Project Management for Capital Projects

Potential PDH: 24 - 40

Description:

This course will provide a comprehensive presentation and discussion of project management principles and practices as they relate to project concept selection, development planning, engineering design; procurement; and construction activities for petrochemical and refining capital projects.

The specific training received in schedule and cost management, risk management, and the proper use of scarce resources will help the project manager deliver projects successfully. Upon completion of this course, the participant will understand the five phases of the project life cycle and the key role that robust front-end planning during FEL1 and FEL2 plays in ultimate project success.

Participants will understand how project management process groups relate to one another, how execution plans are used to integrate the work effort, what tools are available for the project manager to use, what information will be generated, and what that information means.

The course is taught using a combination of instruction, facilitated discussion, and hands-on exercises using a "real-world" case study related to facilities design, procurement, and construction. The exercises will include both individual and group activities that will provide each participant with a visual application of the principles and practices discussed throughout the course.

Outline:

You will learn:
- Define project phases and execute them skillfully
- The deliverables that are required during each of the project phases
- How to utilize project governance to manage critical issues
- Develop scopes of work and project execution plans
- Utilize control techniques and earned value analysis
- Develop checklists to ensure project deliverables for each phase are addressed
- Apply project management skills to your current projects
- Guide projects through technical reviews and secure management approvals

Topics Covered:
- Why capital projects fail

- Governance and the role that management oversight plays in project success
- Stage Gate Process how to use it so support project success and decision making
- Project Charter and Stage Work Plan
- Project Frame – how to use this key early stage tool to align stakeholders on project scope, project objectives, and the type of facility to be built (Ford or BMW)
- Integrated Project Team
- Communication Management and how to do it effectively
- Stakeholder Management and why Project Managers need to do this well to succeed
- Concept Selection
- Value Improving Practices - how they can lower costs 10% and accelerate schedule up to 12%
- Basis of Design - how to use it effectively to manage scope and support use of Management of Project Change.
- Work Breakdown Structure - how to use it to manage scope
- Management of Project Change -a Project Manager's best friend
- Risk Management - why other stakeholders should "own" key risks
- Cost Estimating and Cost Management
- Schedule Management
- Progress Measurement & Reporting - how to use it to raise issues before they become disruptive
- Procurement Management, Logistics & Material Management
- Project Execution Planning
- Interface Management and how to use it to align vendor and contractor work
- Contracting Strategy – how to select a strategy that matches project objectives
- Contractor Selection and the bid process
- Managing Contractors and how to get them to work for you
- Construction Management – how to develop a robust construction management plan that minimizes last minute emergencies
- Commissioning & Startup
- Emotional Intelligence and the Project Manager – benchmark data illustrates the correlation between Emotional Intelligence, success in life, and life time earnings.

Who Should Attend:

Project managers, project engineers, facility engineers, operations engineers, and purchasing personnel including team leaders and managers who plan, manage, or participate on multidiscipline project teams.

Subject Matter Expert (SME):

Pieter 'Pete' Luan is a seasoned expert with over 30 years of experience in management consulting, project management, and project consulting within the petrochemical and energy industries. He has

served as a project consultant on major initiatives, including three petrochemical megaprojects totaling $15 billion and a $6 billion refinery expansion, where he led peer reviews, gate-clearing processes, and constructability and execution planning sessions. Pete has collaborated with senior management to enhance the predictability of brownfield projects, focusing on front-end planning, risk management, contracting strategies, and governance to ensure project success.

As a dedicated educator and leader, Pete has developed and delivered courses on project controls, risk management, and project delivery systems. He has also facilitated workshops on enterprise capital risks, executive alignment, and project governance. Holding both Bachelor's and Master's degrees in Mechanical Engineering from **Rice University**, Pete combines technical expertise with practical experience to help professionals optimize project outcomes, improve performance metrics, and mitigate risks effectively.