

**Meeting Date**

30/12/2025

**Meeting Place**

Project Office

**Client**

PIDC

**Project**

Internal Electrical Distribution System &amp; Allied Works - Block A (Package-II)

**Participants**

Name	Designation
Javed Ahmed Shaikh	PD KIP Block-A
Aftab Hyder Shaikh	Head of Technical
Wajid Ali Shaikh	DM KIP Block-A
M. Faizan Khan	AM Projects
Fasih Ahmed	Consultant's Rep.

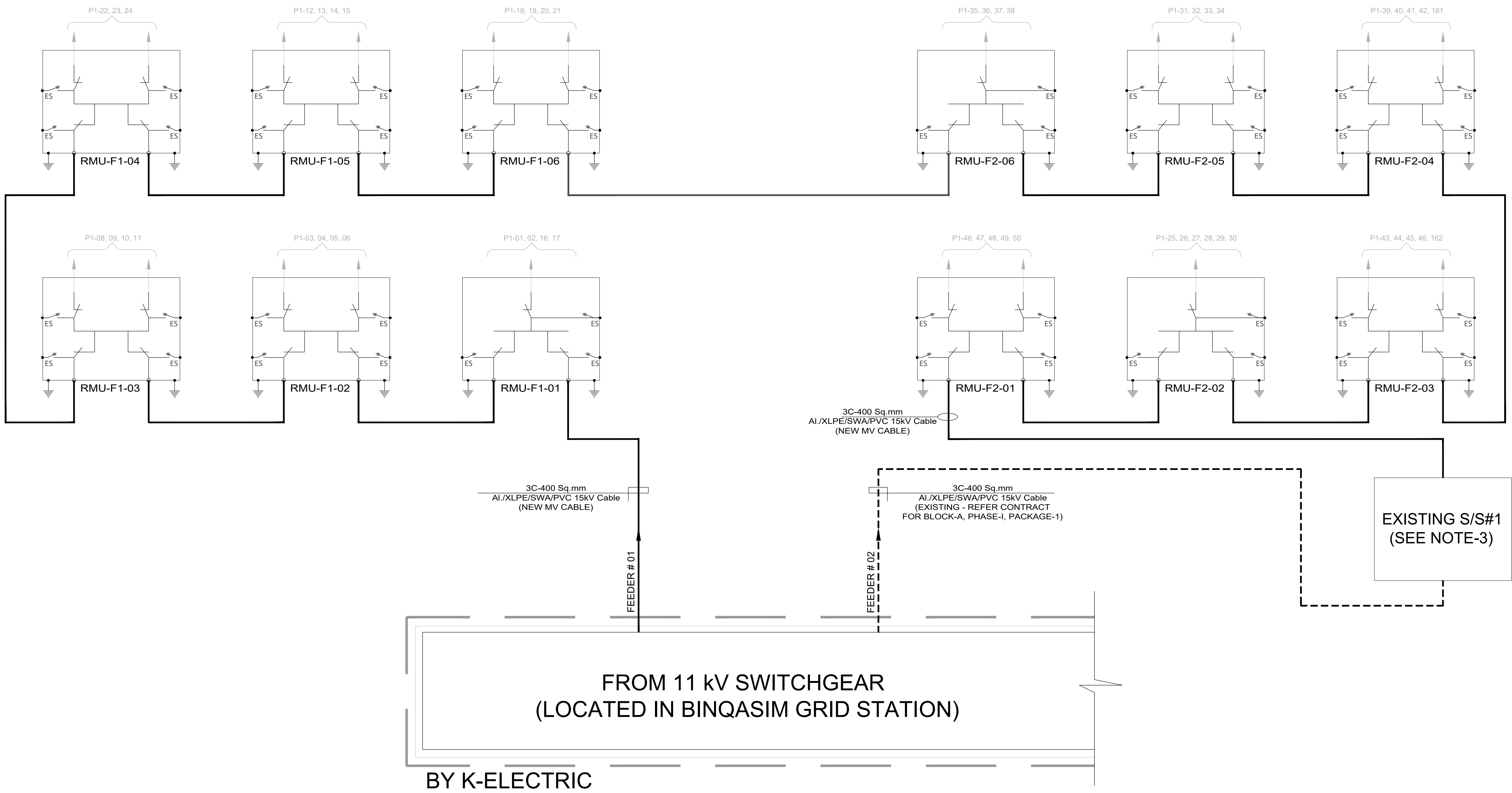
**Participating Firms**

1. Crystal Paramount Construction
2. MEP Solutions Pvt. Ltd.
3. Barqtron Engineering Solutions
4. Creative Group of Industries
5. noor ul Haq & Brothers
6. GEIS

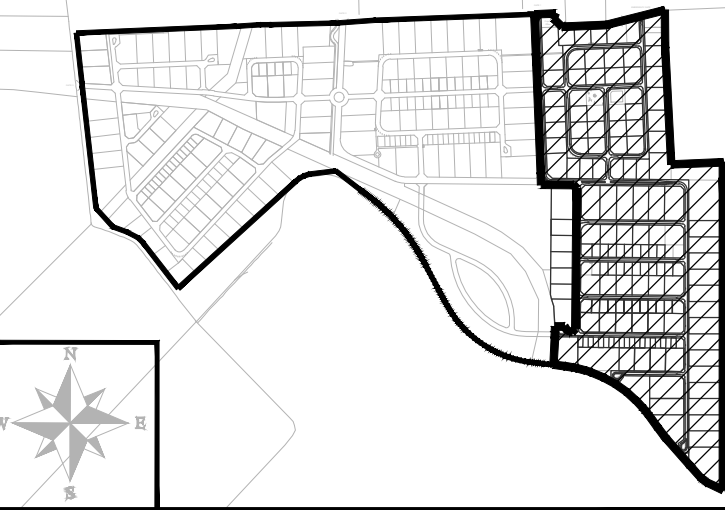
Item	Bidder Query	PIDC / Consultant Response
1	Bidder asked regarding the kA rating of the RMU busbar, which is mentioned as 21 kA in the BOQ but 20 kA in the specifications.	Bidder's are advised to follow 20kA, 3 Sec as mentioned in Specs. BOQ will be updated accordingly.
2	Bidder asked regarding the use of 400 sq.mm 11kV cable by KE.	400 sq.mm 11kV cable size is coordinated with KE and approved vendors.
3	Bidder inquired whether the RMU operation would be manual or motorized.	All RMUs will be manually operated.
4	Bidder asked regarding back up time for the media converter battery of GPON System.	2 hours backup time is already mentioned in the BOQ.
5	Bidder asked about the FPS system of units mentioned in Documents but the BOQ mentions meters.	Metric system of units will be followed.
6	Bidder asked regarding the camera MP, which is mentioned as 4 MP in BOQ and 2 MP in specifications.	Cameras shall be 4 MP as per BOQ.
7	Standard detail drawings indicate that RMUs shall be as per WAPDA, whereas the BOQ indicates KE specifications.	It's a typo error, all RMUs and design shall be as per KE specifications. Revised drawings attached as Annexure A
8	The Bidder asked for the Detail-A for RMU Kiosk mentioned in the MV Drawing Notes.	Consultant confirmed that it will be a part of updated drawings. Attached as Annexure B
9	Bidder asked regarding NVR, which is mentioned as 64 channels in BOQ and 100 channels in specifications.	BOQ shall be followed.
10	Bidder asked regarding the cable marker material.	Follow the MES Schedule, as this is a schedule item.

Item	Bidder Query	PIDC / Consultant Response
11	Bidder asked regarding Section E3 (Specification) Testing & Commissioning, which also includes fire alarm.	Fire Alarm is not in this scope.
12	Bidder asked regarding the patch panel configuration.	Configuration will be as per actual site conditions.
13	Bidder requested to change the date mentioned in the construction schedule, which currently starts from 1st April 2025.	Date is from 1st April 2026.
14	The Bidder asked for clarification regarding the Insulation Resistance tests mentioned is for LV not for MV in the specifications.	Circuit under 11000 volts – 5000 volts test Revised document attached as Annexure C
15	The Bidder highlighted that the 4-way (three-side protection) specifications are not approved by KE and requested clarification.	The 4-way 11 kV RMU with three side protection is commonly used by KE in 11 kV Power networks. The bidders can also coordinate with KE network engineering and planning department for confirmation.
16	The Bidder requested for clarification at the expenses of Factory Tests in section E-1 of General Electrical Requirements	All the expenditure of each inspection team member for living, lodging, transportation, air return tickets, Medical Insurance will be borne by the Contractor whereas the daily allowances in Rs. 30,000/ day will be paid to the inspectors. The inspection team shall comprise of two (02) members from Employer & one (01) from project
17	The Bidder requested for clarification in Equipment capabilities requirement in evaluation criteria	General PEC guidelines will be followed in this regard. Documentary evidences alongwith affidavit shall be provided.
18	Bidders requested for clarification against work stations, printers & ACs in other facilities for project from specific provisions (Part A)	i. Two (02) Work stations with minimum 10'x12' room sizes and attached bath/toilet. ii. Two (02) A3 size color printers iii. Three (03) ACs of 1.5 ton require for work stations and meeting room.
19	Bidders requested for Time extension for submission of Bids	Due to time constraints, the submission date cannot be extended. This was already clarified in a meeting.

Annex - A



KEY PLAN



NOTES:

- The drawing is for illustration purposes only. Contractor shall submit shop drawing with actual site coordination for approval.
- The Plot boundaries, road alignment, road reserves, service reservations and all other dimensions and areas are subject to:
  - Further refinement during the detailed Infrastructure Planning stage
  - Approval from relevant authorities and services providers.
  - Final engineering survey by the contractor
- All dimensions are in meters unless specified otherwise.
- The RMUs (Ring Main Units) will be configured as a 3-way / 4-way unit as per KE specifications.
- The RMU (Ring Main Unit) will be housed within a Kiosk. Refer to Detail "A" for specific enclosure details.
- Contractor's Scope is till RMUs only. Further MV Cable and Transformer for the plot will be part of consumer.
- The Contractor shall provide a 5-meter spare MV cable loop in front of each industrial plot for future power connections.
- Subsequently, each individual plot owner (consumer) will bear the cost of establishing the electrical power connection to their plot. This includes, but not limited to, cable joints, switchgear/RMU, additional MV cable, substation or pole-mounted transformer (PMT), and any other requirements as per KE standards and the applied load.

LEGEND:

CLIENT:



Lead Firm

JV-Team

REV.	DESCRIPTION	DATE
01	ISSUED FOR TENDER	DEC, 2025
00	ISSUED FOR TENDER	NOV, 2025

PROJECT:

INTERNAL ELECTRICAL DISTRIBUTION SYSTEM & ALLIED WORKS OF BLOCK-A ON 500 ACRES LAND OF PHASE-I (1500 ACRES) OF KARACHI INDUSTRIAL PARK (FEDERAL SEZ) PACKAGE-II

DRAWN	F.A	SCALE	N.T.S
DESIGN	F.A	DATE	NOV, 2025
CHECKED	F.A	DESIGN STAGE	TENDER
APPROVED	S.M.I	ISSUE	TENDER
ACTUAL SHEET SIZE			A1

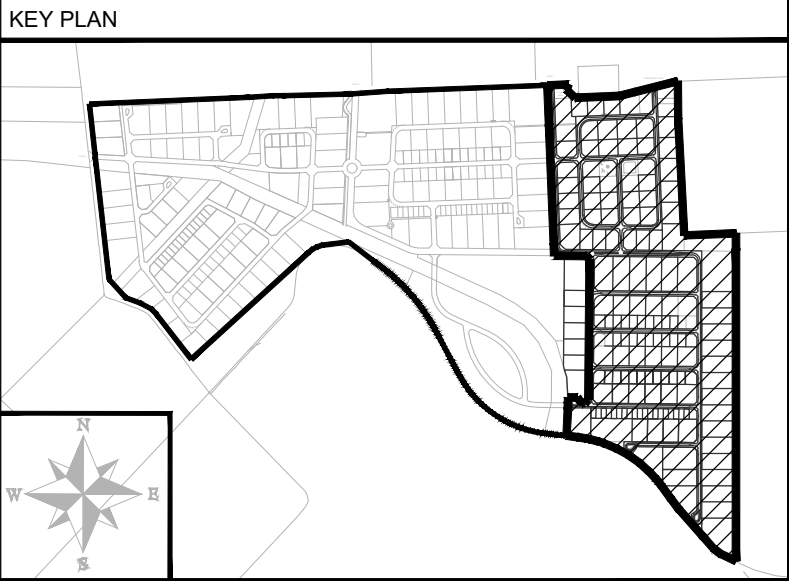
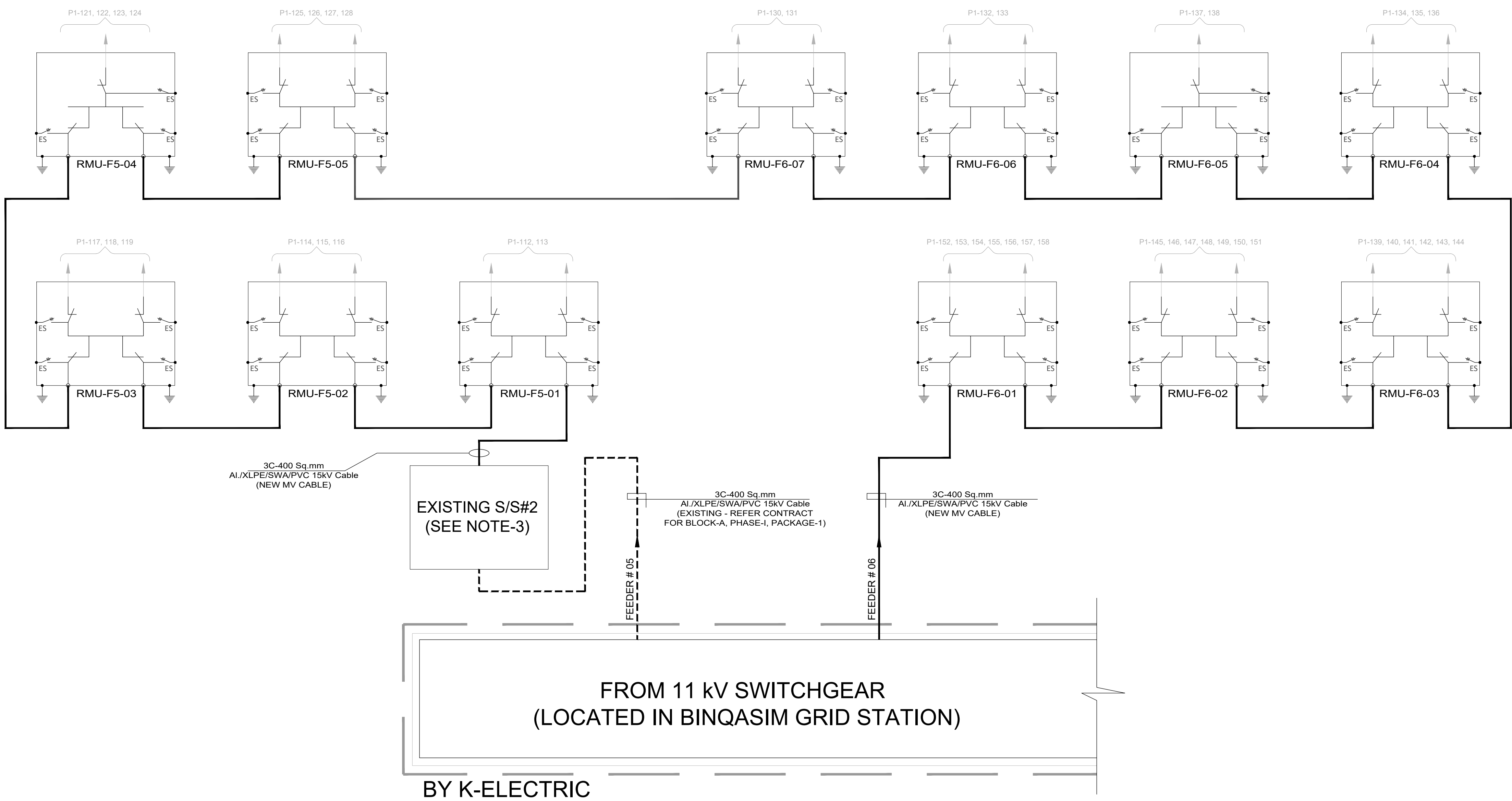
DRAWING TITLE:

MV SINGLE LINE DIAGRAM  
SHEET-1

PROJ CODE	DRAWING NO.	REV.
01098	EA-01098-KIP-GE-EL-0003	01







- NOTES:
- The drawing is for illustration purposes only. Contractor shall submit shop drawing with actual site coordination for approval.
  - The Plot boundaries, road alignment, road reserves, service reservations and all other dimensions and areas are subject to:
    - Further refinement during the detailed Infrastructure Planning stage
    - Approval from relevant authorities and services providers.
    - Final engineering survey by the contractor
  - All dimensions are in meters unless specified otherwise.
  - The RMUs (Ring Main Units) will be configured as a 3-way / 4-way unit as per KE specifications.
  - The RMU (Ring Main Unit) will be housed within a Kiosk. Refer to Detail "A" for specific enclosure details.
  - Contractor's Scope is till RMUs only. Further MV Cable and Transformer for the plot will be part of consumer.
  - The Contractor shall provide a 5-meter spare MV cable loop in front of each industrial plot for future power connections.
  - Subsequently, each individual plot owner (consumer) will bear the cost of establishing the electrical power connection to their plot. This includes, but not limited to, cable joints, switchgear/RMU, additional MV cable, substation or pole-mounted transformer (PMT), and any other requirements as per KE standards and the applied load.

LEGEND:

CLIENT:

 **PAKISTAN INDUSTRIAL DEVELOPMENT CORPORATION (PIDC)**

**SJ** **AMS** **iCONSULT**

*Lead Firm* *JV-Team*

01	ISSUED FOR TENDER	DEC, 2025
00	ISSUED FOR TENDER	NOV, 2025
REV.	DESCRIPTION	DATE

PROJECT:

**INTERNAL ELECTRICAL DISTRIBUTION SYSTEM & ALLIED WORKS OF BLOCK-A ON 500 ACRES LAND OF PHASE-I (1500 ACRES) OF KARACHI INDUSTRIAL PARK (FEDERAL SEZ) PACKAGE-II**

DRAWN	Z.N	SCALE	N.T.S
DESIGN	F.A	DATE	NOV, 2025
CHECKED	F.A	DESIGN STAGE	TENDER
APPROVED	S.M.I	ISSUE	TENDER
ACTUAL SHEET SIZE	A1		

DRAWING TITLE:

**MV SINGLE LINE DIAGRAM SHEET-3**

PROJ CODE	DRAWING NO.	REV.
01098	<b>EA-01098-KIP-GE-EL-0005</b>	01



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## SECTION E-3

### TESTING AND COMMISSIONING

#### 1.0 DESCRIPTION OF WORK

Prior to acceptance, inspect, operate and test all electrical equipment, materials and components, whether such tests are detailed in this specification or not. Tests will be witnessed by THE CONSULTANT/ PROJECT MANAGER, to ensure that the operation of the systems and components satisfies the requirements of the Contract Documents.

Include any specific testing required by the Authorities, or any other body having jurisdiction over the installation, and as directed by THE CONSULTANT/ PROJECT MANAGER.

Provide all tools, equipment, labour and materials required to perform the electrical testing. Provide three copies of the test reports to THE CONSULTANT/ PROJECT MANAGER.

#### 2.0 GENERAL

The testing and commissioning shall be carried out in accordance with contract requirements, by a firm specializing in this work, under no circumstances shall the Contractor be allowed to use his own staff or affiliated companies for the Capital plant such as switchboards, power factor correction equipment, fire alarm system, lighting control and dimming system, central emergency lighting system and lifts.

The contractor shall submit for approval, a detailed method statement for each testing and commissioning activity.

The contractor shall maintain written records of all tests.

Successful test records shall be counter signed by the consultant and bound into the operation and maintenance manual. upon completion of the testing and commissioning the contractor shall demonstrate to the consultant the following:

- A. Voltage within correct tolerances in accordance with the contract documents.
- B. Power factor and harmonics in accordance with the Contract Documents.
- C. Earthing in accordance with the contract Documents.
- D. Illumination levels in accordance with the Contract Documents.
- E. Correct control of all plant.
- F. Structured cabling of telephone and data communication system
- G. Fire alarm system.
- H. Correct functioning of all the specialist systems and their integration.

An audit inspection at factory before dispatch and at site after receipt of the switchgear for any manufacturing / transit defects.

### **3.0 PRECOMMISSIONING AND COMMISSIONING CHECKS**

Pre-commissioning and Commissioning check sheets for the following shall be submitted for the CONSULTANT review:

- A. DB / Final Light & Power Points
- B. Specified Lighting Controls
- C. Power And Control Cables
- D. Fire Alarm System
- E. Emergency Lighting System
- F. Programmable lighting control system

Once the procedures are agreed up on, the Inspection and testing reports for the above systems shall be submitted for CONSULTANT review/approval.

The following inspections have to be carried out for any manufacturing defects/transit damages and inform the supplier immediately if found any defects.

### **4.0 TESTING AND COMMISSIONING**

Upon completion of the installation the Contractor shall perform field tests on all equipment, material and systems all tests shall be conducted in the presence of the Consultant/client's Engineer for the purpose of demonstrating equipment or system compliance with specifications. The contractor shall submit test protocol for approval at least two weeks before conducting the test.

The Contractor shall furnish, install and maintain all tools, instruments, test equipment, material, connections, etc. and furnish all personnel including supervision and "Standby" labour required for the testing, setting and adjustment of all electrical facilities and their component parts, including putting the same into operation.

All tests shall be made with the proper regard for the protection of the equipment and the Contractor shall be responsible for adequate protection to all personnel during such tests.

The Contractor shall record all test values of the tests made by him on all equipment, giving both "as found" and "as left" conditions. Three (3) copies of all test result shall be given to the Engineer In charge for record purposes.

The witnessing of any test by the Engineer In charge does not relieve the Contractor of his guarantees for materials, equipment and workmanship as specified in the Conditions of Contract.

#### **4.1 Insulation Resistance Tests**

Insulation resistance tests shall be made on all electrical equipment, using a self-contained instrument such as the direct indicating ohm-meter of the generator type Direct current potentials shall be used in these tests and shall be as follows:

- Circuit under 11000 volts – 5000 volts test
- Circuit under 230 volts – 500 volts test



- Circuit 230 volts to 400 volts – 1000 volts test

The minimum acceptable insulation resistance value will be 5 Mega ohms.

The test equipment for insulation testing will be furnished by Contractor.

Before making connections at the ends of each cable run, the insulation resistance test of each cable shall be made. Each conductor of a multicore cable shall be tested individually to each other conductor of the group and also to earth. If insulation resistance test readings are found to be less than the specified minimum in any conductor, the entire cable shall be replaced and the new cable shall installed/laid.

All switchgear shall be given an insulation resistance measurement test to ground after installation but before any wiring is energized. Insulation tests shall be made between open contacts of circuit breakers, switches and between each phase and earth.

If the insulation resistance of the circuit under test is less than that specified above the cause of the low reading shall be determined and removed. Corrective measures shall include dry out procedure by means of heaters of equipment is found to contained measure. Where corrective measures have been necessary and the insulation resistance reading taken after the correction has been made it should satisfy the requirements specified herein. Repeated insulation resistance test shall be made twice and at least 12 hours apart. The maximum range for each reading on the 3 successive tests shall not exceed 12 hours apart and 20% of the average value. After all tests have been made successfully, the equipment shall be reconnected.

#### **4.2 Hi-Pot Test**

All MV Cables shall be subject to Hi-Pot test on site as per relevant IEC standards and K-Electric / WAPDA specification.

Prior approval of the Engineer is a must for the value of voltage level and duration for Hi-pot testing of all required equipment.

#### **4.3 Earth Resistance Tests**

Earth resistance tests shall be made by the Contractor on the earthing system, separating and reconnecting each earth connection as may be required by the Engineer In charge. If it is indicated that soil treatment or other corrective measures are required to lower the ground resistance values, the Engineer In charge will determine the extent of such corrective measures.

The electrical resistance of the ECC together with the resistance of the earthing lead measured from the connection with earth electrode to any other position in the completed installation shall not exceed one ohm.

Earth resistance test shall be performed as per Electrical Inspector's requirements. Where more than one earthing sets are installed, the earth resistance test between two sets shall be measured by means of Resistance Bridge Instrument. The earth resistance between two sets shall not exceed one ohm.

#### **4.4 Operating Tests**

Current load measurement shall be made on all electrical equipment.

The current reading shall be taken in each wire and in each neutral wire while the circuit or equipment is operating under actual load conditions. Clip-on ammeters may be used to take current readings.

All light fittings shall be tested electrically and mechanically to check whether they comply with the standard of specifications. Light fittings shall be tested so that when functioning properly no flickering is observed or choke noise is heard.

After any equipment has been tested, checked for operation etc., and is accepted by the Project Engineer's representative the Contractor shall be responsible for the proper protection of such equipment for assurance that subsequent testing of other equipment of systems do not disturb the completed work.

#### **4.5 Visual Inspections**

Carry out Visual Inspections to verify that the Electrical equipment has been correctly installed in accordance with the design with correctly rated protection devices and bonding that no visible damage exists.

**END OF SECTION**