



PROJECT IMPLEMENTATION UNIT
Sindh Secondary Education Improvement Project (SSEIP)
ADB Assisted [Loan No. 3845-PAK and 4409-PAK(COL)]
Government of Sindh
School Education and Literacy Department (SE&LD)



TERMS OF REFERENCE-TOR
CS33-AF: ELECTRICAL/MECHANICAL ENGINEER

Scope of Work:

The Electrical/Mechanical Engineer shall provide technical support to the PIU for the planning, design review, coordination, supervision, inspection, and monitoring of electrical and mechanical systems for school reconstruction projects. The Specialist shall ensure that all electrical and mechanical installations are properly integrated with the LGS building systems and are safe, efficient, reliable, maintainable, and compliant with approved designs, applicable codes and standards, project specifications, and relevant donor requirements.

Detailed Tasks and/or Expected Output:

The specialist will perform the following functions, duties, and tasks:

- (i) Review project specifications and requirements to assess the integration of electrical and mechanical systems within school buildings using light gauge construction methods.
- (ii) Collaborate closely with PIU PM, PIU Engineer, Project Manager Construction, Civil Engineers, and other stakeholders to develop plans for the integration of electrical and mechanical systems into school building designs that use light gauge construction.
- (iii) Provide technical expertise on the selection and layout of electrical and mechanical components and systems, including HVAC, lighting, electrical distribution, and plumbing.
- (iv) Ensure that electrical and mechanical systems in school buildings are efficient, safe, and compliant with relevant codes and standards.
- (v) Ensure that all electrical and mechanical systems in school buildings comply with relevant building codes, educational standards, and local regulations.
- (vi) Conduct energy modelling and simulations to optimize the efficiency and performance of electrical
- (vii) Prepare comprehensive reports on the design and performance of electrical and mechanical systems in school projects, including recommendations for improvements.
- (viii) Supervise and inspect construction sites to ensure that electrical and mechanical work in school buildings is executed accurately, safely, and in accordance with approved plans.
- (ix) Address and resolve any technical issues or challenges related to electrical and mechanical systems in school buildings constructed with light gauge materials.
- (x) Provide training and guidance to sub-engineers and construction staff on best practices in the installation and maintenance of electrical and mechanical systems in school buildings.
- (xi) Collaborate with multidisciplinary PIU project teams to create comfortable, energy-efficient, and technologically advanced learning environments.
- (xii) Prepare monthly progress reports & submit to Project Manager Construction for review.
- (xiii) Assist the PIU in the preparation of progress and accomplishment reports as required.
- (xiv) Perform other duties as assigned by the Project Director.

Minimum Qualification Requirements

Bachelor's Degree in Electrical/Mechanical Engineering or any other relevant field. Be registered with Pakistan Engineering Council (PEC) as an Electrical or Mechanical Engineer.



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Minimum 8 years of professional experience in Electrical and Mechanical Engineering, preferably on the integration of building systems within Light Gauge Steel (LGS) construction. The candidate should demonstrate expertise in the design and supervision of school building construction projects, preferably on LGS Integrated Concrete & Steel Technology and conventional construction methods. The selection, installation, and maintenance of electrical and mechanical components, including HVAC systems, lighting, electrical distribution, and plumbing in school infrastructure. Compliance with building codes, energy efficiency standards, and donor agency regulations (ADB, World Bank, USAID). Proficiency in energy modeling, mechanical and electrical design software, and relevant engineering tools. Strong project management and communication skills, with demonstrated ability to work collaboratively with senior engineers and project stakeholders. Fluency in English (written and spoken) is mandatory, along with proficiency in local languages. Advanced computer skills, including MS Office Suite (Word, Excel, PowerPoint, and related applications).

Minimum General Experience: 08 Years

Minimum Specific Experience (relevant to assignment): 08 Years