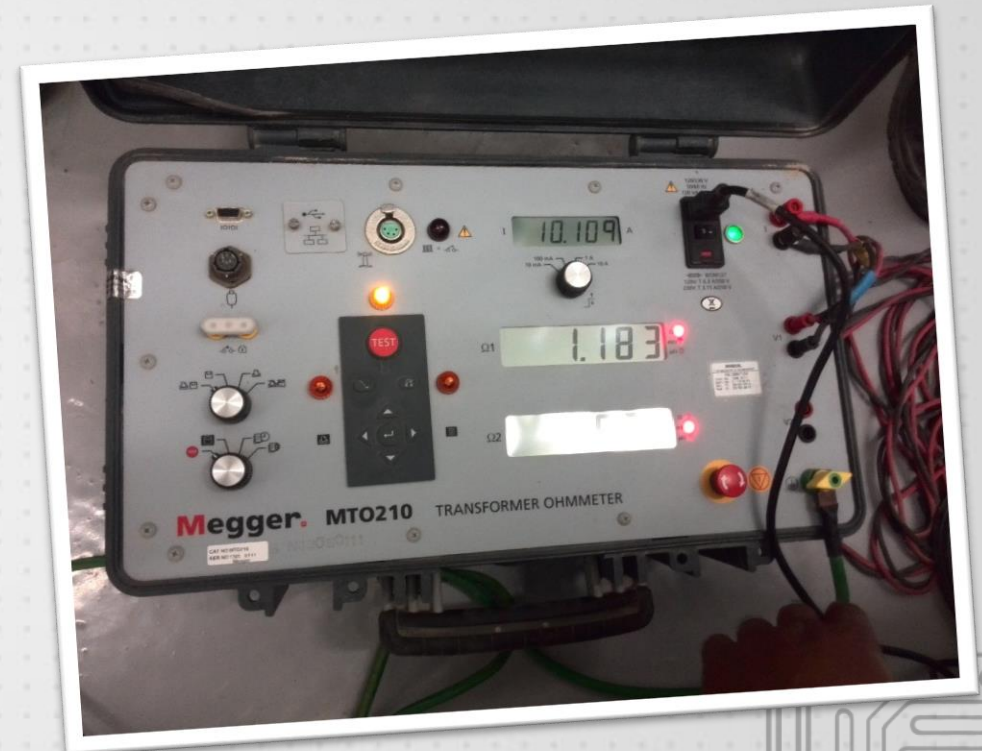
YAS MALL



YAS MALL

Winding Resistance Test

Taps	Resistance in Ω		
	1U - 1V	1V - 1W	1W - 1U
1 (5 - 6)	1.2	1.24	1.24
2 (4 - 6)	1.17	1.23	1.22
3 (4 - 7)	1.17	1.16	1.17
4 (3 - 7)	1.29	1.27	1.18
5 (3 - 8)	1.07	1.09	1.09



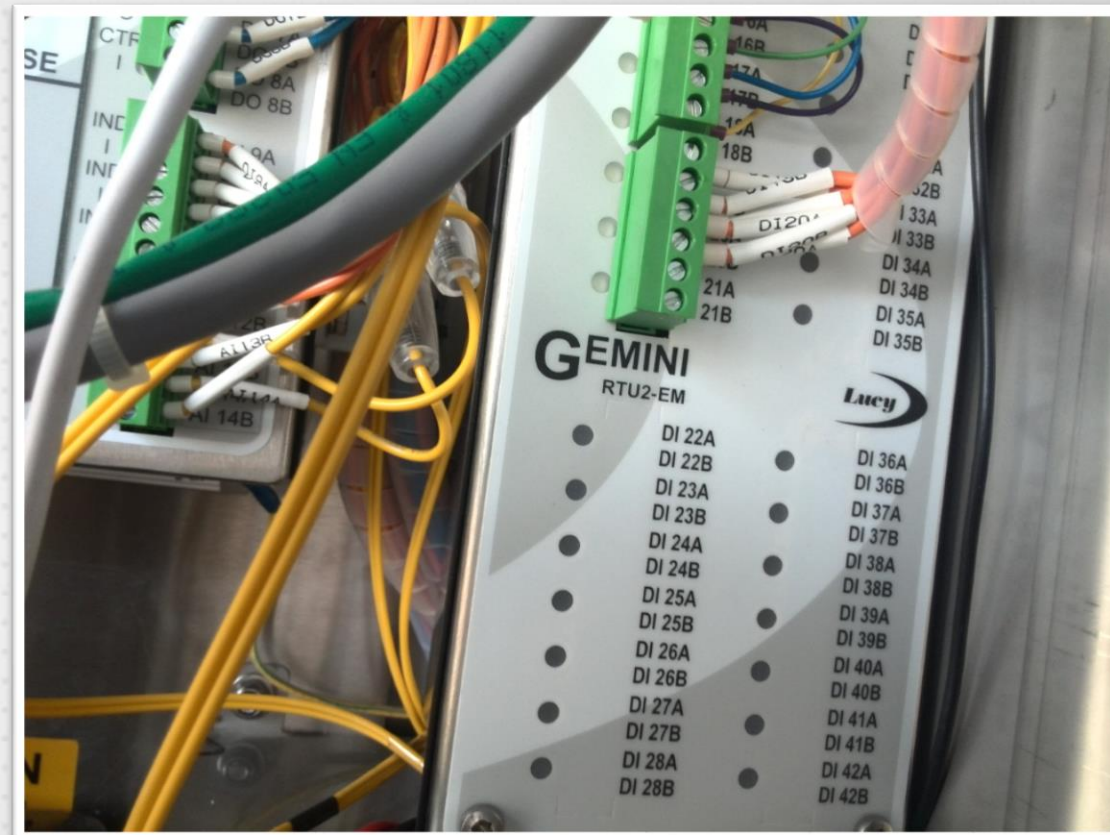
YAS MALL

Turns Ratio Test

No. of Tap Connection	Connection phase HV	Connection phase LV	Measurement Turn Ratio
1 (5 - 6)	R - Y	R - N	96.882
	Y - B	Y - N	96.911
	B - R	B - N	96.929
2 (4 - 6)	R - Y	R - N	94.419
	Y - B	Y - N	94.434
	B - R	B - N	94.555
3 (4 - 7)	R - Y	R - N	92.052
	Y - B	Y - N	92.079
	B - R	B - N	92.101
4 (3 - 7)	R - Y	R - N	89.867
	Y - B	Y - N	89.945
	B - R	B - N	90.037
5 (3 - 8)	R - Y	R - N	87.695
	Y - B	Y - N	87.677
	B - R	B - N	87.771

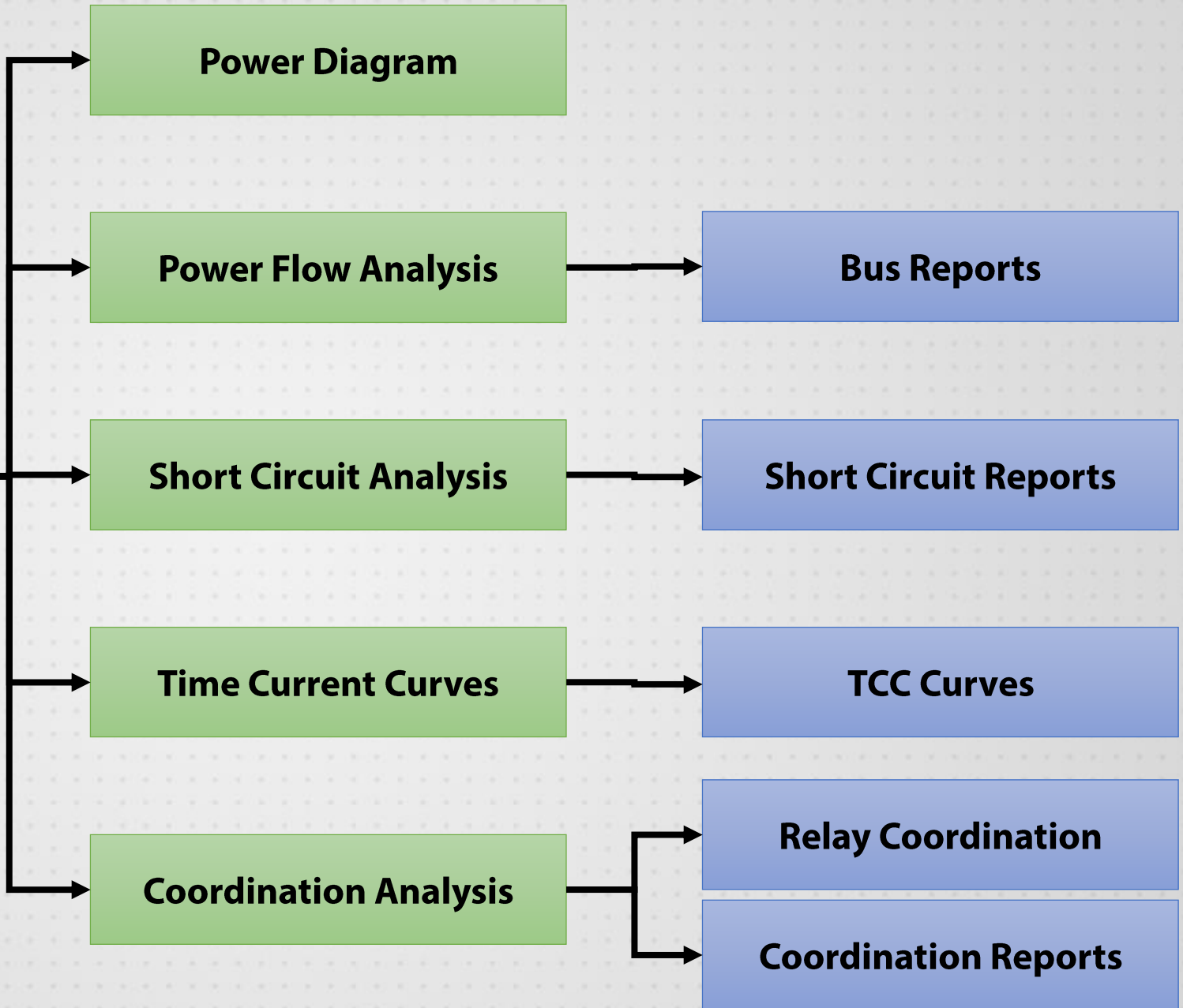


ADNEC



ADNEC







LIVE STREAM SURVEILLANCE CAMERAS



- webclient
- CAM01
- CAM02
- CAM03
- CAM04



Step(1-8): 5

Zoom Focus Iris

Preset: 1

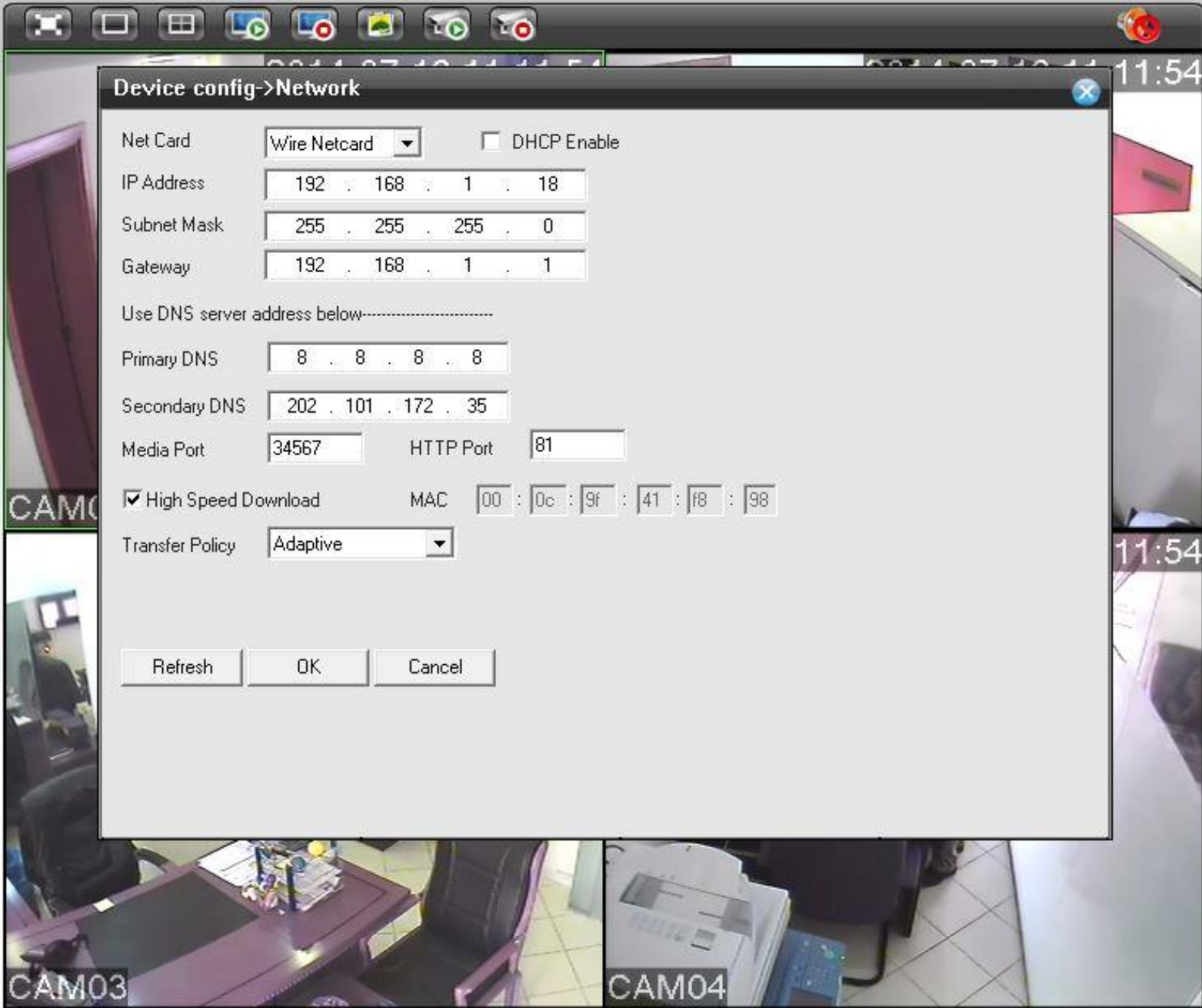
Tour: 1

Color Other

Default

webclient

- CAM01
- CAM02
- CAM03
- CAM04



Device config->Network

Net Card: Wire Netcard DHCP Enable

IP Address: 192 . 168 . 1 . 18

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 192 . 168 . 1 . 1

Use DNS server address below-----

Primary DNS: 8 . 8 . 8 . 8

Secondary DNS: 202 . 101 . 172 . 35

Media Port: 34567 HTTP Port: 81

High Speed Download MAC: 00 : 0c : 9f : 41 : f8 : 98

Transfer Policy: Adaptive



Step(1-8): 5

Zoom

Focus

Iris

Preset:

1

Tour:

1

Color Other

Default

Save Settings

Restart Access Point

Restart Router

Setup

Basic

Advanced

Wireless

Security

Status

Help

Advanced

WAN

LAN

Application

QoS

Routing

System Password

Firmware Upgrade

Restore To Default

Port Forwarding

WAN Connection: quickstart Allow Incoming Ping

Select LAN Group: LAN group 1

LAN IP: 192.168.1.18

[New IP](#)

[DMZ](#)

[Custom Port Forwarding](#)

Category	Available Rules
<input checked="" type="radio"/> Games	Alien vs Predator
<input type="radio"/> VPN	Asheron's Call
<input type="radio"/> Audio/Video	Dark Rein 2
<input type="radio"/> Apps	Delta Force
<input type="radio"/> Servers	Doom
<input type="radio"/> User	Dune 2000
	DirectX (7,8) Games
	EliteForce
	EverQuest
	Fighter Ace II

[View](#)

[Add >](#)

[< Remove](#)

Applied Rules
CCTV

[Apply](#)

[Cancel](#)



Hosts/Redirects

Add Host

> Manage Hosts

Manage Groups

Download Client

Upgrade to Enhanced

Need Help?

Support Center




Troubleshooting Guide

Manage Hosts

Current Hosts: 1

Need More Hosts? Enhance Your Account!

[Enhance Your Account](#)

Host	IP/URL	Action
 Hosts By Domain		
ddns.net		
obninja.ddns.net	2.50.183.174	 Modify  Remove

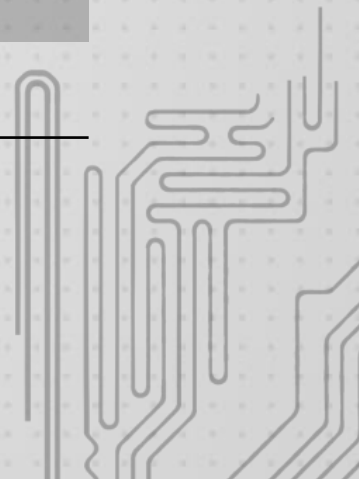
[Add A Host](#)



WEEKLY TIMETABLE

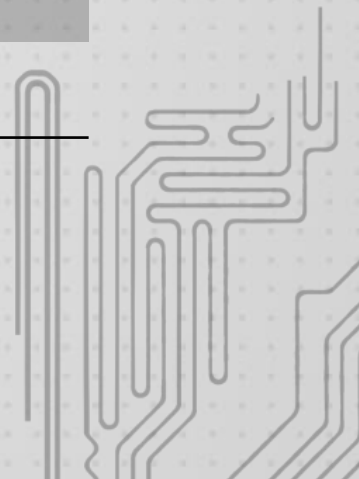
WEEK 1

S.No.	Day	Main Activity
1	Sunday	Familiarize and company profile study
2	Monday	Basic Terminologies Research
3	Tuesday	General Information about how RTUs
4	Wednesday	AutoChim case analysis
5	Thursday	Feeder Pillars and Substation understanding.
6	Saturday	W10 Khalidiyah Site Visit



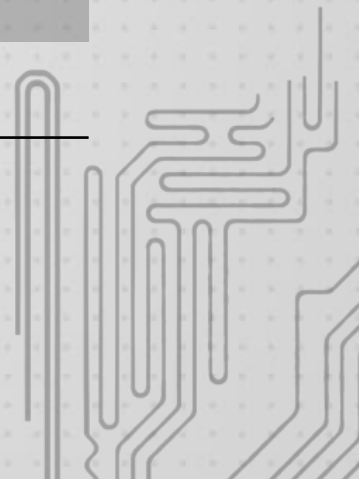
WEEK 2

S.No.	Day	Main Activity
1	Sunday	Introduction to EasyPower
2	Monday	Studying AutoCAD drawings
3	Tuesday	Easy Power to build power distribution networks
4	Wednesday	Easy Power Simulations
5	Thursday	Research about Vector Group Test
6	Saturday	Yas Mall Site Visit



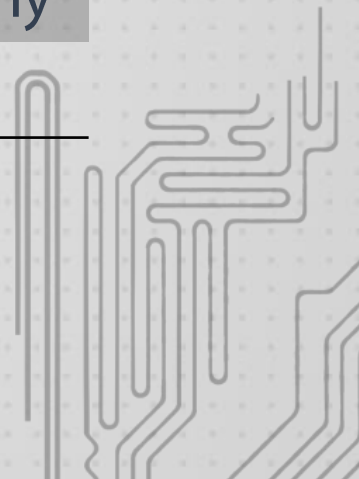
WEEK 3

S.No.	Day	Main Activity
1	Sunday	Easy Power analyzation
2	Monday	Time – Current Curves (TCCs)
3	Tuesday	Generating Reports in Easy Power
4	Wednesday	Power flow analysis at different buses
5	Thursday	Relay coordination study
6	Saturday	Yas Mall Site Visit



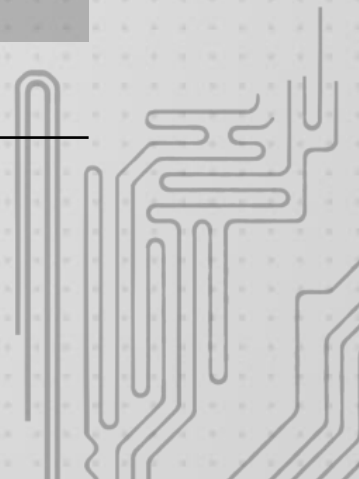
WEEK 4

S.No.	Day	Main Activity
1	Sunday	ETAP software research and study
2	Monday	ADDC rules and regulations
3	Tuesday	Al Dhafir case analysis
4	Wednesday	DVR and streaming research
5	Thursday	Getting insight into previous clients of the company
6	Saturday	DVR to local network connection



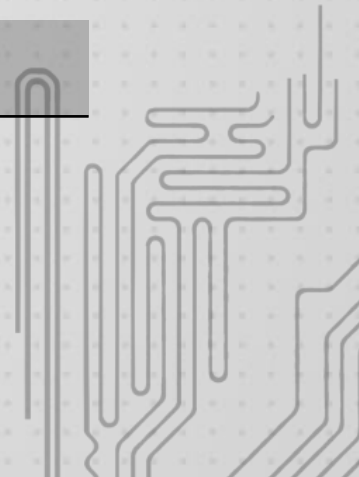
WEEK 5

S.No.	Day	Main Activity
1	Sunday	CCTV cameras and networking research
2	Monday	Procedures and other ADDC regulations
3	Tuesday	Port Forwarding configuration in router
4	Wednesday	Making the router's IP globally accessible
5	Thursday	VLF cable testing theory
6	Saturday	Practical VLF cable testing



WEEK 6

S.No.	Day	Main Activity
1	Sunday	Site visit near ADNEC for maintenance of TRM unit
2	Monday	Researching on RTUs and their connection
3	Tuesday	Understanding and researching on TRMs and QRM's in detail
4	Wednesday	Researching on ADDC substation maintenance
5	Thursday	Finishing training and education





PROBLEMS FACED

Playback Log DeviceCfg LocalCfg Log Out

webclient

- CAM01
- CAM02
- CAM03
- CAM04

2014-07-19 11:11:25 2014-07-19 11:11:25

CAM01 CAM02

2014-07-19 11:11:26 2014-07-19 11:11:25

CAM03 CAM04

Step(1-8): 5

Zoom Focus Iris

Preset: 1

Tour: 1

Color Other

Default

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DEADLINE



LACK OF KNOWLEDGE



CONCLUSION

- ✓ Communication aspect covered
- ✓ Effective use of time
- ✓ Hand-on knowledge of RTUs, TRMs, & QRMs
- ✓ Complete power supply and distribution knowledge
- ✓ Company hierarchy
- ✓ Handling issues and meeting deadlines
- ✓ Interacting with managers



THANK YOU