

Project Controls for Mega Project

Case Study

Introduction

A global energy company made the decision to construct a first-of-its-kind multi-billion dollar plant in North America. The new plant was critical for meeting the strategic corporate objectives in alternative energy. The first major objective was to complete the preliminary design and obtain permits.

The project was in the initial development phase, the timeline for permitting was extremely aggressive, and meeting the deadline was critical for achieving the business objectives. To mitigate the risk of the timeline, the leadership team decided to develop and implement very stringent project controls procedures with intense focus on developing and maintaining the master schedule.

Key Issues

The following issues framed the effort and set the priorities for development and implementation.

- The plant was first-of-its-kind to be constructed in the United States and it was a critical component of the company's strategic objectives.
- Due to resource constraints, the company did not have experienced project management or controls personnel to assign to the project.
- The company's project team had very limited experience with large projects and project controls was not considered until well after project kickoff. The lack of experience also contributed to significant resistance to adopting best practices and using the project controls discipline effectively.
- The plant process technologies were not proven on an industrial scale. The risks were not fully understood and there was extensive uncertainty with the time line.

Role

Our consultants' role on the project was to provide the following:

- Develop an integrated schedule that would incorporate all activity from both the company and contractors.
 - Create and implement a work breakdown structure that would define the cost and schedule control aspects of the project and provide true earned value progress measurement.
 - Develop project control procedures that would integrate the corporate requirements for reporting and compliance.
 - Train the project team on project controls concepts, procedures, and systems in order to increase the skill level and obtain buy-in.
 - Develop and deploy a contingency management methodology that would ensure cost and schedule certainty.
 - Lead the weekly project meetings and assure procedures were followed and progress was measured directly against the project baseline.
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Deliverables

A fully integrated cost and schedule system was created and used for the development phase of the project and carried over the engineering, procurement, and construction phases.

The system was supported by new procedures that fit the needs of the team and the fluid nature of the project development.

Training was provided to the project team reinforcing the value of controls and the team comprehended their value.

The interactive schedule development process successfully incorporated the complexity of the permitting process and obtained buy-in from the entire team including environmental consultants and design contractors.

Results

The project controls organization was successfully established during the development phase of a first-of-its-kind, multi-billion dollar plant.

The project team became highly competent in the application of project controls and is requiring that it be deployed for the balance building the plant as well as for subsequent projects in the early planning stages.

The project development phase successfully achieved the aggressive timeline and the permit was approved.