CAREER EPISODE 3

INTRODUCTION

CE 3.1 In this career episode, I would be discussing my project at Al Khiran Outlet Mall, which continued from April 2018 and is still ongoing. I was associated with the parent company Dar SSH International Engineering Consultants Company w.l.l located in Al Khiran, Kuwait as an Electrical Engineer, during this project. Dar SSH International Engineering Consultants company w.l.l was established in the year 1961 has about 59 years of experience in Master Planning, Building Design, Infrastructure, Construction and Supervision Industry. Presently around 1500 people are working in this company located in different countries including UK and GCC countries.

BACKGROUND

CE 3.2 Dar SSH International Engineering Consultants is mainly doing designing and supervision of all kinds of construction projects specialized in architectural, structural, mechanical, electrical services. SSH is one of the topmost consultant company in Kuwait.

CE 3.3 The Al Khiran outlet mall project is a shopping mall with movie theatres and located in Heart of Al Khiran Pearl City. The project overall having five levels. In-ground floor and mezzanine floors having Anchors, Retail Shops, F&B, Supermarkets, Theaters & Level-1,2,3 having Female Gym, Male Gym, Plant rooms, Storerooms, Offices and break rooms.

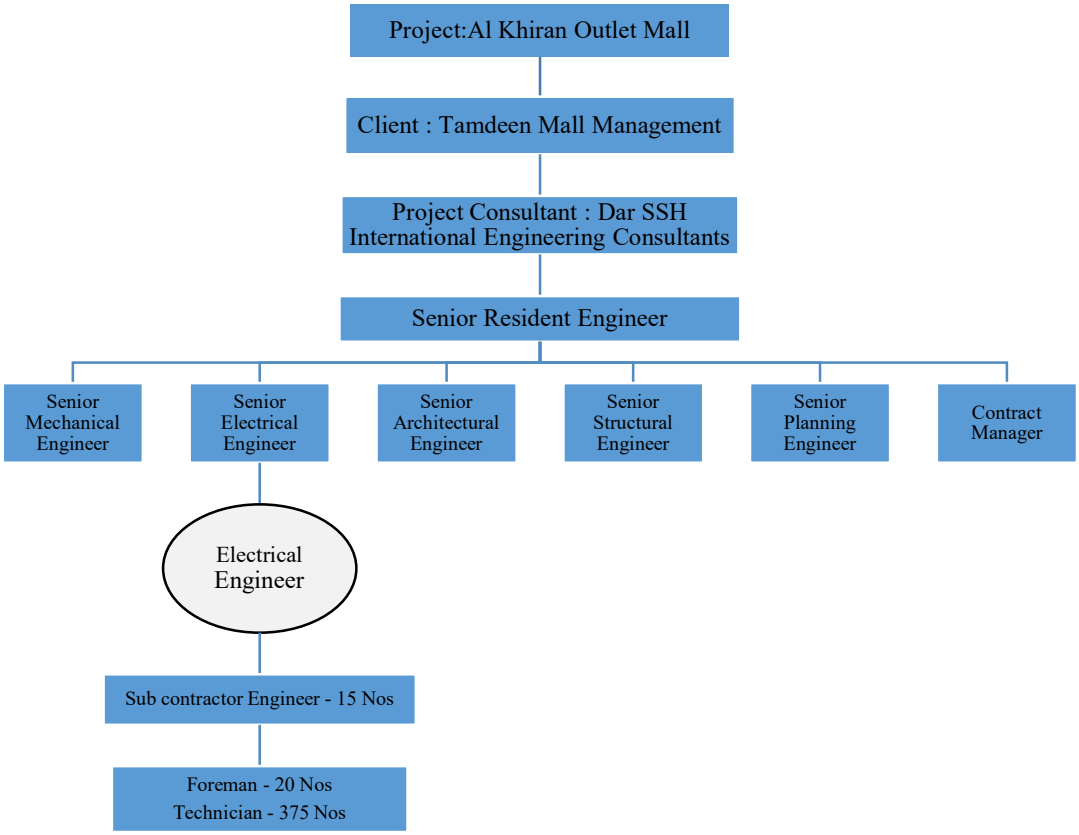
CE 3.4 Mainly this project is located near to the seaside and the length of the project is 800 meters. Projects is consists of 6 central substations, 26 transformers and subsequent MLTP panels

CE 3.5 I was appointed as an Electrical Engineer in this project in the capacity of supervision consultant. My main role was to review and approve all shop drawings in order to start the works at the site as per the approved shop drawings.

CE 3.6 I reviewed and approved all material submittal prior to procuring the materials to the site as per the material final submittal approval. On a daily basis I am checking the site works to ensure whether the executed work has been done correctly or not.

CE 3.7 I prepared the non-compliance report and issued it to the contractors if any work done was not as per the approved shop drawings or was not following the Kuwait MEW regulations.

CE 3.8 My reporting hierarchy is enclosed. I was reporting to the senior electrical engineer and I had 15 sub contracted engineers, 20 foremen, and 375 technician reporting to me.



CE 3.9 My job responsibilities included the following:

- Reviewing and approving the shop drawings such as Lighting, Emergency lighting, Fire alarm, Security system, Access control system, AV system, Containment, Small power, etc… for site execution work.
- Reviewing/inspecting lighting management system for different control protocols such as Dali, DMX, 1-10v, etc..
- Coordinating with other trade engineers for clashing, services invert levels, a suitable location for the electrical system.
- Reviewing and approving the composite & builder's work drawings in accordance to contract specifications.
- Resolving discrepancies in electrical design & recommendation for execution.
- Reviewing Electrical / Low voltage system product material data, sample as per specifications.
- Supervising electrical activities and installation as per approved shop drawings.
- Witnessing testing & commissioning activities of electrical systems.

- Preparing and issue the noncompliance report to the contractor if any works did not as per the approved shop drawings/materials.
- Liaising and following up with local authorities to get the approval of design drawings.
- Preparing the snag list report for incomplete works, nonstandard works at the site.

PROFESSIONAL ENGINEERING ACTIVITY

CE 3.10 I faced problematic areas in the design drawing where as per the design drawing lightning protection and equipment earth were mixed in some areas and I had to divide the two systems separately for final approval from the design teams.

CE 3.11 As per design lighting drawings, some areas are light fittings types that are not suitable for that area as per lux calculations. I studied the lux level calculation required as per the areas and I recommended to the lighting designing team.

CE 3.12 The bus duct drawings provided insufficient space to run bus ducts in the same corridor. I intervened and coordinated with the architectural team to provide alternate paths for the bus duct routes.

CE 3.13 I refined the design to make a selection of breakers due to some breaker sizes are used less than the connected load as per Kuwait MEW regulations and I forwarded the modified changes send it to the design team to further implement once approval came from MEW.

CE 3.14 As per the design drawing number of cable trays, were not sufficient to run the power cables. I redid the design for cable trays according to the actual number of cables, cable sizes were modified, and the cable tray sizes did not fit. I sent a proposal to design to get further approvals.

CE 3.15 After completing all systems installation works at the site, we carried out the following tests to handover the project to the end-user system wise separately.

- Wires and cables continuity test: The test checked any damages in wires or cables.
- Generator test: Initially generator is set at 75% of the rated load for 4 hours plus the additional time required to achieve two 30 minute intervals during which engine temperature is constant. Next, immediately generator is run at 100% of full load.
- Earth Resistance Test: This test checked the power and lighting equipment earth & panel boards' earth.

CE 3.16 I used a voltage drop calculation to verify that the cable size and breaker size is according to the final loads. We instructed the sub-contractors to change the cable and breaker size if less rating they used as per the Kuwait MEW regulations.

CE 3.17 I used Aconex software in our project. I sent all documents marked at action items through this Aconex software. The documents included RFI, Material Submission, Drawing Submission, Sample submission, and the related documents to all sub-contractors.

CE 3.18 Through this software, I could check all the transmitted documents status of action, pending transmittals to review, incoming and outgoing letters, etc..

CE 3.19 As a consultant, I was coordinating and interacting with all sub-contractors and I was using below mentioned tests during my inspection of their output works.

- Megger Test: To check the insulation resistance of each earth pits.
- Continuity Test: To verify the wires and cables continuity.
- Fluke Test: To check the length of the cat 6, cat5e cables, etc. and verify the cables are meeting the required performance.

CE 3.20 I found information from the internet on how to make load form according to cooling and heating loads as per specifications and MEW regulations. This load form is required to submit and obtain approval from local authorities. I acquired knowledge from my project colleagues to get the architectural finishing details regarding overall projects and mechanical equipment details related to electrical loads.

CE 3.21 Inspecting and taking action on the checklist is a very big task every day. I have prepared the inspection checklist log and follow up the checklist and action is very easy. Through this log, I could check the status of the checklist, remaining checklist to do for the action.

CE 3.22 Initially at the start of the project, we were doing all the actioned documents manually without any software. I took the initiative to propose Aconex software to the senior resident engineer for the project based on my previous project experience.

CE 3.23 This Aconex software saved our work time, and made work easy and comfortable. Through this software, we could send all actioned transmittals sending and receiving emails monitor all the status of transmittals. It was very useful for everyone and made one’s work easier better than before.

CE 3.24 I used the engineering codes of IEEE, IEC, MEW and KFD as required by Kuwaiti work environment and regulatory bodies.

CE 3.25 We were following all the safety standards at the project site as given below in order to avoid any incidents at the site

- I was wearing a safety helmet, safety shoes, and safety jacket at the time of every inspection conducting at the site.
- I attended the toolbox meeting at the time of joining in this project and followed all the safety precautions as per toolbox meeting and safety standards.

CE 3.26 I attended the lighting system training, which was conducted by Huda lighting manufacturer. I approved lighting system shop drawings, approved the materials data after attending the training. This training was very useful to me and I got clear details about all types of lights and control gears details.

CE 3.27 During this project, I interacted with my senior electrical and project coordinator to discuss all site issues, project development, and approvals. Every day, I had discussion with my senior electrical engineer for clearing the drawing approvals, materials approval, and site technical issues. Every second day I discussed with the project coordinator any site discrepancies between the services.

CE 3.28 Every day, I had a meeting with the senior electrical engineer and discussed the site issues, project development, and client requirements. Every week we had a meeting with the resident engineer about the pending transmittals, quality development in the project, maintaining the MEW standard works, ensure that all works should be as per IEEE, IEC standard.

CE 3.29 I was leading my complete electrical team from the beginning of the project. During this time, I lead my team professionally, distributed work equitably and gave the project instructions for methodically following the IEE, IEC standards to achieve the scheduled milestones.

CE 3.30 I prepared a quality report regarding the site issues every week. In this report we highlighted the progress of the works, nonstandard works which were not following the project design drawings and specifications, and followed up the manpower of the all the subcontractors engineers, foreman, technicians.

CE 3.31 I gave a small presentation to the electrical team to maintain the quality of work as per the client requirements and on avoiding the nonstandard work at the site. Maintaining a good relationship with clients for a long time was important for our company as well, since we get the upcoming projects from the same clients.

CE 3.32 The Al Khiran outlet mall project is still work under progress. This is one of the longest shopping malls in Kuwait and is located in the Al Khiran area. In this commercial complex project, I applied my engineering knowledge to develop and rectify the design mistakes, develop the shop drawings, approve the high standard materials, which suitable of the electrical systems, and develop the quality of works due to issue nonstandard report to all subcontractors.

CE 3.33 I learnt how to approve material submittal, sample submittal knowledge according to final project design and specifications. I learnt how to deal with clients directly and following up their instructions related to projects developments. I found and rectified the design mistakes in coordination with senior electrical engineers. I witnessed testing & commissioning of generators at site. My self-confidence levels improved substantially while working on this project.

SUMMARY

CE 3.34 I was working at Al Khiran Outlet Mall as an Electrical Engineer. My prime responsibility is to review and approve all shop drawings and material submittals based on final design and specifications, following up all sub-contractors to complete the project as per the project-planning schedule. Coordination with all other services and trades engineers to avoid any discrepancies at the site.