

Optimizing Plant Maintenance and Enhancing Reliability through Strategic Contracting

Abstract

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The Seawater Injection Department (SWID) plays a crucial role in the treatment, transportation and injection of seawater to support and sustain crude oil and gas production. As part of its commitment to safety, efficiency and environmental responsibility. The department has identified the establishment of a robust contracting strategy as a key pillar for overcoming obstacles and enhancing reliability within the organization.

To achieve this strategic objective, a cross-functional team comprising members from various disciplines such as operation, maintenance and engineering was formed. This team embarked on a comprehensive journey to develop a contracting strategy that addressed future needs, reviewed existing cross-departmental challenges, analyzed the cycle time associated with contract release, proposed contractual actions and established administration guidelines. The collaborative efforts of this team resulted in the identification and resolution of critical issues.

The effectiveness of the contracting strategy program has been demonstrated throughout this journey. This paper serves as a summary of the successful optimization of the plant maintenance and the enhancement of reliability achieved through strategic contracting. The program can be categorized into five core pillars:

- **Stakeholder Engagement:** The program actively engages stakeholders at various levels to ensure their input, feedback and support are incorporated into the contracting strategy. This collaborative approach fosters a sense of ownership and alignment among all parties involved.
- **Data Analysis:** A thorough analysis of relevant data is conducted to inform decision-making and identify areas for improvements. By leveraging comprehensive data analysis techniques, the program can make data-driven decision and optimize performance.
- **Long-term Contracting Strategy:** The program emphasizes the development of a long-term contracting strategy that aligns with organizational objectives.

This strategic approach provides stability and enables proactive planning and resource allocation.

- **Processes and Procedure Enhancement:** The program focuses on continuously improving processes and procedures related to contracting. This includes streamlining workflows, defining clear roles and responsibilities and implementing best practices to enhance efficiency and effectiveness.
- **Outcomes:** The program places a strong emphasis on measuring and evaluating outcomes. Key performance indicators are established to track progress, assess the impact of the contracting strategy and ensure that desired outcomes are achieved.

Through the implementation of these five pillars, the contracting strategy program has successfully optimized plant maintenance and enhanced reliability within SWID. The commitment to stakeholder engagement, data analysis, long-term planning, process improvement and outcomes measurement has resulted in tangible benefits for the organization. The success of this program serves as a testament to the dedication, collaboration and strategic vision of the SWID team.

Stakeholder Engagement:

Engaging all stakeholder, and in particular the organization's leadership, was a key factor behind this success journey. The higher-level management were involved in most of the contractual challenges and as a result all support was obtained in a smoother way, since they are well aware about consequences of the organization financial strategy especially the contract services is one of the annual department's expenditures.

Data Analysis

The team methodology included the activities summarized in the below items which had been completed by conducting multi meetings:

1. Conduct brainstorming sessions with all stakeholders to identify the gap analysis of the contract issues in order to establish the contracting strategy.
2. Thorough analysis for wide range of SFCs/MFCs procured from 2014 up to present. Special focus was given to single source, emergency and repetitive work contracts.
3. Future needs were considered and the timing of the needed services.

4. Cross-departmental issues similar to AEL revision/ amendment for LFC users were identified and discussed in depth.
5. Other operational organizations providing general service contract or service level corporate similar to P&CSD were approached for reviewing their existing LFCs.
6. Brainstorm ideas and proposed contractual actions and administration guidelines to address and resolve all identified issues.

The organization's contract strategy program is initiated with a commitment to extensive work, encompassing the thorough analysis of all available data. This includes a comprehensive examination of SWID procured contracts from 2014 to the present, as well as an evaluation of single-source contracts, emergency and repetitive work contracts and the cycle time associated with releasing contracts. Additionally, the team recognized the importance of formulating a proposed long-form contracting strategy. Following a dedicated period of data analysis, the team reached a consensus to augment their analysis through several key measures;

- **Continual Assessment:** The team commits to conducting five-year assessment on an ongoing basis, ensuring the contract strategy program remains responsive to evolving needs and circumstances.
- **Technological Advancements:** In lieu of conventional services, the team elects to leverage IR.04 technologies, harnessing their capabilities to enhance the effectiveness and efficiency of the program.
- **Dashboard and Tracking system:** To facilitate intelligent monitoring a dashboard and system are established to enable seamless tracking of contract-related activities, providing real-time insights and promoting informed decision-making.
- **Corporate Service Level Agreements:** The team endeavors to establish corporate service level agreements, fostering a standardized approach to contracting and ensuring consistent quality across the organization.
- **Contracts Manual Review and Adjustment:** The team undertakes a comprehensive review of the contracts manual in order to make necessary adjustment to ensure its alignment with corporate-wide objective and best practices.

Subsequently, the team devises a roadmap to enhance data analysis and align the contracting strategy program accordingly. Through data analysis and the implementation of the aforementioned measure, the program undergoes necessary adaptations to optimize outcomes and drive organizational success.

Long-term Contracting Strategy

Developing a well-defined contracting strategy is a crucial step towards effective contract management. It not only facilitates control over contract-related activities but also ensures the delivery of high-performance services while maintaining sound financial control within the organization. Therefore, the significance of a contracting strategy and outline the process undertaken to develop a comprehensive program, involving multi-expert engineers and obtaining necessary approvals from department heads and administrative authorities.

1. Importance of Contracting Strategy: The contracting strategy serves as a roadmap for managing contracts efficiently and achieving organizational objectives. It provides a structured approach to contract management by outlining key elements such as vendor selection, performance monitoring, risk mitigation, and financial control. The following points highlight the benefits of a well-developed contracting strategy:

- **Control over Contracts:** A contracting strategy enables centralized control over contract-related activities, ensuring consistency, compliance, and alignment with organizational goals.
- **High-Performance Services:** By defining clear performance expectations and monitoring mechanisms, the contracting strategy helps in maintaining and enhancing the quality of services provided by vendors or contractors for the organization.
- **Financial Control:** An effective contracting strategy includes robust financial controls that help in optimizing costs and ensuring transparency in financial transactions.

2. Development Process: The development of the contracting strategy program involved a collaborative effort of multi-expert engineers and a comprehensive review

and concurrence process by department head and administrative authorities. The following steps were undertaken:

- Needs Assessment: A thorough assessment of the organization's requirements, goals, and operational needs was conducted to identify the key areas where contracting strategy would have the most significant impact.
- Stakeholder Engagement: Engaging key stakeholders such as department head, managers, expert engineers, and finance personnel ensured that diverse perspectives were considered during the development process.
- Strategy Formulation: The contracting strategy program was developed by defining clear objectives, specifying the preferred contract types, establishing performance metrics, and incorporating risk management measures.
- Finalization and Implementation: After incorporating the necessary changes and obtaining final approvals, the contracting strategy program was finalized.

Processes and Procedure Enhancement

In an effort to enhance the effectiveness and efficiency of the contracting strategy program, the organization undertook a comprehensive review of its contract manual, processes, tracking system, and procedures. The organization assigned action items to each unit within the department. This proactive approach enabled the organization to achieve improved alignment, ensuring that the contracting strategy program and the finance team's documents and manuals were harmonized. Simultaneously, the organization assessed the contract processes in place, seeking to identify bottlenecks, inefficiencies, and any gaps that might hinder effective collaboration between the contracting strategy program and the maintenance and finance teams.

- Reviewing the Contract Manual and Processes: To initiate the alignment process, the organization conducted a thorough evaluation of the existing contract manual. This involved a careful examination of the processes, guidelines and best practices outlined in the manual. The organization aimed to identify areas that required refinement or realignment with the objectives of the contracting strategy program.

- Tracking System and Procedures Evaluation: The organization recognized the critical role played by the tracking system in monitoring and managing contracts. Thus, the existing tracking system was thoroughly evaluated to ensure its compatibility with the needs of both the contracting strategy program and the finance team. The organization reviewed the procedures associated with contract management. This included analyzing the documentation process, contract approval workflows, and communication channels between the teams involved. The objective was to streamline these procedures, minimizing delays, reducing errors, and fostering smoother collaboration.

Outcomes

As a result of implementing the contracting strategy program, the organization successfully achieved the below outcomes:

- Reduce Number of SFC/MFCs single source was dropped by more than 80%.
- Reduce Number of emergency mobilization request was dropped more than 95%.
- Improve the procurement cycle time of contract procurement SFC/MFCs reduced from 98 to 63 calendar days.
- Help to control and sustain the department annual fund without any overrun in the services with accuracy more than % 95.
- Streamline the LFC administration process time between the contract proponent and all users.
- Increase accuracy, consistency, and compliance in financial aspects related to contract management, including budgeting, cost control, and financial reporting.
- Testament to the organization's commitment to optimizing its contracting strategy program and its dedication to achieving excellence in its operations.