

# Schedule integration for Efficiency improvement And true visibility

## Case Study:

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### ► OVERVIEW

1. **Customer:** Confidential/Withheld
3. **Service Featured:** Setting up a standardised systems and process for handling multiple schedules in multiple contractor project environments
4. **Business Process Involved:** Internal Project Controls Tool & Technique
5. **Benefits Realised:** Reduction in status update time, improvement in efficiency and accurate future visibility

## CHALLENGE

Large Construction project requires multiple contractors' involvement for successful completion of project. But at the same time it brings high level of complexity and dependency between each other and proper/timely flow of information becomes challenge and with untimely flow of information effect heavily on project health in terms of both time and money.

## SOLUTION

The company attempts to identify the main cause of delay in large construction projects by analyzing the current project controls methodology and processes which was being followed. One of the main causes of delay which came up in analysis was disruption in data flow from one stage to other stage because of non-standardized process flow.

The Company advised to roll out a new WBS to facilitate consistent monitoring, reporting and cost data capture against projects across business portfolios. These developments aim to afford the client a much greater level of control and clarity, engaging bespoke software to streamline a process both internally, and across all contractors'. The ultimate goal was to provide more effective and efficient presentation of project health to Client in a consolidated format across the whole business.

## INNOVATION

The Company is well aware of the fragmented nature of Construction and operation of utility projects and this past experience helped the company to precisely understand the problem faced by the client and provide a solution which was based on the client's need rather than settling for general 'best practice' solutions. The Company guided the client to implement new WBS structure for all new schemes and for all of the in-flight schemes, in order to avoid a major rework of the programmes in aligning to the new WBS, we have devised a solution using activity codes functionality in P6. This process involves carrying out a thorough WBS mapping in the Contractors programmes in order to accommodate these schemes in the new Project Controls processes and roll them up to the desired Level. This rolled up programme information is transferred to the new agreed Level of programmes-Baseline and Current Programme created in the Client instance of the Primavera Central Database. Through rolling up schemes to the agreed Level it is possible to quickly provide analysis of project health at a higher level across what is a considerable number of schemes.

## BACKGROUND

The purpose of this paper is to focus on improvement required in the current project controls process for successful integration between Client and Contractor schedule and then to integrate with Cost data for efficiently monitoring of performance.

## CHALLENGES & OBJECTIVES

The biggest challenge in integration between two different schedules is to bring the basic structure of these schedules on same level along with all cost data and the primary objective of schedule integration is to complete the project on time and within the budget while meeting established quality requirements and other specifications. A substantial focus on construction process is essential when it has multiple contractors. Proper planning and control system can be helpful to increase efficiency of the construction process.

## PROJCON ADVISORY AND CONTRIBUTION

To begin with, the company analysed the existing project controls process and done the GAP analysis on it to focus on the key areas which were necessary for seamless integration between Client and Contractor schedule.

Major modifications were implemented on existing process to accommodate the seamless integration are highlighted below:

- ▶ **Primavera P6 software set-up:** Each contractor is required to maintain their workload within a Primavera P6 database provided by the Client. Contractors may either:
  - ▶ Use and update this as their primary database or
  - ▶ Maintain a primary database within their own IT environment provided that copies of all projects are uploaded at required WBS Level by the Contractor each period in line with the reporting timetable.
- ▶ **Naming Convention:** Standard 10 digit naming convention has been developed. It is understandably important that these naming conventions are maintained, not only for clarity between the teams but also so that the scheduling and cost management software can properly align data analysis.
- ▶ **Terminology:** Standard terminologies have been developed for identifying each type of schedule. i.e. Forecast Schedule – FS, Current Baseline – CBL, & Original Baseline – OBL.
- ▶ **WBS Dictionary:** A standard Work Breakdown Structure has been applied on all projects delivered by the contractor and must be used in both cost and schedule data systems to facilitate integrated cost /

schedule management. This requirement is fundamental to the operation of Client Earned Value Management systems.

- ▶ **Activity Codes:** To enable the effective tracking of schedule updates and the migration of updates from the contractor's databases, the Client Project Controls team have to use a suite of reports. These reports to produce consistent results across all databases and schedules, a standard convention for some global Project and Activity code are developed.
- ▶ **Primavera Default Setting:** In order to give consistent results when measuring progress and earned value, the following default setting must be used.

▶ **Default Activity Setting:**

Primavera Field	Value	Requirement
Percentage Complete Type	Physical	Where Possible
Activity Type	Task Dependent	Recommended
Duration Type	Fixed Duration & Unit	Recommended

▶ **Default Project Setting:**

Primavera Field	Value	Requirement
Character for separating code fields for the WBS tree	Dot, Full Stop (.)	Mandatory
Fiscal Year begins on the 1st of	April	Mandatory
Baseline for earned value calculations	'Project Baseline' selected	Mandatory

▶ **Default WBS Setting:**

Primavera Field	Value	Requirement
Technique for computing performance percent complete	Activity percent complete	Mandatory
Technique for computing estimate to complete	PF=1	Mandatory

► **Admin Preferences:**

Primavera Field	Value	Requirement
Code Separator	Dot, Full Stop (.)	Mandatory
Starting day of the week	Monday	Mandatory
Monday	5 Days	Recommended
Hours per time period Hours / Day Hours / Week Hours / Month Hours / Year	8 40 169 2024	Mandatory
Time Period abbreviations Minutes Hours Days Weeks Months Years	n h d w m y	Mandatory
Technique for computing performance percent complete	Activity percent complete	Mandatory
Earned Value calculation	Budgeted values with planned dates	Mandatory

► **Scheduling Options:**

Primavera Field	Value	Requirement
Calculate start-to-start lag from	Early Start	Mandatory
Define critical activities	Total Float Less than or equal to 0 days	Mandatory
Compute Total Float as	Finish Float = Late Finish - Early Finish Early Finish	Recommended
Calendar for scheduling Relationship Lag	Predecessor Activity Calendar	Mandatory

## CLIENT BENEFIT

The client acknowledges that by setting up of a standard project controls systems and implementation of the same throughout the business along with the contractors can save significant amount of cost by automated transferring of data from Contractors schedule to client schedule and then to integrate with the Cost data while meeting the established quality requirements and other specifications.

The Client also acknowledges that standardization would help the organizations to successfully implement its strategy to standardize the schedule for large projects which ultimately reduces the costs and providing quicker outcome.

The experience of company led to seamless implementation of standardized project controls process with providing useful insights to the client regarding the market and trends. The approach was very hands-on and focused on the elements which can be standardized. All standardization process were closely monitored and analyzed by the company and feedback was provided to avoid any gaps.

## PROJCON ADVISORY INNOVATION

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Our comprehensive array of products and services provide powerful, affordable solutions to virtually all aspects of the Project Controls. Contact us to find out how we can help you to build/strengthen your Project Controls capability.