



**Supply, Installation, commissioning, training and
guarantee for Exterior LED Mesh screen for the Ministry
of Information Building**

General Conditions:

1. Condition and specification stated in this documents are the minimum requirements needed to execute the project , any other equipment and contractor contributions required to fulfill this target, even if not mentioned in this document, must be stated and priced in the BOQ section of the offer, otherwise will be executed free without any charge or any variation in the contract with the selected contractor.
2. Contractor must have at least 10 years experience in similar projects and in public sector projects.
3. The project shall be carried out in 75 days with no delays.
4. The contractor a portfolio of past projects that showcases the contractor's experience, emphasizing those that are similar in scope and scale to the current project.
5. The contractor shall submit certifications or accreditations that demonstrate the contractor's compliance with industry standards and regulations.
6. Upon submitting the technical and financial offer, the contractor shall ensure that the bill of quantity is quantized with a number.
7. A break down price for all materials included in the priced bill of quantity shall be submitted with the technical and financial offer.
8. The work shall involve but not be limited to the listed items, as the successful contractor shall do all the necessary works to complete the job even if it is not mentioned in the specification or BOQ.
9. The contractor must ensure that a qualified engineer of the respective field supervises all the works, the engineer must be available at site during the ministry

working hours . A list of the contractor's supervisory staff must be submitted to MOI for approval .

10. The bidder shall visit and inspect the site to familiarize himself with the existing site conditions and services at tender stage prior to submitting the tender, for no claim for lack of knowledge will be considered after the tender
11. The contractor shall make complete study for existing equipment and submit the final design for electrical systems , approval of design , material , equipment , system , layout and Drawings etc. , does not relieve the contractor from his contractual obligations if later on found that they do not comply with the specification requirements, and any discrepancies, errors or omissions in the design after approved, the responsibility of the contractor to repair the consequent, as instructed by the MOI engineer.
12. If found any additional electrical works or materials are required to complete the works satisfactory but not mentioned in the specifications or in BOQ , the contractor shall be responsible to supply and execute the additional works without extra time and money .
13. Approval of design , material, equipment, systems, layout, etc., does not relieve the contractor from his contractual obligations if later on found that they do not comply with the specification requirements.
14. In case of any cable works contractor shall calculate the connected Load in Amp. for each cable along with VD% before ordering the cables and ensure that the design size for each cable is within the permissible limit for current carrying capacity and VD% otherwise contractor shall select suitable size to fulfill the required with no extra cost .
15. All electrical items must be from top rated manufacturers and latest technology and will be approved by the engineer.
16. All cables if found must be labeled on each end with indicating numbers.
17. All equipment used in project are to be connected to ring earth as per MEW regulation
18. Preparation of All drawings deemed necessary for all the proper installation of all equipment included in the project. This shall include, but not limited, the preparation of schedules of points of distribution boards. The extent of information and details required is subject to the Engineer's satisfaction. The Contractor is to include in his price for such works
19. . Contactor Must visit the site and inspect the main power supply supplying the building, taking into note the current calculations for all renovation works
20. Extremes of temperature and humidity are experienced in Kuwait. Periods of high ambient humidity are common and humidity of 100% has been recorded at 30oC

and periods of high ambient heat reaching up to 65 degree Celsius has been recorded.

21. Contractor shall be responsible for providing a comprehensive project timeline that shall include specific milestones and deadlines for each phase of the project.
22. Contractor shall strictly adhere to the submitted timeline and shall ensure completion of project according to project's approved timeline and proposed designs and deliverables.
23. Contractor is responsible for providing all equipment necessary for installation such as scaffoldings, fork lifts, cranes, etc.
24. Contractor shall supply all necessary spare parts for the equipment used in the project and all spare parts shall be readily available when required for maintenance and repair.
25. Contractor shall provide a list of spare parts with respective prices.
26. All works and equipment in this project shall have a warranty of 5 years.

Introduction:

The ministry of information would like to invite qualified contractors of relevant firms to participate in supplying, installing and commissioning an exterior LED mesh screen for 1 side of the ministry of information's building located in Al-Soor street, for the purpose of elevating the overall appearance of one of Kuwait's most important public buildings.

CODES AND STANDARDS

- Contractor shall ensure that all aspects of project including materials, installations and process shall meet following standards:
- Regulations for electrical installations (MEW/R-1) issued by the Ministry of Electricity & Water, Kuwait.
- National Fire Protection Association (NFPA).
- IEEE C62.41.2-2002
- IEC/BS EN 62504

- Contractor shall ensure and submit test certifications for all materials proving that materials are CE or UL tested.

Scope of Work:

1. Submittals:

- Contractor shall submit a detailed timeline outlining key milestones with the expected dates taking into consideration project duration. The timeline is to be approved by MOI engineer prior to commencing work ; MOI engineer reserves the right to ask contractor to revise and resubmit timeline.
- Prior to delivering items; contractor shall submit product data sheets for all materials intended for use or installation in the project.
- A sample of each material shall be submitted for approval by MOI engineer.
- Contractor shall submit an initial single line diagram and schematic and wiring diagrams depicting and showing how the system will be fed and wired.
- Contractor shall submit an as built final single line diagram and schematic and wiring diagrams upon completion of the project.

2. Dismantling:

- Contractor shall dismantle existing lights on building and shall be responsible for providing all materials and equipment required;

such as scaffolding, cranes and forklifts. Upon removing all existing lights, contractor shall transport them back to the MOI stores as instructed by MOI engineer.

3. Supply LED Mesh Screen:

- Contractor shall supply high-quality LED Mesh Screen in accordance with technical specifications mentioned in document for 1 side of the ministry of information's main building from the 4th floor to the start of 12th floor.

4. Installation:

- Contractor shall install LED Mesh screen on 1 facade of the building following approved installation guidelines and standards. Pixel pitch shall be ranging from 60-70 mm and each screen shall be sized 26x30 m. The mesh screen shall be from the 4th floor up to the start of the start of 12th floor only. The duration of the project shall be 2 months starting from the date of the contract's signature.

5. Pixel Pitch:

- Contractor shall supply and install LED mesh screen with pixel pitch is to be specified as 60-70 mm shall ensure to achieve the desired visual quality and resolution as mentioned in technical specifications below.

6. Wiring and connections:

- Contractor shall supply, install and connect all necessary and required wirings for LED mesh screen and all relevant works ensuring seamless integration and reliable operation.

7. Control System:

- LED mesh screen shall be controlled with control systems (main, distribution) to control and allow authorized personnel to display content.

8. Warranty:

- All works and materials included in this project shall have a warranty of 2 years.

End of Section

Technical Specifications:

1. LED pixel lights:
 - 1.1. LED screen shall be of a high quality and shall be UL or CE tested.
 - 1.2. LED mesh screen shall withstand an ambient temperature of -20 degree Celsius and maximum of 65 degree Celsius.
 - 1.3. LED mesh screen shall rated IP 65.
 - 1.4. Lights shall be of a pixel composition of RGB+w; color channels in an individual pixel (Red, Green and Blue and white).
 - 1.5. LED mesh screen shall have a UV resistance class 4 to ensure no self cracking occurs and that pixel light doesn't change color due to UV ray.
 - 1.6. Lights shall have a fire resistance of class V-0 and shall not propagate a flame once the ignition source is removed.
 - 1.7. The brightness of the pixel lights shall be for candelas per meter square >1,000
 - 1.8. The mesh screen shall be installed on all 3 facades of the building and each side shall be 26 x 30 m which makes the total screen size 2340 sqm
 - 1.9. The mesh screen shall be installed from the fourth floor up to the eleventh floor only.
 - 1.10. The pixel pitch of the mesh screen shall be ranging from 60-75 mm.
 - 1.11. Each led pixel pitch shall have minimum 6 Led lamps in in one bead.
 - 1.12. The pixel density for the screen shall be approximately 196 pixels / meter squared.
 - 1.13. The mesh screen shall have a physical resolution of 364 x 364 (for the whole screen of 26 x 30 m)
 - 1.14. The viewing angle of the screen shall be 120° / 120 °
 - 1.15. Light pixels shall have a refresh rate of 3,840 Hz to ensure image on screen is refreshed to give a smoother motions and visuals.

- 1.16. The maximum power consumption for the screen shall be approximately 96W.
- 1.17. The transparent ratio of the screen shall be ranging from 65-75%.
- 1.18. The contractor shall take into consideration that the weight of the mesh screen doesn't exceed 2700 KG
- 1.19. LED pixel lights shall have an operating life of no less than 100,000 hours.
- 1.20. LED pixel lights shall operate at an AC of 100/240v, 50-60 Hz.

2. Wirings and connections:

- 2.1. Contractor shall supply, install and connect all necessary and required wirings for LED pixel lights and all relevant works ensuring seamless integration and reliable operation.
- 2.2. All wirings used in installation and termination shall be approved by MOI engineer and shall be according to IEC and BS standards (PVC cables or Cat5).
- 2.3. Each cable shall be covered with heat shrinkable tube.
- 2.4. For PVC cables; insulation shall be PVC and conductor shall be copper 99.9 purity.
- 2.5. Cat5 cables shall be if category 5e and conductor shall be copper.
- 2.6. Standard colors shall be 568A and 568B: Green White, Green Orange white, Blue, Blue White, brown white, brown.

3. Control system:

- 3.1. Control systems used for displaying images and visuals shall include but not be limited to
 - a. Main controller

- b. Control system distributor
 - c. Power supply for each pixel line.
- 3.2. Main control system shall be able to realize distributor cascade control and LED point light source.
- 3.3. LED control system shall have a single machine control mode and an offline mode.
- 3.4. Incases of offline control system LED pixel lights shall operate without the continuous need for a central control source and shall as pre programmed and stored.
- 3.5. Offline control system shall also allow for authorized user interaction onsite.
- 3.6. Power supplies are connected to controllers (main and distribution) and to the LED pixel lights to serve the purpose of providing necessary electrical current to power the system (controllers and LED pixel lights).
- 4. Training:
 - 4.1. After the successful commissioning of the project, the contractor shall train employees from the MOI to operate the control and the screen; the number of trainees shall be specified later.
 - 4.2. The training shall be done by the contractor without any extra costs.
- 5. Spare Parts:
 - 5.1. The contractor shall ensure the supply of spare parts equivalent to 5% of the total materials installed.
- 6. Warranty:
 - 6.1. All works and materials included in this project and carried out by contractor shall have a warranty of 5 years and shall include spare parts when needed.
 - 6.2. Contractor shall frequently visit site to ensure system is operating and functioning as it should be and shall report all conditions to MOI engineer.

- 6.3. Contractor shall provide a hotline during the 5 years of warranty for any emergency occurrence as the project serves a critical public building, contractor shall also attend as soon as possible upon the request of MOI.

End of section.