VIDOTTO GROUP

Project Controls

Basic Metrics

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Today

- Background and Australian Cost Engineering Society
- What is Project Controls
- Role of the Project Controls Professional
- 4 Pillars of the Project
- Basic Metrics

- Share experiences

Lou Vidotto

- 40 years of project and study experience;
- Project Manager
- Site engineer – Contractor;
- Project Controls engineer and manager:
  - EPCM's and Owners teams.
- Business owner; project developer
- Trainer
- National Committee Australian Cost Engineering Society

Lou Vidotto

- Best Project?

Australian Cost Engineering Society

- 25 years – started as technical society of Engineers Australia
- Partnering with Association for Advancement of Cost Engineering international (AACEi) to promote Total Cost Management
- Member of the College of Leadership and Management (CLS) of Engineers Australia.
- Working with Engineers Australia to implement accreditation leading to Chartered Status for Cost Engineers

Total Cost Management

- AACEi:
  - "A systematic approach to managing cost throughout the life cycle of any enterprise, program, facility, project, product or service"
  - "This is accomplished through the application of cost engineering and cost management principles, proven methodologies and the latest technology in support of the management process"

Total Cost Management

- What does this mean?
  - A systematic approach to management of costs on a project, from concept to production;
  - Everything relates to costs and management of assets;
  - **Achieving the results that were planned for.**
- My view
  - Do the basics right
  - Promote Training and Mentoring

Project Controls

- Project Controls has been recognized as a necessary function in a study or execution team.
  - What does that mean?
- What do Project Controls professionals do and what do they contribute to the success of projects.
  - What should they contribute?

- Share my Experiences over 40 years
- Do the basics right.

Project Controls

- Defining Project Controls
  - **E**stablish the Baselines
  - **C**ollect information
  - **A**nalyse the impacts
  - **R**ecommend a solution
  - **R**eport the results

Project Controls Professional

- What is a Project Controls Professional
  - Manager
  - Estimator
  - Planner / Scheduler
  - Cost Engineer
    - Earned value
  - Risk professional
  - Forensics analyst
  - Reporting expert

Project Controls Professional

- A project controls Professional cannot do his job without the support of the Project Manager (and visa versa).
- Each team member is dependant on the other team members to receive input and provide output

Introduction

Introduction

- Every Project you tackle
  - Is going to take longer or shorter than planned
  - Will cost more or less than budgetted.
  - Could result in change of quality
  - Could result in a change of scope

- Is this a problem?

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Introduction

- A single disaster can sink a company or a department or a career
- Can cause a government extreme embarrassment
- How do you avoid it?
  - Get the definition right.

Purpose

- We have been running training courses for over 5 years;
- We are finding a common theme on projects and studies:
  - Lack of training and mentoring;
  - Inexperienced managers and personnel;
  - **Poor Project Controls**;
  - **Inadequate baselines;**
  - Failure to manage change;
  - **Project processes are not in place or supported to facilitate good project controls**.

How the Owner explained it

How the project leader understood it

How the project leader scoped it out

The estimators view

What the team wanted to build

Backup documentation

What was procured

What construction built

What the Owner really needed

4 Pillars of a Project

1. Scope definition — What is being built?
2. Execution plan — How it is going to be built?
3. Estimate — How much will it cost?
4. Schedule — How long will it take?

- Create the baselines to manage from.

Work Breakdown Structure

The key to tying together the 4 pillars of the project is the WBS:

- The need to capture all the elements of a project in an organised fashion;
- Breaking down large, complex projects into smaller project pieces provides a better framework for organising and managing the project;
- WBS can facilitate resource allocation, task assignment, responsibilities, measurement and control of the project.

Reference: Tenrox Project Management Services

Define the base documentation

- At each phase of the project
  - Build the scope
    - Scope Book
    - By WBS
    - By workpack
    - Quantities and deliverables
    - Directs and Indirects

Define the base documentation

- At each phase of the project
  - How will it be built?
    - Project Execution Plan (PEP)
    - Designed, procured, constructed?
    - Contracting Plan
    - Where?
    - When?
    - How will it be managed?

Define the base documentation

- At each phase of the project
  - Estimate Plan
  - Build the estimate
    - Quantity and resources based
      - At completion.
    - Market pricing
    - Inhouse data
    - By WBS and Workpack
      - Directs and Indirects
      - Contingency and Escalation

Define the base documentation

- At each phase of the project
  - Schedule Plan
  - How long will it take?
    - When is it needed?
      - Work top down, back to front
      - Then front to back
    - Typical durations
    - How many resources will it take?

Project Controls Management

- On project approval
  - Baseline all the 4 pillars
  - Basis for change management
- Project Readiness and mobilise the team
- Procedures
- Create progress charts and detailed schedules
  - Engineering
  - Procurement
  - Construction
- Change Management
  - Against the baselines

Key Project Controls Metrics

- Allocate budget against each commitment, scope for scope
  - Cost of equipment and materials vs budget amounts
  - Generate variance
  - Generate forecast changes
- Quantity tracking
  - Design reviews
  - Engineering to provide regular updates of quantities
  - Generate variance
  - Generate forecast changes
- Work package plan
  - Define the project by WBS and workpack
  - Work pack content
  - Generate variance

Key Project Controls Metrics

- Progress measurement
  - Rate of progress against plan
  - Quantities per time period
  - Resources used to install each quantity
  - Forecast quantities, resources and time to go
- Risk Register
  - Mitigate risks
  - Ongoing impact of outstanding risks
- Contingency management
  - Ongoing use of contingency
  - Forecast amount needed to go

Key Project Controls Metrics

- Change management
  - Any change to the baselines is a project change
  - Early identification enables the Project team to take action

- Report the Outcomes.
  - Clear and concise reporting
  - Recommendations to mitigate impacts.

  - **A successful project is one where there are no surprises**

Key takeaways from today

- Role of Project Controls professional
- Development of the 4 Pillars of the Project
- Key Project Controls Metrics

Questions?