

MIP HIGHLIGHTS THE IMPORTANCE OF MANAGING TELECOM INTERFACES

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Introduction

Mega oil and gas projects scope usually involves managing interface points between different execution agencies. Interface points can simply be defined as a scope to be executed by a contractor which could affect the scope of work of another contractor. Accordingly, the project management pays great attention to the interface management process, which controls the engineering and construction interface points identified between the different construction agencies (contractors). Interface management becomes really crucial when designing and constructing mega programs involving several Engineering, Procurement, and Construction (EPC) contractors for offshore and onshore scopes. Failing to properly manage the interface points between EPC contractors may lead to schedule slippage or major cost impact.

In line with the Company's corporate objective, which is to remain as a reliable supplier of oil and gas globally, Saudi Aramco Project Management Team (SAPMT) awarded more than 20 different contracts in mid-2019 to local and international companies to execute Marjan Increment Program (MIP). This program includes offshore and onshore contracts (work packages), which interface with each other through the identified interface points to achieve the program targets of boosting Saudi Arabia's oil and gas production.

MIP strategy for telecom interfaces

Among MIP's projects, four (4) offshore packages are currently being executed by different international EPC contractors. Several hundred interface points have already been identified between these offshore contractors since the early stage of the program which are closely being managed by a special software called Coreworx that allows tracking the very complex interfaces between the executing contractors. Most of the identified interface points are related to the telecom interdependencies between these offshore work packages.

During the preparation of the contract scope of work,

which is called Front End Engineering Design (FEED), SAPMT noticed that it will be extremely difficult to commission the telecom across the different MIP offshore contract packages if it was left to each EPC contractor to decide on the make and model of the telecom equipment to be procured. On the other hand, there would be a huge escalation in the project cost if the project team decided to select a specific vendor for all contractors to procure their telecom equipment from. After discussing several options, the project team decided to add the engineering, procurement, and commissioning of all the active telecom devices of all three (4) packages to the scope of works to one of the contractors. With this option, the equipment installations will still be done by the contractor, which is building the offshore facilities, in its own fabrication yard.

Advantages of the selected strategy

This strategic decision is going to bring a huge advantage to the program execution. First, the engineering of the telecom systems is under a sole contractor. So, the client in this case (Saudi Aramco) shall coordinate with a single contractor for the engineering of the telecom systems. Furthermore, combining the telecom scope of several offshore contracts under a single execution contractor shall ease the integration, which is usually one of the major challenges in similar mega programs.

Challenges to be considered

Going with this plan has several real merits that shall improve the design and execution of the project as explained earlier. However, it is worth mentioning that this approach may encounter several challenges that the project has already planned for to avoid any execution issues. One of the major challenges is that the project team has to precisely define engineering, procurement, construction, and commissioning responsibilities for all the interfacing contractors during the bidding stage to avoid claims or very costly scope changes after the award of the contracts. Hence, a great attention was paid by Marjan offshore project teams to avoid these issues. Moreover, this strategy involves schedule dependency where the main leading

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contractor shall deliver the telecom materials to the interfacing contractors in their fabrication yards. The project was able to overcome this challenge through properly aligning the schedules between all contractors.

Lessons learned

As the program went through the engineering phase, there are some lessons learned which we would recommend the future projects to consider to avoid some of the issues that might be faced with similar strategic approach. It is suggested to combine the telecom scope under a main contractor not only the active telecom equipment (switches, phones, CCTV cameras, etc.), it is also recommended to consider the equipment cabinets. This approach will bring major advantages for all contractors involved as follows:

- All-inclusive responsibility of cabinets to be handed over from the main contractor to the other interfacing contractors;
- Design of cabinets across all packages will be unified and standardized; and, Expediting the delivery of complete fully wired cabinets will be swiftly managed from the systems integrator to the fabrication yards.

Badr M. Burshaid, Marjan Increment Projects Department manager, said, "Managing telecom interfaces among several different offshore packages is really crucial for the success of Marjan Increment Program. From the early stages of the program, we put a lot of emphasis on how to deal with all aspects of these critical interface items to ensure smooth execution of this scope."

Conclusion

Combining the telecom equipment of several offshore contracting packages under a main contractor brings several major benefits for the engineering, procurement, execution, and commissioning of the telecom systems in addition to the several merits that this approach can bring to the operation and maintenance of these systems. However, to ensure that all benefits are carefully captured, the project management teams executing these projects have to prepare and manage the interfaces between the contractors very carefully.