

**INSTALLATION OF HVAC SYSTEM AT PUNJAB SAFE CITIES  
AUTHORITY BUILDING (PPIC3, LAHORE)**

**NAME:** Mr. Fahad Arif

**ENROLLMENT:** 03-298162-005

**NAME:** Mr. Muhammad Safdar

**ENROLLMENT:** 03-298162-020

**SEMESTER:** FALL 2017, MSPM - III

**PROGRAM:** MS Project Management



**BAHRIA UNIVERSITY LAHORE CAMPUS**

**Internal Examiner:** \_\_\_\_\_

**External Examiner:** \_\_\_\_\_

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**SUBMITTED TO:** Mr. Faisal Shahzad

**SUBMISSION DATE:** January 10<sup>th</sup>, 2017

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## List of Abbreviations

**PMO:** Project Management Office

**ECC:** Emergency Command, Control & Communication center

**PC:** Project Charter

**M & C:** Monitoring & Controlling

**OBS:** Organizational Breakdown Structure

**EPS:** Enterprise Project Structure

**TFU:** Treated Fresh Air Units

**AHU:** Air Handling Units

**FCU:** Fan Coil Units

**CU:** Condensing Units

**SP:** Static Pressure

**BHP:** Brake Horse Power

**PPIC3:** Punjab Police Integrated Command, Control & Communication Center

**PSCA:** Punjab Safe Cities Authority

**SV:** Schedule Variance

**ETC:** Estimate to Complete

**EAC:** Estimate at Completion

**BAC:** Budget at Completion

**ACWP:** Actual Cost of work performed

**BCWP:** Budgeted cost for work performed

**BCWS:** Budgeted cost for work Scheduled

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## Witness Certificate

Witness certificate from the MECSOL Engineering Services is Attached.

## Preface

As a requirement of MSPM program, and to practically implement the knowledge of Project Knowledge in the field, we are required to make a comprehensive report which will consist of two parts.

In first part of this report Corporate Information will be provided regarding the organization that is MECSOL Engineering Services & will discuss the project overview & charter, EPS (Enterprise Project Structure) & OBS (Organizational Breakdown Structure). One of them is “A project management office, abbreviated to PMO, is a department within a business, agency or organization that defines and maintains standards for project management within the organization”

In second part scheduling, costing, S-Curves of a selected project i.e. Punjab Police Integrated Command, Control & Communication Center located at Qurban Lines, Lahore is performed a number of reports are generated. This is done by Primavera P6.



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### **Acknowledgement**

We would like to express our gratitude to those who helped us with the preparation of this Project Report. After thanking Allah SWT, we would like to attribute this success to our parents. Secondly, we are highly indebted to Mr. Faisal Shahzad, Bahria University Lahore Campus for this guidance and supervision throughout from start to completion of this report.

We really appreciate the cooperation of CEO (Mr. Naseer Ahmed) at Mecsol Pakistan Pvt. LTD.

It would not have been possible without the kind support of Bahria University & HUAWEI management. We extend our sincere thanks to them.

## 7. Project Overview

### 7.1) PPIC-3:

In order to realize the vision of developing safe cities in the province, PPIC3 Centre has been developed for Punjab Police in the city of Lahore, which will be subsequently established in the larger cities of the province. [1]



### 7.2) ECC, Lahore:

EEC (Emergency Command, Control & Communication center) is located in Qurban police lines, Lahore to monitor the terrific, Law & order situation overall the city through high definition & face recognition cameras. The Air conditioning of the building is all done but some equipment is remaining like AHU, TFU & FCU. That need to be installed now.

### 7.3) Project Phase:

Basically this project is in execution phase, but this part of the project on which I am working going to be start from January 1<sup>st</sup>, 2018 so we adding some best scenarios & worst scenarios of the project on S-Curves as per requirement of the course.

### 7.4) Client:

The project is sponsored & owned by Govt. of the Punjab with Collaboration of Punjab Police for the beginning of a new Police culture in Punjab.



### 7.5) Main Contractors:

The Project was awarded to Huawei Technologies & INBOX Business Technologies.



### 7.6) Sub-Contractors:

Due to the high Pace of work & to meet the project timelines, the project is further awarded to different Sub-Contractors.

#### 1) Electrical Contractors



#### 2) Civil Contractor



#### 3) HVAC Contractor

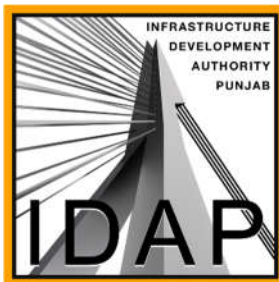


#### 4) Fire Fighting Contractor



#### 7.7) Consultants:

The Consultancy services are provided by two main Consultants. One from Huawei's Side (AL-IMAM Enterprises) for the design of the building. Other one is from Punjab Police side (NESPAK) to make sure the quality delivery of services. One third party consultant is hired for the audit of the project.



## **8. Corporate Information**

MECSOL Delivers EPC Solutions for Clients around Pakistan. MECSOL company, delivers integrated engineering, procurement, construction (EPC), maintenance and project management solutions to governments and private sector Clients in diverse industries around the world. MECSOL develops and implements innovative solutions for complex project issues. For over a decade, Clients selected MECSOL as their company of choice to complete challenging projects in remote parts of the world. We are multi-disciplinary engineering organization operating in Pakistan since 2008. [2]

### **8.1) CEO Message:**

We are one of the Pakistan's emerging engineering company employing skilled professionals and administrative support staff.

Our aim is simple - we want to be the best. Within the MECSOL family, we want to be one of the leading operating company. The incredible project opportunities currently available in the Pakistan will make this goal possible.

We want to be seen as the company of choice by our Clients. But even more, we want to be considered their trusted advisor, capable of delivering a product on time, on budget and we hope, beyond their expectations.

Finally, we want to be the employer of choice in the Pakistan. We recognize that behind each of our projects is the expertise and efforts of our employees, so we ensure that they are treated fairly, are offered opportunities for career growth opportunities and development and are well rewarded for their commitment.

### **8.2) Vision:**

Be the world's premier engineering, construction, and project management organization by achieving extraordinary results for our customers, building satisfying careers for our people, and earning a fair return on the value we deliver.

### 8.3) **Leadership:**

The role of leadership is central to MECSOL's mission of successfully delivering projects in a safe, efficient and economical manner. MECSOL's team of leaders brings solid experience and a firm commitment to Clients.

### 8.4) **Ethics & Compliance**

MECSOL is committed to the highest standard of ethical business conduct around the world.

MECSOL is committed to the highest standard of ethical business conduct around the world. This ethical standard is one of the company's most valuable assets and is a direct result its employees conduct.

MECSOL will conduct all business transactions in a proper, fair, impartial, and ethical manner, avoiding even the appearance of impropriety. We seek customers and partners who share our values and standards of conduct.

### **MECSOL Head Office**

1st Floor,5-L Commercial Area, Phase-1 D.H.A, Lahore,Pakistan

info@mecsolpk.com

+92-4235722134-35

<https://www.mecsolpk.com>

## **9. Introduction to Primavera P6**

### **9.1) What is Oracle Primavera P6?**

Oracle Primavera P6 is an integrated project portfolio management (PPM) solution consisting of role-specific tools to satisfy each team member's needs, responsibilities, and skills. The P6 suite uses a standard Windows interface, client/server architecture, Web-enabled technology, and a stand-alone (Oracle XE) or network-based (Oracle and Microsoft SQL Server) database. [3]

### **9.2) Project Management (PM)**

The Project Management module enables users to track and analyze performance. It is a multiuser, multi-project system with scheduling and resource control capabilities supporting multi-tiered project hierarchies, resource scheduling with a focus on roles and skills, recording of actual data, customizable views, and user-definable data.

The module is ideal for organizations that need to simultaneously manage multiple projects and support multiuser access across a department or the entire organization. It supports an enterprise project structure (EPS) with an unlimited number of projects, activities, baselines, resources, work breakdown structures (WBS), organizational breakdown structures (OBS), user-defined codes, and critical-path method (CPM) scheduling and resource leveling.

### **9.3) Planning, Controlling, and Managing Projects**

Before implementing P6 to schedule projects, team members and other project participants should understand the processes involved in project management and the associated recommendations that help smooth the implementation that best supports your corporate mission. [4]

If you were driving to a place you had never seen, would you get in the car without directions or a map? Probably not. More than likely you'd take the time to plan your trip, consider alternate routes, and estimate your time of arrival. Planning the drive before you even left would help your trip be more successful. And, along the way, should you

encounter road blocks or traffic delays, you would have already identified alternate ways to reach your destination.

Project management follows the same methodology and purpose; to achieve each project's goals, you need to plan them in advance. Good project management is no longer an option in today's corporate world. It is a critical tool to help your company stay on target and accomplish its goals.

Simply stated, project management is the process of achieving set goals within the constraints of time, budget, and staffing restrictions. It allows you to get the most out of your available resources. Resources include

- People
- Materials
- Money
- Equipment
- Information
- Facilities
- Roles


The process of project management is guided by three key principles:

- Planning
- Controlling
- Managing



### 10. EPS & OBS

**Table A:** OBS stands for Organizational Breakdown Structure. The OBS for MECSOL Engineering Services is listed below

| PPIC3 PROJECT EXECUTION PLAN  | All OBS Elements | 29-Dec-17 19:18 |
|---|------------------|-----------------|
| OBS Name  |                  |                 |
| <ul style="list-style-type: none"> <li> Enterprise               <ul style="list-style-type: none"> <li> CEO                   <ul style="list-style-type: none"> <li> DGM SALE</li> <li> MANAGER BD-SOLAR DI</li> <li> MANAGER BD-POWER</li> <li> MANAGER BD-CIVIL</li> <li> PROJECT ENGINEER</li> <li> KEY ACCOUNT EXECUTI</li> <li> APPLICATION AND DESII</li> <li> MANAGER FINANCE/ACCO</li> <li> COMMERCIAL OFFICER</li> <li> HR HEAD                       <ul style="list-style-type: none"> <li> GRAPHIC EXECUTIVE</li> <li> BRAND EXECUTIVE</li> </ul> </li> <li> PA TO CEO                       <ul style="list-style-type: none"> <li> OFFICE BOY</li> <li> FRONT DESK OFFICER</li> </ul> </li> <li> PROJECT MANAGER                       <ul style="list-style-type: none"> <li> SITE ENGINEER</li> <li> STORE OFFICER</li> <li> PROJECT ENGINEER PL</li> <li> SITE SUPERVISOR</li> <li> AUTOCAD OPERATOR</li> </ul> </li> </ul> </li> <li> Director Technical Educator</li> <li> Additional Director Industrial</li> <li> Joint Director Industrial Trai</li> <li> Deputy Director Administrati</li> <li> Deputy Director Training an</li> <li> Deputy Director CEO</li> <li> Deputy Director IDT</li> <li> Deputy Director SDI</li> <li> Deputy Director Control</li> <li> Deputy Director Planing</li> <li> E&amp;C</li> <li> Energy</li> <li> Manufacturing</li> <li> ProdDev               <ul style="list-style-type: none"> <li> ProdProg1</li> <li> ProdProg2</li> </ul> </li> <li> Corporate               <ul style="list-style-type: none"> <li> In Flight</li> <li> Pipeline</li> </ul> </li> </ul> </li></ul> |                  |                 |
| © Oracle Corporation  | Page 1 of 1      |                 |

**Table B:** EPS stands for Enterprise Project Structure. The EPS for MECSOL Engineering Services is listed below

| PPIC3 Final          |                                      | EPS | 02-Jan-18 00:12 |
|----------------------|--------------------------------------|-----|-----------------|
| EPS ID               | EPS Name                             |     |                 |
| MECSOL               | MECSOL EPS                           |     |                 |
| Civil                | PPIC3 Lahore                         |     |                 |
| Environment          | (New EPS)                            |     |                 |
| HVAC                 | Heat Ventilation & Air Conditioning  |     |                 |
| PPIC3                | Punjab Police Command Control Center |     |                 |
| Public Health        | Severage & water pipe lines          |     |                 |
| HVAC Design          | Designing                            |     |                 |
| Electrical           | Electrical work                      |     |                 |
| Electrical Design    | Design                               |     |                 |
| BMS                  | Building Management System           |     |                 |
| Electrical Execution | Execution                            |     |                 |
| Mechanical           | Mechanical Work                      |     |                 |
| Plumbing             | Plumbing Work                        |     |                 |
| Firefighting         | Fire Fighting                        |     |                 |
| Enterprise           | All Initiatives                      |     |                 |
| Energy               | Energy Services                      |     |                 |
| Manufacturing        | Manufacturing                        |     |                 |
| ProdDev              | Product Development                  |     |                 |
| ProdProg1            | Product Program 1                    |     |                 |
| ProdProg2            | Product Program 2                    |     |                 |
| Corporate            | Corporate Programs                   |     |                 |
| In-flight            | In-flight Projects                   |     |                 |
| Pipeline             | Proposed Opportunities               |     |                 |
| IT                   | Information Technology               |     |                 |
| LOB 1                | Line of Business 1                   |     |                 |
| LOB 2                | Line of Business 2                   |     |                 |

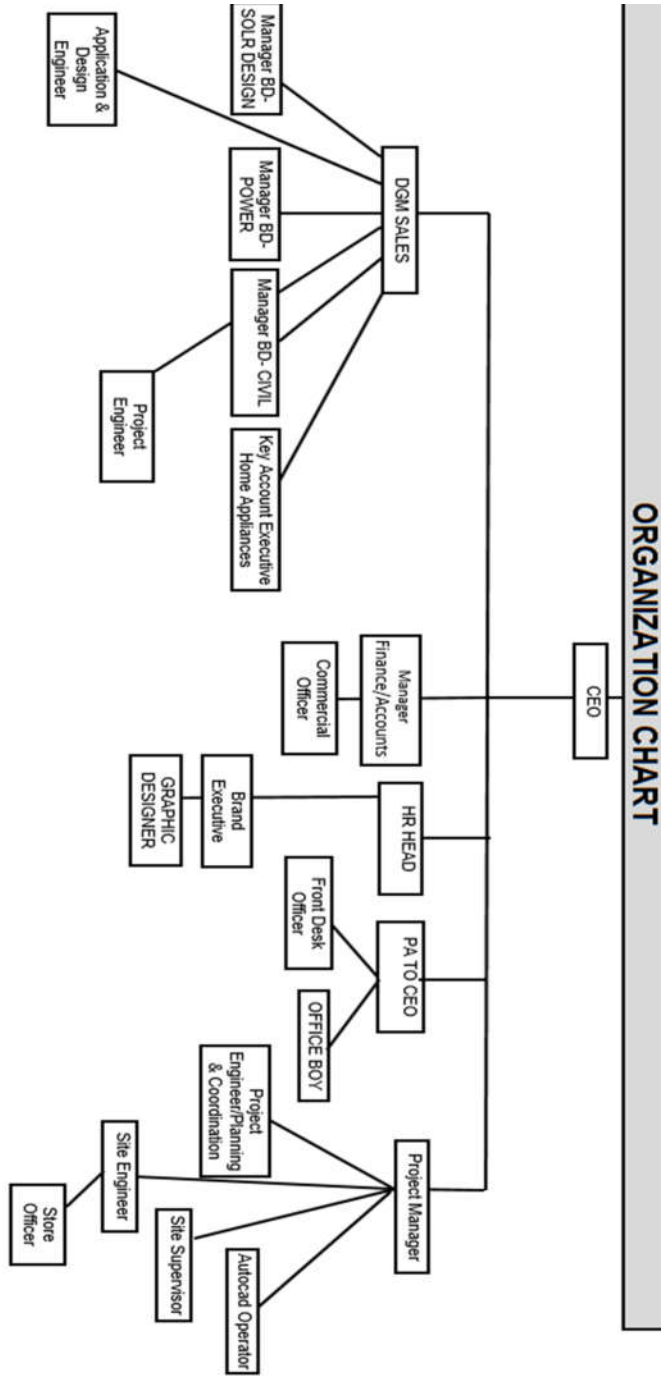
## **11. PMO (Project Management Office)**

PMO is an organizational body assigned various responsibilities related to the centralized and coordinated management of those projects under its domain and it has various roles in an organization. [5]

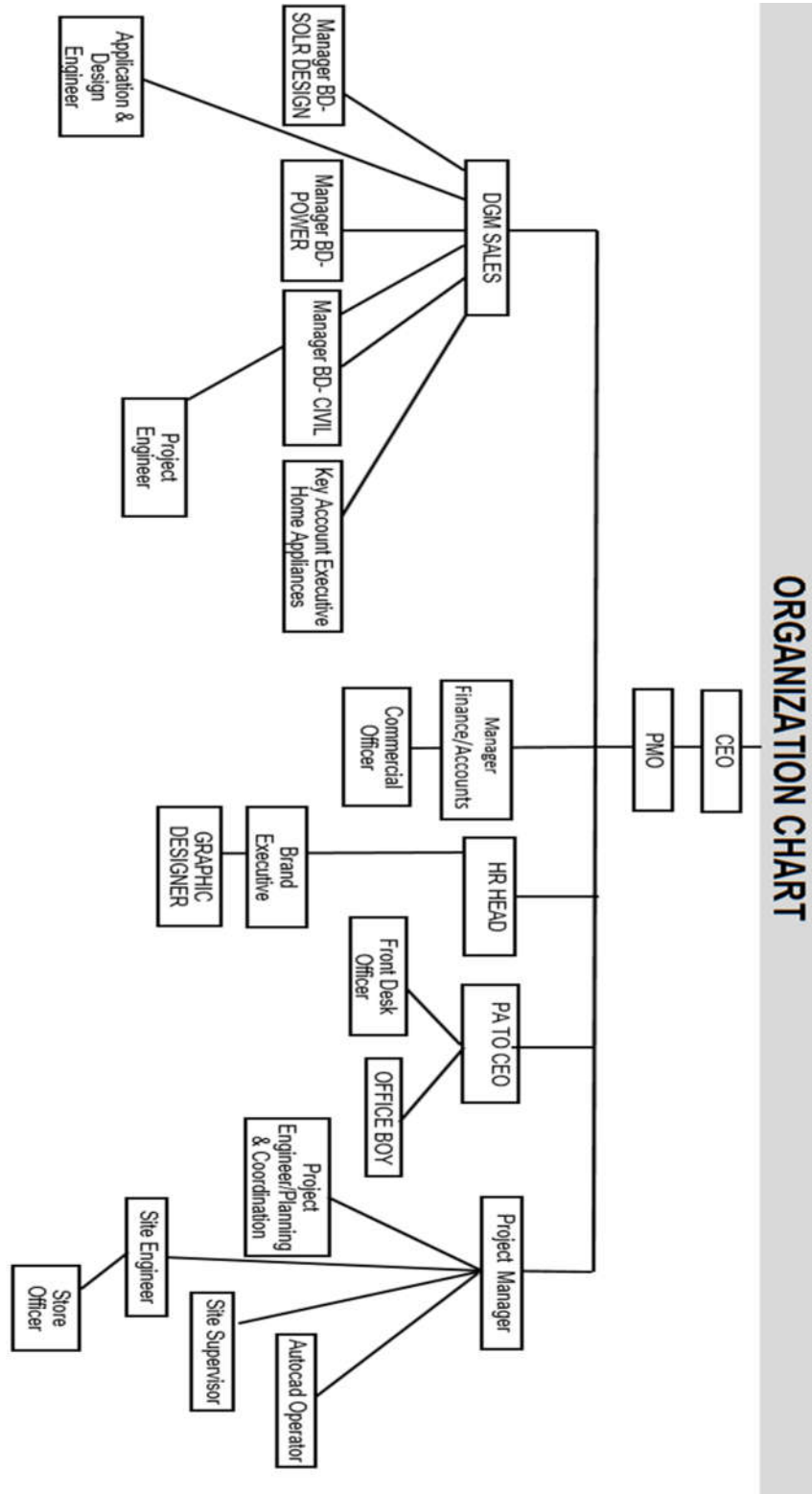
### **Role of the PMO in MECSOL Engineering Services**

- 1) Provide the SOP / Standards / Policies for the better execution of projects.
- 2) Provide templates
- 3) Better communication management & Coordination with stakeholders
- 4) To provide best practices & trainings
- 5) Proper Monitoring & Controlling of the projects
- 6) Proper reporting of project status to CEO.
- 7) Coordinate between projects.
- 8) Selection of new projects.

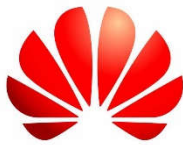
**Figure 1: MECSOL Organization Structure**



**Figure 2: PMO in MECSOL Engineering Services**



# PROJECT CHARTER



**HUAWEI**



**MECSOL**  
P A K I S T A N

**Project Name:** PPIC3, Lahore

**Project Manager:** Mr. Syed Aijaz

**Mr. Syed Aijaz**

Project Manager

**Mr. Fahad Arif**

Planning & Coordination Engineer

**Release Date:** December 10, 2017

**Version:** 0

## Project Charter Document History

Document Revisions:

| Author     | Release Date      | Reason for Changes | Version | Approval Signatures |
|------------|-------------------|--------------------|---------|---------------------|
| Fahad Arif | December 10, 2017 | N/A                | 0       |                     |
|            |                   |                    |         |                     |
|            |                   |                    |         |                     |
|            |                   |                    |         |                     |
|            |                   |                    |         |                     |

## Project Charter Distribution History

This project charter has been distributed to:

| Name             | Project Role    | Distribution Date | Distributed Version | Recipient Signature |
|------------------|-----------------|-------------------|---------------------|---------------------|
| Mr. Naseer Ahmed | Project Sponsor | December 10, 2017 | 0                   |                     |
|                  |                 |                   |                     |                     |
|                  |                 |                   |                     |                     |
|                  |                 |                   |                     |                     |
|                  |                 |                   |                     |                     |

# Project Statement of Work

| Project Objective   |  |  | Success Criteria                            | Person Approving |
|---|--|--|---|------------------|
| <b>Why this project is being done?</b>  |  |  |   |                  |
| The installation of AHUs (Air Handling Units), TFUs (Treated Fresh Air units) FCUs (Fan Coil Units) for the purpose of Air Conditioning of building, where the monitoring of Lahore city will be made.  |  |  |   |                  |
| <b>Project Manager Authority Level</b>  |  |  |   |                  |
| <ul style="list-style-type: none"> <li>• Project Manager can determine, manage, and approve changes to the budget, scope, staffing and schedule.</li> <li>• Project Manager can make use of company extra resources to complete the project.</li> <li>• Project Manager can change the team's roles and responsibilities throughout the life cycle of the project.</li> </ul> |  |  |   |                  |
| Project Objective   |  |  | Success Criteria                            | Person Approving |
| <b>Scope:</b> Installation of AHUs, TFUs & FCUs in ECC Building, Lahore   |  |  | To complete the project without Scope Creep | Project Sponsor  |
| <b>Time:</b> 61 Days  |  |  | To Complete the project within Time         | Project Sponsor  |
| <b>Cost:</b> Rs: 376,220,000/-  |  |  | To complete the project within Budget       | Project Sponsor  |



**Project Scope**

Situation / Problem / Opportunity

The Scope will cover the design, manufacture, supply, installation, storing, safety, operation & maintenance, testing, commissioning, performance testing of the TFUs, AHUs & FCUs System for the Emergency Command Control & Communication Center Lahore, complete in every respect & suitable for safe, efficient and reliable operation.

**Deliverables**

- Installation of Fan Coil Units (FCUs)
- Installation of Air Handling Units (AHUs)
- Installation of Treated Fresh Air Units (TFUs)
- Installation of Condensing Units
- Installation of Electrical Panels

**Project Assumptions**

The project materials can be bought only from vendor approved by Client's consultant & Project Sponsor.

**Risks and Dependencies**

- Delay in the availability of project staff and technical resources may delay the timeline of this project.
- Delay in major equipment can be a reason for the delay.

**High Level Deliverables**

The High Level Deliverables are as under:

- Design
- Installation
- Acceptance

**Major Milestones**

The project milestones are as under:

1. Installation of AHU – 01
2. Installation of AHU – 02
3. Installation of AHU – 03 & 04
4. Installation of AHU – 05
5. Installation of AHU – 06 & 07
6. Installation of TFUs

7. Installation of FCU – Staff Training Center 1
8. Installation of FCU – Staff Training Center 2
9. Installation of FCU – Dining Room
10. Installation of FCU – LT Room
11. Installation of FCU – Staging Room
12. NESPAK Inspections & Approval (AHU – 01)
13. NESPAK Inspections & Approval (AHU – 02)
14. NESPAK Inspections & Approval (AHU – 03 & 04)
15. NESPAK Inspections & Approval (AHU – 05)
16. NESPAK Inspections & Approval (AHU – 06 & 07)
17. NESPAK Inspections & Approval (FCU – Staff Training Center 1)
18. NESPAK Inspections & Approval (FCU – Staff Training Center 2)
19. NESPAK Inspections & Approval (FCU – Dining Room)
20. NESPAK Inspections & Approval (FCU – LT Room)
21. NESPAK Inspections & Approval (FCU – Staging Room)
22. NESPAK Inspections & Approval (TFUs)

**Time**

The proposed time for this project is 61 days

**Budget**

The baseline budget for this project is PKR 376,220,000/-

## PROJECT ROLES & RESPONSIBILITIES

**Table C:** The roles and responsibilities of key project stakeholders.

| Name              | Project Role               | Contact info | Signature |
|-------------------|----------------------------|--------------|-----------|
| Mr. Akbar Nasir   | Project Sponsor/Owner      |              |           |
| Mr. Muhammad Azam | Project Director (HUAWEI)  |              |           |
| Mr. Naseer Ahmed  | Project Director (MECSOL)  |              |           |
| Mr. Aijaz Shah    | Project Manager (MECSOL)   |              |           |
| Mr. Fahad Arif    | Planning Engineer (MECSOL) |              |           |
| Mr. Zahid Sarwar  | Site Supervisor (MECSOL)   |              |           |

### Project Charter Approval

The undersigned acknowledge they have reviewed the project charter and authorize /appoint Mr. Syed Aijaz to undertake responsibility of leading the project in capacity of project manager and approve his authority to carry out tasks as defined earlier in the document. He is also authorized to pre-approve budget revisions up to PKR 2,500,000/- Increases greater and these changes to this project charter will be coordinated with and approved by the undersigned or their designated representatives.

Signature:

Name: Mr. Naseer Ahmed

Role: Project Director

Dated: \_\_\_\_\_

# PROJECT SCOPE STATEMENT



**HUAWEI**



**MECSOL**<sup>®</sup>  
P A K I S T A N

**Project Name:** PPIC3, Lahore

**Project Manager:** Mr. Syed Aijaz

**Mr. Syed Aijaz**

Project Manager

**Mr. Fahad Arif**

Planning & Coordination Engineer

**Release Date:** December 16, 2017

**Version:** 0

# Project Scope Statement

Version:

| Version | Issue date        | Approved By     | Approval Date     | Changes | Completed By |
|---------|-------------------|-----------------|-------------------|---------|--------------|
| 0       | December 16, 2017 | Project Manager | December 19, 2017 | -       | Fahad Arif   |
|         |                   |                 |                   |         |              |

**Introduction:**

**Air Handling Units:**

The AHUs Shall complete with Drivers, Motors & Belts. These shall include Mixing Box with Dampers, Filters & Humidifiers when scheduled. [6]

**Treated Fresh Air Units:**

All TFUs shall complete with Variable drives, motors, and belts. These shall include mixing box with dampers, filters and humidifiers when scheduled.

**Fan Coil Units:**

All FCUs shall be of make & Country of manufacture similar to AHUs unless otherwise approved by Project Sponsor.

**Objectives:**

For purpose of calculation of motor BHP, specified external SP and AHU manufacturer's internal SP should be added. Filter pressure drop shall be part of internal SP, which shall be calculated on average of clean (initial) and filter manufacture-recommended dirty (final) pressure drop. Published recommendation of filter manufacturer shall be furnished along with technical submittal. In case published recommendation is not available, a recommendation on the printed stationery of filter manufacturer shall be acceptable provided the manufacturer certified that no such published data is available. Motor HP shall be at least 120% of calculated BHP.

The Eurovent / AHRI certified air handling units shall meet the requirements of ARI 430-86 and ASHRAE 51-85 standards and shall be factory tested according to the requirements of the these standards

**Major Deliverables:**

- Installation of Fan Coil Units (FCUs)
- Installation of Air Handling Units (AHUs)
- Installation of Treated Fresh Air Units (TFUs)
- Installation of Condensing Units
- Installation of Electrical Panels

**Start Milestones:**

The project milestones are as under:

1. Installation of AHU – 01
2. Installation of AHU – 02
3. Installation of AHU – 03 & 04
4. Installation of AHU – 05
5. Installation of AHU – 06 & 07
6. Installation of TFUs
7. Installation of FCU – Staff Training Center 1
8. Installation of FCU – Staff Training Center 2
9. Installation of FCU – Dining Room
10. Installation of FCU – LT Room
11. Installation of FCU – Staging Room

**Finish Milestones:**

12. NESPAK Inspections & Approval (AHU – 01)
13. NESPAK Inspections & Approval (AHU – 02)
14. NESPAK Inspections & Approval (AHU – 03 & 04)
15. NESPAK Inspections & Approval (AHU – 05)
16. NESPAK Inspections & Approval (AHU – 06 & 07)
17. NESPAK Inspections & Approval (FCU – Staff Training Center 1)
18. NESPAK Inspections & Approval (FCU – Staff Training Center 2)
19. NESPAK Inspections & Approval (FCU – Dining Room)
20. NESPAK Inspections & Approval (FCU – LT Room)
21. NESPAK Inspections & Approval (FCU – Staging Room)
22. NESPAK Inspections & Approval (TFUs)

**Constraints:**

- Area are operational, we have to work by swapping the staff.
- To meet the timelines, we have to deploy the additional resources.
- Wall opening & Ceiling openings will be required in some area to place Fan Coil Units, Ducts, Drain/MS pipes & Power Cables.

**Exclusions:**

- Foundation work for the Placement of Air Handling Units.
- Foundation work for the Placement of Treated Fresh Air Units.
- Foundation work for the Placement of Condensing Units.
- Epoxy Paint in AHU Rooms

**Technical Requirements & Specifications****Air Handling Units & Treated Fresh Air Units**

- 1) These shall be factory assembled draw-through packaged air handling unit of capacities and characteristics as required. Air handling units shall be horizontal or vertical with component and configuration.
- 2) Large AHUs may be shipped in sections e.g. Fan Coil Section, filter section, mixing box section for ease of transportation and rigging.
- 3) Coils shall be of copper construction with mechanically bonded smooth aluminum fins, suitable for chilled water and hot water applications.
- 4) Fan shall be double inlet centrifugal (Backward/Airfoil) mounted on a common shaft. Fan impeller shall be statically and dynamically balanced and shall have permanently lubricated bearings. Fan shall be belt driven with adjustable sheaves.
- 5) Fan motor shall be variable frequency drive (VFD) capable of modality by standalone control unit in AHU room as well as compatible with CONTROL SYSTEM. Fan shall have spring isolation from the casing.
- 6) Casing shall be made of sheet steel and finished with baked enamel. (Or approved by the Engineer) The casing shall be double skin with minimum 1-1/2 inch thermal insulation between the skins and removable panel type. AHU shall be equipped with factory fabricated filters and filter boxes with side access door.
- 7) A condensate drain pan, with double wall construction and insulation in between, shall be provided. Inner pan shall be finished with a factory applied coating of corrosion resistant material. Insulation, adhesive and inner coatings shall comply with NFPA-90A Standard. Other types of drain pans shall be acceptable.
- 8) Flat filters installed in Air Handling Units, shall be permanent, impingement, dry type, washable, all metal, panel type, at least 2 inch thick unless otherwise scheduled.

Media shall be aluminum screen, arranged in alternate layers of flat and herringbone-crimp, 4 layers of each per one inch reinforced and enclosed in a frame of 16 gauge galvanized steel with flush mitered corners. Initial pressure drop at 500 FPS shall not exceed 0.1 inch WG. Holding frame shall be factory-built of 16 gauge steel; with felt air seal. Filters shall have at least 35% efficiency on 0-5 microns range when tested in accordance with ASHRAE Standard 52-76.

- 9) Bag filter (if schedule) in AHUs shall be extended surface dry type non-supported pocket, cartridge filter. Average efficiency shall not be less than 90% when tested as per ASHRAE standard 52. Initial resistance at 500 FPS shall not exceed ½ inch.
- 10) Humidifiers shall be self-contained electric resistance heated type, steam humidifier of capacities as given in equipment schedule, and shall be suitable for unit and/or duct installation. The resistance heater shall be designed for upto 90 watts per square inch. Design of heater shall provide for expansion and contraction. Water Make-up valve shall be solenoid operated, brass body type. A cleanable strainer with, fine mesh screen shall be mounted upstream of valve. Combination low water cut off and water make up valve controller shall be of the electrode probe type. The humidifier shall utilize an adjustable surface skimmer arranged so that on each refill cycle, a portion of the humidifier water will flow to drain. The chamber shall be provided with a bolted cover, clean out opening in the front face, for periodic removal of loose scale, factory fitted, and shall contain magnetic contactors, control circuit transformer, logic control system module numbered terminal strip and all interconnecting wiring Control Module shall be solid state and shall provide for automatic refill, automatic-reset, low water cut off and manual surface flushing through the surface skimmer.

### **Fan Coil Units**

- 1) Unit shall be of blow-through design and shall be wall mounted/ceiling-hung type/concealed type/cassette type as scheduled complete with combination hot/chilled water coil, motor(s), fan(s) and drain pan. The unit shall have one or more quiet operating centrifugal fans directly connected to extend motor shafts. Motor fan assembly shall be easily detachable from coil section. The coil and drain



pan shall be readily reversible. The coil shall be supplied with drains and vent cocks so located as to permit drain and vent of coil regardless of position. The fan and motor assembly shall be readily removable and shall be provided with a quick disconnect on the motor chord.

- 2) Unit motor shall be of capacitor run type with at least three speeds of operation. Motors shall be equipped with oil cups for lubrication with the oil cups located for easy accessibility.
- 3) Fan coil rating shall be such that after considering room effect, the sound level shall not exceed NC rating specified in special provision in second through 8th octave band. Calculation of sound pressure level shall be submitted by the Contractor to the Engineer for his approval.
- 4) Filters installed in FCU (if scheduled) shall be permanent impingement dry type, washable all metal, panel type at least ½ inch thick. Media shall be aluminum clean arranged in alternate layers of flat and herring bone- crimp, reinforced and enclosed in a 16 gauge G.I. Frame with flush mitered corners. Initial pressure drop at 500 FPS shall not exceed 0.05 inch WG. FCU thermostat shall be digital type with LCD display of room temperature. FCU controls shall be preferably supplied by the manufacturer.



# STAKEHOLDER REGISTER HUAWEI

Table D

| Name                 | Internal/External | Project Role                | Contact No. |
|----------------------|-------------------|-----------------------------|-------------|
| CM Punjab            | External          | Project Sponsor             |             |
| Mr. Akbar Nasir Khan | External          | Project Champion            |             |
| Mr. Ali Shamshair    | External          | Project Director (PSCA)     |             |
| Mr. Faisal Naseem    | External          | Project Director (HUAWEI)   |             |
| Mr. Muhammad Azam    | Internal          | Project Manager (HUAWEI)    |             |
| Mr. Haris Shamsi     | External          | Vice President (INBOX)      |             |
| Mr. Bakhat Jamal     | Internal          | Project Director (INBOX)    |             |
| Mr. Ali Raza         | Internal          | Project Manager (INBOX)     |             |
| Mr. Ali Hamid        | Internal          | Resident Engineer (AL-IMAM) |             |
| Mr. Ahmed            | Internal          | Chief Resident              |             |

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|                  |          |                                 |  |
|------------------|----------|---------------------------------|--|
|                  |          | Engineer<br>(NESPAK)            |  |
| Mr. Naseer Ahmed | Internal | Project<br>Director<br>(MECSOL) |  |
| Mr. Aijaz Shah   | Internal | Project<br>Manager<br>(MECSOL)  |  |

# ACTIVITY LIST



**HUAWEI**



**MECSOL**  
P A K I S T A N

**Project Name:** PPIC3, Lahore

**Project Manager:** Mr. Syed Aijaz

**Mr. Syed Aijaz**

Project Manager

**Mr. Fahad Arif**

Planning & Coordination Engineer

**Release Date:** December 21, 2017

**Version:** 0

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| <b>Serial #</b> | <b>Activity ID</b> | <b>Activity Name</b>                                |
|-----------------|--------------------|---|
| 1               | A1070              | <b><i>Training Room 1 - FCU :</i></b>               |
| 2               | A1080              | Ceiling Cutting / Dismantling & Installation of FCU |
| 3               | A1090              | Installation of Valves and MS Pipe Connections      |
| 4               | A1100              | Electrical Termination                              |
| 5               | A1110              | Insulation of Duct and Pipes                        |
| 6               | A1120              | Ceiling / Ceiling Repairing                         |
| 7               | A1130              | Installation of Lights                              |
| 8               | A1140              | Installation of Smoke Detector / Sprinkler          |
| 9               | A1150              | Linear Grill Alignment                              |
| 10              | A1160              | <b><i>Nespak Inspection and Approval</i></b>        |
| 11              | A1170              | <b><i>Training Room 2 - FCU :</i></b>               |
| 12              | A1180              | Ceiling Cutting / Dismantling & Installation of FCU |
| 13              | A1210              | Installation of Valves and MS Pipe Connections      |
| 14              | A1220              | Electrical Termination                              |
| 15              | A1230              | Insulation of Duct and Pipes                        |
| 16              | A1240              | Ceiling / Ceiling Repairing                         |
| 17              | A1250              | Installation of Lights                              |
| 18              | A1260              | Installation of Smoke Detector / Sprinkler          |
| 19              | A1270              | Linear Grill Alignment                              |
| 20              | A1280              | <b><i>Nespak Inspection and Approval</i></b>        |
| 21              | A1290              | <b><i>Dining Area - FCU :</i></b>                   |
| 22              | A1300              | Ceiling Cutting / Dismantling & Installation of FCU |
| 23              | A1310              | Installation of Valves and MS pipe Connections      |
| 24              | A1320              | Electrical Termination                              |
| 25              | A1330              | Insulation of Duct and Pipes                        |
| 26              | A1340              | Ceiling / Ceiling Repairing                         |
| 27              | A1350              | Installation of Lights                              |

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|    |       |  |
|----|-------|--|
| 28 | A1360 | Installation of Smoke Detector / Sprinkler             |
| 29 | A1370 | Linear Grill Alignment                                 |
| 30 | A1380 | <b><i>Nespak Inspection and Approval</i></b>           |
| 31 | A1390 | <b><i>Staging Room - FCU :</i></b>                     |
| 32 | A1400 | Ceiling Cutting / Dismantling & Installation of FCU    |
| 33 | A1430 | Installation of Valves and MS Pipe Connections         |
| 34 | A1440 | Electrical Termination                                 |
| 35 | A1450 | Insulation of Duct and Pipes                           |
| 36 | A1460 | Ceiling / Ceiling Repairing                            |
| 37 | A1470 | Installation of Lights                                 |
| 38 | A1480 | Installation of Smoke Detector / Sprinkler             |
| 39 | A1490 | Linear Grill Alignment                                 |
| 40 | A1500 | <b><i>Nespak Inspection and Approval</i></b>           |
| 41 | A1510 | <b><i>LT Room- FCU :</i></b>                           |
| 42 | A1520 | Hanging arrangement and Unit Placement                 |
| 43 | A1530 | Fabrication and Installation of Duct Work              |
| 44 | A1540 | Installation of Valves and MS Pipe Connections         |
| 45 | A1550 | Electrical Termination                                 |
| 46 | A1560 | Insulation of Duct and Pipes                           |
| 47 | A1570 | <b><i>Nespak Inspection and Approval</i></b>           |
| 48 | A1580 | <b><i>Roof Top TFUs : (5 Nos)</i></b>                  |
| 49 | A1600 | Shifting and Placement of Units on Foundations at Roof |
| 50 | A1610 | Duct Work  |
| 51 | A1620 | Copper Piping  |
| 52 | A1630 | Installation of Cable Trays                            |
| 53 | A1640 | Laying and Termination of Power Cables                 |
| 54 | A1660 | Insulation of Duct work and Pipes                      |
| 55 | A1670 | <b><i>Nespak Inspection and Approval</i></b>           |

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|    |       |  |
|----|-------|--|
| 56 | A1680 | <b>AHU - 01 (Basement)</b>                         |
| 57 | A1700 | Shifting of Unit at location                       |
| 58 | A1720 | Installation of SA                                 |
| 59 | A1730 | Assembly of AHU Sections                           |
| 60 | A1740 | Fabrication and Installation of MS Pipe and Valves |
| 61 | A1750 | Installation of Cable Trays                        |
| 62 | A1760 | Laying and Termination of Power Cables             |
| 63 | A1770 | Installation of VCD & FD in Supply & Return Ducts  |
| 64 | A1780 | Installation of Humidifier                         |
| 65 | A1790 | Fabrication and Installation of Duct Work          |
| 66 | A1810 | Insulation of Duct work and Pipes                  |
| 67 | A1820 | <b>Nespak Inspection and Approval</b>              |
| 68 | A1830 | <b>AHU - 03 &amp; 04 (Ground Floor)</b>            |
| 69 | A1860 | Shifting of Unit at location                       |
| 70 | A1880 | Installation of SA                                 |
| 71 | A1890 | Shifting & Placement of Units on Location          |
| 72 | A1900 | Assembly of AHU Sections                           |
| 73 | A1910 | Fabrication and Installation of MS Pipe and Valves |
| 74 | A1920 | Installation of Cable Trays                        |
| 75 | A1930 | Laying and Termination of Power Cables             |
| 76 | A1940 | Installation of VCD & FD in Supply & Return Ducts  |
| 77 | A1950 | Installation of Humidifier                         |
| 78 | A1960 | Fabrication and Installation of Duct Work          |
| 79 | A1980 | Insulation of Duct work and Pipes                  |
| 80 | A1990 | <b>Nespak Inspection and Approval</b>              |
| 81 | A2000 | <b>AHU - 06 &amp; 07 (First Floor)</b>             |
| 82 | A2020 | Placment of Units at Foundation                    |
| 83 | A2040 | Installation of SA                                 |

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|     |       |  |
|-----|-------|--|
| 84  | A2050 | Assembly of AHU Sections                           |
| 85  | A2060 | Fabrication and Installation of MS Pipe and Valves |
| 86  | A2070 | Installation of Cable Trays                        |
| 87  | A2080 | Laying and Termination of Power Cables             |
| 88  | A2090 | Installation of VCD & FD in Supply & Return Ducts  |
| 89  | A2100 | Installation of Humidifier                         |
| 90  | A2110 | Fabrication and Installation of Duct Work          |
| 91  | A2130 | Insulation of Duct work and Pipes                  |
| 92  | A2140 | <b><i>Nespak Inspection and Approval</i></b>       |
| 93  | A2150 | <b><i>AHU - 02 (First Floor)</i></b>               |
| 94  | A2170 | Shifting & Placement of Units on Location          |
| 95  | A2190 | Installation of SA                                 |
| 96  | A2200 | Assembly of AHU Sections                           |
| 97  | A2210 | Fabrication and Installation of MS Pipe and Valves |
| 98  | A2220 | Installation of Cable Trays                        |
| 99  | A2230 | Laying and Termination of Power Cables             |
| 100 | A2240 | Installation of VCD & FD in Supply & Return Ducts  |
| 101 | A2250 | Installation of Humidifier                         |
| 102 | A2260 | Fabrication and Installation of Duct Work          |
| 103 | A2280 | Insulation of Duct work and Pipes                  |
| 104 | A2290 | <b><i>Nespak Inspection and Approval</i></b>       |
| 105 | A2300 | <b><i>AHU - 05 (Ground Floor)</i></b>              |
| 106 | A2320 | Wall Dismantling                                   |
| 107 | A2330 | Shifting & Placement of Units on Location          |
| 108 | A2350 | Installation of SA                                 |
| 109 | A2360 | Assembly of AHU Sections                           |
| 110 | A2370 | Fabrication and Installation of MS Pipe and Valves |
| 111 | A2380 | Installation of Cable Trays                        |



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|     |       |   |
|-----|-------|---|
| 112 | A2390 | Laying and Termination of Power Cables            |
| 113 | A2400 | Installation of VCD & FD in Supply & Return Ducts |
| 114 | A2410 | Installation of Humidifier                        |
| 115 | A2420 | Fabrication and Installation of Duct Work         |
| 116 | A2440 | Insulation of Duct work and Pipes                 |
| 117 | A2450 | <b><i>Nespak Inspection and Approval</i></b>      |

**Table E:** Activity List

(\*) Highlighted ones are start & finish milestone activities.

## Project Schedule



**HUAWEI**



**MECSOL<sup>®</sup>**  
PAKISTAN

**Project Name:** PPIC3, Lahore

**Project Manager:** Mr. Syed Aijaz

**Mr. Syed Aijaz**

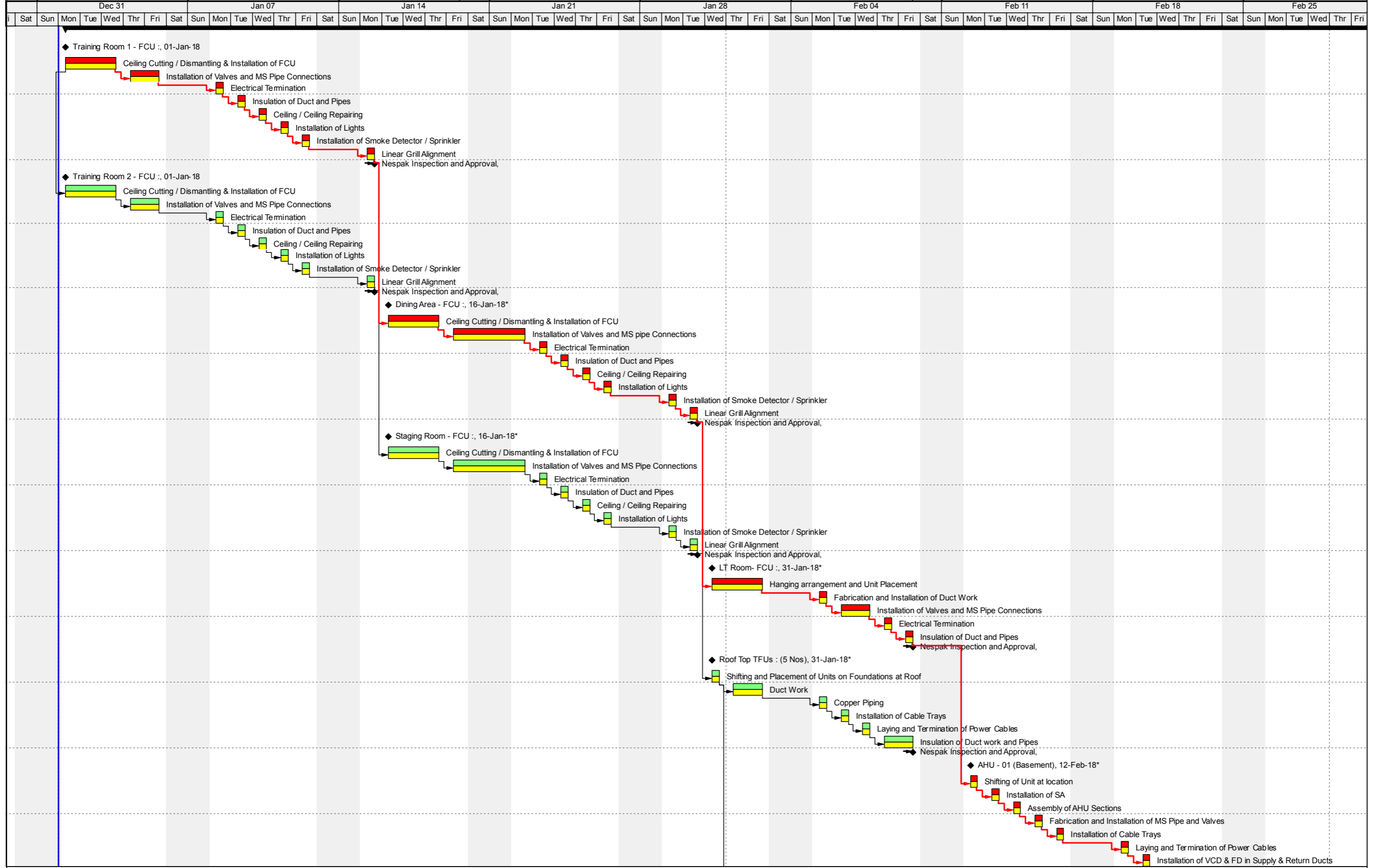
Project Manager

**Mr. Fahad Arif**

Planning & Coordination Engineer

**Release Date:** December 23, 2017



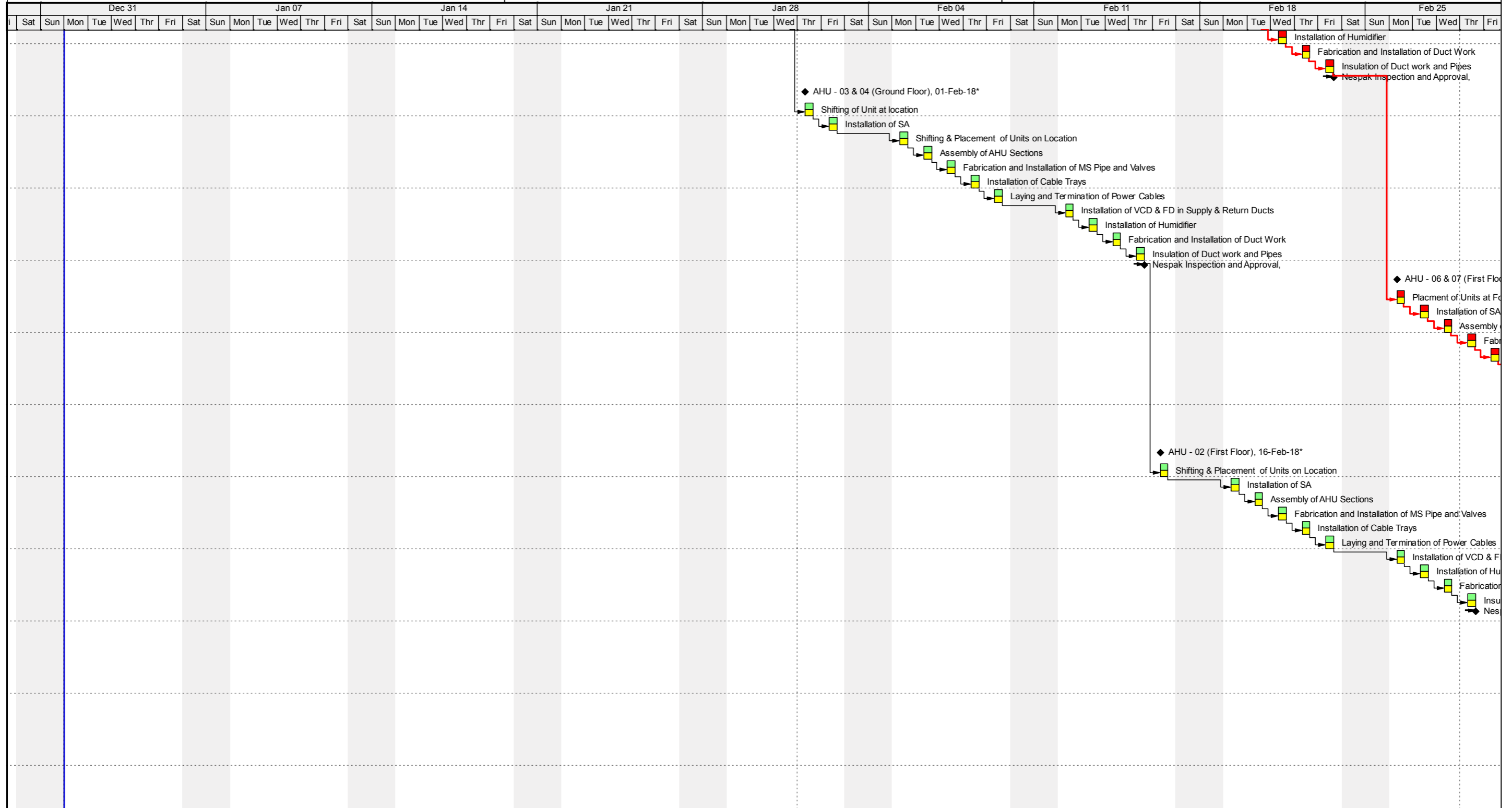


█ Actual Level of Effort   
 █ Actual Work   
 █ Critical Remaining Work  
█ Primary Baseline   
 █ Remaining Work   
 ◆ Milestone

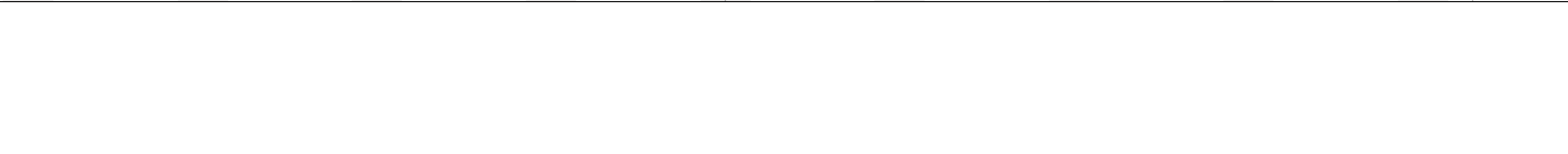
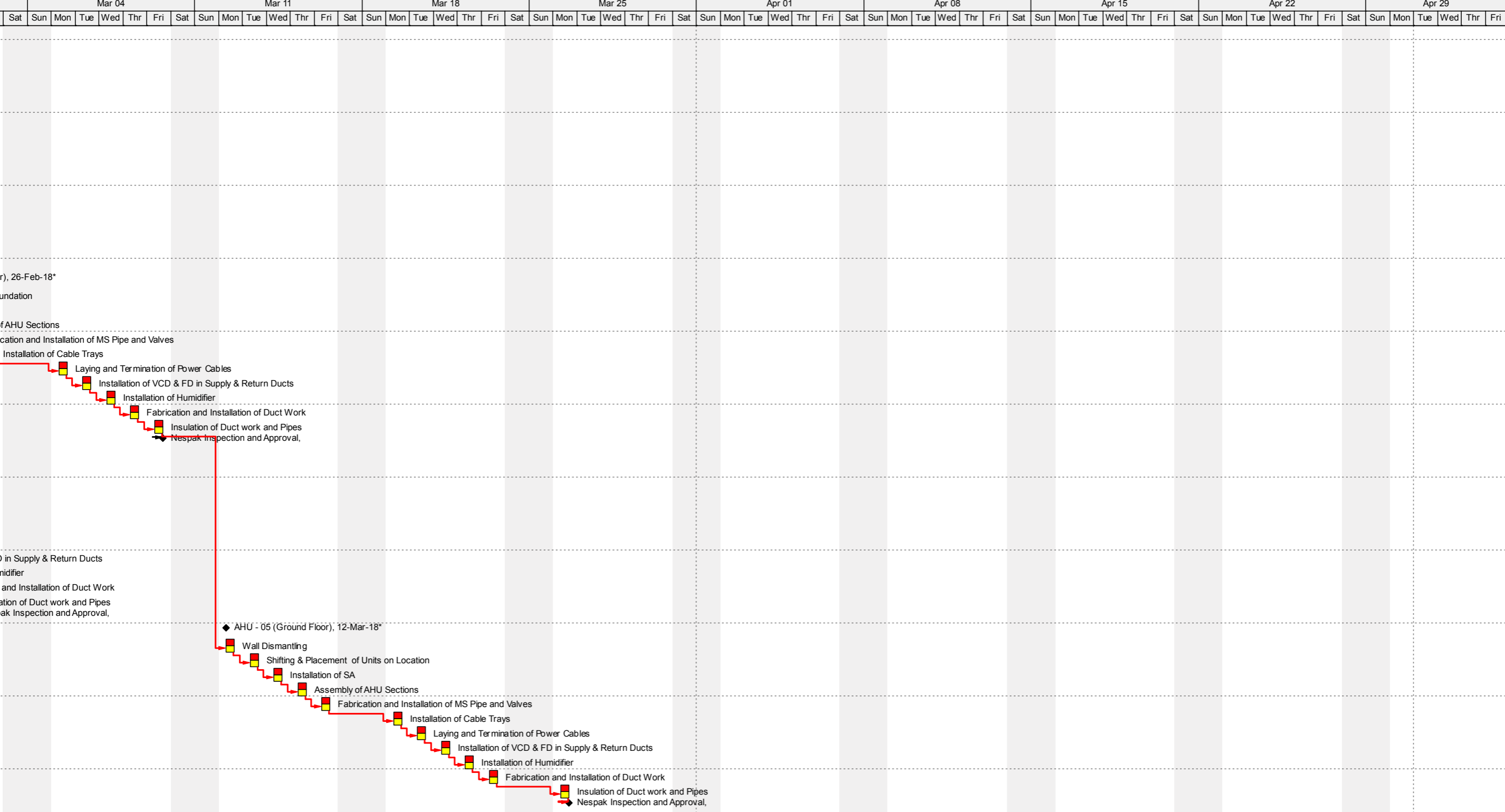








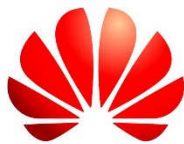






Version: 0

# Project Reports

**HUAWEI****MECSOL<sup>®</sup>**  
PAKISTAN**Project Name:** PPIC3, Lahore**Project Manager:** Mr. Syed Aijaz**Mr. Syed Aijaz**

Project Manager

**Mr. Fahad Arif**

Planning &amp; Coordination Engineer

## LG-02 Logic Report, Critical Path, By Project

User's Notes:

| Activity ID        | Activity Name                                       | Early Start | Early Finish | Late Start | Late Finish | Total Float | Predecessors | Successors   |
|--------------------|---|-------------|--------------|------------|-------------|-------------|--------------|--------------|
| <b>PPIC3 Final</b> |   |             |              |            |             |             |              |              |
| A1080              | Ceiling Cutting / Dismantling & Installation of FCU | 01-Jan-18   | 03-Jan-18    | 01-Jan-18  | 03-Jan-18   | 0           |              | A1090, A1180 |
| A1090              | Installation of Valves and MS Pipe Connections      | 04-Jan-18   | 05-Jan-18    | 04-Jan-18  | 05-Jan-18   | 0           | A1080        | A1100        |
| A1100              | Electrical Termination                              | 08-Jan-18   | 08-Jan-18    | 08-Jan-18  | 08-Jan-18   | 0           | A1090        | A1110        |
| A1110              | Insulation of Duct and Pipes                        | 09-Jan-18   | 09-Jan-18    | 09-Jan-18  | 09-Jan-18   | 0           | A1100        | A1120        |
| A1120              | Ceiling / Ceiling Repairing                         | 10-Jan-18   | 10-Jan-18    | 10-Jan-18  | 10-Jan-18   | 0           | A1110        | A1130        |
| A1130              | Installation of Lights                              | 11-Jan-18   | 11-Jan-18    | 11-Jan-18  | 11-Jan-18   | 0           | A1120        | A1140        |
| A1140              | Installation of Smoke Detector / Sprinkler          | 12-Jan-18   | 12-Jan-18    | 12-Jan-18  | 12-Jan-18   | 0           | A1130        | A1150        |
| A1150              | Linear Grill Alignment                              | 15-Jan-18   | 15-Jan-18    | 15-Jan-18  | 15-Jan-18   | 0           | A1140        | A1160, A1300 |
| A1300              | Ceiling Cutting / Dismantling & Installation of FCU | 16-Jan-18   | 18-Jan-18    | 16-Jan-18  | 18-Jan-18   | 0           | A1150        | A1310        |
| A1310              | Installation of Valves and MS pipe Connections      | 19-Jan-18   | 22-Jan-18    | 19-Jan-18  | 22-Jan-18   | 0           | A1300        | A1320        |
| A1320              | Electrical Termination                              | 23-Jan-18   | 23-Jan-18    | 23-Jan-18  | 23-Jan-18   | 0           | A1310        | A1330        |
| A1330              | Insulation of Duct and Pipes                        | 24-Jan-18   | 24-Jan-18    | 24-Jan-18  | 24-Jan-18   | 0           | A1320        | A1340        |
| A1340              | Ceiling / Ceiling Repairing                         | 25-Jan-18   | 25-Jan-18    | 25-Jan-18  | 25-Jan-18   | 0           | A1330        | A1350        |
| A1350              | Installation of Lights                              | 26-Jan-18   | 26-Jan-18    | 26-Jan-18  | 26-Jan-18   | 0           | A1340        | A1360        |
| A1360              | Installation of Smoke Detector / Sprinkler          | 29-Jan-18   | 29-Jan-18    | 29-Jan-18  | 29-Jan-18   | 0           | A1350        | A1370        |
| A1370              | Linear Grill Alignment                              | 30-Jan-18   | 30-Jan-18    | 30-Jan-18  | 30-Jan-18   | 0           | A1360        | A1380, A1520 |
| A1520              | Hanging arrangement and Unit Placement              | 31-Jan-18   | 02-Feb-18    | 31-Jan-18  | 02-Feb-18   | 0           | A1370        | A1530        |
| A1530              | Fabrication and Installation of Duct Work           | 05-Feb-18   | 05-Feb-18    | 05-Feb-18  | 05-Feb-18   | 0           | A1520        | A1540        |

# Oracle Primavera

## LG-02 Logic Report, Critical Path, By Project

User's Notes:

| Activity ID | Activity Name                                      | Early Start | Early Finish | Late Start | Late Finish | Total Float | Predecessors | Successors   |
|-------------|--|-------------|--------------|------------|-------------|-------------|--------------|--------------|
| A1540       | Installation of Valves and MS Pipe Connections     | 06-Feb-18   | 07-Feb-18    | 06-Feb-18  | 07-Feb-18   | 0           | A1530        | A1550        |
| A1550       | Electrical Termination                             | 08-Feb-18   | 08-Feb-18    | 08-Feb-18  | 08-Feb-18   | 0           | A1540        | A1560        |
| A1560       | Insulation of Duct and Pipes                       | 09-Feb-18   | 09-Feb-18    | 09-Feb-18  | 09-Feb-18   | 0           | A1550        | A1570, A1700 |
| A1700       | Shifting of Unit at location                       | 12-Feb-18   | 12-Feb-18    | 12-Feb-18  | 12-Feb-18   | 0           | A1560        | A1720        |
| A1720       | Installation of SA                                 | 13-Feb-18   | 13-Feb-18    | 13-Feb-18  | 13-Feb-18   | 0           | A1700        | A1730        |
| A1730       | Assembly of AHU Sections                           | 14-Feb-18   | 14-Feb-18    | 14-Feb-18  | 14-Feb-18   | 0           | A1720        | A1740        |
| A1740       | Fabrication and Installation of MS Pipe and Valves | 15-Feb-18   | 15-Feb-18    | 15-Feb-18  | 15-Feb-18   | 0           | A1730        | A1750        |
| A1750       | Installation of Cable Trays                        | 16-Feb-18   | 16-Feb-18    | 16-Feb-18  | 16-Feb-18   | 0           | A1740        | A1760        |
| A1760       | Laying and Termination of Power Cables             | 19-Feb-18   | 19-Feb-18    | 19-Feb-18  | 19-Feb-18   | 0           | A1750        | A1770        |
| A1770       | Installation of VCD & FD in Supply & Return Ducts  | 20-Feb-18   | 20-Feb-18    | 20-Feb-18  | 20-Feb-18   | 0           | A1760        | A1780        |
| A1780       | Installation of Humidifier                         | 21-Feb-18   | 21-Feb-18    | 21-Feb-18  | 21-Feb-18   | 0           | A1770        | A1790        |
| A1790       | Fabrication and Installation of Duct Work          | 22-Feb-18   | 22-Feb-18    | 22-Feb-18  | 22-Feb-18   | 0           | A1780        | A1810        |
| A1810       | Insulation of Duct work and Pipes                  | 23-Feb-18   | 23-Feb-18    | 23-Feb-18  | 23-Feb-18   | 0           | A1790        | A1820, A2020 |
| A2020       | Placment of Units at Foundation                    | 26-Feb-18   | 26-Feb-18    | 26-Feb-18  | 26-Feb-18   | 0           | A1810        | A2040        |
| A2040       | Installation of SA                                 | 27-Feb-18   | 27-Feb-18    | 27-Feb-18  | 27-Feb-18   | 0           | A2020        | A2050        |
| A2050       | Assembly of AHU Sections                           | 28-Feb-18   | 28-Feb-18    | 28-Feb-18  | 28-Feb-18   | 0           | A2040        | A2060        |
| A2060       | Fabrication and Installation of MS Pipe and Valves | 01-Mar-18   | 01-Mar-18    | 01-Mar-18  | 01-Mar-18   | 0           | A2050        | A2070        |
| A2070       | Installation of Cable Trays                        | 02-Mar-18   | 02-Mar-18    | 02-Mar-18  | 02-Mar-18   | 0           | A2060        | A2080        |
| A2080       | Laying and Termination of Power Cables             | 05-Mar-18   | 05-Mar-18    | 05-Mar-18  | 05-Mar-18   | 0           | A2070        | A2090        |
| A2090       | Installation of VCD & FD in Supply & Return Ducts  | 06-Mar-18   | 06-Mar-18    | 06-Mar-18  | 06-Mar-18   | 0           | A2080        | A2100        |
| A2100       | Installation of Humidifier                         | 07-Mar-18   | 07-Mar-18    | 07-Mar-18  | 07-Mar-18   | 0           | A2090        | A2110        |

# Oracle Primavera

## LG-02 Logic Report, Critical Path, By Project

User's Notes:

| Activity ID | Activity Name                                      | Early Start | Early Finish | Late Start | Late Finish | Total Float | Predecessors | Successors   |
|-------------|--|-------------|--------------|------------|-------------|-------------|--------------|--------------|
| A2110       | Fabrication and Installation of Duct Work          | 08-Mar-18   | 08-Mar-18    | 08-Mar-18  | 08-Mar-18   | 0           | A2100        | A2130        |
| A2130       | Insulation of Duct work and Pipes                  | 09-Mar-18   | 09-Mar-18    | 09-Mar-18  | 09-Mar-18   | 0           | A2110        | A2140, A2320 |
| A2320       | Wall Dismantling                                   | 12-Mar-18   | 12-Mar-18    | 12-Mar-18  | 12-Mar-18   | 0           | A2130        | A2330        |
| A2330       | Shifting & Placement of Units on Location          | 13-Mar-18   | 13-Mar-18    | 13-Mar-18  | 13-Mar-18   | 0           | A2320        | A2350        |
| A2350       | Installation of SA                                 | 14-Mar-18   | 14-Mar-18    | 14-Mar-18  | 14-Mar-18   | 0           | A2330        | A2360        |
| A2360       | Assembly of AHU Sections                           | 15-Mar-18   | 15-Mar-18    | 15-Mar-18  | 15-Mar-18   | 0           | A2350        | A2370        |
| A2370       | Fabrication and Installation of MS Pipe and Valves | 16-Mar-18   | 16-Mar-18    | 16-Mar-18  | 16-Mar-18   | 0           | A2360        | A2380        |
| A2380       | Installation of Cable Trays                        | 19-Mar-18   | 19-Mar-18    | 19-Mar-18  | 19-Mar-18   | 0           | A2370        | A2390        |
| A2390       | Laying and Termination of Power Cables             | 20-Mar-18   | 20-Mar-18    | 20-Mar-18  | 20-Mar-18   | 0           | A2380        | A2400        |
| A2400       | Installation of VCD & FD in Supply & Return Ducts  | 21-Mar-18   | 21-Mar-18    | 21-Mar-18  | 21-Mar-18   | 0           | A2390        | A2410        |
| A2410       | Installation of Humidifier                         | 22-Mar-18   | 22-Mar-18    | 22-Mar-18  | 22-Mar-18   | 0           | A2400        | A2420        |
| A2420       | Fabrication and Installation of Duct Work          | 23-Mar-18   | 23-Mar-18    | 23-Mar-18  | 23-Mar-18   | 0           | A2410        | A2440        |
| A2440       | Insulation of Duct work and Pipes                  | 26-Mar-18   | 26-Mar-18    | 26-Mar-18  | 26-Mar-18   | 0           | A2420        | A2450        |
| A2450       | Nespak Inspection and Approval                     |             | 26-Mar-18    |            | 26-Mar-18   | 0           | A2440        |              |

## PW-04 WBS Assigned Resources

User's Notes:

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| WBS Code  | Resource Code | Resource Name                   |
|-----------|---------------|---------------------------------|
| PPIC3     |               |                                 |
| 01        |               |                                 |
| NEWPROJ-4 |               |                                 |
|           | PPIC3.PPIC3 1 | FCU                             |
|           | PPIC3.PPIC3 3 | TFU                             |
|           | PPIC3.PPIC3 2 | AHU                             |
|           | PPIC3.PPIC3 4 | Execution Team 1                |
|           | PPIC3.PPIC3 5 | Execution Team 2                |
|           | PPIC3.PPIC3 6 | Electrical Items                |
|           | PPIC3.PPIC3 7 | Duct & Pipe Insulation Material |
|           | PPIC3.PPIC3 8 | Project Engineer                |
|           | PPIC3.PPIC3 9 | Project Manager                 |

## RA-01 Resource Assignments, All Activities

User's Notes:

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| Resource Code      | Resource Name | Project Code | WBS Code  | Activity Code | Activity   | Planned Units | Planned Duration | Planned Start | Planned Finish |
|--------------------|---------------|--------------|-----------|---------------|--|---------------|------------------|---------------|----------------|
| <b>PPIC3 1 FCU</b> |               |              |           |               |  |               |                  |               |                |
| NEWPROJ-4          | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1080         | Ceiling Cutting / Dismantling & Installation of FCU    | 40            | 3                | 01-Jan-18     | 03-Jan-18      |
| NEWPROJ-4          | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1180         | Ceiling Cutting / Dismantling & Installation of FCU    | 40            | 3                | 01-Jan-18     | 03-Jan-18      |
| NEWPROJ-4          | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1300         | Ceiling Cutting / Dismantling & Installation of FCU    | 40            | 3                | 16-Jan-18     | 18-Jan-18      |
| NEWPROJ-4          | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1400         | Ceiling Cutting / Dismantling & Installation of FCU    | 40            | 3                | 16-Jan-18     | 18-Jan-18      |
| NEWPROJ-4          | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1520         | Hanging arrangement and Unit Placement                 | 40            | 3                | 31-Jan-18     | 02-Feb-18      |
|                    |               |              |           |               | <b>Total</b>   | <b>200</b>    |                  |               |                |
| <b>PPIC3 3 TFU</b> |               |              |           |               |  |               |                  |               |                |
| NEWPROJ-4          | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1600         | Shifting and Placement of Units on Foundations at Roof | 40            | 1                | 31-Jan-18     | 31-Jan-18      |
|                    |               |              |           |               | <b>Total</b>   | <b>40</b>     |                  |               |                |
| <b>PPIC3 2 AHU</b> |               |              |           |               |  |               |                  |               |                |
| NEWPROJ-4          | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1700         | Shifting of Unit at location                           | 40            | 1                | 12-Feb-18     | 12-Feb-18      |
| NEWPROJ-4          | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1860         | Shifting of Unit at location                           | 40            | 1                | 01-Feb-18     | 01-Feb-18      |
| NEWPROJ-4          | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2020         | Placment of Units at Foundation                        | 40            | 1                | 26-Feb-18     | 26-Feb-18      |

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## RA-01 Resource Assignments, All Activities

User's Notes:

| Resource Code | Resource Name | Project Code | WBS Code  | Activity Code | Activity                                  | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|-----------|---------------|---|---------------|------------------|---------------|----------------|
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2170         | Shifting & Placement of Units on Location | 40            | 1                | 16-Feb-18     | 16-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2330         | Shifting & Placement of Units on Location | 40            | 1                | 13-Mar-18     | 13-Mar-18      |
| <b>Total</b>  |               |              |           |               |   | <b>200</b>    |                  |               |                |

### PPIC3 4 Execution Team 1

|           |           |           |           |       |   |    |   |           |           |
|-----------|-----------|-----------|-----------|-------|---|----|---|-----------|-----------|
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1080 | Ceiling Cutting / Dismantling & Installation of FCU | 40 | 3 | 01-Jan-18 | 03-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1090 | Installation of Valves and MS Pipe Connections      | 40 | 2 | 04-Jan-18 | 05-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1100 | Electrical Termination                              | 40 | 1 | 08-Jan-18 | 08-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1110 | Insulation of Duct and Pipes                        | 40 | 1 | 09-Jan-18 | 09-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1120 | Ceiling / Ceiling Repairing                         | 40 | 1 | 10-Jan-18 | 10-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1130 | Installation of Lights                              | 40 | 1 | 11-Jan-18 | 11-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1140 | Installation of Smoke Detector / Sprinkler          | 40 | 1 | 12-Jan-18 | 12-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1150 | Linear Grill Alignment                              | 40 | 1 | 15-Jan-18 | 15-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1300 | Ceiling Cutting / Dismantling & Installation of FCU | 40 | 3 | 16-Jan-18 | 18-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1310 | Installation of Valves and MS pipe Connections      | 40 | 2 | 19-Jan-18 | 22-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1320 | Electrical Termination                              | 40 | 1 | 23-Jan-18 | 23-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1330 | Insulation of Duct and Pipes                        | 40 | 1 | 24-Jan-18 | 24-Jan-18 |

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## RA-01 Resource Assignments, All Activities

User's Notes:

| Resource Code | Resource Name | Project Code | WBS Code  | Activity Code | Activity   | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|-----------|---------------|--|---------------|------------------|---------------|----------------|
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1340         | Ceiling / Ceiling Repairing                        | 40            | 1                | 25-Jan-18     | 25-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1350         | Installation of Lights                             | 40            | 1                | 26-Jan-18     | 26-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1360         | Installation of Smoke Detector / Sprinkler         | 40            | 1                | 29-Jan-18     | 29-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1370         | Linear Grill Alignment                             | 40            | 1                | 30-Jan-18     | 30-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1520         | Hanging arrangement and Unit Placement             | 40            | 3                | 31-Jan-18     | 02-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1530         | Fabrication and Installation of Duct Work          | 40            | 1                | 05-Feb-18     | 05-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1540         | Installation of Valves and MS Pipe Connections     | 40            | 2                | 06-Feb-18     | 07-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1550         | Electrical Termination                             | 40            | 1                | 08-Feb-18     | 08-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1560         | Insulation of Duct and Pipes                       | 40            | 1                | 09-Feb-18     | 09-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1700         | Shifting of Unit at location                       | 40            | 1                | 12-Feb-18     | 12-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1720         | Installation of SA                                 | 40            | 1                | 13-Feb-18     | 13-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1730         | Assembly of AHU Sections                           | 40            | 1                | 14-Feb-18     | 14-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1740         | Fabrication and Installation of MS Pipe and Valves | 40            | 1                | 15-Feb-18     | 15-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1750         | Installation of Cable Trays                        | 40            | 1                | 16-Feb-18     | 16-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1760         | Laying and Termination of Power Cables             | 40            | 1                | 19-Feb-18     | 19-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1770         | Installation of VCD & FD in Supply & Return Ducts  | 40            | 1                | 20-Feb-18     | 20-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1780         | Installation of Humidifier                         | 40            | 1                | 21-Feb-18     | 21-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1790         | Fabrication and Installation of Duct Work          | 40            | 1                | 22-Feb-18     | 22-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1810         | Insulation of Duct work and Pipes                  | 40            | 1                | 23-Feb-18     | 23-Feb-18      |

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## RA-01 Resource Assignments, All Activities

User's Notes:

| Resource Code | Resource Name | Project Code | WBS Code  | Activity Code | Activity   | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|-----------|---------------|--|---------------|------------------|---------------|----------------|
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2020         | Placment of Units at Foundation                    | 40            | 1                | 26-Feb-18     | 26-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2040         | Installation of SA                                 | 40            | 1                | 27-Feb-18     | 27-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2050         | Assembly of AHU Sections                           | 40            | 1                | 28-Feb-18     | 28-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2060         | Fabrication and Installation of MS Pipe and Valves | 40            | 1                | 01-Mar-18     | 01-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2070         | Installation of Cable Trays                        | 40            | 1                | 02-Mar-18     | 02-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2080         | Laying and Termination of Power Cables             | 40            | 1                | 05-Mar-18     | 05-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2090         | Installation of VCD & FD in Supply & Return Ducts  | 40            | 1                | 06-Mar-18     | 06-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2100         | Installation of Humidifier                         | 40            | 1                | 07-Mar-18     | 07-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2110         | Fabrication and Installation of Duct Work          | 40            | 1                | 08-Mar-18     | 08-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2130         | Insulation of Duct work and Pipes                  | 40            | 1                | 09-Mar-18     | 09-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2320         | Wall Dismantling                                   | 40            | 1                | 12-Mar-18     | 12-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2330         | Shifting & Placement of Units on Location          | 40            | 1                | 13-Mar-18     | 13-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2350         | Installation of SA                                 | 40            | 1                | 14-Mar-18     | 14-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2360         | Assembly of AHU Sections                           | 40            | 1                | 15-Mar-18     | 15-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2370         | Fabrication and Installation of MS Pipe and Valves | 40            | 1                | 16-Mar-18     | 16-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2380         | Installation of Cable Trays                        | 40            | 1                | 19-Mar-18     | 19-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2390         | Laying and Termination of Power Cables             | 40            | 1                | 20-Mar-18     | 20-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2400         | Installation of VCD & FD in Supply & Return Ducts  | 40            | 1                | 21-Mar-18     | 21-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2410         | Installation of Humidifier                         | 40            | 1                | 22-Mar-18     | 22-Mar-18      |

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## RA-01 Resource Assignments, All Activities

User's Notes:

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| <b>Resource Code</b> | <b>Resource Name</b> | <b>Project Code</b> | <b>WBS Code</b> | <b>Activity Code</b> | <b>Activity</b>                           | <b>Planned Units</b> | <b>Planned Duration</b> | <b>Planned Start</b> | <b>Planned Finish</b> |
|----------------------|----------------------|---------------------|-----------------|----------------------|---|----------------------|-------------------------|----------------------|-----------------------|
| NEWPROJ-4            | NEWPROJ-4            | NEWPROJ-4           | NEWPROJ-4       | A2420                | Fabrication and Installation of Duct Work | 40                   | 1                       | 23-Mar-18            | 23-Mar-18             |
| NEWPROJ-4            | NEWPROJ-4            | NEWPROJ-4           | NEWPROJ-4       | A2440                | Insulation of Duct work and Pipes         | 40                   | 1                       | 26-Mar-18            | 26-Mar-18             |
| <b>Total</b>         |                      |                     |                 |                      |   | <b>2080</b>          |                         |                      |                       |

### PPIC3 5 Execution Team 2

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|           |           |           |           |       |   |    |   |           |           |
|-----------|-----------|-----------|-----------|-------|---|----|---|-----------|-----------|
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1180 | Ceiling Cutting / Dismantling & Installation of FCU | 40 | 3 | 01-Jan-18 | 03-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1210 | Installation of Valves and MS Pipe Connections      | 40 | 2 | 04-Jan-18 | 05-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1220 | Electrical Termination                              | 40 | 1 | 08-Jan-18 | 08-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1230 | Insulation of Duct and Pipes                        | 40 | 1 | 09-Jan-18 | 09-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1240 | Ceiling / Ceiling Repairing                         | 40 | 1 | 10-Jan-18 | 10-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1250 | Installation of Lights                              | 40 | 1 | 11-Jan-18 | 11-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1260 | Installation of Smoke Detector / Sprinkler          | 40 | 1 | 12-Jan-18 | 12-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1270 | Linear Grill Alignment                              | 40 | 1 | 15-Jan-18 | 15-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1400 | Ceiling Cutting / Dismantling & Installation of FCU | 40 | 3 | 16-Jan-18 | 18-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1430 | Installation of Valves and MS Pipe Connections      | 40 | 2 | 19-Jan-18 | 22-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1440 | Electrical Termination                              | 40 | 1 | 23-Jan-18 | 23-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1450 | Insulation of Duct and Pipes                        | 40 | 1 | 24-Jan-18 | 24-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | NEWPROJ-4 | A1460 | Ceiling / Ceiling Repairing                         | 40 | 1 | 25-Jan-18 | 25-Jan-18 |

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## RA-01 Resource Assignments, All Activities

User's Notes:

| Resource Code | Resource Name | Project Code | WBS Code  | Activity Code | Activity   | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|-----------|---------------|--|---------------|------------------|---------------|----------------|
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1470         | Installation of Lights                                 | 40            | 1                | 26-Jan-18     | 26-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1480         | Installation of Smoke Detector / Sprinkler             | 40            | 1                | 29-Jan-18     | 29-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1490         | Linear Grill Alignment                                 | 40            | 1                | 30-Jan-18     | 30-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1600         | Shifting and Placement of Units on Foundations at Roof | 40            | 1                | 31-Jan-18     | 31-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1610         | Duct Work  | 40            | 2                | 01-Feb-18     | 02-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1620         | Copper Piping  | 40            | 1                | 05-Feb-18     | 05-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1630         | Installation of Cable Trays                            | 40            | 1                | 06-Feb-18     | 06-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1640         | Laying and Termination of Power Cables                 | 40            | 1                | 07-Feb-18     | 07-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1660         | Insulation of Duct work and Pipes                      | 40            | 2                | 08-Feb-18     | 09-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1860         | Shifting of Unit at location                           | 40            | 1                | 01-Feb-18     | 01-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1880         | Installation of SA                                     | 40            | 1                | 02-Feb-18     | 02-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1890         | Shifting & Placement of Units on Location              | 40            | 1                | 05-Feb-18     | 05-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1900         | Assembly of AHU Sections                               | 40            | 1                | 06-Feb-18     | 06-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1910         | Fabrication and Installation of MS Pipe and Valves     | 40            | 1                | 07-Feb-18     | 07-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1920         | Installation of Cable Trays                            | 40            | 1                | 08-Feb-18     | 08-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1930         | Laying and Termination of Power Cables                 | 40            | 1                | 09-Feb-18     | 09-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1940         | Installation of VCD & FD in Supply & Return Ducts      | 40            | 1                | 12-Feb-18     | 12-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1950         | Installation of Humidifier                             | 40            | 1                | 13-Feb-18     | 13-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1960         | Fabrication and Installation of Duct Work              | 40            | 1                | 14-Feb-18     | 14-Feb-18      |

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## RA-01 Resource Assignments, All Activities

User's Notes:

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| <b>Resource Code</b> | <b>Resource Name</b> |                      |  |                      |                         |                      |                       |  |
|----------------------|----------------------|----------------------|--|----------------------|-------------------------|----------------------|-----------------------|--|
| <b>Project Code</b>  | <b>WBS Code</b>      | <b>Activity Code</b> | <b>Activity</b>                                    | <b>Planned Units</b> | <b>Planned Duration</b> | <b>Planned Start</b> | <b>Planned Finish</b> |  |
| NEWPROJ-4            | NEWPROJ-4            | A1980                | Insulation of Duct work and Pipes                  | 40                   | 1                       | 15-Feb-18            | 15-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2170                | Shifting & Placement of Units on Location          | 40                   | 1                       | 16-Feb-18            | 16-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2190                | Installation of SA                                 | 40                   | 1                       | 19-Feb-18            | 19-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2200                | Assembly of AHU Sections                           | 40                   | 1                       | 20-Feb-18            | 20-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2210                | Fabrication and Installation of MS Pipe and Valves | 40                   | 1                       | 21-Feb-18            | 21-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2220                | Installation of Cable Trays                        | 40                   | 1                       | 22-Feb-18            | 22-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2230                | Laying and Termination of Power Cables             | 40                   | 1                       | 23-Feb-18            | 23-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2240                | Installation of VCD & FD in Supply & Return Ducts  | 40                   | 1                       | 26-Feb-18            | 26-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2250                | Installation of Humidifier                         | 40                   | 1                       | 27-Feb-18            | 27-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2260                | Fabrication and Installation of Duct Work          | 40                   | 1                       | 28-Feb-18            | 28-Feb-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2280                | Insulation of Duct work and Pipes                  | 40                   | 1                       | 01-Mar-18            | 01-Mar-18             |  |
| <b>Total</b>         |                      |                      |  | <b>1720</b>          |                         |                      |                       |  |

### PPIC3 6 Electrical Items

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|           |           |       |  |    |   |           |           |  |
|-----------|-----------|-------|--|----|---|-----------|-----------|--|
| NEWPROJ-4 | NEWPROJ-4 | A1100 | Electrical Termination                     | 40 | 1 | 08-Jan-18 | 08-Jan-18 |  |
| NEWPROJ-4 | NEWPROJ-4 | A1130 | Installation of Lights                     | 40 | 1 | 11-Jan-18 | 11-Jan-18 |  |
| NEWPROJ-4 | NEWPROJ-4 | A1140 | Installation of Smoke Detector / Sprinkler | 40 | 1 | 12-Jan-18 | 12-Jan-18 |  |
| NEWPROJ-4 | NEWPROJ-4 | A1220 | Electrical Termination                     | 40 | 1 | 08-Jan-18 | 08-Jan-18 |  |
| NEWPROJ-4 | NEWPROJ-4 | A1250 | Installation of Lights                     | 40 | 1 | 11-Jan-18 | 11-Jan-18 |  |

# Oracle Primavera

## RA-01 Resource Assignments, All Activities

User's Notes:

| Resource Code | Resource Name | Project Code | WBS Code  | Activity Code | Activity                                   | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|-----------|---------------|--|---------------|------------------|---------------|----------------|
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1260         | Installation of Smoke Detector / Sprinkler | 40            | 1                | 12-Jan-18     | 12-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1320         | Electrical Termination                     | 40            | 1                | 23-Jan-18     | 23-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1350         | Installation of Lights                     | 40            | 1                | 26-Jan-18     | 26-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1360         | Installation of Smoke Detector / Sprinkler | 40            | 1                | 29-Jan-18     | 29-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1440         | Electrical Termination                     | 40            | 1                | 23-Jan-18     | 23-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1470         | Installation of Lights                     | 40            | 1                | 26-Jan-18     | 26-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1480         | Installation of Smoke Detector / Sprinkler | 40            | 1                | 29-Jan-18     | 29-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1550         | Electrical Termination                     | 40            | 1                | 08-Feb-18     | 08-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1630         | Installation of Cable Trays                | 40            | 1                | 06-Feb-18     | 06-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1640         | Laying and Termination of Power Cables     | 40            | 1                | 07-Feb-18     | 07-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1750         | Installation of Cable Trays                | 40            | 1                | 16-Feb-18     | 16-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1760         | Laying and Termination of Power Cables     | 40            | 1                | 19-Feb-18     | 19-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1920         | Installation of Cable Trays                | 40            | 1                | 08-Feb-18     | 08-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1930         | Laying and Termination of Power Cables     | 40            | 1                | 09-Feb-18     | 09-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2070         | Installation of Cable Trays                | 40            | 1                | 02-Mar-18     | 02-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2080         | Laying and Termination of Power Cables     | 40            | 1                | 05-Mar-18     | 05-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2220         | Installation of Cable Trays                | 40            | 1                | 22-Feb-18     | 22-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2230         | Laying and Termination of Power Cables     | 40            | 1                | 23-Feb-18     | 23-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2380         | Installation of Cable Trays                | 40            | 1                | 19-Mar-18     | 19-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2390         | Laying and Termination of Power Cables     | 40            | 1                | 20-Mar-18     | 20-Mar-18      |

# Oracle Primavera

## RA-01 Resource Assignments, All Activities

User's Notes:

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| Resource Code | Resource Name | Project Code | WBS Code | Activity Code | Activity | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|----------|---------------|----------|---------------|------------------|---------------|----------------|
|---------------|---------------|--------------|----------|---------------|----------|---------------|------------------|---------------|----------------|

**Total 1000**

### PPIC3 7 Duct & Pipe Insulation Material

|           |           |       |  |  |                                   |    |   |           |           |
|-----------|-----------|-------|--|--|-----------------------------------|----|---|-----------|-----------|
| NEWPROJ-4 | NEWPROJ-4 | A1110 |  |  | Insulation of Duct and Pipes      | 40 | 1 | 09-Jan-18 | 09-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | A1230 |  |  | Insulation of Duct and Pipes      | 40 | 1 | 09-Jan-18 | 09-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | A1330 |  |  | Insulation of Duct and Pipes      | 40 | 1 | 24-Jan-18 | 24-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | A1450 |  |  | Insulation of Duct and Pipes      | 40 | 1 | 24-Jan-18 | 24-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | A1560 |  |  | Insulation of Duct and Pipes      | 40 | 1 | 09-Feb-18 | 09-Feb-18 |
| NEWPROJ-4 | NEWPROJ-4 | A1660 |  |  | Insulation of Duct work and Pipes | 40 | 2 | 08-Feb-18 | 09-Feb-18 |
| NEWPROJ-4 | NEWPROJ-4 | A1810 |  |  | Insulation of Duct work and Pipes | 40 | 1 | 23-Feb-18 | 23-Feb-18 |
| NEWPROJ-4 | NEWPROJ-4 | A1980 |  |  | Insulation of Duct work and Pipes | 40 | 1 | 15-Feb-18 | 15-Feb-18 |
| NEWPROJ-4 | NEWPROJ-4 | A2130 |  |  | Insulation of Duct work and Pipes | 40 | 1 | 09-Mar-18 | 09-Mar-18 |
| NEWPROJ-4 | NEWPROJ-4 | A2280 |  |  | Insulation of Duct work and Pipes | 40 | 1 | 01-Mar-18 | 01-Mar-18 |
| NEWPROJ-4 | NEWPROJ-4 | A2440 |  |  | Insulation of Duct work and Pipes | 40 | 1 | 26-Mar-18 | 26-Mar-18 |

**Total 440**

### PPIC3 8 Project Engineer

|           |           |       |  |  |   |    |   |           |           |
|-----------|-----------|-------|--|--|---|----|---|-----------|-----------|
| NEWPROJ-4 | NEWPROJ-4 | A1080 |  |  | Ceiling Cutting / Dismantling & Installation of FCU | 40 | 3 | 01-Jan-18 | 03-Jan-18 |
| NEWPROJ-4 | NEWPROJ-4 | A1090 |  |  | Installation of Valves and MS Pipe Connections      | 40 | 2 | 04-Jan-18 | 05-Jan-18 |

# Oracle Primavera



## RA-01 Resource Assignments, All Activities

User's Notes:

| Resource Code | Resource Name | Project Code | WBS Code  | Activity Code | Activity  | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|-----------|---------------|---|---------------|------------------|---------------|----------------|
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1100         | Electrical Termination                              | 40            | 1                | 08-Jan-18     | 08-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1110         | Insulation of Duct and Pipes                        | 40            | 1                | 09-Jan-18     | 09-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1120         | Ceiling / Ceiling Repairing                         | 40            | 1                | 10-Jan-18     | 10-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1130         | Installation of Lights                              | 40            | 1                | 11-Jan-18     | 11-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1140         | Installation of Smoke Detector / Sprinkler          | 40            | 1                | 12-Jan-18     | 12-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1150         | Linear Grill Alignment                              | 40            | 1                | 15-Jan-18     | 15-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1300         | Ceiling Cutting / Dismantling & Installation of FCU | 40            | 3                | 16-Jan-18     | 18-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1310         | Installation of Valves and MS pipe Connections      | 40            | 2                | 19-Jan-18     | 22-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1320         | Electrical Termination                              | 40            | 1                | 23-Jan-18     | 23-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1330         | Insulation of Duct and Pipes                        | 40            | 1                | 24-Jan-18     | 24-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1340         | Ceiling / Ceiling Repairing                         | 40            | 1                | 25-Jan-18     | 25-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1350         | Installation of Lights                              | 40            | 1                | 26-Jan-18     | 26-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1360         | Installation of Smoke Detector / Sprinkler          | 40            | 1                | 29-Jan-18     | 29-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1370         | Linear Grill Alignment                              | 40            | 1                | 30-Jan-18     | 30-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1520         | Hanging arrangement and Unit Placement              | 40            | 3                | 31-Jan-18     | 02-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1530         | Fabrication and Installation of Duct Work           | 40            | 1                | 05-Feb-18     | 05-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1540         | Installation of Valves and MS Pipe Connections      | 40            | 2                | 06-Feb-18     | 07-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1550         | Electrical Termination                              | 40            | 1                | 08-Feb-18     | 08-Feb-18      |

# Oracle Primavera

## RA-01 Resource Assignments, All Activities

User's Notes:

| Resource Code | Resource Name | Project Code | WBS Code  | Activity Code | Activity   | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|-----------|---------------|--|---------------|------------------|---------------|----------------|
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1560         | Insulation of Duct and Pipes                       | 40            | 1                | 09-Feb-18     | 09-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1700         | Shifting of Unit at location                       | 40            | 1                | 12-Feb-18     | 12-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1720         | Installation of SA                                 | 40            | 1                | 13-Feb-18     | 13-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1730         | Assembly of AHU Sections                           | 40            | 1                | 14-Feb-18     | 14-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1740         | Fabrication and Installation of MS Pipe and Valves | 40            | 1                | 15-Feb-18     | 15-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1750         | Installation of Cable Trays                        | 40            | 1                | 16-Feb-18     | 16-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1760         | Laying and Termination of Power Cables             | 40            | 1                | 19-Feb-18     | 19-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1770         | Installation of VCD & FD in Supply & Return Ducts  | 40            | 1                | 20-Feb-18     | 20-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1780         | Installation of Humidifier                         | 40            | 1                | 21-Feb-18     | 21-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1790         | Fabrication and Installation of Duct Work          | 40            | 1                | 22-Feb-18     | 22-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1810         | Insulation of Duct work and Pipes                  | 40            | 1                | 23-Feb-18     | 23-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2020         | Placment of Units at Foundation                    | 40            | 1                | 26-Feb-18     | 26-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2040         | Installation of SA                                 | 40            | 1                | 27-Feb-18     | 27-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2050         | Assembly of AHU Sections                           | 40            | 1                | 28-Feb-18     | 28-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2060         | Fabrication and Installation of MS Pipe and Valves | 40            | 1                | 01-Mar-18     | 01-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2070         | Installation of Cable Trays                        | 40            | 1                | 02-Mar-18     | 02-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2080         | Laying and Termination of Power Cables             | 40            | 1                | 05-Mar-18     | 05-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2090         | Installation of VCD & FD in Supply & Return Ducts  | 40            | 1                | 06-Mar-18     | 06-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2100         | Installation of Humidifier                         | 40            | 1                | 07-Mar-18     | 07-Mar-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2110         | Fabrication and Installation of Duct Work          | 40            | 1                | 08-Mar-18     | 08-Mar-18      |

# Oracle Primavera

## RA-01 Resource Assignments, All Activities

User's Notes:

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| <b>Resource Code</b> | <b>Resource Name</b> |                      |  |                      |                         |                      |                       |  |
|----------------------|----------------------|----------------------|--|----------------------|-------------------------|----------------------|-----------------------|--|
| <b>Project Code</b>  | <b>WBS Code</b>      | <b>Activity Code</b> | <b>Activity</b>                                    | <b>Planned Units</b> | <b>Planned Duration</b> | <b>Planned Start</b> | <b>Planned Finish</b> |  |
| NEWPROJ-4            | NEWPROJ-4            | A2130                | Insulation of Duct work and Pipes                  | 40                   | 1                       | 09-Mar-18            | 09-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2320                | Wall Dismantling                                   | 40                   | 1                       | 12-Mar-18            | 12-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2330                | Shifting & Placement of Units on Location          | 40                   | 1                       | 13-Mar-18            | 13-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2350                | Installation of SA                                 | 40                   | 1                       | 14-Mar-18            | 14-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2360                | Assembly of AHU Sections                           | 40                   | 1                       | 15-Mar-18            | 15-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2370                | Fabrication and Installation of MS Pipe and Valves | 40                   | 1                       | 16-Mar-18            | 16-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2380                | Installation of Cable Trays                        | 40                   | 1                       | 19-Mar-18            | 19-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2390                | Laying and Termination of Power Cables             | 40                   | 1                       | 20-Mar-18            | 20-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2400                | Installation of VCD & FD in Supply & Return Ducts  | 40                   | 1                       | 21-Mar-18            | 21-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2410                | Installation of Humidifier                         | 40                   | 1                       | 22-Mar-18            | 22-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2420                | Fabrication and Installation of Duct Work          | 40                   | 1                       | 23-Mar-18            | 23-Mar-18             |  |
| NEWPROJ-4            | NEWPROJ-4            | A2440                | Insulation of Duct work and Pipes                  | 40                   | 1                       | 26-Mar-18            | 26-Mar-18             |  |
| <b>Total</b>         |                      |                      |  | <b>2080</b>          |                         |                      |                       |  |

### PPIC3 9 Project Manager

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|           |           |       |   |    |   |           |           |  |
|-----------|-----------|-------|---|----|---|-----------|-----------|--|
| NEWPROJ-4 | NEWPROJ-4 | A1180 | Ceiling Cutting / Dismantling & Installation of FCU | 40 | 3 | 01-Jan-18 | 03-Jan-18 |  |
| NEWPROJ-4 | NEWPROJ-4 | A1210 | Installation of Valves and MS Pipe Connections      | 40 | 2 | 04-Jan-18 | 05-Jan-18 |  |
| NEWPROJ-4 | NEWPROJ-4 | A1220 | Electrical Termination                              | 40 | 1 | 08-Jan-18 | 08-Jan-18 |  |

# Oracle Primavera

## RA-01 Resource Assignments, All Activities

User's Notes:

| Resource Code | Resource Name | Project Code | WBS Code  | Activity Code | Activity   | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|-----------|---------------|--|---------------|------------------|---------------|----------------|
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1230         | Insulation of Duct and Pipes                           | 40            | 1                | 09-Jan-18     | 09-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1240         | Ceiling / Ceiling Repairing                            | 40            | 1                | 10-Jan-18     | 10-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1250         | Installation of Lights                                 | 40            | 1                | 11-Jan-18     | 11-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1260         | Installation of Smoke Detector / Sprinkler             | 40            | 1                | 12-Jan-18     | 12-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1270         | Linear Grill Alignment                                 | 40            | 1                | 15-Jan-18     | 15-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1400         | Ceiling Cutting / Dismantling & Installation of FCU    | 40            | 3                | 16-Jan-18     | 18-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1430         | Installation of Valves and MS Pipe Connections         | 40            | 2                | 19-Jan-18     | 22-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1440         | Electrical Termination                                 | 40            | 1                | 23-Jan-18     | 23-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1450         | Insulation of Duct and Pipes                           | 40            | 1                | 24-Jan-18     | 24-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1460         | Ceiling / Ceiling Repairing                            | 40            | 1                | 25-Jan-18     | 25-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1470         | Installation of Lights                                 | 40            | 1                | 26-Jan-18     | 26-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1480         | Installation of Smoke Detector / Sprinkler             | 40            | 1                | 29-Jan-18     | 29-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1490         | Linear Grill Alignment                                 | 40            | 1                | 30-Jan-18     | 30-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1600         | Shifting and Placement of Units on Foundations at Roof | 40            | 1                | 31-Jan-18     | 31-Jan-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1610         | Duct Work  | 40            | 2                | 01-Feb-18     | 02-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1620         | Copper Piping  | 40            | 1                | 05-Feb-18     | 05-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1630         | Installation of Cable Trays                            | 40            | 1                | 06-Feb-18     | 06-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1640         | Laying and Termination of Power Cables                 | 40            | 1                | 07-Feb-18     | 07-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1660         | Insulation of Duct work and Pipes                      | 40            | 2                | 08-Feb-18     | 09-Feb-18      |

# Oracle Primavera

## RA-01 Resource Assignments, All Activities

User's Notes:

| Resource Code | Resource Name | Project Code | WBS Code  | Activity Code | Activity   | Planned Units | Planned Duration | Planned Start | Planned Finish |
|---------------|---------------|--------------|-----------|---------------|--|---------------|------------------|---------------|----------------|
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1860         | Shifting of Unit at location                       | 40            | 1                | 01-Feb-18     | 01-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1880         | Installation of SA                                 | 40            | 1                | 02-Feb-18     | 02-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1890         | Shifting & Placement of Units on Location          | 40            | 1                | 05-Feb-18     | 05-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1900         | Assembly of AHU Sections                           | 40            | 1                | 06-Feb-18     | 06-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1910         | Fabrication and Installation of MS Pipe and Valves | 40            | 1                | 07-Feb-18     | 07-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1920         | Installation of Cable Trays                        | 40            | 1                | 08-Feb-18     | 08-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1930         | Laying and Termination of Power Cables             | 40            | 1                | 09-Feb-18     | 09-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1940         | Installation of VCD & FD in Supply & Return Ducts  | 40            | 1                | 12-Feb-18     | 12-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1950         | Installation of Humidifier                         | 40            | 1                | 13-Feb-18     | 13-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1960         | Fabrication and Installation of Duct Work          | 40            | 1                | 14-Feb-18     | 14-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A1980         | Insulation of Duct work and Pipes                  | 40            | 1                | 15-Feb-18     | 15-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2170         | Shifting & Placement of Units on Location          | 40            | 1                | 16-Feb-18     | 16-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2190         | Installation of SA                                 | 40            | 1                | 19-Feb-18     | 19-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2200         | Assembly of AHU Sections                           | 40            | 1                | 20-Feb-18     | 20-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2210         | Fabrication and Installation of MS Pipe and Valves | 40            | 1                | 21-Feb-18     | 21-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2220         | Installation of Cable Trays                        | 40            | 1                | 22-Feb-18     | 22-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2230         | Laying and Termination of Power Cables             | 40            | 1                | 23-Feb-18     | 23-Feb-18      |
| NEWPROJ-4     | NEWPROJ-4     | NEWPROJ-4    | NEWPROJ-4 | A2240         | Installation of VCD & FD in Supply & Return Ducts  | 40            | 1                | 26-Feb-18     | 26-Feb-18      |

# Oracle Primavera

## RA-01 Resource Assignments, All Activities

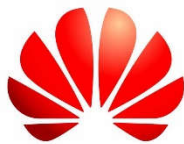
User's Notes:

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| <b>Resource Code</b> | <b>Resource Name</b> |                      |   |                      |                         |                      |                       |
|----------------------|----------------------|----------------------|---|----------------------|-------------------------|----------------------|-----------------------|
| <b>Project Code</b>  | <b>WBS Code</b>      | <b>Activity Code</b> | <b>Activity</b>                           | <b>Planned Units</b> | <b>Planned Duration</b> | <b>Planned Start</b> | <b>Planned Finish</b> |
| NEWPROJ-4            | NEWPROJ-4            | A2250                | Installation of Humidifier                | 40                   | 1                       | 27-Feb-18            | 27-Feb-18             |
| NEWPROJ-4            | NEWPROJ-4            | A2260                | Fabrication and Installation of Duct Work | 40                   | 1                       | 28-Feb-18            | 28-Feb-18             |
| NEWPROJ-4            | NEWPROJ-4            | A2280                | Insulation of Duct work and Pipes         | 40                   | 1                       | 01-Mar-18            | 01-Mar-18             |
|                      |                      |                      | <b>Total</b>                              | <b>1720</b>          |                         |                      |                       |

Version: 0

# S Curves

**HUAWEI****MECSOL<sup>®</sup>**  
PAKISTAN**Project Name:** PPIC3, Lahore**Project Manager:** Mr. Syed Aijaz**Mr. Syed Aijaz**

Project Manager

**Mr. Fahad Arif**

Planning &amp; Coordination Engineer

### Real Case (Progress till 07th January 2018)

This S-Curve is based on real progress. The following mentioned activities are executed till date. [7]

#### Training Room 1 - FCU

A1080 Ceiling Cutting / Dismantling & Installation of FCU

A1090 Installation of Valves and MS Pipe Connections

The Following Activities are executed parallel to the above mentioned activities

#### Training Room 2 - FCU

A1180 Ceiling Cutting / Dismantling & Installation of FCU

A1210 Installation of Valves and MS Pipe Connections

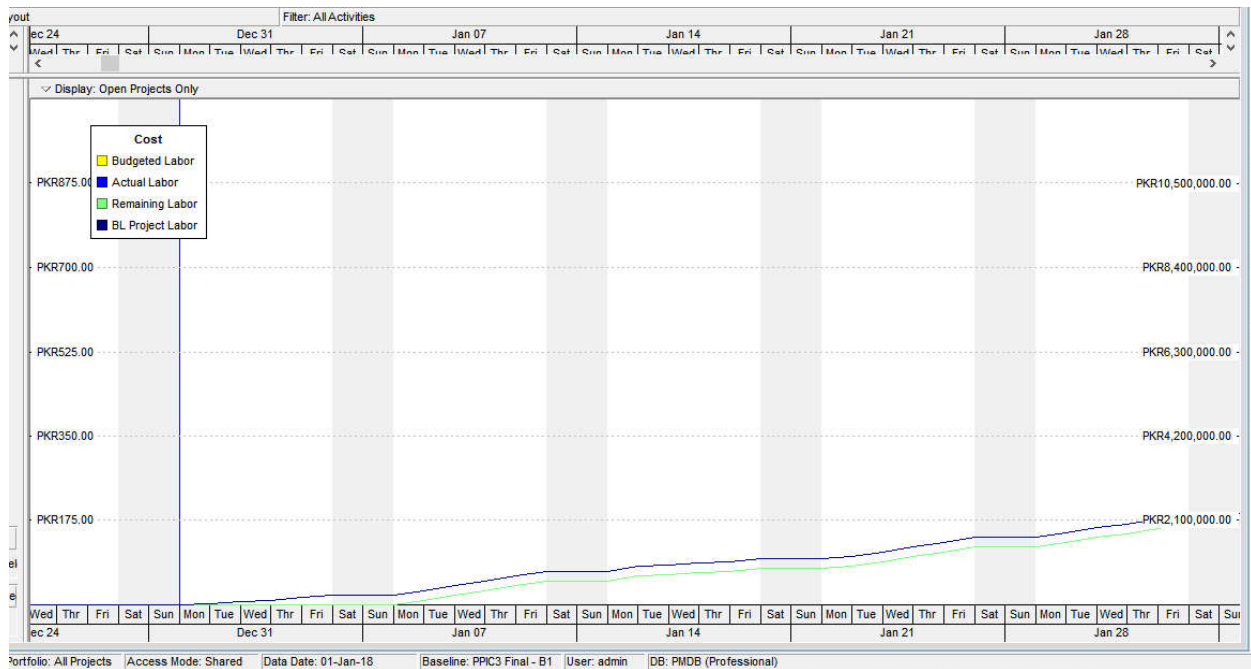
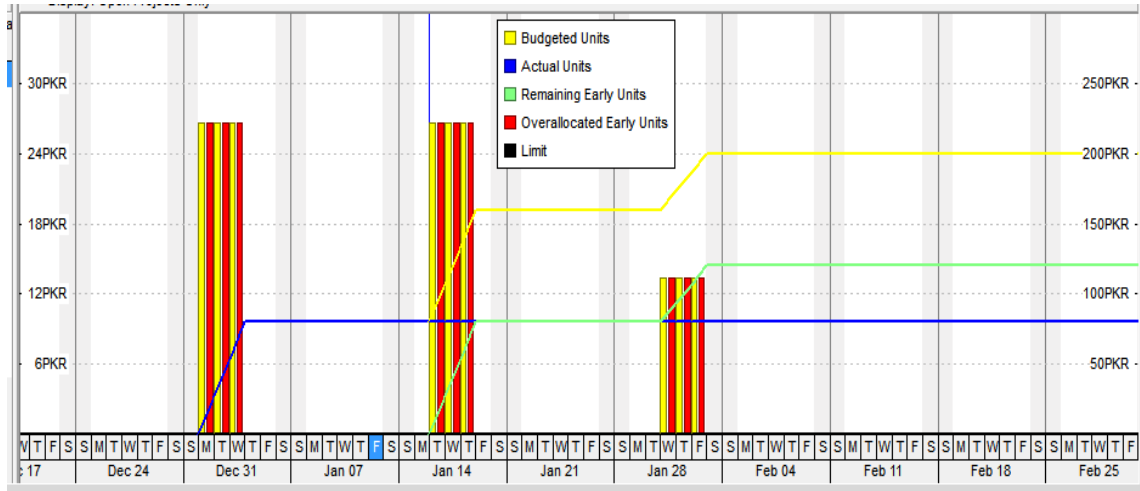


Figure 3: S Curve (Actual)

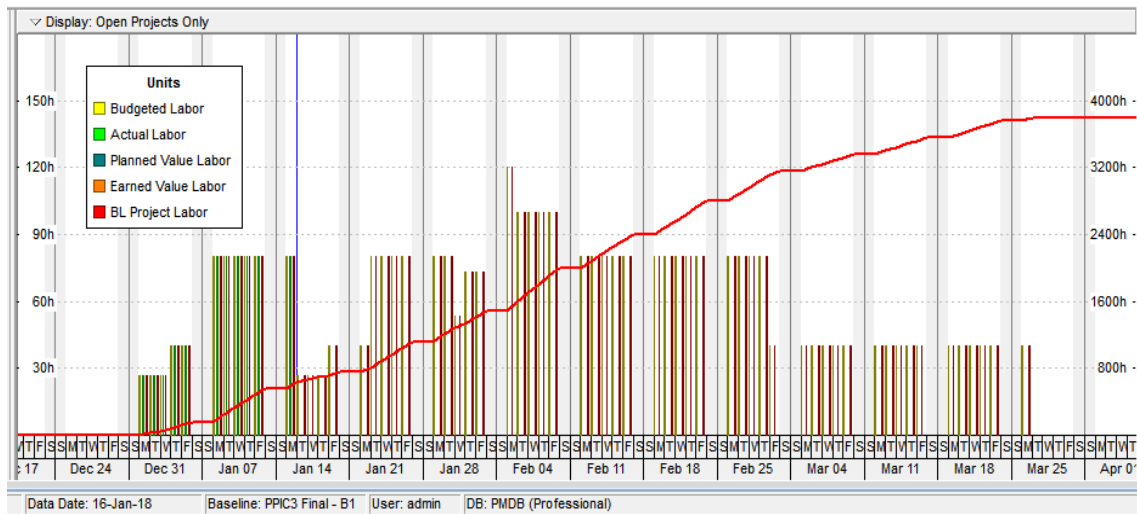


**Resource Usage Profile:**



**Figure 4: S Curve (Resource Usage Profile)**

**Activity Usage Profile:**



**Figure 5: S Curve (Activity Usage Profile)**

**Table F:** Results obtained from Primavera [8]

|   |                |
|---|----------------|
| Project Budget (BAC)                    | 376,220,000.00 |
| Planned Value (PV)                      | 5,280,000.00   |
| Earned Value (EV)                       | 5,280,000.00   |
| Actual cost (AC)                        | 5,280,000.00   |
| Schedule Variance (SV) = EV-PV          | 0              |
| SV % = SV/PV                            | 0              |
| Schedule Performance Index (SPI)= EV/PV | 1              |
| Total Duration                          | 61Days         |
| Cost variance CV=EV-AC                  | 0              |
| CV% = CV/EV                             | 0              |
| Cost performance index CPI=EV/AC        | 1              |
| Estimate to complete                    | 370940000      |

## (What-If Scenarios)

### 1) Assumed Scenario (Best Case)

This S-Curve is based on assumed scenario (The Best one), in which we are meeting our time & there is too much lead. This scenario is based on activities from January 01st, 2018 to January 16th, 2018.

The following Activities are executed till January 16th, 2018

#### ***Training Room 1 – FCU***

|       |   |
|-------|---|
| A1080 | Ceiling Cutting / Dismantling & Installation of FCU |
| A1090 | Installation of Valves and MS Pipe Connections      |
| A1100 | Electrical Termination                              |
| A1110 | Insulation of Duct and Pipes                        |
| A1120 | Ceiling / Ceiling Repairing                         |
| A1130 | Installation of Lights                              |
| A1140 | Installation of Smoke Detector / Sprinkler          |
| A1150 | Linear Grill Alignment                              |

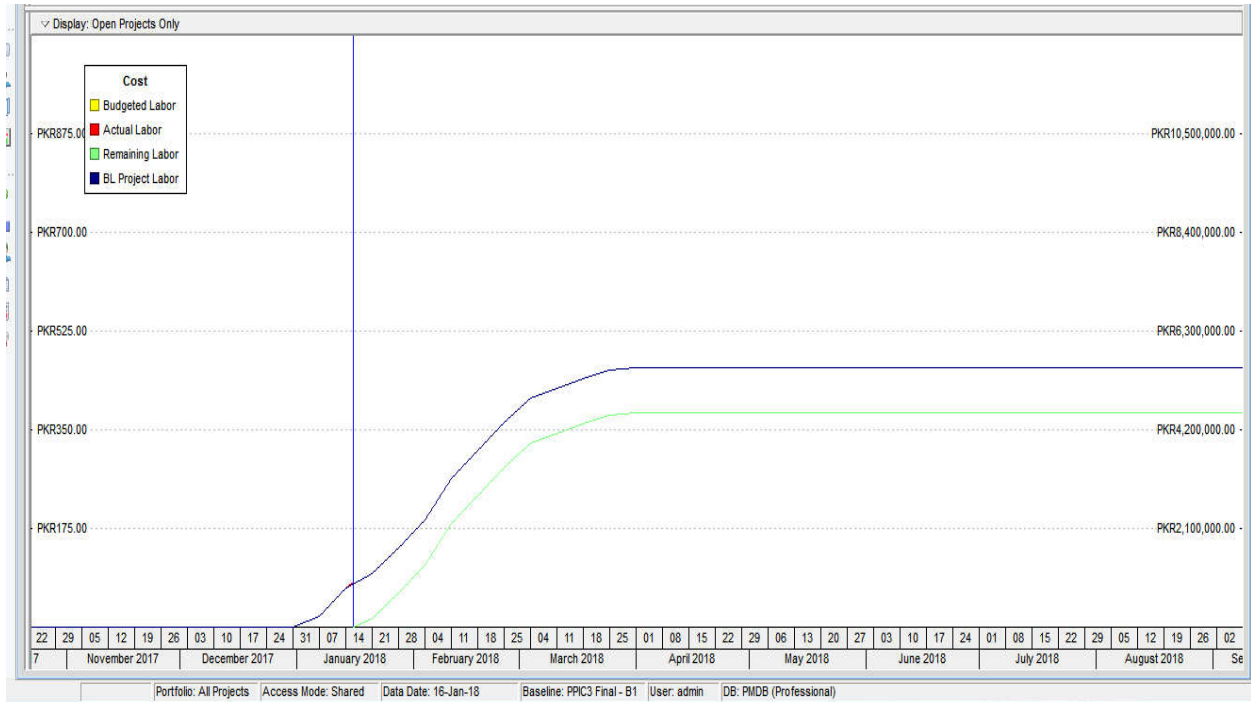
The Following Activities are executed parallel to the above mentioned activities

#### ***Training Room 2 – FCU***

|       |   |
|-------|---|
| A1180 | Ceiling Cutting / Dismantling & Installation of FCU |
| A1210 | Installation of Valves and MS Pipe Connections      |
| A1220 | Electrical Termination                              |
| A1230 | Insulation of Duct and Pipes                        |
| A1240 | Ceiling / Ceiling Repairing                         |
| A1250 | Installation of Lights                              |
| A1260 | Installation of Smoke Detector / Sprinkler          |

A1270

Linear Grill Alignment



**Figure 6: S Curve (Best Case)**

**Results:**

The BCWS, BCWP, ACWP, BAC, ETC, EAC & VAC report for the said case (Generated by using Primavera P6) is attached.

## 2) Assumed Scenario (Worst Case)

This S-Curve is based on assumed scenario (The worst one), in which we are not meeting our time & there is too much lag. This scenario is based on activities from January 01st, 2018 to January 16th, 2018.

The following Activities are executed till January 16th, 2018

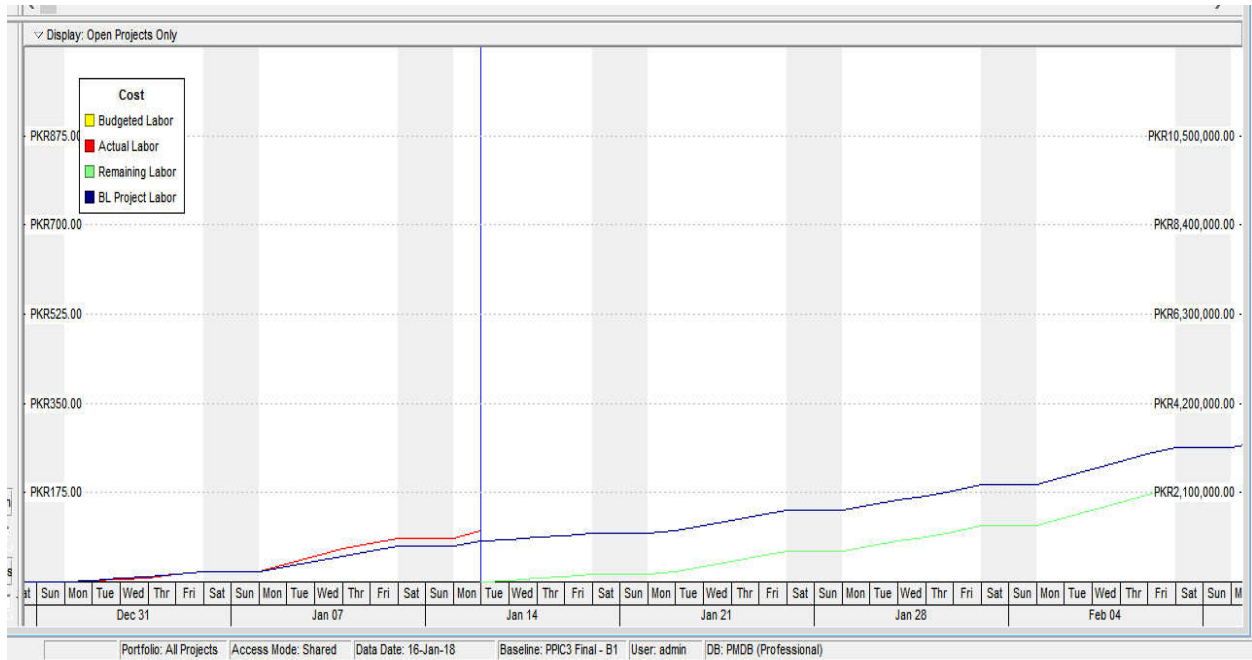
### ***Training Room 1 – FCU***

|       |   |
|-------|---|
| A1080 | Ceiling Cutting / Dismantling & Installation of FCU |
| A1090 | Installation of Valves and MS Pipe Connections      |
| A1100 | Electrical Termination                              |
| A1110 | Insulation of Duct and Pipes                        |
| A1120 | Ceiling / Ceiling Repairing                         |
| A1130 | Installation of Lights                              |
| A1140 | Installation of Smoke Detector / Sprinkler          |
| A1150 | Linear Grill Alignment                              |

The Following Activities are executed parallel to the above mentioned activities

### ***Training Room 2 – FCU***

|       |   |
|-------|---|
| A1180 | Ceiling Cutting / Dismantling & Installation of FCU |
| A1210 | Installation of Valves and MS Pipe Connections      |
| A1220 | Electrical Termination                              |
| A1230 | Insulation of Duct and Pipes                        |
| A1240 | Ceiling / Ceiling Repairing                         |
| A1250 | Installation of Lights                              |
| A1260 | Installation of Smoke Detector / Sprinkler          |
| A1270 | Linear Grill Alignment                              |



**Figure 7: S Curve (Worst Case)**

**Results:**

The BCWS, BCWP, ACWP, BAC, ETC, EAC & VAC report for the said case (Generated by using Primavera P6) is attached.

## Conclusions

- 1) At the present time, owners of huge businesses and contractors simultaneously manage and control several engineering and construction projects. These big projects are linked rings of a chain. Insisting on finishing the project on the determined time, considering no financial limitations and maintaining the position in competitive market lead to an increase in applying project management knowledge. Hence, it is necessary for project managers to move from a traditional structure to a simple and efficient multi-project organizational structure. Optimal use of resources increasingly becomes more sensitive and challenges managers' minds.
- 2) Planning, monitoring and controlling, as well as the need and effectiveness of project management software like Primavera P6 in a construction projective of this study was to understand the role of monitoring and control in the progress and timely completion of a construction project.
- 3) The organization has found that monitoring and tracking project using software is useful to keep a more precise watch on the contractor's performance.
- 4) It helps easily prepare and control project things to do.
- 5) It optimizes management off resources.
- 6) It offers clear field of vision of what's taking in the particular project.
- 7) It allows quick and easy forecasting connected with WBS's, things to do or assignments.

AC-01 Activity Earned Value

WBS

| Activity ID      | Activity Name                                       | Activity Status | BCWS           | BCWP           | ACWP          | BAC            | ETC            | EAC            | VAC           |
|------------------|---|-----------------|----------------|----------------|---------------|----------------|----------------|----------------|---------------|
| <b>MECSOL</b>    | <b>MECSOL EPS</b>                                   |                 |                |                |               |                |                |                |               |
| <b>Civil</b>     | <b>PPIC3 Lahore</b>                                 |                 |                |                |               |                |                |                |               |
| <b>NEWPROJ-4</b> | <b>PPIC3 Final</b>                                  |                 |                |                |               |                |                |                |               |
| A1070            | Training Room 1 - FCU :                             | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00       |
| A1080            | Ceiling Cutting / Dismantling & Installation of FCU | Completed       | KR7,260,000.00 | KR7,260,000.00 | ₹5,445,000.00 | KR7,260,000.00 | PKR0.00        | KR5,445,000.00 | ₹1,815,000.00 |
| A1090            | Installation of Valves and MS Pipe Connections      | Completed       | PKR60,000.00   | PKR60,000.00   | PKR30,000.00  | PKR60,000.00   | PKR0.00        | PKR30,000.00   | PKR30,000.00  |
| A1100            | Electrical Termination                              | Completed       | PKR460,000.00  | PKR460,000.00  | KR460,000.00  | PKR460,000.00  | PKR0.00        | PKR460,000.00  | PKR0.00       |
| A1110            | Insulation of Duct and Pipes                        | Completed       | PKR860,000.00  | PKR860,000.00  | KR860,000.00  | PKR860,000.00  | PKR0.00        | PKR860,000.00  | PKR0.00       |
| A1120            | Ceiling / Ceiling Repairing                         | Completed       | PKR60,000.00   | PKR60,000.00   | PKR60,000.00  | PKR60,000.00   | PKR0.00        | PKR60,000.00   | PKR0.00       |
| A1130            | Installation of Lights                              | Completed       | PKR460,000.00  | PKR460,000.00  | KR460,000.00  | PKR460,000.00  | PKR0.00        | PKR460,000.00  | PKR0.00       |
| A1140            | Installation of Smoke Detector / Sprinkler          | Completed       | PKR460,000.00  | PKR460,000.00  | KR460,000.00  | PKR460,000.00  | PKR0.00        | PKR460,000.00  | PKR0.00       |
| A1150            | Linear Grill Alignment                              | Completed       | PKR60,000.00   | PKR60,000.00   | PKR60,000.00  | PKR60,000.00   | PKR0.00        | PKR60,000.00   | PKR0.00       |
| A1160            | Nespak Inspection and Approval                      | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00       |
| A1170            | Training Room 2 - FCU :                             | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00       |
| A1180            | Ceiling Cutting / Dismantling & Installation of FCU | Completed       | KR7,300,000.00 | KR7,300,000.00 | ₹5,475,000.00 | KR7,300,000.00 | PKR0.00        | KR5,475,000.00 | ₹1,825,000.00 |
| A1210            | Installation of Valves and MS Pipe Connections      | Completed       | PKR100,000.00  | PKR100,000.00  | PKR50,000.00  | PKR100,000.00  | PKR0.00        | PKR50,000.00   | PKR50,000.00  |
| A1220            | Electrical Termination                              | Completed       | PKR500,000.00  | PKR500,000.00  | KR500,000.00  | PKR500,000.00  | PKR0.00        | PKR500,000.00  | PKR0.00       |
| A1230            | Insulation of Duct and Pipes                        | Completed       | PKR900,000.00  | PKR900,000.00  | KR900,000.00  | PKR900,000.00  | PKR0.00        | PKR900,000.00  | PKR0.00       |
| A1240            | Ceiling / Ceiling Repairing                         | Completed       | PKR100,000.00  | PKR100,000.00  | KR100,000.00  | PKR100,000.00  | PKR0.00        | PKR100,000.00  | PKR0.00       |
| A1250            | Installation of Lights                              | Completed       | PKR500,000.00  | PKR500,000.00  | KR500,000.00  | PKR500,000.00  | PKR0.00        | PKR500,000.00  | PKR0.00       |
| A1260            | Installation of Smoke Detector / Sprinkler          | Completed       | PKR500,000.00  | PKR500,000.00  | KR500,000.00  | PKR500,000.00  | PKR0.00        | PKR500,000.00  | PKR0.00       |
| A1270            | Linear Grill Alignment                              | Completed       | PKR100,000.00  | PKR100,000.00  | KR100,000.00  | PKR100,000.00  | PKR0.00        | PKR100,000.00  | PKR0.00       |
| A1280            | Nespak Inspection and Approval                      | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00       |
| A1290            | Dining Area - FCU :                                 | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00       |
| A1300            | Ceiling Cutting / Dismantling & Installation of FCU | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | KR7,260,000.00 | KR7,260,000.00 | KR7,260,000.00 | PKR0.00       |
| A1310            | Installation of Valves and MS pipe Connections      | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR60,000.00   | PKR60,000.00   | PKR60,000.00   | PKR0.00       |
| A1320            | Electrical Termination                              | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR460,000.00  | PKR460,000.00  | PKR460,000.00  | PKR0.00       |
| A1330            | Insulation of Duct and Pipes                        | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR860,000.00  | PKR860,000.00  | PKR860,000.00  | PKR0.00       |
| A1340            | Ceiling / Ceiling Repairing                         | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR60,000.00   | PKR60,000.00   | PKR60,000.00   | PKR0.00       |
| A1350            | Installation of Lights                              | Not Started     | PKR0.00        | PKR0.00        | PKR0.00       | PKR460,000.00  | PKR460,000.00  | PKR460,000.00  | PKR0.00       |



AC-01 Activity Earned Value

WBS

| Activity ID      | Activity Name                                       | Activity Status | BCWS           | BCWP           | ACWP             | BAC            | ETC            | EAC            | VAC             |
|------------------|---|-----------------|----------------|----------------|------------------|----------------|----------------|----------------|-----------------|
| <b>MECSOL</b>    | <b>MECSOL EPS</b>                                   |                 |                |                |                  |                |                |                |                 |
| <b>Civil</b>     | <b>PPIC3 Lahore</b>                                 |                 |                |                |                  |                |                |                |                 |
| <b>NEWPROJ-4</b> | <b>PPIC3 Final</b>                                  |                 |                |                |                  |                |                |                |                 |
| A1070            | Training Room 1 - FCU :                             | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00         |
| A1080            | Ceiling Cutting / Dismantling & Installation of FCU | Completed       | KR7,260,000.00 | KR7,260,000.00 | 10,890,000.00    | KR7,260,000.00 | PKR0.00        | R10,890,000.00 | 3,630,000.00    |
| A1090            | Installation of Valves and MS Pipe Connections      | Completed       | PKR60,000.00   | PKR60,000.00   | PKR75,000.00     | PKR60,000.00   | PKR0.00        | PKR75,000.00   | PKR15,000.00    |
| A1100            | Electrical Termination                              | Completed       | PKR460,000.00  | PKR460,000.00  | KR460,000.00     | PKR460,000.00  | PKR0.00        | PKR460,000.00  | PKR0.00         |
| A1110            | Insulation of Duct and Pipes                        | Completed       | PKR860,000.00  | PKR860,000.00  | PKR1,720,000.00  | PKR860,000.00  | PKR0.00        | KR1,720,000.00 | PKR860,000.00   |
| A1120            | Ceiling / Ceiling Repairing                         | Completed       | PKR60,000.00   | PKR60,000.00   | PKR60,000.00     | PKR60,000.00   | PKR0.00        | PKR60,000.00   | PKR0.00         |
| A1130            | Installation of Lights                              | Completed       | PKR460,000.00  | PKR460,000.00  | KR460,000.00     | PKR460,000.00  | PKR0.00        | PKR460,000.00  | PKR0.00         |
| A1140            | Installation of Smoke Detector / Sprinkler          | Completed       | PKR460,000.00  | PKR460,000.00  | KR460,000.00     | PKR460,000.00  | PKR0.00        | PKR460,000.00  | PKR0.00         |
| A1150            | Linear Grill Alignment                              | Completed       | PKR60,000.00   | PKR60,000.00   | KR120,000.00     | PKR60,000.00   | PKR0.00        | PKR120,000.00  | PKR60,000.00    |
| A1160            | Nespak Inspection and Approval                      | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00         |
| A1170            | Training Room 2 - FCU :                             | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00         |
| A1180            | Ceiling Cutting / Dismantling & Installation of FCU | Completed       | KR7,300,000.00 | KR7,300,000.00 | PKR35,475,000.00 | KR7,300,000.00 | PKR0.00        | KR5,475,000.00 | PKR1,825,000.00 |
| A1210            | Installation of Valves and MS Pipe Connections      | Completed       | PKR100,000.00  | PKR100,000.00  | KR150,000.00     | PKR100,000.00  | PKR0.00        | PKR150,000.00  | PKR50,000.00    |
| A1220            | Electrical Termination                              | Completed       | PKR500,000.00  | PKR500,000.00  | PKR1,000,000.00  | PKR500,000.00  | PKR0.00        | KR1,000,000.00 | PKR500,000.00   |
| A1230            | Insulation of Duct and Pipes                        | Completed       | PKR900,000.00  | PKR900,000.00  | KR900,000.00     | PKR900,000.00  | PKR0.00        | PKR900,000.00  | PKR0.00         |
| A1240            | Ceiling / Ceiling Repairing                         | Completed       | PKR100,000.00  | PKR100,000.00  | KR100,000.00     | PKR100,000.00  | PKR0.00        | PKR100,000.00  | PKR0.00         |
| A1250            | Installation of Lights                              | Completed       | PKR500,000.00  | PKR500,000.00  | KR500,000.00     | PKR500,000.00  | PKR0.00        | PKR500,000.00  | PKR0.00         |
| A1260            | Installation of Smoke Detector / Sprinkler          | Completed       | PKR500,000.00  | PKR500,000.00  | PKR1,000,000.00  | PKR500,000.00  | PKR0.00        | KR1,000,000.00 | PKR500,000.00   |
| A1270            | Linear Grill Alignment                              | Completed       | PKR100,000.00  | PKR100,000.00  | KR200,000.00     | PKR100,000.00  | PKR0.00        | PKR200,000.00  | PKR100,000.00   |
| A1280            | Nespak Inspection and Approval                      | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00         |
| A1290            | Dining Area - FCU :                                 | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR0.00        | PKR0.00        | PKR0.00        | PKR0.00         |
| A1300            | Ceiling Cutting / Dismantling & Installation of FCU | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | KR7,260,000.00 | KR7,260,000.00 | KR7,260,000.00 | PKR0.00         |
| A1310            | Installation of Valves and MS pipe Connections      | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR60,000.00   | PKR60,000.00   | PKR60,000.00   | PKR0.00         |
| A1320            | Electrical Termination                              | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR460,000.00  | PKR460,000.00  | PKR460,000.00  | PKR0.00         |
| A1330            | Insulation of Duct and Pipes                        | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR860,000.00  | PKR860,000.00  | PKR860,000.00  | PKR0.00         |
| A1340            | Ceiling / Ceiling Repairing                         | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR60,000.00   | PKR60,000.00   | PKR60,000.00   | PKR0.00         |
| A1350            | Installation of Lights                              | Not Started     | PKR0.00        | PKR0.00        | PKR0.00          | PKR460,000.00  | PKR460,000.00  | PKR460,000.00  | PKR0.00         |

## Reference & Citations



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## CBT LOGs



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**Table F: CBT LOG (Fahad Arif)**

| S/N | Issue Description   | Solution   | Source               |
|-----|---|--|----------------------|
| 1   | New activity added through right click , how to add information of activity | Right click on activity , select activity details , details will show at the end of screen   | YouTube Video        |
| 2   | Activity network was not shown  | Click on zoom button at the bottom of the screen   | Internet             |
| 3   | Problem in defining relationship of activities                              | click on activity and click in assign predecessor and successor  | Teacher              |
| 4   | How to apply unit of time on layout from user preferences?                  | Edit>User preferences> time units Edit> User preferences> dates, check time  | Primavera User Guide |
| 5   | Activity network was not showing the blue bar after finishing the activity  | Manually dragging it   | Teacher              |
| 6   | Assigning resources to concerned activities                                 | Click on activity then select resource to open add resources option for assigning resources for the activity   | Slideshare           |
| 7   | Difficulty in Editing Resource Code   | Choose Enterprise, Resource Codes> Click Modify>Select the resource code you want to edit>To change the resource code's name, type a new name>To change the maximum number of characters the code's values may have, specify a new number>To change the placement of the code in the list, click Shift Up or Shift Down>Click Close. | Primavera User Guide |

|    |   |   |                      |
|----|---|---|----------------------|
| 8  | Choosing Industry option after installation of P6         | Go to admin then admin preferences go to industry option to select the required industry  | Classmate            |
| 9  | Different Techniques for computing performance percentage | By going to project then WBS option for selecting desirable technique   | Teacher              |
| 10 | Automatic update in scheduling and leveling               | Mark the schedule so that it updates Automatically when a change affects dates check box in the General tab of the schedule option dialog box to recalculate the schedule each time a significant change is made to an activity, relationship or resource.  | Primavera User Guide |
| 11 | Enter multiple resource prices over time                  | 1) Choose Enterprise, Resources>Select the resource whose prices you want to enter>Click the Units & Prices tab>Repeat the following to assign dates with different price/units to the resource: a. Click Add>To change the price's effective date, double-click the Effective Date field, click , then select a new date>Type the maximum number of time units the resource can perform, followed by a forward slash (/) and the appropriate time duration | Primavera User Guide |
| 12 | Change an activity's work breakdown structure assignment  | 1) Choose Project, Activities>Select the activity whose WBS assignment you want to define or change>Display Activity Details, then click the General tab.   | Internet             |

|    |  |  |               |
|----|--|--|---------------|
| 13 | Set up the EPS structure                 | 1) Choose Enterprise, Enterprise Project Structure> Click the EPS Name column where you want to add a new element>Click Add            | Youtube Video |
| 14 | Delete an EPS node or project            | 1) Choose Enterprise, Projects, then select the EPS node or project that you want to delete. Choose Edit, Delete> Click Yes to confirm | Teacher       |
| 15 | Display work breakdown structure details | Choose Project, WBS, then choose View, Show on Bottom, Details.  | Teacher       |
|    |  |  |               |

**Table G: CBT LOG (Muhammad Safdar)**

| S/N | Issue Description                                 | Time Taken to Get the Solution | Solution  | Source        |
|-----|---|--------------------------------|---|---------------|
| 1   | Viewing a WBS                                     | 10min                          | Go to Display Option Bar Choose Show on top WBS Table. To list and sort WBS elements. | YouTube Video |
| 2   | In Perceiving the basis of Group                  | 10min                          | Accessed by Clicking Group and sort option form the menu bar                          | Internet      |
| 3   | Directory Bar was disabled                        | 14min                          | Project was not selected from Project button on projects directly bar                 | Internet      |
| 4   | Difficulty in understanding the EPS hierarchy and | 20min                          | Creating a new EPS and Project in EPS   | YouTube Video |

|    |   |       |  |                               |
|----|---|-------|--|-------------------------------|
|    | level from Project View   |       |  |                               |
| 5  | Difficulty in Understanding the Classis WBS Layout                  | 5min  | Go to Activity right click on layout and Expand Global and select Classis WBS layout   | Teacher                       |
| 6  | Progress schedule % complete was not shown                          | 22min | Weekly progress established by going to tool> update progress  | Teacher                       |
| 7  | Problem in defining relationship of activities                      | 16min | click on zoom button at the bottom of the screen   | Slideshare slide presentation |
| 8  | Difficulty in applying unit of time on layout from user preferences | 20min | Edit User>Preferences >time units Edit>User preferences>dates, check time  | Primavera Help Guide          |
| 9  | How to Assign the Baseline, and update Baseline                     | 3min  | Project>Select Assign Baseline> Project Baseline> Ok and Project> select Maintain baseline>Add>close   | Classmate                     |
| 10 | How Resources is assigned to an activity                            | 13min | Resources are defined by accessing resources tab. Then each activity can be assigned any resource by going to Activities ,selecting the activity and loading a resource on it. | Teacher                       |
| 11 | Dissolving the Activates  | 22min | Edit >dissolve in the activity window>dissolve deletes an activity and joins its predecessor and successor   | Primavera Help Guide          |



|    |   |       |   |                      |
|----|---|-------|---|----------------------|
|    |   |       | activities with a finish to start relationship.   |                      |
| 12 | Assigning/Defining Resource shifts      | 14min | Go to Enterprise Resource shifts. Click Add and then type name of the new shift. To edit the new shift click Modify | Teacher              |
| 13 | Defining Resources                      | 23min | Click on the Enterprises and open resources option then use add for defining resources with their wages as well     | Teacher              |
| 14 | Resource Leveling                       | 15min | Open the Project that contain the resources we want to level. Click on the Tool and then Level Resources.           | Primavera Help Guide |
| 15 | Defining Activity/Resource code         | 12min | Selecting Enterprise to select Resource and activity code to add codes for each domain                              | Primavera Help Guide |
| 16 | Difficulty Adding Cost Variance Columns | 11min | View>columns>Earned Value>Select CV>Add>Ok>Apply  | Primavera Help Guide |

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# Sheikh Fahad Report 2

*by* Sheikh Fahad

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