## **Project Cost Optimization**

&

## Process Improvement Programme at FEAG Middle East LLC

## **Project Report**

Institute of Management Technology M.B.A in Projects & Operations Dubai – (Jan 10<sup>th</sup> to Apr 15<sup>th</sup>, 2016)

Submitted by: Tamilarasi Rajappa - SMBA 14066

Supervised by: Dr. Arvind Seth –Institute of Management Technology



# Institute of Management Technology

## **TITLE PAGE**

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External Advisor: Mr. Chris Renfer, GM - FEAG Middle East LLC

Author : Tamilarasi Rajappa

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#### About the Author

Tamilarasi Rajappa has completed her Bachelors of Engineering in Electronics and Communications in Anna University Chennai in 2010 and currently a M.B.A 2014-2016 Candidate at Institute of Management Technology, Dubai specialized in projects and operations. She is having around 3 years of Experience in managing project proposals in IT peripheral Industry. Tamilarasi Rajappa is a Certified Project Management Professional & Certified Associate in Project Management from Project Management Institute U.S.A. She is also an IRCA approved Quality Management Systems (QMS) Internal Auditor. Her Interests are in Project Management and Operations Management.

She is currently employed with FEAG Middle East LLC as a Project Manager

#### **About the Project Supervisor**

Dr. Arvind Seth is Professor of Operations Management. He holds a Ph. D. from Indian Statistical Institute, Kolkata. He has also done Post Graduate Diploma in Statistical Quality Control and Operations Research after completing his Masters in Statistics

Dr. Arvind Seth has served as Dean MBA program at IMT Dubai from 2006 to 2011. Before joining IMT Dubai, he worked as a faculty member at Indian Statistical Institute, New Delhi for almost thirty years. He has undergone International Training in Total Quality Control in industry in Sweden organized by The Swedish Board for Investment and Technical Support.

He is certified lead Assessor for ISO-9000 and ISO-14000. He was Leader of Indian Delegation to meeting of ISO/TC – 69, Technical Committee on Application of Statistical Methods in industry held in Washington, USA, 1995 and in Tokyo (2002). He served as Chairman of National Committee set up by Bureau of Indian Standard (BIS) on development of Standards for Statistical Methods for Quality and Reliability, 2002-2006.

He has more than 35 years of experience in teaching, research, training and consultancy. Providing/ provided consultancy services in the field of Six Sigma, TQM, ISO – 9000, Operations Management, SPC, DOE, Taguchi Methods and Reliability Analysis to more than 250 different organizations in different countries. Also carried out more than 600 projects and case studies for improving quality, productivity and reducing cost in industries. He has guided Ph.D. and M.Tech students.

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I am also grateful for the valuable support provided from my company internal stakeholders for the completion of my project and MBA Course on time.

Mr.Chris Renfer- Group General Manager, FEAG Middle East LLC, Dubai Mr. Hedley Whitehead- Chief Finance Officer- FEAG Middle East LLC, Dubai Mr. Denis Taylor- Chief Operations Officer -FEAG Middle East LLC, Dubai Ms. Nayana Narayanan- Procurement Executive- FEAG Middle East LLC ,Dubai Mr. Ratheesh Chandran -Head of Estimation/Design- FEAG Middle East LLC, Dubai

## 1. Executive Summary

**<u>Purpose:</u>** This project work is to develop a cost optimization program at FEAG Middle East and to improve the knowledge concerning best practices in Project and Operations Management The main objective of this project is to improve FEAG existing Process and New Process implementation efforts in areas such as Project Management, Procurement Management, and Project Estimation.

**Background:** During my Internship at FEAG Middle East LLC as a Management \_Intern I was involved in learning the key knowledge areas of Project and Operations Management. This Include

- Engineering Project Management
- Project Procurement Management
- Project Estimation Management

My current project work is an extension of my internship wherein I will be developing and implementing Cost Optimization Program for my Organization in the role of Project Manager.

The recent Quarterly Management Meeting under the chair of Mr Chris Renfer who is the Group General Manager of FEAG Middle East had concerns towards the higher market price of their products when compared to competitors and net margin for last fiscal year were not achieved as expected. His immediate thought was to speed up the creation of a program which specifically deals with the Improvement of Net Margin /Cost Optimization in Projects. He named the Program as" SPEED" and I had been appointed as the SPEED Coordinator wherein my role is to setup a Cost Optimization Program and to implement the same. I was directly reporting to Group General Manager in regard to SPEED Program.

<u>Method</u>: The Main approach of this implementation is to benchmark the best practices to be followed in the Projects and Operations Management which is key to Process improvements and the success of SPEED Program. Data Gathering Techniques such as Interviewing, Experts Judgement, Observation, and Pilot Templates are the key tools used for addressing the issues and process improvements.

## 2. FEAG Middle East LLC \_ Introduction

FEAG Middle East LLC deals with assembling and manufacturing supply and services of Substation Automation and Protection Panels. Main EPC Customers are Siemens LLC, Alstom Grid and L&T. Major End Clients are Utility Companies like DEWA, SEWA, TRANSCO KNPC and Oil & Gas Industries like ADCO, ADNOC etc. FEAG has its Head office located in Business bay, Dubai. Panel Manufacturing and assembling workshop is in Dubai Investment Park Industrial area located near Jebal Ali, Dubai -United Arab Emirates. Business model is such that the main contractors deliver their loose Supply Automation Equipments to FEAG and FEAG in turn assembles the units with panel accessories and delivers the panel as per client requirements.

Typical Business Model with the End Client for FEAG Middle East LLC is shown below



Figure -1 FEAG Middle East LLC –Typical Business Model

#### **FEAG Organization Chart**

As a Student from IMT Dubai my main duties include the observation of Key Operational areas of project management and Operations involved in the Company. In this context I was reporting to Mr. Denis Taylor. All Technical and Project Managers are reporting to Head of Projects and Sales wherein administration, Procurement and Assembly Workshop Managers were reporting to the COO. Both COO and Head of Projects report to the Group General Manager Mr.Chris who is in charge Al Mansoori Group of Companies (FEAG is also a part of Almansoori Group)



Figure -2 FEAG Middle East LLC –Typical Organization Chart

## **3. FEAG Procurement Management Process Learnings- Overview**

There are about 10 process followed in FEAG for managing their procurements as a buyer. The below process flowchart shows how FEAG procurement executes the procurement once the Purchase request is raised form their Engineering project Department.



Figure-3 Procurement Management Flow Chart

Once the Purchase request is generated from the Technical manager via signed PR sheet the procurement manager will start sending Request for Quotations for all qualified suppliers/vendors .A Minimum of 3 vendor's quotations to be received. Based on the receipt of quotations/Offers from vendors price comparison and evaluation based on the project criteria will take place based on the Technical Experts, COO, Project Manager's, Head of Projects guidance and a final approval from COO is required for the release of Purchase Order to the selected vendor. It is expected an Order Acknowledgement or receipt of PO will be returned from supplied end .As per the PO Terms and Conditions regarding the Delivery, Incoterms and Payments Terms Goods shall be delivered



#### **Figure-4 Procurement Process Flow**

#### The Detailed Description is as below

- I: Receive Purchase Request
  - The process of procurement begins when the Purchase Request is received. Either a Project/Estimation/Stores department may initiate the process by sending a PR
- II: Request For Quotation (RFQ)
  - The procurement person sends RFQ to the approved vendors/suppliers along with the detailed specification regarding the required items.
  - A minimum of 3-5 suppliers are chosen to send the RFQ based on Past performance.
- III: Receive Quotations
  - A minimum of 3-5 quotations are received from the vendor's.

#### **IV: Price Comparison**

- Once the quotations are received, a price comparison process is carried out by the procurement in-charge.
- For ex: If the vendors are from different geographic locations (India, Germany, Dubai) then the offers are worked out including the INCOTERMS. The final cost to the company to receive the items in the warehouse is calculated.
- The final price received after the calculations (including Incoterms) are compared among the vendors.
  - The best/ lowest price is shortlisted.

#### VI: Selection of Vendor

- Following Criteria's should be satisfied by a Vendor in order to be selected/awarded by an order.
  - ✓ Price Quoted
  - ✓ Quality of Products
  - ✓ Delivery time
  - ✓ Organization structure/ size
  - ✓ Past experience
- Based on the above, a vendor is finalized

#### VI: Issuing Purchase Order

- Once the Vendor is selected, a purchase order is issued. The specifications to be included in the PO are as follows:
- <u>Mandatory Requirements:</u>
  - ✓ PO reference number
  - ✓ Payment Terms( stated by Vendor)
  - ✓ Price Basis (stated by Vendor)
  - ✓ Quantities
  - ✓ Delivery/ Lead time etc.
  - ✓ Address (Buyer/Vendor)
  - ✓ Total Amount Currency
- <u>Preferable Requirements:</u>
  - ✓ No./ Size of boxes
  - ✓ Lot specifications
  - ✓ Packaging Material etc.

#### VII: Follow up with the orders

- Regular follow ups with the placed order would avoid delay in receiving the items, in return would avoid risk of project delay.
- A weekly (materials with 3-4week lead time) or an alternate day (Materials with less than a week lead time) follow up is recommended.
- If it seems to be a delay in the delivery, then try to expedite the process
- and keep the project Head and the customers informed about the same.

## VIII: Receive Items

- Things to be careful before signing a delivery note:
  - ✓ Quantities of items received ( compare it with the PO issued)
  - ✓ Specifications (part no, Brand etc.)
  - ✓ Quality of items
  - ✓ Condition of the item ( if good proceed with it, if damaged then inform the supplier and figure out ways to correct it)
  - $\checkmark$  Make sure that the items have reached stores .
- Dos and Don'ts:

If there is any mismatch in the above mentioned criteria's,

- $\checkmark$  Do coordinate with the supplier
- $\checkmark$  Do not receive the items until the things are sorted out
- ✓ Do not proceed without getting a written explanation from the vendor about the current scenario.

#### **IX: Processing Payments**

Proceed with the Payments as per the Incoterms.

X: Close Purchase Order

• Close the Purchase order formally.

## 4. FEAG Quality Control Process Learnings- Overview

Once the Panel Enclosures are delivered to the FEAG Workshop floor, All the Loose Supply Items supplied by Main Contractors like Siemens, Alstom, ABB and FEAG Procured Materials are assembled as per the approved schematic drawings. The Factory Acceptance process is listed as below. There are 8 Processes involved in dispatching the Offered Panels to Customers.



Figure-5 FAT-Quality Control Process Overview

Internal Testing will happen during the PRE FAT Testing, which will be done by FEAG and Main Contractor Specialist. Panel related testing responsibility should be under FEAG and Loose Supply Automation Components responsibility shall be under Main Contractor. Overall Responsibility of the FAT Success lies with Main Contractor Scope. Once PRE FAT is completed, FAT Inspection Invitation shall be sent to Customer for witness and Deliverable Approval and acceptance. The below block diagram shows the flow of PREFAT and FAT Quality Control process and Customer approval.



#### Figure-6 Process Flow-FAT & PREFAT-Quality Control

The Detailed Description shall be as below

#### I:PRE-FAT

- Once the panel assembly is completed, the project manager (Main contractor) calls for a PRE-FAT (around 2-3 weeks before FAT)
- Main contractors Testing Engineer/Third party engineer (appointed by Main Contractor) tests the panel. The testing includes,
  - Component Testing
  - Functional Testing
  - Protection Relay Testing-Using an Omicron Injection Kit and takes the necessary actions.

#### II: FAT witness with customer

- Similar Testing procedures are carried out in-front of the Customer who inspects the Panels
- The testing includes,
  - Component Testing
  - Functional Testing
  - Protection System Testing-Using an Omicron Injection Kit

#### III: Comments from customer/Test report

- Once the FAT is completed, Customer delivers his comments during MOM(Minutes of Meeting) including the changes / corrections than needs to be done before acceptance
- A Test Report is issued.

#### IV: POST FAT activities/Compliance

• This is carried out for a minimum of 2-3days, where the customer requirements are Complied

#### V: Acceptance from Customer

- If all the requirements are satisfied for the customer (as per the Drawing) the Panels are accepted.
- Else, FAT fails and Panels are re-assembled accordingly

#### VI: Packing Clearance

 Packing Clearance is issued once Customer accepts the panels. Panels are packed as per Customer needs.

#### VII: Dispatch Clearance

• Customer issues dispatch Clearance.

#### VIII: Dispatching the Panels

• The Panels are dispatched as per the Inco terms.

#### 5. About SPEED Program

Speed is about improving the income and optimizing the cost positions across the whole organization, as well as becoming more efficient and competitive in the market place. Both Cost Optimization in existing Projects and Improving Sales Revenue needs to be concurrently executed for the Success of Speed Program.



It is a continuous Improvement program and a smaller Improvement at regular Intervals. Every week after the Management Meeting, a dedicated meeting for Speed was organized with a 30 minute duration. The Speed Program was kicked off by me with a presentation and the Implementation of Target 600,000 AED. (\*\*Note: Figures have been modified to maintain confidentiality of FEAG Middle East)

Earlier to SPEED there was no specialized program at FEAG for governing the projects and to measure the variance of Services or Procurements. The Only method of Project Governance was whether the recorded Gross Margin is achieved or not.

## 6. Literature Review

The Knowledge of Baseline development process in Project Management Body of Knowledge (Scope, Schedule and Cost) provide information and ideas towards developing implementation plan for the SPEED Program.

Our Cost Break down structure and Schedule Development are derived from the standard Scope, Schedule and Cost Baseline processes of PMBOK as below

#### <u>Create WBS – Scope Baseline</u>

Create WBS is the process of subdividing project deliverables and project work In to smaller, more manageable components. The key benefit of this process is that it provides a structured vision of what has to be delivered.



#### **Determine Budget – Cost Baseline**

Determine Budget is the process of aggregating the estimated costs of individual Activities or work packages to establish an authorized cost baseline. The key benefit of this process is that it determines the cost baseline against which project performance can be monitored and controlled.



#### **Develop Schedule – Schedule Baseline**

Develop Schedule is the process of analyzing activity sequences, durations, resource requirements, and schedule constraints to create the project schedule model.

The key benefit of this process is that by entering schedule activities, durations, resources, resource availabilities, and logical relationships into the scheduling tool, it generates a schedule model with planned dates for completing project activities.



## 7. SPEED Implementation.

A Cost Breakdown structure was developed and presented during the SPEED Meeting with all the Internal Stakeholders. A premortem discussion happened about this proposal whether the below target for each breakdown is really practical/possible and based on the experts/stakeholders inputs it was iterated and adjusted and the ratios were altered according to their experience. Finally at the end meeting the target for each WBS is assigned and agreed with the respective action owners.

The Ideas of Cost Breakdown structure were derived from Create WBS Process of Project Management Body of Knowledge.

#### Cost Breakdown Structure

The Cost Breakdown structure of SPEED Program for the Target AED for the financial year 2016 is as below



Figure -7 Cost Breakdown Structure –Speed Program

(\*\*Note: Values have been modified to maintain confidentiality of FEAG Middle East)

The Breakup of the values are arrived from the percentage of offer structure which we used to prepare for the Estimation-, a typical Supply and Service Portion of a Panel Manufacturing Project.

SPEED Program expectations and targets almost touched all the process improvement in the Company starting from Estimation to Project Closure. Best Practices in Negotiation, Man Power Management and Effective Project Risk Management are important parts of SPEED Program. To Govern the Tasks and activities of SPEED a Tracker was required and the same was prepared and submitted for approval from Group General Manager.

## 8. Basis of Target Split-Cost Breakdown Structure

#### CBS 1.1.1- Panel Enclosure

#### **Distribution:**

Panel Costs constitute approximately 28% of Material Portion in our Offer Calculations. Similar Distribution % can be applied for Cost Optimization

**Basis:** Total Material Cost: 450,000. 28 % of Material Cost: 126,000 (Target Budget Savings for Panel Enclosures)

Presumption: It is expected approx. 800 Panel Orders for FY-2016.

**Target Negotiation:** In a nutshell our Target Reduction per panel is <u>158 AED</u> as part Of Project budget saving during Execution

#### CBS 1.1.2- 3rd Party Devices

#### **Distribution:**

Device Costs constitute approximately 72% of Material Portion in our Offer Calculations. Similar distribution % can be applied for cost optimization

**Basis:** Total Material Cost: 450,000. 72 % of material cost: 324,000 (Target budget savings for panel enclosures)

Presumption: It is expected approx. 800 Panel Orders for FY-2016.

**Target Negotiation:** There are 50 Devices per panel. In a nutshell our Target Reduction per panel is 400 AED out of 8250 AED as part of project budget saving during execution

4.9% in all 3rd Party Devices in FY 2016

#### CBS 1.2.1- GA Design Services

**Basis:** Total Services Cost: 150,000. 40 % of GA Design is 60,000 (Target Budget Savings for Design Costs)

Presumption: It is expected approx. 800 Panel Orders for FY-2016.

**Target:** Current/Panel: 10 hours /panel

**Target Reduction:** 8Hrs /Panel250 AED/Hr.

**Opportunity for reduction:** 1600 hours  $-\rightarrow$  1600\*250=400,000AED

Speed Expectation is minimum of 60,000 out of 400,000 (15%)

#### CBS 1.2.2- Labour Cost

**Basis:** Total Services Cost: 150,000. 45 % of Labour Cost is 67,500 (Target Budget Savings for Labor Costs)

Presumption: It is expected approx. 800 Panel Orders for FY-2016.

Target: Current/Panel: approx. 3634 AED

Target Reduction: 112.5 AED per panel for Non typical

**Opportunity for reduction:** 112\*800= 90,000 AED

Speed expectation is minimum of 67,500 out of 90,000 (Note: 112\*600= 67,500 AED)

#### CBS 1.2.4- Project Risk Management

**Basis:** Arbitrary value of 2% per project is considered in all offers for contingency. Actual Risk Identification, Risk Analysis and Response Planning to be done for all projects and to embed in Calculations .Workarounds to be avoided to ensure risk reserve savings.

Presumption: It is expected approx. 800 Panel Orders for FY-2016.

Target: Risk Value/Panel: 380 AED for 800 Panels: 304,000 AED

Target Risk Savings: 11% out of 304,000

**Opportunity for reduction:** <304,000 AED Speed Expectation is minimum of 16,500 out of 304,000

#### **CBS 1.2.3- Administration Expenses**

**Target:** Claim Management for FAT Hosting in Offers. Food Expenses to be invoiced /reimbursed from Customers

Target Savings: 500 \*6\*5 days FAT = 15000 AED

**Opportunity for reduction:** 500 \* 10\* 5days FAT = 25000 AED

Speed expectation= 15000AED

## 9. SPEED Tracker

A Speed Tracker was developed concerning the Cost Optimization and this tracker serves as Detailed Activity /Task /status tracker.

		Effective	Expecte	ed Impact (I	kaed)					
Description 🗸	Responsible 🗸	Net Margin Impact (kAED 🍸	Expected Revenue	Expecte d Gross Margi	Net Margir ▼	Effective Net Margin Impact in AED	Expected Completic 🚽	Progress T	CBS •	Audit Date
5% Cost reduction in Selected 3rd Party Materials for projects in Q2	Nayana	4%	4,235,294.13	15%	14%	180000.00	15.05.2016		Materials_Devices	25.06.2016
Cost reduction in Panel Enclosure_Equivalent_Target 150 per	Denis Taylor	4%	1,588,234.50	15%	14%	67500.00	10.04.2016	25%	Materials_Panel	25.06.2016
Risk Reserve Savings for Cumulative Projects Closed in Q2	Hedley/Denis	nla	nla	nla	n/a	18000.00	02.05.2016		Process_Risk Mgt	25.06.2016
FAT Expenses - Claim Management_Offer	Ratheesh/Pooja	n/a	nla	nla	n/a	15000.00	immediate		Process_Services	25.06.2016
Capturing Hidden Margins in Cost towards Net Income- <b>Mechanical</b> Assembler_Preparation Time	Denis Taylor	n/a	nla	nla	nla	67500.00	Immediate	100%	Process_Services	25.06.2016
Capturing Hidden Margins in Cost towards NetIncome- <b>Mechanical</b> Assembler_Fixing_C1 Type	Denis Taylor	n/a	nla	nla	n/a	27000.00	Immediate		Process_Services	25.06.2016
Capturing Hidden Margins in Cost towards Net Income- Engineering Design	Ratheesh	nla	nla	nla	nła	167000.00	Immediate		Process_Services	25.06.2016
Capturing Hidden Margins in Cost towards Net Income- <b>Transportation</b>	Denis Taylor	n'a	nla	nla	nła	20500.00	Immediate		Process_Services	25.06.2016
Capturing Hidden Margins in Cost towards Net Income <b>- Wiring &amp; Testing</b>	Denis/Rajesh	nla	nla	nla	nla	90000.00			Process_Services	25.06.2016
						652500.00				

The Speed Tracker was developed concerning the areas of Procurement, Estimation, Risk Management, Project Governance and Eliminating Non Conformance. The Structure is as below



#### **<u>1. Pricing Restructure</u>**

#### **Existing Model:**

While Calculating Base Costs-X (Supply+ Services) the following charges are also included.

- 1. Transportation Charges such as Customs, Freight -x1
- 2. Packing Charges -x2
- 3. Contingency Risk -x3
- 4. Financing Cost -x4
- 5. Insurance Cost- x5

Result: Margin Simulation is done inclusive of above items.

i.e. Sales Price= 15 % (X+x1+x2+x3+x4+x5)

#### Alternate Model:

Calculate Base Costs-X (Supply+ Services). Margin Simulation only on Base Costs.

Calculate Other Charges below

- 1. Transportation Charges such as Customs, Freight -x1
- 2. Packing Charges -x2
- 3. Contingency Risk -x3
- 4. Financing Cost -x4
- 5. Insurance Cost- x5

Sales Price= 15 %( X) + x1+x2+x3+x4+x5

Advantage: Price Competitiveness by 2 %

Can avoid Margin Stacking

#### 2. Strategic Sourcing & Value Analysis

Minimum of 3 Vendor Quotations for Major Items and Third Party Outsourcing Services. This will provide us the market rates and to obtain the best competitive price levels



## 3. Establishing KPIs & Risk Planning

Proposed KPI Templates for Success of Speed Program

#### A. SPEED Audits – Continuous Improvement

KPI:Audit Perfor	mance	Metric: Number of Audi KPI Owner: Quality Repr	t Performe	d	Strategic SF	EED Driver: Co	ntinuous
		CONTEN	NT				
Purpose	To demonstrate the system and pr supporting functions by measuring	ocess performance check the number of audits pe	k done at re erformed in	gular frequency a quarter.	for all the pr	ojects, process	and
Definition	An individual (Part of Quality Team system.	n) within the organization	i audit his o	r her own compa	iny process a	and projects for	r improving the
Calculation	Number of audits completed again						
Frequency	Every 4 month cycle						
	Actual Value	e			Targeted Va	lue	
	2015			2016		2017	
Figures		ļ					
		-					
Source	Number of Audit Reports (From th	e Audit records maintain	ed by Quali	ty team).			
Responsible for Tracking /Reporting	Management Representative shall	prepare the report.		Responsible for achievement	Target	Management	Representative

#### B. Project On time Completion & Budget Savings

KPI:On Time Cor	mpletion (Milestone	Metric:On Time Comple	tion		Strategic SF	PEED Driver:	
Achievement)		KPI Owner: Project Mar	nager				
		CONTE	NT				
Purpose	To assure achievement of the proje	ect milestone and contra	ctual comp	letion date of the	project.		
Definition	Number of milestones achieved ag	ainst the planned milest	ones or tar	gets based on the	project sch	edule.	
Calculation	OTC=(Number of completed milest	one/ Number of Targete	d mileston	es)*100			
Frequency	Every 4 month cycle						
	Actual Value	9			Targeted Va	lue	
	FY		FY2	015/2016		2016/2017	,
Figures							
Source							
Responsible for Tracking /Reporting	The Technical Project managers shi basis to Process/Quality Coordinato The Process/Quality Coordinator sh standard format and the same shal management.	all forward the data on o or. nall prepare the report ir Il be forwarded to Execu	uarterly h the tive	Responsible for achievement	Target	Project Manag	zers

#### **Project Variance Reporting:**

To improve the Project Governance, a simple variance Template was developed and it is in practice for the upcoming projects. This Template records the Planned Data with the Actual Work performance Date in order to analyse the Project Performance. Based on the success of this exercise, Earned Value Management Techniques and advance Project Performance measures shall be proposed to the Management for further improvements.

	Project Descript	tion	Estim	ated/Budgeted Mar	ihours		Actual Manhours	•		Delta	
S.No	Project Name	Project Code	Resource List	Estimated Hours	Hourly Rate	Resource List	Actual Hours	Actual Cost	Resource List	Delta Hours	Delta Cost
			Mechanical			Mechanical			Mechanical		
]	SEWA Muwalaah		Wiring			Wiring			Wiring		
1	JEVVA MUWERCall (10#)	150063	Testing			Testing			Testing		
	(12#)		Labelling			Labelling			Labelling		
			Design			Design			Design		
			Mechanical			Mechanical			Mechanical		
	Sigmane L&T FMS		Wiring			Wiring			Wiring		
2	/1#\	150041	Testing			Testing			Testing		
]	(1#)		Labelling			Labelling			Labelling		
			Design			Design			Design		
			Mechanical			Mechanical			Mechanical		
	ADCO Modem Panel		Wiring			Wiring			Wiring		
3	/1#)	150015	Testing			Testing			Testing		
	(1#)		Labelling			Labelling			Labelling		
			Design			Design			Design		

#### **Developing Project Risk Register:**

Practice of Risk Register is implemented for upcoming Estimation and Projects in order to ensure repeated risks should not occur in the projects and the arbitrary risk monetary value considered during project estimation is added to the net margin. Lessons Learned from previous projects are a must to record in all upcoming projects. A specific target is setup for Risk Monetary savings in the SPEED Program.

Also it is advised to the Project Estimation team to plan for the Risk Budget and not to propose an assumed /arbitrary Risk Value considering the fact that all projects are unique in nature. Some projects will have more risk being complex in nature and some projects are simple in nature and will not require more contingency reserves. This practice helps in managing the uncertainty during project execution and governance. This Risk Register and Reserve analysis to be done at every SPEED Status Meeting for all projects in addition to our regular Project Status Meeting. A sample Risk Register is as below.

	Contigency Risk Register													
Risk ID	Project Name	Risk Description	Quantity	Unit Price	Severence	Probability	Risk value	Risk Resposne Plan/Owner	Trigger	<b>Risk Occurrence</b>	Occurred Value			
1	XXXX	Additional Terminations_Labour	50	3.5	175	1.00	175			Yes	175			
										No				
										Total Occurred	175			
								Estimated Risk Reserve(n Proje	6000	Delta	5825			

#### **Schedule Baseline Preparation:**

As all the stakeholders are aware about the benefits of completing a project on time. The Current Excel based plan is only used as a one-time customer submission during award of contract. The Benefits of using Planning & Simulation tools such as Microsoft project and Primavera were proposed and since our projects are EPC\_Type complex in nature, MS Project was proposed for Preparing Schedule Baseline and Schedule Monitoring and Maintenance for high volume projects.

I was assigned to prepare baseline for all upcoming high volume projects. The advantage of using a MS Project is gaining the knowledge of critical activities in the project and baseline iterations and effective schedule control.

A Schedule for Kuwait Project with Siemens LLC as our customer for a scope of delivering 230 Protection panels is as below

This 230 Panels is subdivided into 2 Batches each 115 Panels based on JBAH\_Y and WFRA-Z Substations.

#### Schedule for JBAH-Y Substation

ID	Task	Task Name		Duration	Start	Finish	Predecessors	1st Qua	arter		3rd Qu	arter		1st Qua
	Mode							Jan	Mar	May	Jul	Sep	Nov	Jan
1	-	KWI PROJECT _JB	AH-Y_115 Panels	230 days	sThu 4/7/16	Sat 12/31/16					_			Ψ
2	-	CONTRACT		6 days	Thu 4/7/16	Wed 4/13/16			1					
3	-	Award Of Cor	ntract	1 day	Thu 4/7/16	Thu 4/7/16			th_					
4	-	Contract Rec	eived	0 days	Thu 4/7/16	Thu 4/7/16	3		e 1	4/7				
5	-	Purchase Ord	ler Receipt	1 day	Wed 4/13/16	Wed 4/13/16	3SS+5 days		M					
6	-	Kick off Meet	ting	1 day	Wed 4/13/16	Wed 4/13/16	5SS		M					
7	-	INPUTS FROM (	CUSTOMER	3 days	Thu 4/14/16	Sun 4/17/16			-					
8	4	Clearance for	r Enclosure ordering	1 day	Thu 4/14/16	Thu 4/14/16	6SS+1 day		*					
9	3	Clearance for	Enclosure Received	0 days	Thu 4/14/16	Thu 4/14/16	8		-	4/14				
10	\$	Preparation of Enclosure Su	of Shop drawings for pplier	2 days	Sat 4/16/16	Sun 4/17/16	8		1					
11	3	RECEIPT OF IFC	DRAWINGS	17 days	Sat 4/16/16	Wed 5/4/16		1		Ψ				
12	3	Receipt of GA	4	1 day	Sat 4/16/16	Sat 4/16/16	6SS+2 days	1	*					
13	3	Receipt of BC	Q	1 day	Sun 4/17/16	Sun 4/17/16	12	1						
14	3	BOQ Receive	d	0 days	Sun 4/17/16	Sun 4/17/16	13	1		4/17				
15	\$	Receipt of Sc	hematics	1 day	Wed 4/27/16	Wed 4/27/16	12SS+10		4	h				
10					71 4/20/46	TI 4/00/45	days	-		Ļ.				
10	-	Receipt of W	iring Tables	1 day	Thu 4/28/16	Thu 4/28/16	15	-		-				
1/	-	Receiving Fre	e issue materiais	1 day	Thu 4/28/16	Thu 4/28/16	13			100				
18	-	Free issue m	aterials Received	0 days	Thu 4/28/16	Thu 4/28/16	1/		I []	4/28				
19	\$	w.r.to IFC Dra	Free issue materials awings	1 wk	Thu 4/28/16	Wed 5/4/16	17SS			0				
20	\$	PROCUREMENT	Г	11 days	Thu 4/14/16	Tue 4/26/16				2				
21	-	Purchase Ord	ler for enclosure	1 day	Thu 4/14/16	Thu 4/14/16	8SS		×					
22	-	Receipt of BC	Q by Purchase dept.	1 day	Wed 4/20/16	Wed 4/20/16	13FS+2 days		l i					
							<u>^</u>				-			
			Task		E	xternal Milestone	\$		Man	ual Sum	mary Ro	llup 🚃		
			Split			nactive Task			Man	ual Sum	mary	<b>—</b>		
Projec	t: JABER	AL AHMED	Milestone	•	li li	nactive Milestone	0		Start	-only		•		
Date:	Tue 3/2	9/16	Summary	•	Ų II	nactive Summary	Ų		Finis	h-only		3		
			Project Summary	<u> </u>		Aanual Task			Dead	lline				
			External Tasks			uration-only			Prog	ress		_		
					1	Page 1								

D	Task	Task Name	Duration	Start	Finish	Predecessors	1st Qui	arter	*	3rd Qu	arter		1st Qu
	Mode						Jan	Mar	May	Jul	Sep	Nov	Jan
23	-	Purchase Order for other materials	5 days	Thu 4/21/16	Tue 4/26/16	22		ð					
24	3	PRODUCTION_LOT 1_41 Panels	114 days	sThu 6/9/16	Wed 10/19/16		1						
25	-	Assembly	48 days	Thu 6/9/16	Wed 8/3/16		1			<b>_</b>			
26	3	Receipt of Enclosure at FEAG	2 days	Thu 6/9/16	Sat 6/11/16		1		- ch				
27		Enclosures Received	0 days	Sat 6/11/16	Sat 6/11/16	26	1		-	6/11			
28	->	LOT 1_Progress invoice _Enclosure_30%	1 day	Sun 6/12/16	Sun 6/12/16	26	1		1				
29		Receipt of payment	45 days	Mon 6/13/16	Wed 8/3/16	28	1		12				
30	-	Mechanical Assembly	27 days	Sun 6/12/16	Tue 7/12/16	26SS+2 days	1		-				
31	3	Wiring & Labelling	34 days	Mon 6/13/16	Thu 7/21/16	30SS+1 day	1		_ <b>\</b> _				
32	-	Internal Testing & Non-Conformance correction	30 days	Wed 6/22/16	Tue 7/26/16	31SS+8 days			4				
33	*	Issuing FAT notice to customer	1 day	Tue 7/12/16	Tue 7/12/16					<b>T</b>			
34		PRE-FAT_SIEMENS	14 days	Wed 7/27/16	5 Thu 8/11/16								
35		Visual Inspection	2 days	Wed 7/27/16	Thu 7/28/16	32				<u> </u>			
36	-	Panel Testing	4 days	Sun 7/31/16	Wed 8/3/16	35FS+1 day				្រុ			
37	-	Power up Main Relays	2 days	Thu 8/4/16	Sat 8/6/16	36				<u> </u>			
38	-	Preparation of PRE_FAT test report_FEAG	1 day	Sun 8/7/16	Sun 8/7/16	37				Ĩ			
39	-	Re-work/Modifications as per Customer MOM	4 days	Mon 8/8/16	Thu 8/11/16	38				៍			
40	-	Factory Acceptance Test LOT 1_41 Panels	5 days	Sun 8/14/16	Thu 8/18/16					-	,		
41	3	FAT with Client	5 days	Sun 8/14/16	Thu 8/18/16	39FS+1 day	1			0	5		
42		FAT Completed	0 days	Thu 8/18/16	Thu 8/18/16	41				-	8/18		
						-							
		Task		E	xternal Milestone	\$		Manu	ial Sumr	mary Ro	llup 🚃		
		Split		Ir	nactive Task			) Manu	ual Sumn	mary	-		
Projec	t: JABER	ALAHMED Milestone	•	Ir	nactive Milestone	•		Start-	only		E		
Date:	Tue 3/2	9/16 Summary	÷	II	active Summary	<u> </u>		Finish	n-only		3		
		Project Summary		N	1anual Task			Dead	line				
		External Tasks			uration-only			Progr	ess		_		

ID	Task Task Name Mode			Duration	Start	Finish	Predecessors	1st Qu	arter		3rd Qu	arter		1st Qua
	Mode							Jan	Mar	May	Jul	Sep	Nov	Jan
43	-	Preparatio	n of FAT_MOM	1 day	Thu 8/18/16	Thu 8/18/16	41FS-1 day				6			
44	-	POST_FAT		7 days	Sat 8/20/16	Sat 8/27/16						2		
45	-	Re-work/I MOM	Modifications as per	1 wk	Sat 8/20/16	Thu 8/25/16	43				3	ĺ		
46	3	MOM com	pliance statement	1 day	Sat 8/27/16	Sat 8/27/16	45	]			1	'n		
47	-	MOM Com	plied	0 days	Sat 8/27/16	Sat 8/27/16	46					8/27		
48	-	Payment		46 days	Sun 8/28/16	Wed 10/19/16						<u> </u>	1	
49	3	LOT 1_Invo completion	picing_FAT n_60%	1 day	Sun 8/28/16	Sun 8/28/16	46				i	1		
50	3	Processing	Payment	45 days	Mon 8/29/1	6 Wed 10/19/16	49	1			1	<b>-</b>	h	
51	3	Receipt of	Payment	0 days	Wed 10/19/	16Wed 10/19/16	50	1				-	10/19	
52	3	DELIVERY_LOT	1_41 Panels	60 days	Thu 9/8/16	Wed 11/16/16		1				<b>ф</b>		
53	3	Receipt of Pa	cking clearance	1 day	Thu 9/8/16	Thu 9/8/16	46FS+10 day					Ъ		
54	⇒	Final Quality	check /Taking Pictures	1 day	Sat 9/10/16	Sat 9/10/16	53					Ť		
55	3	Packing		7 days	Sun 9/11/16	Sun 9/18/16	54	1				5		
56	3	Preparing De	livery Note	1 day	Sun 9/18/16	Sun 9/18/16	55FS-1 day	1				Ť		
57	3	Receipt of Di	spatch clearance	1 day	Mon 9/19/1	6 Mon 9/19/16	55	1				5		
58	3	Dispatch Clea	arance Received	0 days	Mon 9/19/1	6 Mon 9/19/16	57	1				a 9/1	19	
59	3	Shipping Doc	umentation	2 days	Tue 9/20/16	Wed 9/21/16	57	1				6		
60	\$	Verifying Ship Documentati	oping on_SIEMENS	1 day	Thu 9/22/16	Thu 9/22/16	59					1		
61	\$	Transportatio	on to Kuwait_SIEMENS	5 days	Sat 9/24/16	Wed 9/28/16	60					۴		
62	3	PAYMENT		46 days	Sun 9/25/16	Wed 11/16/16						-		
			Task			External Milestone	\$		Man	ual Sum	mary Rol	lup 🚃		
			Split			nactive Task			Man	iual Sumi	mary			<b>_</b>
Proje	t: JABER	ALAHMED	Milestone	•		nactive Milestone	\$		Start	t-only		E		
Date:	Tue 3/2	9/16	Summary	÷,		nactive Summary	<u> </u>		Finis	h-only		3		
			Project Summary	$\overline{\mathbf{v}}$	Q	Manual Task	E		Dead	dline				
			External Tasks			Duration-only			Prog	gress				
			1			Page 3								

ID	Task	Task Name		Duration	Start	Finish	Predecessors	1st Qua	rter		3rd Qua	rter		1st Qua
	Mode							Jan	Mar	May	Jul	Sep	Nov	Jan
63	-	Invoicing L Completion	.OT 1_Delivery n_10%	1 day	Sun 9/25/16	Sun 9/25/16	61FS-4 days					ľ		
64	-	Receipt of	payment	45 days	Mon 9/26/16	Wed 11/16/16	63					<u> </u>		
65		PRODUCTION_	LOT 2_ 44 Panels	106 days	5 Thu 7/7/16	Mon 11/7/16						_	Ψ	
66	-	Assembly		48 days	Thu 7/7/16	Wed 8/31/16						2		
67	1	Receipt of	f Enclosure at FEAG	2 days	Thu 7/7/16	Sat 7/9/16		1			æ			
68		Enclosures	s Received	0 days	Sat 7/9/16	Sat 7/9/16	67	1			<b>4</b> 7/9			
69	-	LOT 2_Pro _Enclosure	gress invoice e_30%	1 day	Sun 7/10/16	Sun 7/10/16	67	]			ſ			
70		Receipt of	Payment	45 days	Mon 7/11/16	Wed 8/31/16	69	1				1		
71	3	Mechanic	al Assembly	29 days	Tue 7/12/16	Sun 8/14/16	67SS+4 days	1						
72		Wiring & L	Labelling	36 days	Wed 7/13/16	Tue 8/23/16	71SS+1 day				4			
73	3	Internal Te Conformar	esting & Non nce Correction	32 days	Sat 7/23/16	Sun 8/28/16	72SS+8 days				4	]		
74	*	Issuing FAT n	notice to SIEMENS	1 day	Sun 8/14/16	Sun 8/14/16		1			I			
75		PRE- FAT_by	SIEMENS	14 days	Tue 8/30/16	Wed 9/14/16		1						
76		Visual Insp	ection	2 days	Tue 8/30/16	Wed 8/31/16	73FS+1 day	1			ì	5		
77		Panel Testi	ing	4 days	Thu 9/1/16	Mon 9/5/16	76	1				5		
78		Power up	Main Relays	2 days	Tue 9/6/16	Wed 9/7/16	77	1				5		
79	3	Preparation report_FEA	on of PRE_FAT test AG	1 day	Thu 9/8/16	Thu 9/8/16	78	1				ř,		
80	\$	Re-work/N Customer	Modifications as per MOM	4 days	Sat 9/10/16	Tue 9/13/16	79	1				Ť		
81	3	MOM Com	npliance statement	1 day	Wed 9/14/16	Wed 9/14/16	80	1				5		
82		MOM Con	nplied	0 days	Wed 9/14/16	Wed 9/14/16	81	1				<b>9/1</b> 4	1	
83	3	Payment		46 days	Thu 9/15/16	Mon 11/7/16						-	Ψ	
			Task	_	E	xternal Milestone	\$		Man	ual Sumi	mary Roll	up		_
			Split		un de le	nactive Task			Man	ual Sumi	mary	<b>—</b>		-
Projec	t: JABEF	AL AHMED	Milestone	•	Ir	nactive Milestone	0		Start	-only		E		
Date:	Tue 3/2	9/16	Summary	÷		nactive Summary	Ų		Finis	n-only		Э		
			Project Summary	$\overline{\nabla}$		1anual Task			Dead	line				
			External Tasks		D	uration-only			Prog	ress				
					I	Page 4								

ID	Task	Task Name		Duration	Start	Finish	Predecessors	1st Qu	arter		3rd Qu	arter		1st Qu
	Mode							Jan	Mar	May	Jul	Sep	Nov	Jan
84	-	LOT 2_Invoi completion	icing_FAT _60%	1 day	Thu 9/15/16	5 Thu 9/15/16	81					ĥ		
85	3	Processing	Payment	45 days	Sat 9/17/16	Mon 11/7/16	84					-		
86	3	Receipt of P	ayment	0 days	Mon 11/7/1	6 Mon 11/7/16	85	1					ave 11/7	<b>7</b>
87	3	DELIVERY_LOT 2	_44 Panels	60 days	Tue 9/27/10	5 Mon 12/5/16		1						
88	-	Receipt of Pac	king clearance	1 day	Tue 9/27/16	5 Tue 9/27/16	81FS+10 days					Т		
89	\$	Final Quality c	heck /Taking Pictures	1 day	Wed 9/28/1	6 Wed 9/28/16	88					Ĩ		
90	3	Packing		7 days	Thu 9/29/16	5 Thu 10/6/16	89	1				- <b>*</b>		
91	3	Preparing Deli	very Note	1 day	Thu 10/6/16	5 Thu 10/6/16	90FS-1 day	1				- 6		
92	3	Receipt of Dis	patch clearance	1 day	Sat 10/8/16	Sat 10/8/16	91	1				5		
93	3	Dispatch Clear	ance Received	0 days	Sat 10/8/16	Sat 10/8/16	92					-	10/8	
94	-	Shipping Docu	mentation	2 days	Sun 10/9/16	6 Mon 10/10/16	92							
95	\$	Verifying Ship Documentatio	ping n_SIEMENS	1 day	Tue 10/11/1	.6 Tue 10/11/16	94					1	·	
96	-	Transportation	n to Kuwait_SIEMENS	5 days	Wed 10/12/16	Mon 10/17/16	95					2	ĺ	
97	-	Payment		46 days	Thu 10/13/	L6 Mon 12/5/16						Ψ.	<b>_</b>	
98	÷	Invoicing LC Completion	)T 2_Delivery _10%	1 day	Thu 10/13/1	l6 Thu 10/13/16	96FS-4 days					- 1		
99	3	Processing P	Payment	45 days	Sat 10/15/1	6 Mon 12/5/16	98	1				- 2		
100	3	Receipt of P	ayment	0 days	Mon 12/5/1	6 Mon 12/5/16	99	1					<b>4</b> 1	2/5
101	3	PRODUCTION_L	OT 3 _30 Panels	104 day	5 Thu 8/4/16	Sat 12/3/16					- <b>-</b>		<b>_</b>	
102	3	Assembly		48 days	Thu 8/4/16	Wed 9/28/16		1			- <b>-</b>	<b>_</b>		
103	*	Receipt of I	Enclosure at FEAG	2 days	Thu 8/4/16	Sat 8/6/16					Ē			
			Task			External Milestone	\$		Man	nual Sum	mary Ro	llup 🕳		
			Split			Inactive Task			🗆 Man	nual Sum	mary	<b>_</b>		<b>V</b>
Projec			Milestone	•		Inactive Milestone	\$		Star	t-only		E		
Date:	Tue 3/2	9/16	Summary	-		Inactive Summary			Finis	sh-only		э		
			Project Summary			Manual Task	6		Dea	dline				
			External Tasks		)	Duration-only			Prog	gress				
		I				Page 5								

ID	Task	Task Name		Duration	Start	Finish	Predecessors	1st Qua	rter		3rd Qu	arter		1st Qua
	Mode							Jan	Mar	May	Jul	Sep	Nov	Jan
104		Enclosure	s Received	0 days	Sat 8/6/16	Sat 8/6/16	103				1	B/6		
105		LOT 3_Pro	gress invoice	1 day	Sun 8/7/16	Sun 8/7/16	103				6			
		_Enclosure	e_30%								11			
106	-	Receipt of	Payment	45 days	Mon 8/8/16	Wed 9/28/16	105							
107	-	Mechanica	al Assembly	22 days	Sun 8/14/16	Wed 9/7/16	103SS+8 days	4			- Y=			
108	-	Wiring & L	abelling	28 days	Mon 8/15/16	5 Thu 9/15/16	107SS+1 day				<u>ዓ</u> መ			
109	₽	Internal Te	esting & Non	24 days	Wed 8/24/16	5 Tue 9/20/16	108SS+8				9	<b>_</b> 1		
		conformar	nce Correction				days							
110		Issuing FAT n	otice to customer	1 day	Sun 9/11/16	Sun 9/11/16						1		
111	-	PRE-FAT_by	SIEMENS	14 days	Sun 9/25/16	Mon 10/10/16								
112	-	Visual Insp	ection	2 days	Sun 9/25/16	Mon 9/26/16	109FS+3 day:	•				<u>5</u>		
113	-	Panel Test	ing	4 days	Tue 9/27/16	Sat 10/1/16	112					- <u>5</u>		
114	-	Power up	Main Relays	2 days	Sun 10/2/16	Mon 10/3/16	113					- 5		
115	-	Preparatio report_FE	on of PRE_FAT test AG	1 day	Tue 10/4/16	Tue 10/4/16	114					า้		
116	\$	Re-work/Modifications as per Customer MOM		4 days	Wed 10/5/16	5 Sun 10/9/16	115					៍		
117	\$	MOM com	pliance statement	1 day	Mon 10/10/16	Mon 10/10/16	116	1				5		
118	3	MOM Cor	nplied	0 days	Mon 10/10/1	LEMon 10/10/16	117	1				-	10/10	
119	3	Payment		46 days	Tue 10/11/1	6 Sat 12/3/16		1				-		
120	\$	LOT 3_Inv completio	oicing_FAT n 60%	1 day	Tue 10/11/1	6 Tue 10/11/16	117					5		
121	3	Processing	Payment	45 days	Wed 10/12/1	LESat 12/3/16	120	1				2		
122	3	Receipt of	Payment	0 days	Sat 12/3/16	Sat 12/3/16	121	1						2/3
123	3	DELIVERY_LOT	3_30 Panels	60 days	Sun 10/23/1	6 Sat 12/31/16								ψ
							^							
			Task		E	xternal Milestone	~		Man	uai sum	mary Kol	iup 🚃		
			Split			nactive Task			Man	ual Sum	mary	-		-
Projec	t: JABEF	AL AHMED	Milestone	*	1	nactive Milestone	\$		Start	-only		•		
Date:	Date: Tue 3/29/16 Summ		Summary	÷	Ų	nactive Summary	0	0	Finis	h-only		3		
		Project Summary	<b>_</b>		Manual Task			Dead	lline					
	External					ouration-only		_	Prog	ress				
			•		-	Page 6								

D	Task	Task Name	Duration	Start	Finish	Predecessors	1st Qu	arter		3rd Qu	arter		1st Qua
	Mode						Jan	Mar	May	Jul	Sep	Nov	Jan
124	-	Receipt of Packing clearance	1 day	Sun 10/23/16	Sun 10/23/16	117FS+10 day					The second se	Ĺ	
125	-	Final Quality check /Taking Pictures	1 day	Mon 10/24/16	Mon 10/24/16	124					Ē	Í	
126	3	Packing	7 days	Tue 10/25/16	Tue 11/1/16	125					- 1	5	
127	3	Preparing Delivery Note	1 day	Tue 11/1/16	Tue 11/1/16	126FS-1 day						<b>h</b>	
128	2	Receipt of Dispatch clearance	1 day	Wed 11/2/16	Wed 11/2/16	127						<b>Γ</b>	
129	-	Dispatch Clearance Received	0 days	Wed 11/2/16	Wed 11/2/16	128						11/2	
130	3	Shipping Documentation	2 days	Thu 11/3/16	Sat 11/5/16	128						5	
131	3	Verifying Shipping Documentation_SIEMENS	1 day	Sun 11/6/16	Sun 11/6/16	130						ſ	
132	->	Transportation to Kuwait_SIEMENS	5 days	Mon 11/7/16	Sat 11/12/16	131						۴	
133	-	PAYMENT	46 days	Tue 11/8/16	Sat 12/31/16								÷
134	\$	Invoicing LOT 3_Delivery Completion_10%	1 day	Tue 11/8/16	Tue 11/8/16	132FS-4 days						r -	
135	3	Processing Payment	45 days	Wed 11/9/16	Sat 12/31/16	134							h .
136		Receipt of Payment	0 days	Sat 12/31/16	Sat 12/31/16	135							712/31
		Task		E	xternal Milestone	\$		Man	ual Sum	mary Rol	lup 🚃		
		Split			active Task			Man	ual Sum	mary	<b>—</b>		-
Proje	ct: JABEF	ALAHMED Milestone	•	In	active Milestone	0		Start	-only		•		
Date:	Tue 3/2	9/16 Summary	-	In	active Summary	Ų		Finis	h-only		3		
		Project Summary	Ļ		lanual Task			Dead	lline		+		
		External Tasks		D	uration-only		_	Prog	ress				
		· · ·		F	age 7								
					OBC /								

#### Schedule for WFRA-Z Substation

ID	Task	Task Name		Duration	Start	Finish	Predecessors	Quarter		2nd Quart	er	1st Qua	1st Quarter		
	Mode							Sep	Jan	May	Sep	Jan	May		
1	-	KWI PROJECT _W	FRA-Z_115 Panels	272.4 da	a Sun 4/3/16	Tue 2/14/17									
2		CONTRACT		6 days	Thu 4/21/16	Wed 4/27/16				•					
3	-	Award Of Co	ntract	1 day	Thu 4/21/16	Thu 4/21/16				- <u>h</u>					
4	-	Contract Rec	eived	0 days	Thu 4/21/16	Thu 4/21/16	3			<b>4/21</b>					
5	-	Purchase Ord	ler Receipt	1 day	Wed 4/27/1	6 Wed 4/27/16	3SS+5 days			<b>H</b>					
6	-	Kick off Mee	ting	1 day	Wed 4/27/1	6 Wed 4/27/16	5SS			₩					
7	-	INPUTS FROM	CUSTOMER	3 days	Thu 4/28/16	5 Sun 5/1/16				<b>–</b>					
8	-	Clearance for	r Enclosure ordering	1 day	Thu 4/28/16	Thu 4/28/16	6SS+1 day			*					
9	-	Clearance for	r Enclosure Received	0 days	Thu 4/28/16	Thu 4/28/16	8			4/28					
10	-	Preparation of Enclosure Su	of Shop drawings for pplier	2 days	Sat 4/30/16	Sun 5/1/16	8			r i					
11	3	RECEIPT OF IFC	DRAWINGS	61 days	Sat 4/30/16	Sat 7/9/16		1		<b></b>					
12	3	Receipt of G	A	1 day	Sat 4/30/16	Sat 4/30/16	6SS+2 days	1		₩-					
13	-	Receipt of BO	Q	1 day	Sun 5/1/16	Sun 5/1/16	12			II.					
14	3	BOQ Receive	d	0 days	Sun 5/1/16	Sun 5/1/16	13	1		<b>5/1</b>					
15	\$	Receipt of Sc	hematics	1 day	Wed 5/11/1	6 Wed 5/11/16	12SS+10 days			4					
16	3	Receipt of W	iring Tables	1 day	Thu 5/12/16	Thu 5/12/16	15	1							
17	3	Receiving Fre	e issue materials	1 day	Sun 7/3/16	Sun 7/3/16	13	1		1.4					
18	3	Free issue m	aterials Received	0 days	Sun 7/3/16	Sun 7/3/16	17				/3				
19	3	Checking of w.r.to IFC Dr	Free issue materials awings	1 wk	Sun 7/3/16	Sat 7/9/16	17SS			₩					
20	3	PROCUREMENT	Г	11 days	Thu 4/28/16	Tue 5/10/16		1							
21	3	Purchase Ord	der for enclosure	1 day	Thu 4/28/16	Thu 4/28/16	8SS	1		*					
22	3	Receipt of BC	OQ by Purchase dept.	1 day	Wed 5/4/16	Wed 5/4/16	13FS+2 days			<b>F</b>					
			Task			External Milestone	\$		Manu	al Summar	y Rollup				
			Split			nactive Task			Manu	al Summan	Y I	ç			
Projec	t: JABEF	AL AHMED	Milestone	•	1	nactive Milestone	•		Start-	only	1	C			
Date:	Date: Thu 3/31/16		Summary	-		nactive Summary	ф		Finish	-only		3			
			Project Summary	ţ.		Manual Task	C		Dead	ine		4			
	External Tasks		External Tasks			Duration-only			Progr	ess					
			•			Page 1									

ID	Task	Task Name		Duration	Start	Finish	Predecessors	Quarter	1	2nd Quarter	15	st Quarter
23	Mode	Purchase Ord	ler for other materials	5 days	Thu 5/5/16	Tue 5/10/16	22	Sep	Jan	May	Sep	Jan May
-	_	PRODUCTION	07.4.44.0		Thu 6 (22) (4.6							
24		Assembly	LOT 1_41 Panels	1/1.4 da	Thu 6/23/16	Mon 1/9/1/						
26	-	Receipt of	Enclosure at FEAG	2 days	Thu 6/23/16	Sat 6/25/16	21			Ŧ	•	
27	3	Enclosure	s Received	0 days	Sat 6/25/16	Sat 6/25/16	26			6/25		
28	\$	LOT 1_Pro _Enclosure	gress invoice _30%	1 day	Sun 6/26/16	Sun 6/26/16	26			F		
29	3	Receipt of	payment	45 days	Mon 6/27/16	Wed 8/17/16	28			<b>*</b>		
30	-	Mechanic	al Assembly	20 days	Wed 9/7/16	Sat 10/1/16	26SS+10.9 v					
31	-	Wiring & L	abelling	26 days	Thu 9/8/16	Sun 10/9/16	30SS+1 day			<u>۲</u>		
32	-	Internal Te	esting &	23 days	Sat 9/17/16	Thu 10/13/16	31SS+7			9	ገ	
33	3	Issuing FAT n	otice to customer	1 dav	Thu 9/29/16	Sat 10/1/16	32FS-2 wks			1	+	
34	3	PRE-FAT_SIE	MENS	14 days	Sun 10/16/16	Tue 11/1/16						
35	-	Visual Insp	ection	2 days	Sun 10/16/16	Tue 10/18/16	32FS+2 days				<u>F</u>	
36	2	Panel Test	ing	4 days	Tue 10/18/16	Sun 10/23/16	35				<u>5</u>	
38		Power up I Preparatio	Nain Relays	2 days 1 day	Wed 10/24/16	Thu 10/27/16	36FS+1 day				2	
	1	report FEA	AG	1 00 9	WCG 10, 20, 10	1110 10/2//10	57				1	
39	\$	Re-work/N Customer	Nodifications as per MOM	4 days	Thu 10/27/16	Tue 11/1/16	38				1	
40	\$	Factory Acce Panels	ptance Test LOT 1_41	5 days	Tue 11/1/16	Mon 11/7/16					-	
41	3	FAT with C	lient	5 days	Tue 11/1/16	Mon 11/7/16	39				5	
42	-	FAT Comp	eted	0 days	Mon 11/7/16	Mon 11/7/16	41				▲ 11/7	
			Task		Ext	ernal Milestone	\$		Manua	Summary Ro		
			Split		ina Ina	active Task			Manua	Summary		
Desire			Milestone	٠	Ina	ctive Milestone	•		Start-o	niv	E	
Date:	Thu 3/3	1/16	Summary	÷		ctive Summary	<u> </u>		Finish-	only	-	
			Project Summary	0	Ma	anual Task	5		Deadlin	ne .		
			External Tasks	_	Du	ration-only		_	Progree			
					Fe	ige z						
ID	Task Mode	Task Name		Duration	Start	Finish	Predecessors	Quarter	2 Jan	2nd Quarter May	Sen 1s	t Quarter
43	3	Preparatio	n of FAT_MOM	1 day	Sun 11/6/16	Mon 11/7/16	41FS-1 day				5	
44	-	POST_FAT		7 days	Tue 11/8/16	has so a la cla c					_	
45	-			/ duys	100 11/0/10	wed 11/16/16					<u> </u>	
		Re-work/I MOM	Modifications as per	1 wk	Tue 11/8/16	Tue 11/15/16	43FS+1 day				7	
46	3	Re-work/I MOM MOM com	Modifications as per pliance statement	1 wk 1 day	Tue 11/8/16 Tue 11/15/16	Wed 11/16/16 Tue 11/15/16 Wed 11/16/16	43FS+1 day 45					
46 47	ф ф	Re-work/ MOM MOM com MOM Com	Modifications as per pliance statement	1 wk 1 day 0 days	Tue 11/8/16 Tue 11/15/16 Wed 11/16/16	Wed 11/16/16 Tue 11/15/16 Wed 11/16/16	43FS+1 day 45 46				× 11/2	16
46 47 48	ο Γά Γά	Re-work/f MOM MOM com MOM Com Payment	Modifications as per pliance statement nplied	1 wk 1 day 0 days 46 days	Tue 11/15/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16	Wed 11/16/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16 Mon 1/9/17	43FS+1 day 45 46				\$ 11/1	15
46 47 48 49	ի Մահես Մահես	Re-work/I MOM MOM com MOM Com Payment LOT 1_Invo	Modifications as per pliance statement uplied picing_FAT	1 wk 1 day 0 days 46 days 1 day	Tue 11/8/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16 Wed 11/16/16	Wed 11/16/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16 Mon 1/9/17 Thu 11/17/16	43FS+1 day 45 46 46					15
46 47 48 49	10 10 10	Re-work/ MOM MOM com MOM Com Payment LOT 1_Invo completion	Modifications as per pliance statement aplied bicing_FAT b_60%	1 wk 1 day 0 days 46 days 1 day	Tue 11/15/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16	Wed 11/16/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16 Mon 1/9/17 Thu 11/17/16	43FS+1 day 45 46 46					15
46 47 48 49 50	10 10 10 10	Re-work/I MOM MOM com MOM Com Payment LOT 1_Invo completion Processing	Vodifications as per pliance statement uplied bicing_FAT n_60% Payment	1 wk 1 day 0 days 46 days 1 day 45 days	Tue 11/5/16 Tue 11/8/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16 Thu 11/17/16	Wed 11/16/16 Tue 11/15/16 Wed 11/16/16 Mon 1/9/17 Thu 11/17/16 Mon 1/9/17	43FS+1 day 45 46 46 49					15
46 47 48 49 50 51 52	ի երերի երերին։	Re-work/I MOM MOM com Payment LOT 1_Invc completion Processing Receipt of DELIVERY_LOT	Vodifications as per pliance statement oplied occing_FAT 1_60% Payment Payment 1_41 Panels	1 wk 1 day 0 days 46 days 1 day 45 days 0 days 60 days	Tue 11/3/16 Tue 11/18/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16 Thu 11/17/16 Mon 1/9/17 Tue 11/22/16	Wed 11/16/16 Tue 11/15/16 Wed 11/16/16 Mon 1/9/17 Thu 11/17/16 Mon 1/9/17 Mon 1/9/17 Tue 1/3/17	43FS+1 day 45 46 46 49 50					1./9
46 47 48 49 50 51 52 53	ի նինել երեն եր	Re-work/I MOM MOM com Payment LOT 1_Invv completion Processing Receipt of DELIVERY_LOT Receipt of Pa	Vodifications as per pliance statement uplied bicing_FAT 60% Payment Payment 1_41 Panels cking clearance	1 day 1 wk 1 day 0 days 46 days 1 day 45 days 0 days 60 days 1 day	Tue 11/8/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16 Wed 11/16/16 Thu 11/17/16 Mon 1/9/17 Tue 11/22/16 Tue 11/22/16	Wed 11/16/16 Wed 11/15/16 Wed 11/16/16 Mon 1/9/17 Thu 11/17/16 Mon 1/9/17 Tue 1/31/17 Wed 11/23/16	43FS+1 day 45 46 46 49 50 46FS+5 days					15 1/9
46 47 48 49 50 51 52 53 54	0.0.0.0.0.0.0.0.0	Re-work/I MOM MOM com Payment LOT 1_Inv completion Processing Receipt of Pa Final Quality	Vodifications as per pliance statement plied picing_FAT 	1 wk 1 day 0 days 46 days 1 day 45 days 0 days 60 days 1 day 1 day 1 day	Tue 11/8/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16 Thu 11/17/16 Mon 1/9/17 Tue 11/22/16 Tue 11/22/16 Wed 11/23/16	Wed 11/16/16 Wed 11/15/16 Wed 11/16/16 Mon 1/9/17 Thu 11/17/16 Mon 1/9/17 Tue 1/31/17 Wed 11/23/16 Thu 11/24/16	43FS+1 day 45 46 46 49 50 46FS+5 days 53					1/9
46 47 48 49 50 51 52 53 54 55	0 0 0 0 0 0 0 0 0 0 0	Re-work/I MOM MOM com Payment LOT 1_Invv completion Processing Receipt of Pa Final Quality Packing	Vodifications as per pliance statement oplied plicing_FAT 60% Payment Payment 1_41 Panels cking clearance check /Taking Pictures	1 wk 1 day 0 days 46 days 1 day 45 days 0 days 60 days 1 day 1 day 7 days	Tue 11/8/16 Tue 11/8/16 Wed 11/16/16 Wed 11/16/16 Wed 11/16/16 Thu 11/17/16 Mon 1/9/17 Tue 11/22/16 Wed 11/23/16 Thu 11/24/16	Wed 11/16/16 Wed 11/15/16 Wed 11/16/16 Mon 1/9/17 Thu 11/17/16 Mon 1/9/17 Tue 1/31/17 Wed 11/23/16 Thu 11/24/16 Sat 12/3/16	43FS+1 day 45 46 49 50 46FS+5 days 53 54					1/9
46 47 48 49 50 51 52 53 54 55 55 56	84 84 84 84 84 84 84 84 84 84 84 84 84 8	Re-work/I MOM MOM com Payment LOT 1_Invc completion Processing Receipt of Pa Final Quality Packing Preparing De	Vodifications as per pliance statement oplied bicing_FAT 60% Payment Payment 2_41 Panels cking clearance check /Taking Pictures	1 wk 1 day 0 days 46 days 1 day 45 days 0 days 60 days 1 day 1 day 7 days 1 day	Tue 11/8/16 Tue 11/8/16 Tue 11/15/16 Wed 11/16/16 Wed 11/16/16 Thu 11/17/16 Mon 1/9/17 Tue 11/22/16 Tue 11/22/16 Thu 11/24/16 Thu 12/1/16	Wed 11/16/16 Tue 11/15/16 Wed 11/16/16 Mon 1/9/17 Thu 11/17/16 Mon 1/9/17 Tue 1/31/17 Wed 11/23/16 Thu 11/24/16 Sat 12/3/16	43FS+1 day 45 46 46 49 50 46FS+5 days 53 54 55FS-1 day					1/9
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63	3	Invoicing L Completion	OT 1_Delivery n_10%	1 day	Thu 12/8/16	Sat 12/10/16	61FS-4 days				5				
64		Receipt of	payment	45 days	Sat 12/10/16	Tue 1/31/17	63								
65		PRODUCTION_I	OT 2_ 44 Panels	135.4 da	Thu 8/18/16	Mon 1/23/17				-					
66		Assembly		70.4 day	Thu 8/18/16	Tue 11/8/16				-					
67	A	Receipt of	Enclosure at FEAG	2 days	Thu 8/18/16	Sat 8/20/16				<b>–</b>					
68		Enclosures	s Received	0 days	Sat 8/20/16	Sat 8/20/16	67			A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8/20				
69		LOT 2_Prog _Enclosure	gress invoice 30%	1 day	Sun 8/21/16	Sun 8/21/16	67			F					
70	3	Receipt of	Payment	45 days	Mon 8/22/16	Wed 10/12/16	69								
71	3	Mechanica	al Assembly	21 days	Sun 10/2/16	Wed 10/26/16	67SS+6.4 wł				- <b>H</b>				
72		Wiring & L	abelling	27 days	Mon 10/3/16	Thu 11/3/16	71SS+1 day				<b>y</b>				
73		Internal Te Conforman	esting & Non ace Correction	24 days	Tue 10/11/16	Tue 11/8/16	72SS+7 days				<b>~</b> ]				
74	3	Issuing FAT n	otice to customer	1 day	Tue 10/25/16	Wed 10/26/16	73FS-2 wks				- IT-				
75	3	PRE- FAT_by	SIEMENS	15 days	Sun 11/13/16	Wed 11/30/16									
76	3	Visual Insp	ection	2 days	Sun 11/13/16	Tue 11/15/16	73FS+4 days				The second se				
77		Panel Testi	ng	4 days	Tue 11/15/16	Sun 11/20/16	76				- <b>-</b>				
78	3	Power up	Main Relays	2 days	Mon 11/21/10	5 Wed 11/23/16	77FS+1 day				5				
79	-	Preparatio report_FEA	on of PRE_FAT test	1 day	Wed 11/23/16	5 Thu 11/24/16	78				Ť				
80	-	Re-work/N Customer	Modifications as per MOM	4 days	Thu 11/24/16	Tue 11/29/16	79				1				
81		MOM Com	pliance statement	1 day	Tue 11/29/16	Wed 11/30/16	80				- F				
82	3	MOM Con	nplied	0 days	Wed 11/30/16	5 Wed 11/30/16	81				-	11/30			
83		Payment		46 days	Wed 11/30/1	5 Mon 1/23/17					-				
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ID	Task	Task Name		Duration	Start	Finish	Predecessors	Quarter	2nd Quarter		1st Qua	rter	
	Mode							Sep	Jan	May	Sep	Jan	May
84	-	LOT 2_Invo completion	picing_FAT n_60%	1 day	Wed 11/30/16	Thu 12/1/16	81				F		
85	-	Receipt of	Payment	45 days	Thu 12/1/16	Mon 1/23/17	84						
86	3	DELIVERY_LOT	2_44 Panels	60 days	Tue 12/6/16	Tue 2/14/17					-		
87	3	Receipt of Pa	cking clearance	1 day	Tue 12/6/16	Wed 12/7/16	81FS+5 day	s			5		
88	\$	Final Quality check /Taking Picture		1 day	Wed 12/7/16	Thu 12/8/16	87				F		
89	3	Packing		7 days	Thu 12/8/16	Sat 12/17/16	88						
90	3	Preparing De	livery Note	1 day	Thu 12/15/16	Sat 12/17/16	89FS-1 day				Ē	<b>*</b>	
91	3	Receipt of Dis	spatch clearance	1 day	Sat 12/17/16	Sun 12/18/16	90	1			i i	* I	
92	3	Dispatch Clea	rance Received	0 days	Sun 12/18/16	Sun 12/18/16	91	1			- 4	12/18	
93	3	Shipping Doc	umentation	2 days	Sun 12/18/16	Tue 12/20/16	91	1			i	<b>*</b>	
94	\$	Verifying Ship Documentati	oping on_SIEMENS	1 day	Tue 12/20/16	Wed 12/21/16	93				i	1	
95	\$	Transportatio	on to Kuwait_SIEMENS	5 days	Wed 12/21/16	Tue 12/27/16	94				i	1	
96		PayMENT		46 days	Thu 12/22/16	Tue 2/14/17						μi i i i i i i i i i i i i i i i i i i	
97	\$	Invoicing L Completion	OT 2_Delivery n_10%	1 day	Thu 12/22/16	Sat 12/24/16	95FS-4 days				1	1	
98	3	Receipt of	payment	45 days	Sat 12/24/16	Tue 2/14/17	97	1				<b>*</b>	
99	3	PRODUCTION_I	LOT 3 _30 Panels	218.2 da	Sun 4/3/16	Tue 12/13/16							
100	3	Assembly		48 days	Thu 10/13/16	Wed 12/7/16					<b>V</b>		
101	*	Receipt of	Enclosure at FEAG	2 days	Thu 10/13/16	Sat 10/15/16					3		
102	3	Enclosures	s Received	0 days	Sat 10/15/16	Sat 10/15/16	101	1			at 10/	15	
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ID	Task	Task Name		Duration	Start	Finish	Predecessors	Juarter		2nd Quarte	er	1st Qua	rter
	Mode	ļ			ļ			Sep	Jan	May	Sep	Jan	May
103	₽	LOT 3_Pro _Enclosure	gress invoice e_30%	1 day	Sun 10/16/16	Sun 10/16/16	101				F		
104	-	Receipt of	Payment	45 days	Mon 10/17/10	5 Wed 12/7/16	103				- <b>-</b>		
105	3	Mechanica	al Assembly	14 days	Thu 10/27/16	Sun 11/13/16	101FS+1.7 v				- <b>7</b>		
106	3	Wiring & L	abelling	20 days	Sat 10/29/16	Mon 11/21/16	105SS+1 day				- <b>\</b>		
107	\$	Internal Te conformar	esting & Non nce Correction	17 days	Sun 11/6/16	Sat 11/26/16	106SS+7 days				<b>`</b>		
108	3	Issuing FAT n	otice to customer	1 day	Sat 11/12/16	Sun 11/13/16	107FS-2 wks				1	·	
109	3	PRE-FAT_by	SIEMENS	218.2 da	Sun 4/3/16	Tue 12/13/16					_	,	
110	3	Visual Insp	ection	2 days	Sun 11/27/16	Tue 11/29/16	107FS+1 day				5	·	
111	3	Panel Test	ing	4 days	Tue 11/29/16	Sun 12/4/16	110				- 6		
112	3	Power up	Main Relays	2 days	Mon 12/5/16	Wed 12/7/16	111FS+1 day				1		
113	\$	Preparatio report_FE	on of PRE_FAT test	1 day	Wed 12/7/16	Thu 12/8/16	112				P		
114	\$	Re-work/M Customer	Nodifications as per MOM	4 days	Thu 12/8/16	Tue 12/13/16	113				7		
115	3	MOM com	pliance statement	1 day	Sun 4/3/16	Sun 4/3/16				Ь			
116	3	MOM Cor	nplied	0 days	Sun 4/3/16	Sun 4/3/16	115			4/3			
117	3	Payment		46 days	Mon 4/4/16	Thu 5/26/16							
118	\$	LOT 3_Inv completio	oicing_FAT n_60%	1 day	Mon 4/4/16	Mon 4/4/16	115			F			
119	3	Processing	Payment	45 days	Tue 4/5/16	Thu 5/26/16	118			τ, the second s			
120	3	Receipt of	Payment	0 days	Thu 5/26/16	Thu 5/26/16	119			\$ 5/26			
121	3	DELIVERY_LOT	3_30 Panels	59 days	Sun 4/10/16	Thu 6/16/16							
122	-	Receipt of Pa	cking clearance	1 day	Sun 4/10/16	Sun 4/10/16	115FS+5 day			5			
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			Project Summary	<b>_</b>	— Ф M	anual Task	C		Dead	line	-	ŀ	
			External Tasks		Du	ration-only			Progr	ess	4		
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ID	Task	Task Name	Duration	Start	Finish	Predecessors	Quarter		2nd Quarte	r	1st Quar	ter
	Mode						Sep	Jan	May	Sep	Jan	May
123	Þ	Final Quality check /Taking Pictures	1 day	Mon 4/11/10	5 Mon 4/11/16	122			Ъ			
124	-	Packing	6 days	Tue 4/12/16	Mon 4/18/16	123			R I			
125	-	Preparing Delivery Note	1 day	Mon 4/18/10	5 Mon 4/18/16	124FS-1 day			5			
126		Receipt of Dispatch clearance	1 day	Tue 4/19/16	Tue 4/19/16	125			F.			
127		Dispatch Clearance Received	0 days	Tue 4/19/16	Tue 4/19/16	126			4/19			
128	3	Shipping Documentation	2 days	Wed 4/20/10	5 Thu 4/21/16	126			5			
129	\$	Verifying Shipping Documentation_SIEMENS	1 day	Sat 4/23/16	Sat 4/23/16	128			Ť			
130	\$	Transportation to Kuwait_SIEMENS	5 days	Sun 4/24/16	Thu 4/28/16	129			1			
131	3	PAYMENT	46 days	Mon 4/25/1	6 Thu 6/16/16				<b></b>			
132	-	Invoicing LOT 3_Delivery	1 day	Mon 4/25/10	5 Mon 4/25/16	130FS-4			5			
	·	Completion_10%				days						
133	3	Receipt of payment	45 days	Tue 4/26/16	Thu 6/16/16	132			<b>*</b>			
		Task			External Milestone	\$		Manu	ial Summary	Rollup e		
		Split			nactive Task			Manu	ial Summary			- P
Projec	t: JABEF	ALAHMED Milestone	•	1	nactive Milestone	\$		Start-	only			
Date:	Thu 3/3	1/16 Summary	-	Ų	nactive Summary	0		Finish	-only	:	3	
		Project Summary		• I	Manual Task			Dead	line	- 4	r i	
		External Tasks			Duration-only			Progr	ess	-		
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#### **Exploring New Business Models**

#### **Existing Business Model:**

FEAG is currently on subcontracting model with Major EPCs & as OEM Vendor shown as below



Figure -8 Existing Business Model-FEAG Middle East

#### **Possible Alternate Business Model:**

Based on the acquired experience and knowledge in Control and Protection Panel Business for the last 10 years, the below alternate models shall also to be considered for future expandability and increased market share in the region.



Figure -9 Proposed Business Model-FEAG Middle East

### **10. References:**

- 1. A guide to Project Management Body of Knowledge (PMBOK Guide) 5<sup>th</sup> Edition, Project Management Institute U.S.A
- 2. Chapter 14 of Managing Quality Improvement Teams & Projects- Managing Quality, Fifth Edition, Authored by S.Thomas Foster
- 3. Tamilarasi Rajappa MBA\_Internship Report\_2015 Institute of Management Technology Dubai \_SMBA14066

## **11. Conclusion:**

This Project work can be used as a base framework for any Cost Optimization in Projects. Though it is a company project the proposed practices are generalized for any projects as it is based on Project Management Body of Knowledge and derived from these standards.

The real success of the speed Program will be the project savings of the Target Monetary amount which will be recorded at the end of the each Fiscal year.