

*Project Navigator*



## **Project Navigator PN101 Overview**

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# Presentation Outline

- Introduction
- Project Navigator Objectives
- Project Navigator Structure
- Project Navigator Components
- Planning with the Project Navigator
- Stage Gate Reviews
- Project Navigator Improvement
- Conclusion

# Introduction

What is the Project Navigator?

- A proprietary Knowledge Base that includes:
  - Terminology with common, qualitative definitions
  - A complete map of FEP, Proposal and EPC Project processes
  - Performance Requirements with RACI assigned responsibilities
  - Checklists
  - Forms and Reports
  - Handbooks and Manuals
  - Training Programs
- A stage gate process system that includes defined Stage Gate Reviews which must be cleared for the project to progress.
- A collaboration tool to align deliverables from work processes among project stakeholders (owner, engineer, OEMs, contractors).
- A project execution and management template which incorporates governance, best practices from CII, AACE and PMI and reflects learning experiences (i.e. continuous improvement).

# Introduction

## Key principles

- A paradigm shift
  - FROM: avoiding mistakes learned on past projects (e.g. Lessons Learned) or utilizing a patchwork of industry best practices
  - TO: planning to perform all work timely, completely and correctly at the beginning of the project to meet the requirements of the end of the project.
- Requires executive management active participation.
- It is the “glue” that holds all the project deliverables together
- It is NOT a Project Controls tool.
- It is “What We Do”

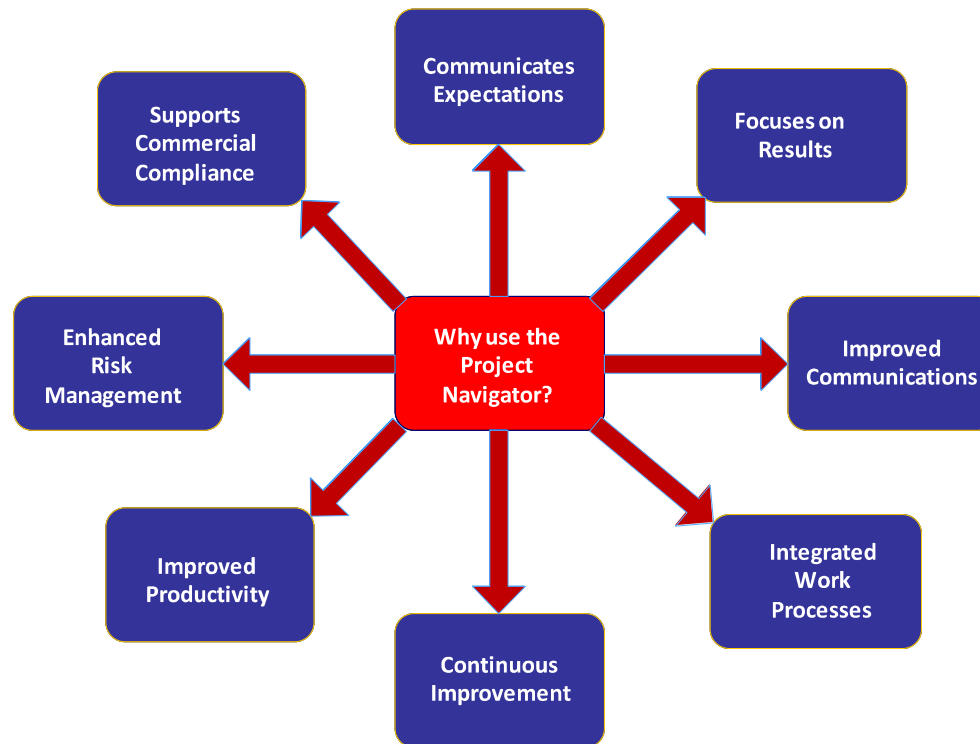


# Introduction

## Why Use the Project Navigator?

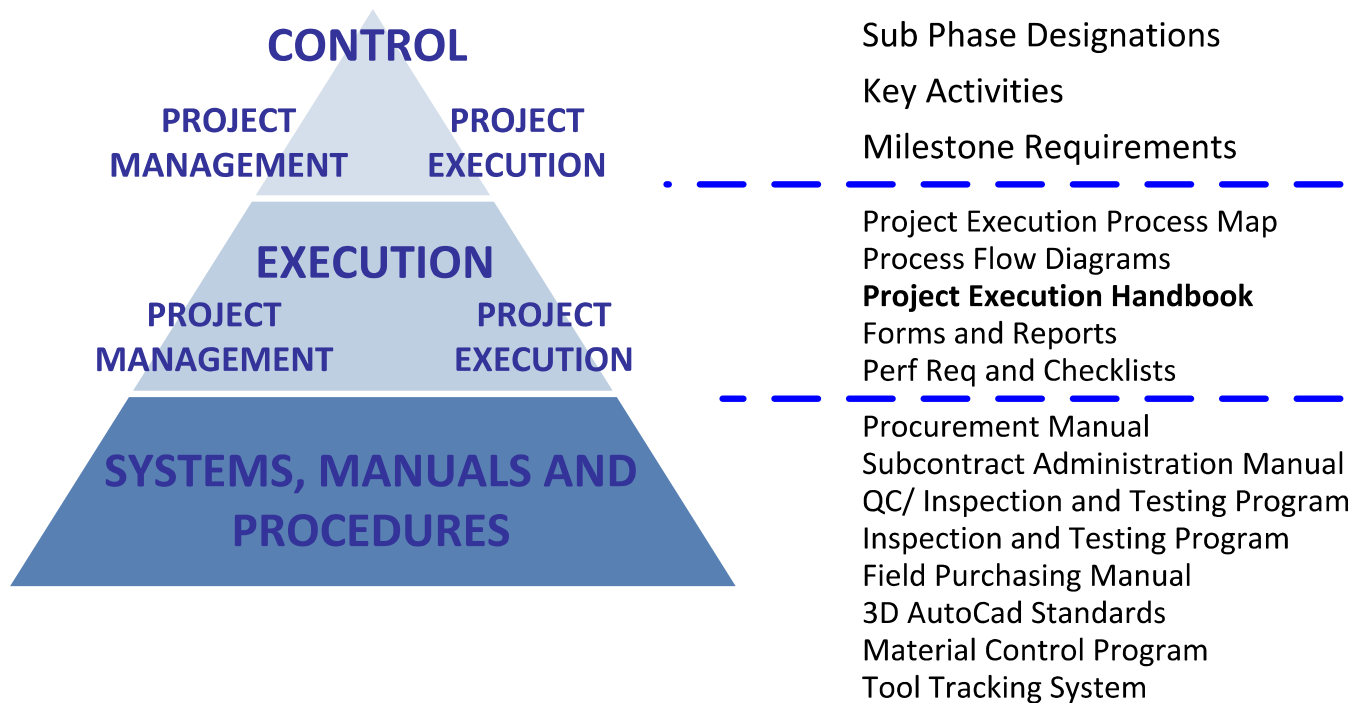
- Consistent delivery of quality projects with more **predictable** outcomes:
  - Based on logical project execution sequence
  - Verify project information quality at key “milestones” or gates
  - Provide mechanism to incorporate Best Practices
  - Create additional management of risk mechanism
- Provide effective communication tool
  - Provide auditable “status” of project
  - Allow senior management a “window” into project execution
  - Common language to project status
- Create a competitive edge
  - It also is a good selling tool

# Introduction



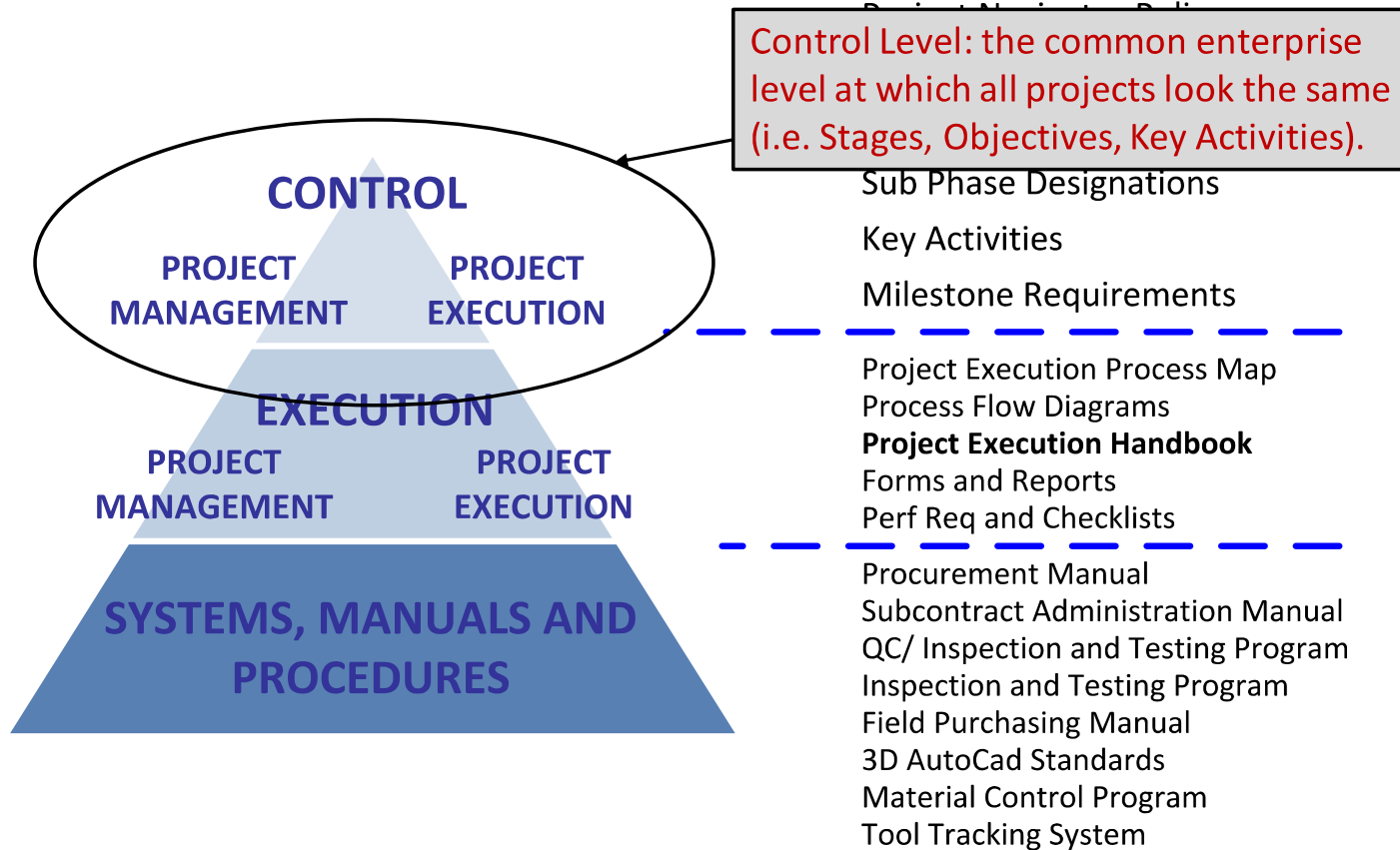
# Project Navigator Structure

## Hierarchal Structure – Project Execution



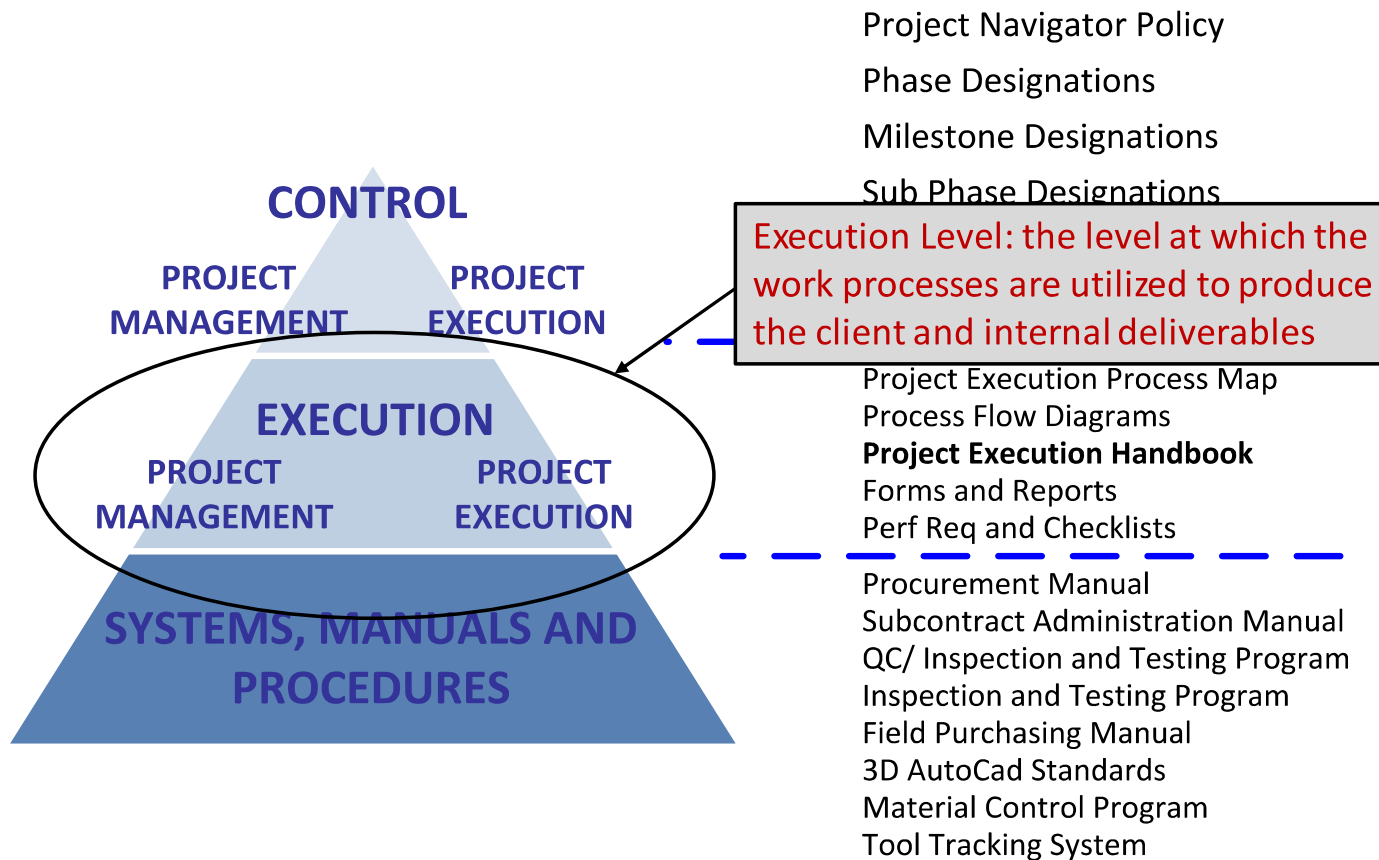
# Project Navigator Structure

## Hierarchical Structure – Project Execution



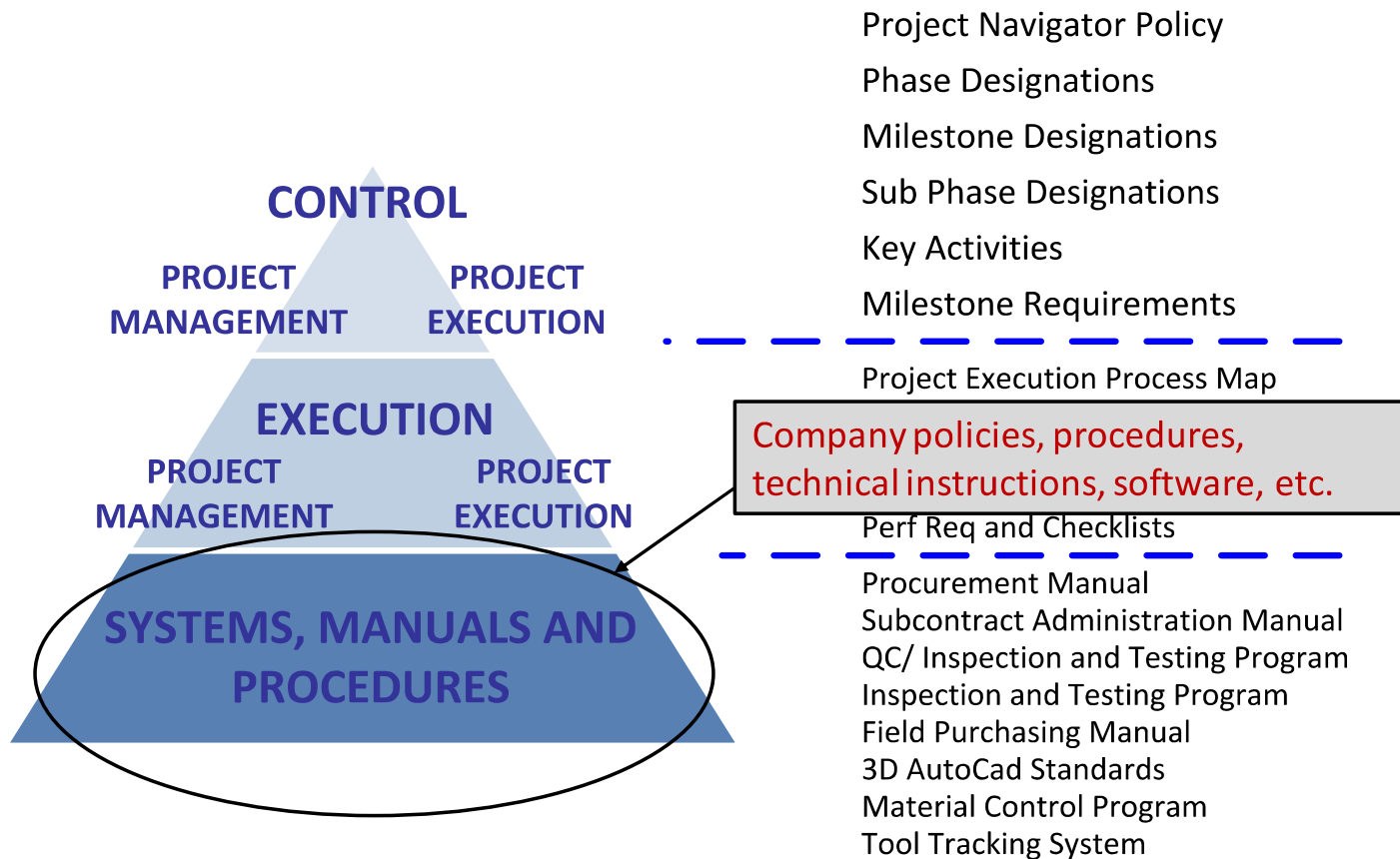
# Project Navigator Structure

## Hierarchal Structure – Project Execution



# Project Navigator Structure

## Hierarchical Structure – Project Execution



# Project Navigator Structure

## Hierarchical Structure – Project Management

Project Navigator Policy

Phase Designations

Milestone Designations

Sub Phase Designations

Key Activities

Milestone Requirements

Project Management Process Map

Process Flow Diagrams

**Project Management Handbook**

Forms and Reports

Perf Req and Checklists

Project Navigator Manual

Risk Management Program

Quantity Management Program

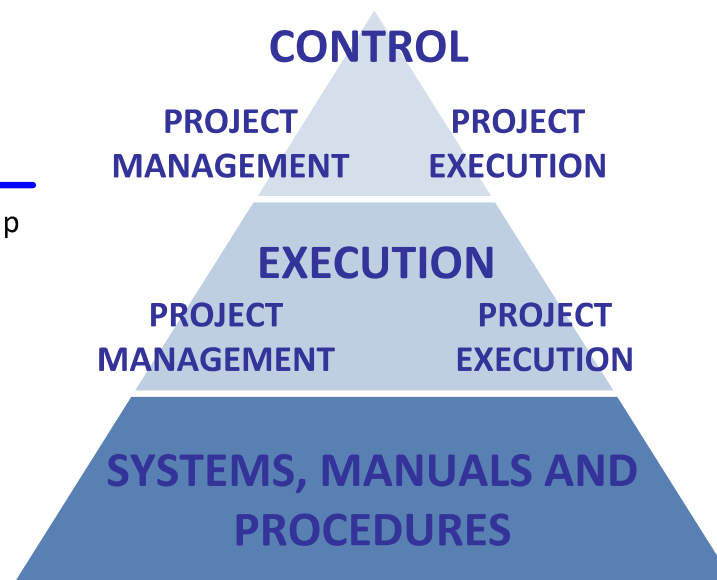
Estimating Manual

Cost Control Manual

Scheduling Manual

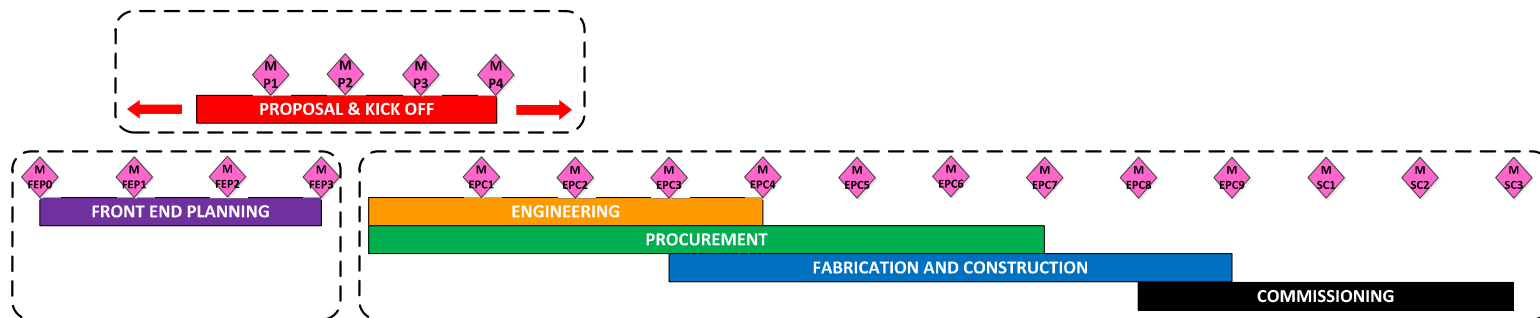
Corporate HSE Program

Corporate QA Program



# Project Navigator Structure

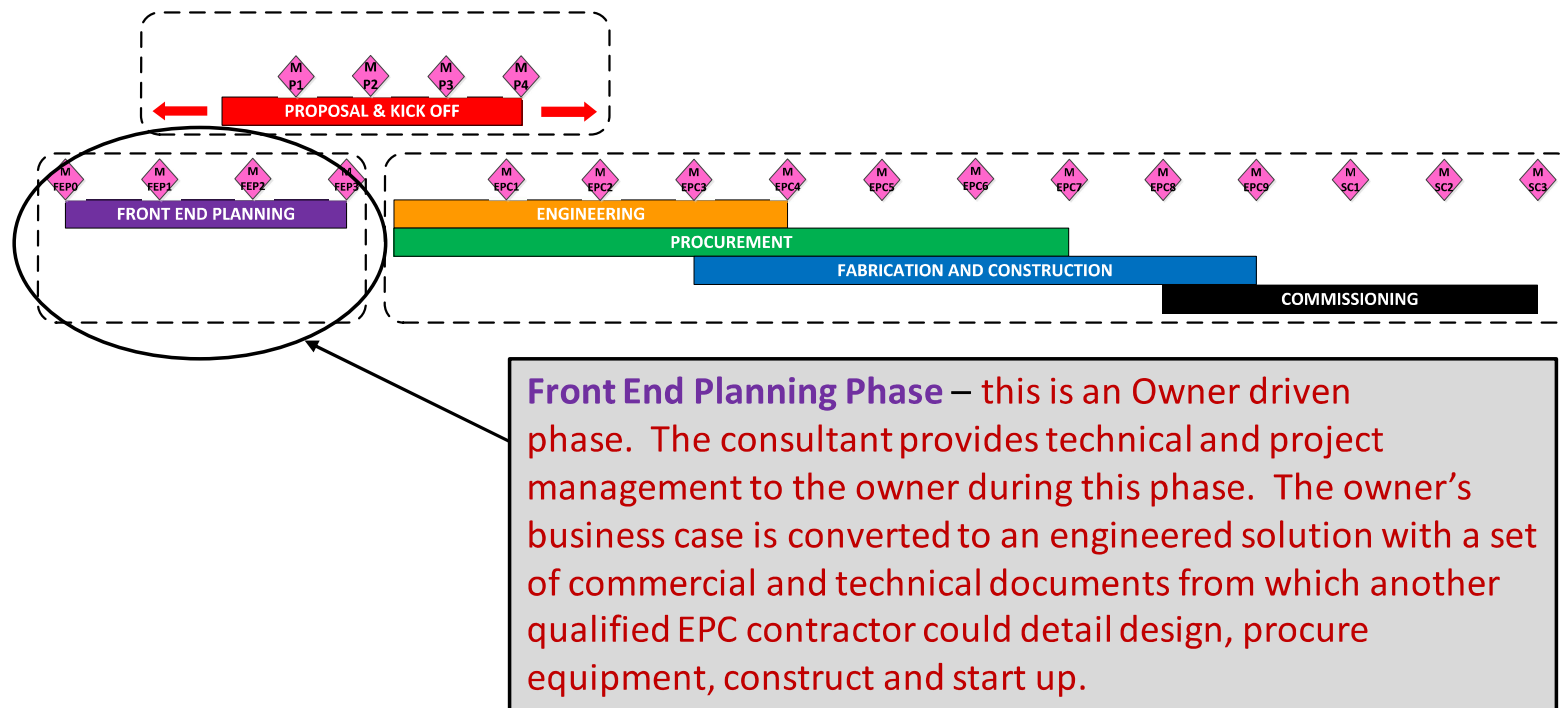
## Phase Structure





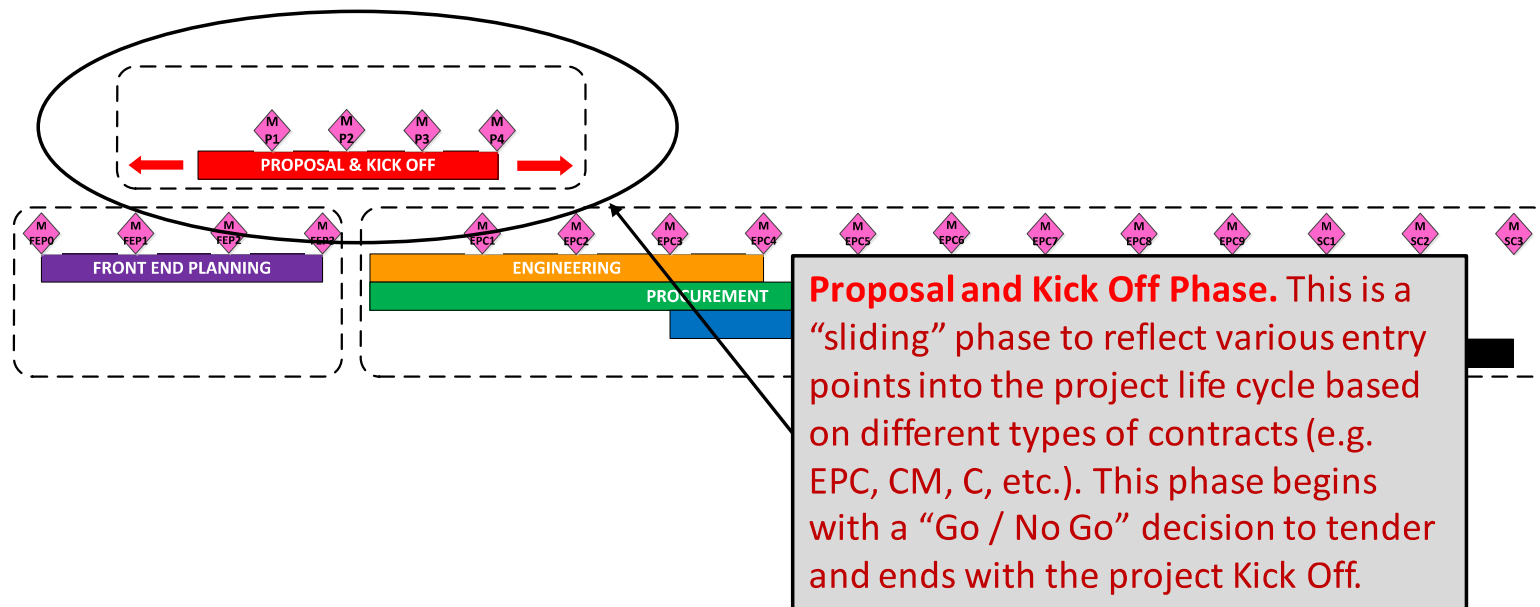
# Project Navigator Structure

## Phase Structure



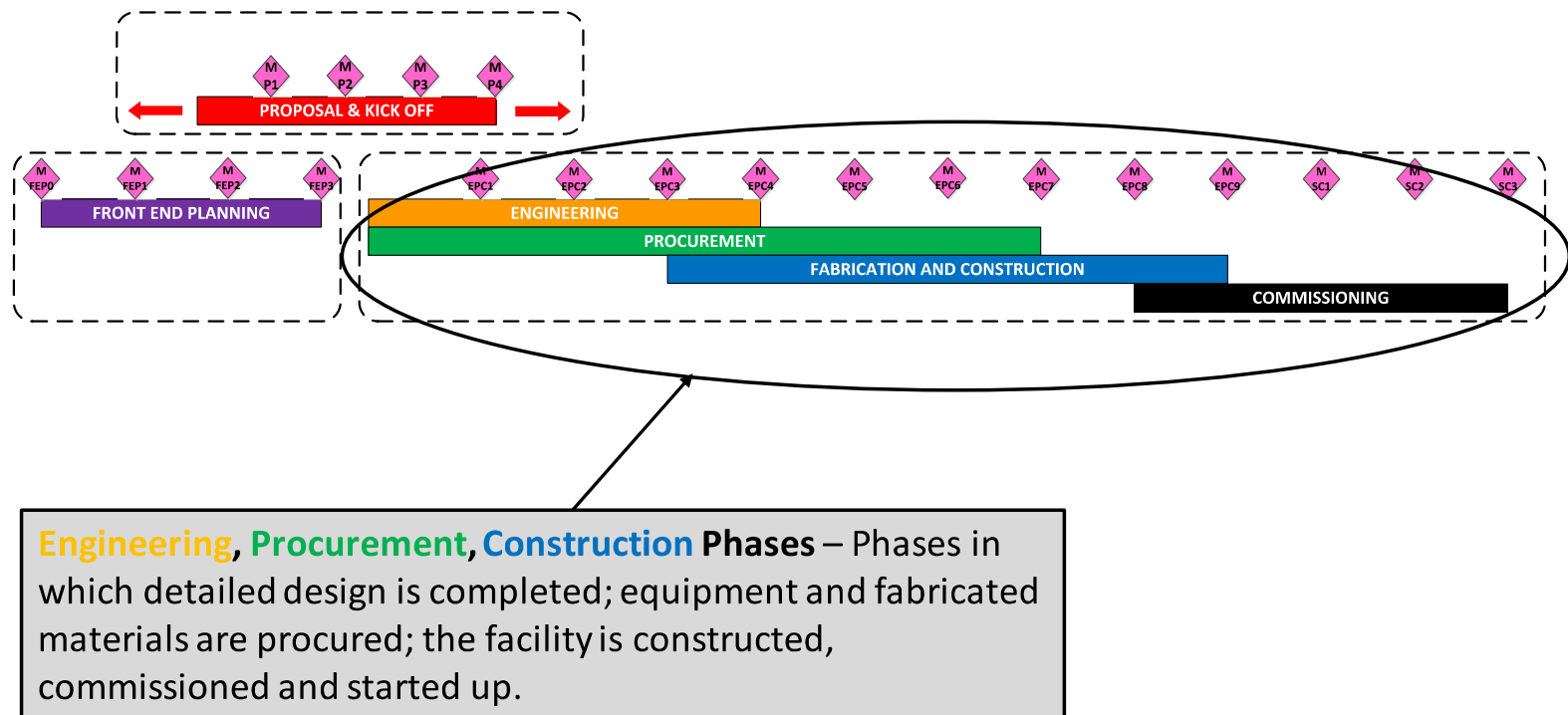
# Project Navigator Structure

## Phase Structure



# Project Navigator Structure

## Phase Structure



# Project Navigator Structure

## Key Activity Structure

### PROJECT MANAGEMENT

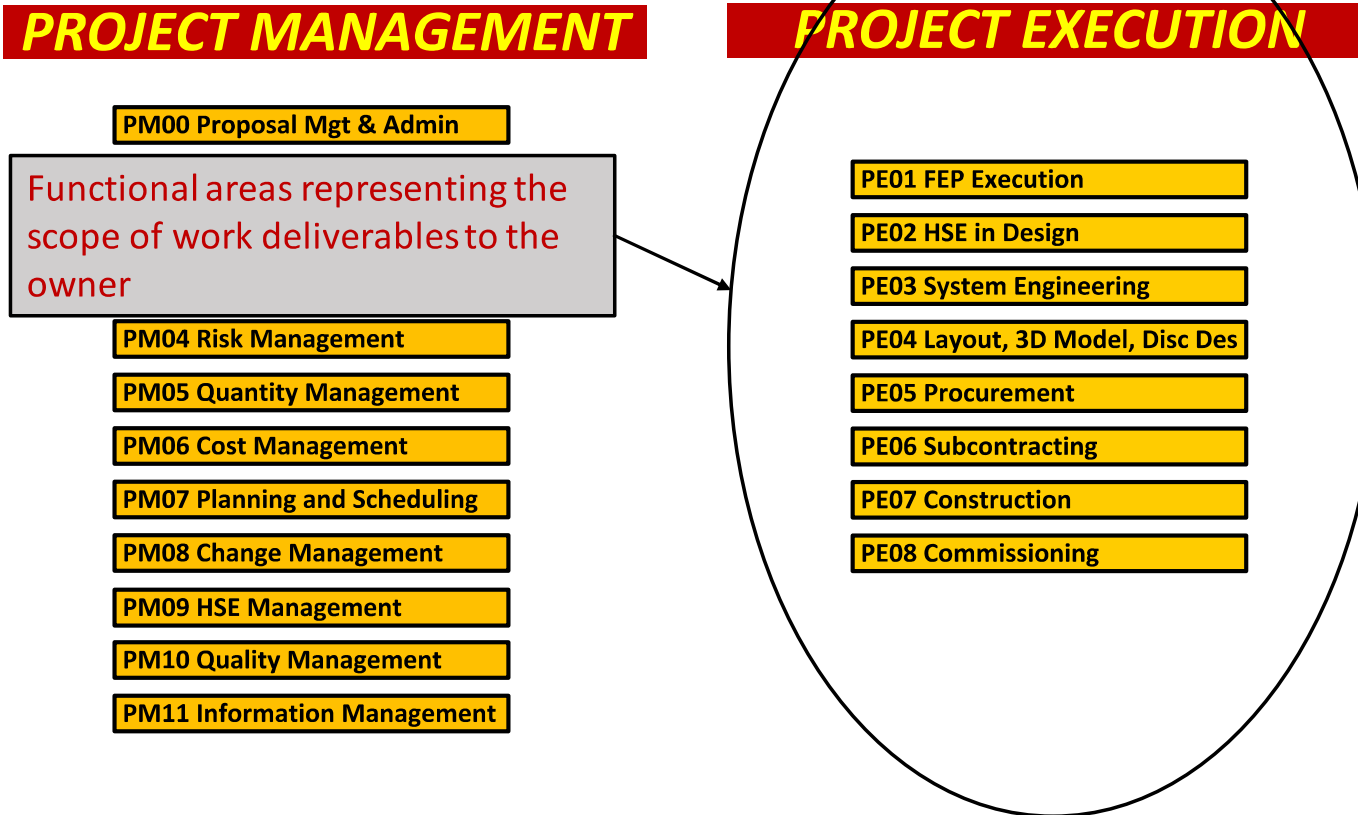
- PM00 Proposal Mgt & Admin
- PM01 FEP Management
- PM02 Project Execution Mgt
- PM03 Contract Management
- PM04 Risk Management
- PM05 Quantity Management
- PM06 Cost Management
- PM07 Planning and Scheduling
- PM08 Change Management
- PM09 HSE Management
- PM10 Quality Management
- PM11 Information Management

### PROJECT EXECUTION

- PE01 FEP Execution
- PE02 HSE in Design
- PE03 System Engineering
- PE04 Layout, 3D Model, Disc Des
- PE05 Procurement
- PE06 Subcontracting
- PE07 Construction
- PE08 Commissioning

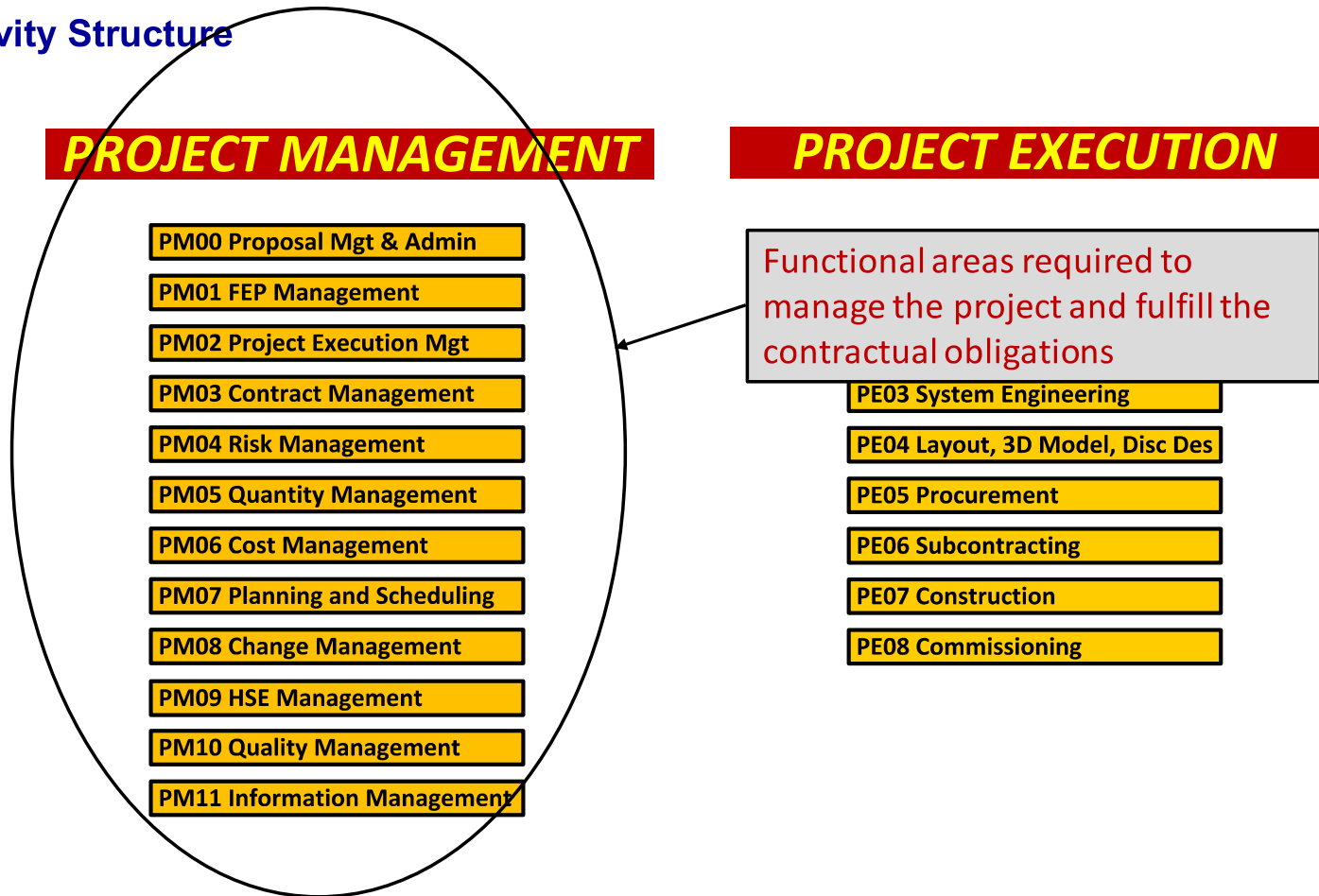
# Project Navigator Structure

## Key Activity Structure



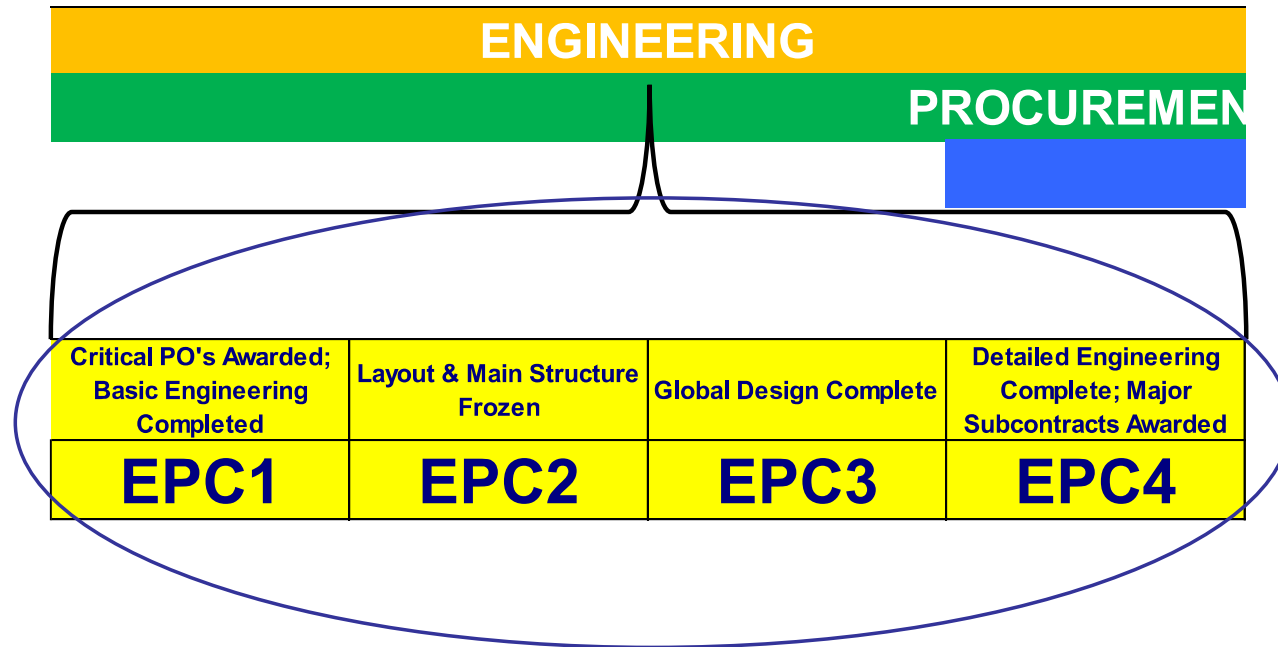
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## Key Activity Structure



# Project Navigator Structure

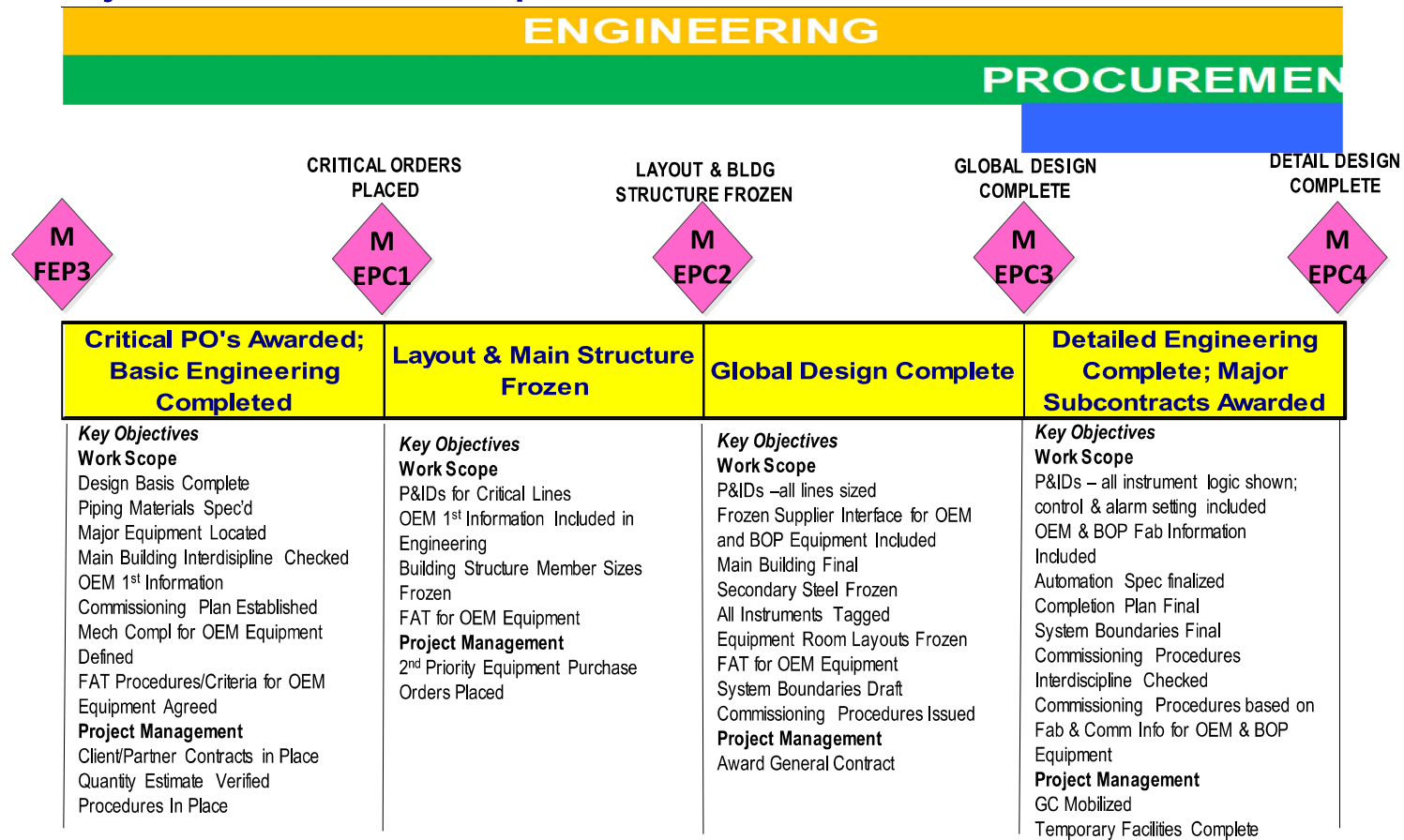
## Stage Structure



The project life cycle is subdivided into Stages. Phases are shown for reference.

# Project Navigator Structure

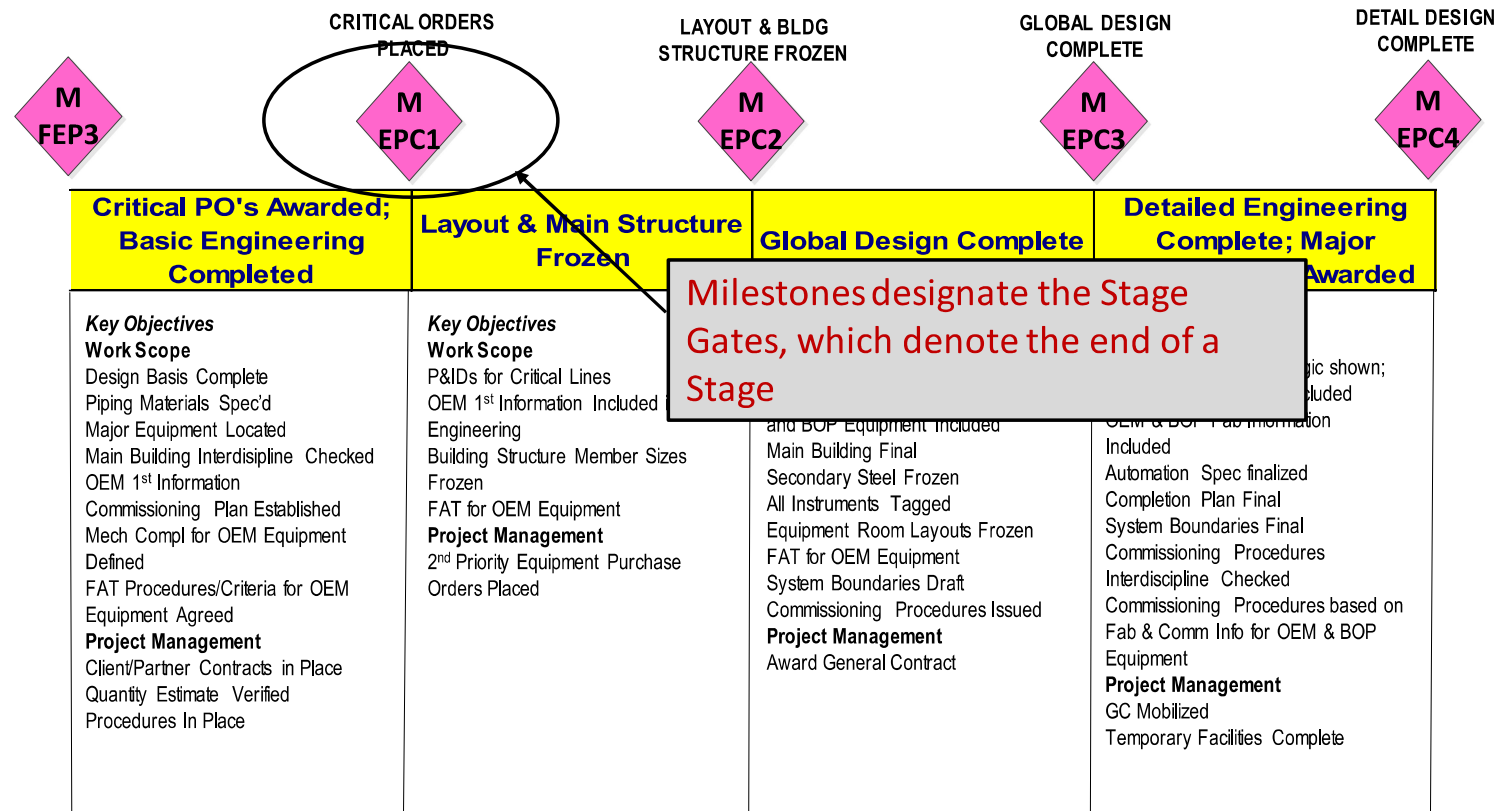
## Stage Gate Objectives / Milestone Requirements





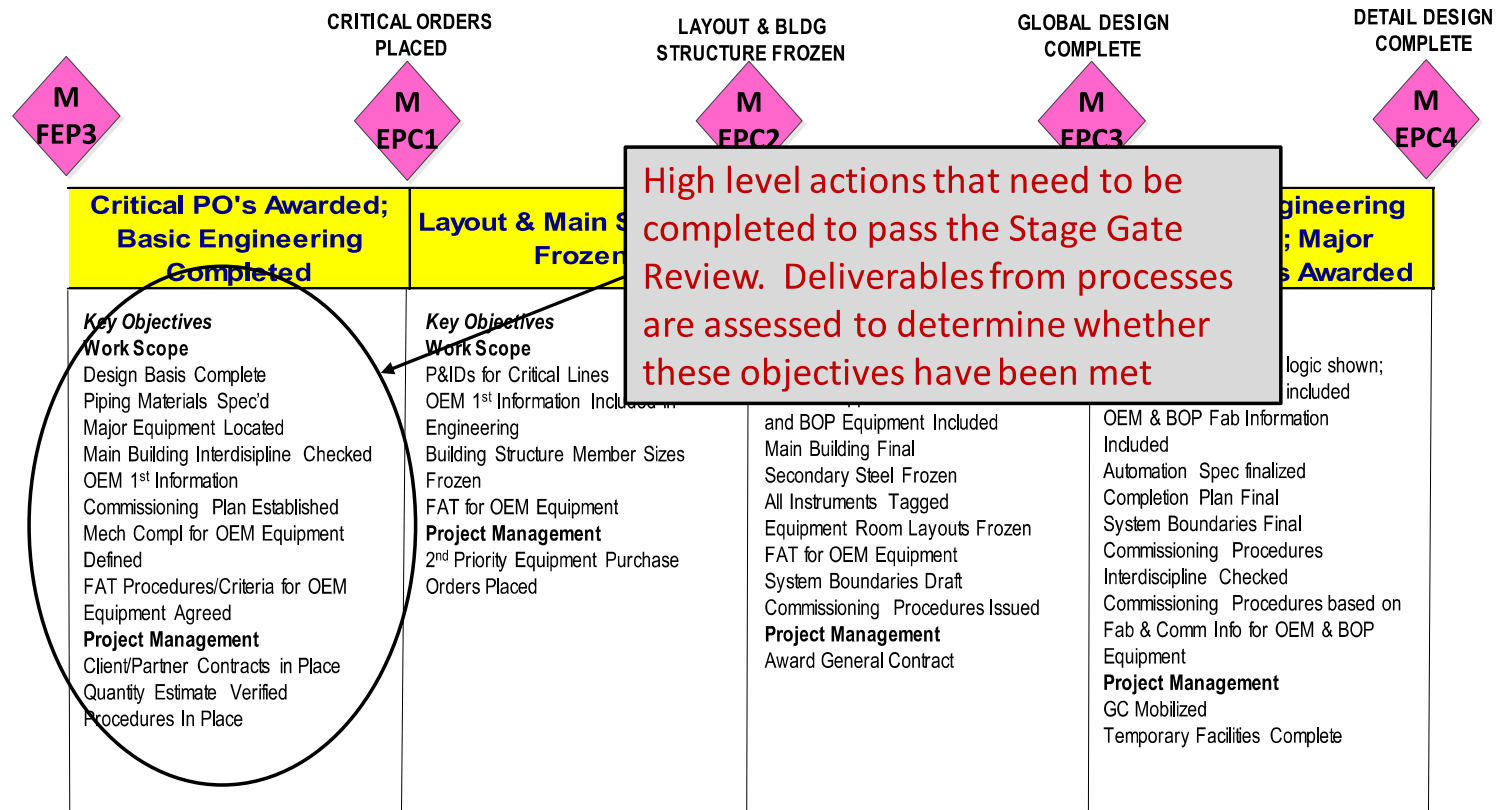
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## Stage Gate Requirements / Milestone Objectives



# Project Navigator Structure

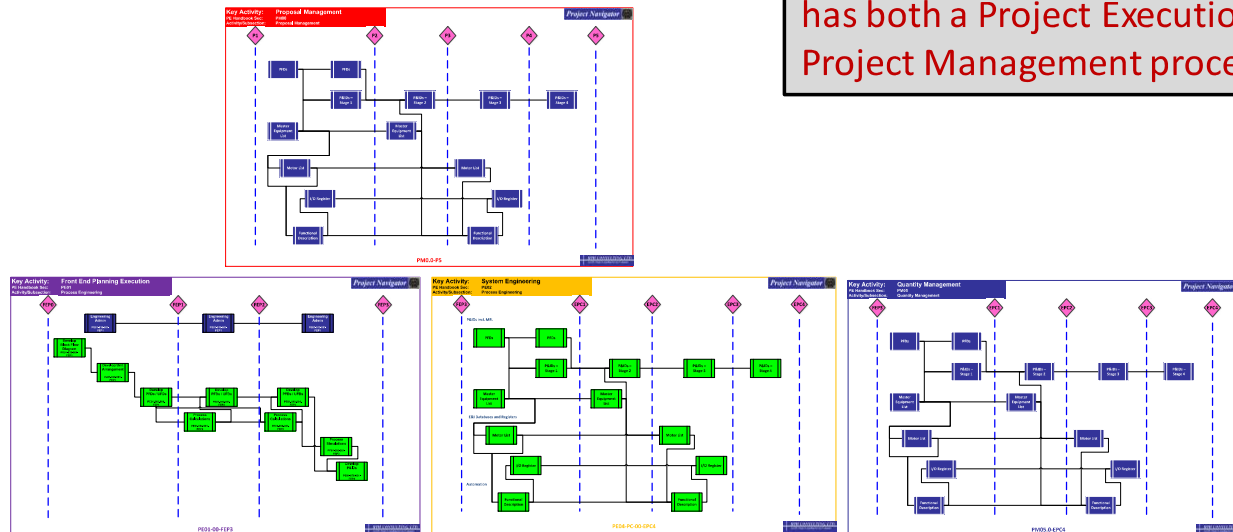
## Stage Gate Requirements / Milestone Objectives



# Project Navigator Structure

## Process Maps

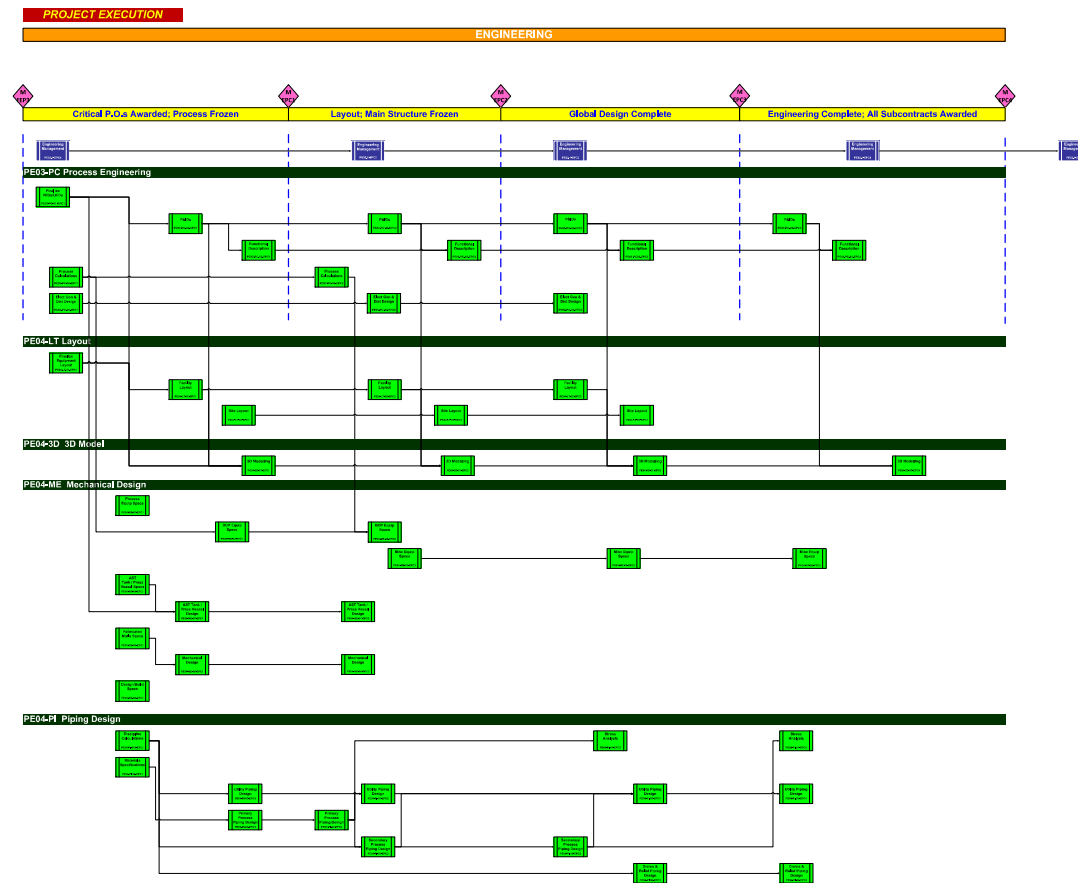
The Execution Level for each Phase has both a Project Execution and Project Management process map



The fundamental component of the Execution Level is the “process”. Processes are strategically placed between Stage Gates based on Best Practices and successful completed projects.

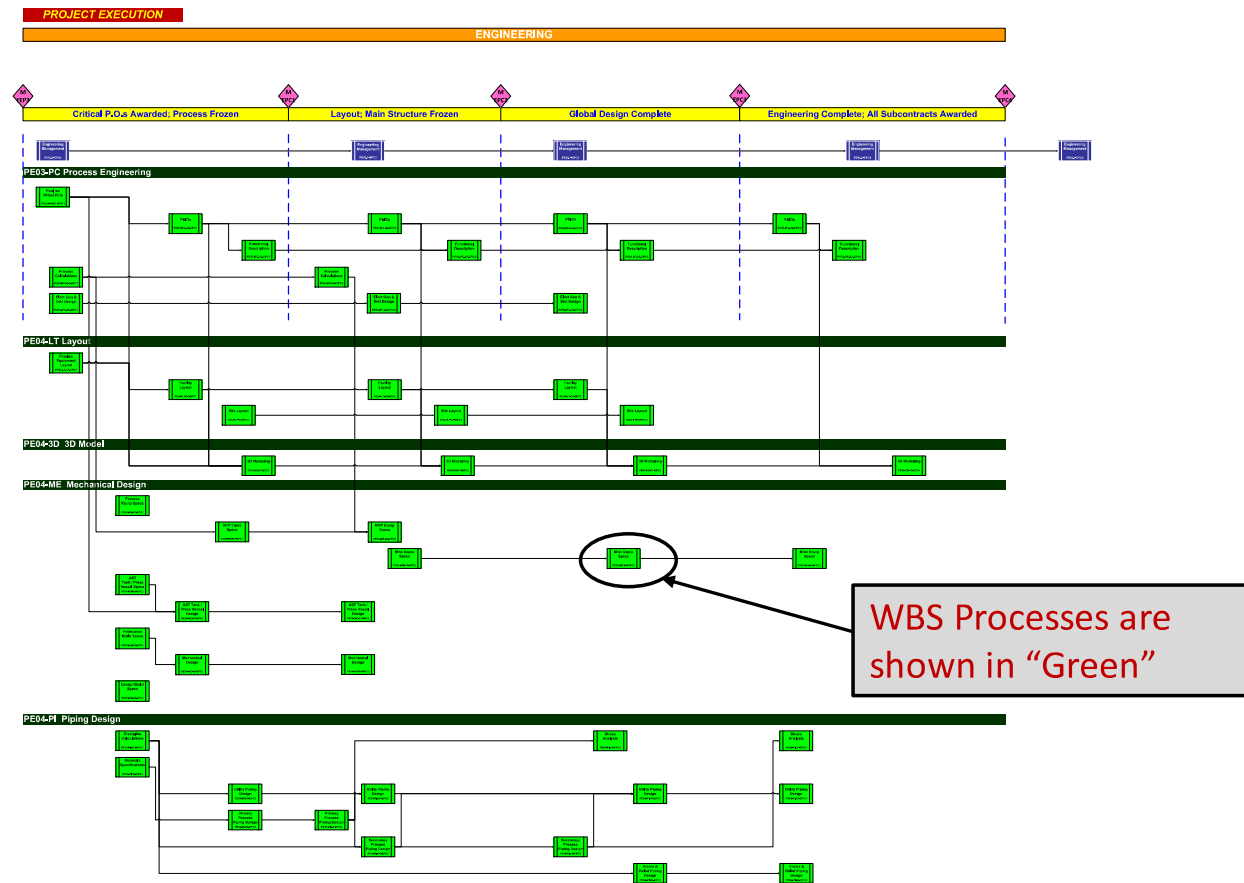
# Project Navigator Structure

## Process Map showing Engineering Processes



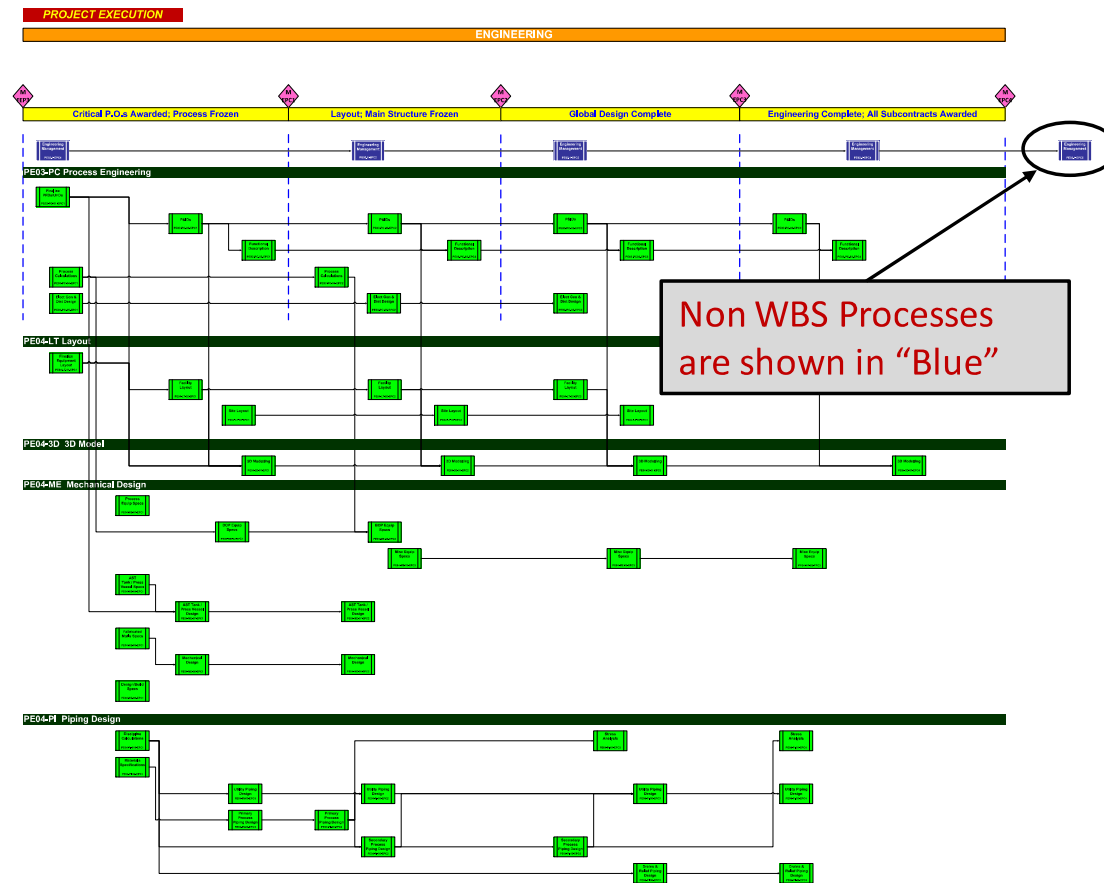
# Project Navigator Structure

## Process Map showing Engineering Processes



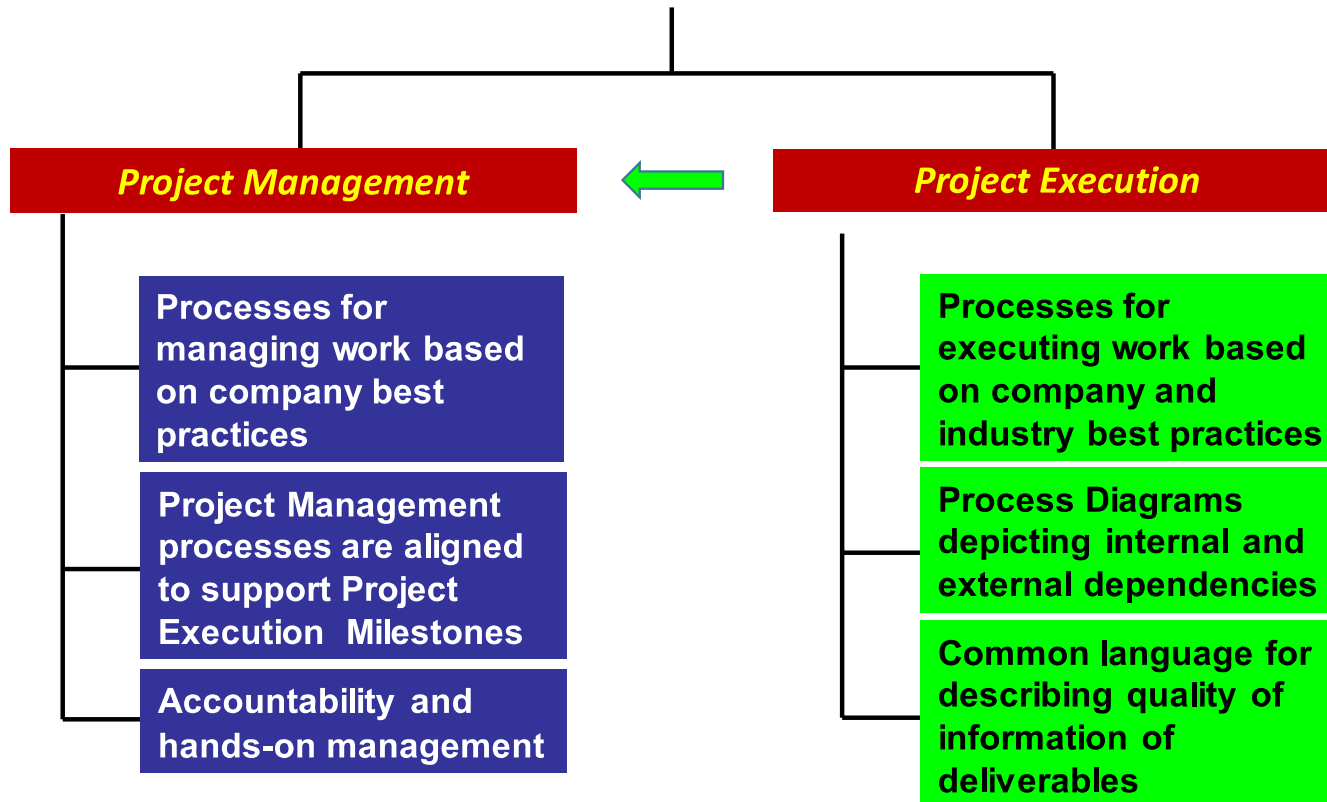
# Project Navigator Structure

## Process Map showing Engineering Processes



# Project Navigator Structure

Project Execution DRIVES Project Management  
Project Navigator



# Project Navigator Components

Key Activities	
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PM01 FEP Management	PE02 HSE in Design
PM02 Project Execution Mgt	PE03 System Engineering
PM03 Contract Management	PE04 Layout, 3D Model, Disc Des
PM04 Risk Management	PE05 Procurement
PM05 Quantity Management	PE06 Subcontracting
PM06 Cost Management	PE07 Construction
PM07 Planning and Scheduling	PE08 Commissioning
PM08 Change Management	
PM09 HSE Management	
PM10 Quality Management	
PM11 Information Management	

## Milestone Requirements

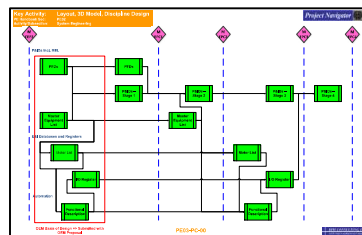
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## Milestone Reviews

<p align="center"><b>EPW Construction Services, LLC</b></p> <p align="center"><b>EPC Project Template</b></p> <p align="center"><b>Checkpoint Review Certificate</b></p>			
Job Number :			
Job Name :			
Client :			
Milestone :			
Date(s) of Review :			
Result of Milestone Gate Review:			
<p>Applicable Milestone requirements <b>have been met in full</b> and the project should proceed into the next stage without the need for corrective action</p>			
	Name	Sign	Date
JNE Proj Mgr			
OEM Proj Mgr			

**Control Level**  
**Execution Level**

## Process Maps



## Checklists

Project Navigator				Project Info	
<div><div>Process or Handbook Subsection</div><div>Key Activity</div></div>				Project No.	Client
				Milestone	Milestone
				Project Manager	Project Manager
				Author	Author
				Date	Date
P005 QUANTITY MANAGEMENT				Remarks	
<b>1. Introduction</b> This document provides a detailed description of the Quantity Management process, including its purpose, scope, and the roles and responsibilities of the project team. It is intended to serve as a reference for all project team members involved in the project.				Project No.	
<b>2. Scope</b> The scope of this document is limited to the Quantity Management process, including the identification, estimation, and control of project resources. It does not cover other project management processes such as risk management or communication management.				Project No.	
<b>3. Roles and Responsibilities</b> The project manager is responsible for the overall management of the project, including the approval of the project charter and the project management plan. The project manager is also responsible for ensuring that the project team is aware of the project's goals and objectives.				Project No.	
<b>4. Quantity Management Process</b> The quantity management process is a continuous process that involves the identification, estimation, and control of project resources. It is a key component of the project management process and is essential for the successful completion of the project.				Project No.	
<b>5. Quantity Management Tools</b> The project manager should use a variety of tools and techniques to manage the project's resources. These tools include the project management plan, the project management information system (PMIS), and the project management software.				Project No.	
<b>6. Quantity Management Risks</b> The project manager should be aware of the risks associated with the quantity management process. These risks include the risk of resource shortages, the risk of resource overallocation, and the risk of resource misallocation.				Project No.	
<b>7. Quantity Management Best Practices</b> The project manager should follow best practices when managing the project's resources. These best practices include the use of the project management plan, the use of the project management information system (PMIS), and the use of the project management software.				Project No.	
<b>8. Quantity Management Conclusion</b> The quantity management process is a critical component of the project management process. It is essential for the successful completion of the project and for the achievement of the project's goals and objectives.				Project No.	
<b>9. Quantity Management Appendix</b> This appendix contains additional information related to the quantity management process, including a list of references and a list of related documents.				Project No.	
<b>10. Quantity Management References</b> The project manager should refer to the following references when managing the project's resources:				Project No.	
- Project Management Institute (PMI). (2013). <i>A Guide to the Project Management Body of Knowledge (PMBOK® Guide)</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Information System (PMIS)</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Software</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Best Practices</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Risks</i> . 6th ed.				Project No.	
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- Project Management Institute (PMI). (2013). <i>Project Management Appendix</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management References</i> . 6th ed.				Project No.	
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- Project Management Institute (PMI). (2013). <i>Project Management Forms</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Tools and Techniques</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Best Practices and Guidelines</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Risks and Mitigation Strategies</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Tools and Techniques for Success</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Best Practices for Project Success</i> . 6th ed.				Project No.	
- Project Management Institute (PMI). (2013). <i>Project Management Risks and Mitigation Strategies for Project Success</i> . 6th ed.				Project No.	
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### Activity Descriptions

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### RACI Performance Requirements

**PERFORMANCE REQUIREMENTS**

**Project Navigator**

**Legend:**

- Requirements Assessment (Red)
- Requirements Development (Green)
- Requirements Validation (Blue)
- Requirements Change (Yellow)

**Performance Requirements Gantt Chart**

**PR1 - Requirements Assessment**

- Task 1.1: Requirements Assessment (2023-01-01 to 2023-03-31)
- Task 1.2: Requirements Assessment (2023-04-01 to 2023-06-30)
- Task 1.3: Requirements Assessment (2023-07-01 to 2023-09-30)
- Task 1.4: Requirements Assessment (2023-10-01 to 2023-12-31)
- Task 1.5: Requirements Assessment (2024-01-01 to 2024-03-31)
- Task 1.6: Requirements Assessment (2024-04-01 to 2024-06-30)
- Task 1.7: Requirements Assessment (2024-07-01 to 2024-09-30)
- Task 1.8: Requirements Assessment (2024-10-01 to 2024-12-31)
- Task 1.9: Requirements Assessment (2025-01-01 to 2025-03-31)
- Task 1.10: Requirements Assessment (2025-04-01 to 2025-06-30)
- Task 1.11: Requirements Assessment (2025-07-01 to 2025-09-30)
- Task 1.12: Requirements Assessment (2025-10-01 to 2025-12-31)

**PR2 - Requirements Development**

- Task 2.1: Requirements Development (2023-01-01 to 2023-03-31)
- Task 2.2: Requirements Development (2023-04-01 to 2023-06-30)
- Task 2.3: Requirements Development (2023-07-01 to 2023-09-30)
- Task 2.4: Requirements Development (2023-10-01 to 2023-12-31)
- Task 2.5: Requirements Development (2024-01-01 to 2024-03-31)
- Task 2.6: Requirements Development (2024-04-01 to 2024-06-30)
- Task 2.7: Requirements Development (2024-07-01 to 2024-09-30)
- Task 2.8: Requirements Development (2024-10-01 to 2024-12-31)
- Task 2.9: Requirements Development (2025-01-01 to 2025-03-31)
- Task 2.10: Requirements Development (2025-04-01 to 2025-06-30)
- Task 2.11: Requirements Development (2025-07-01 to 2025-09-30)
- Task 2.12: Requirements Development (2025-10-01 to 2025-12-31)

**PR3 - Requirements Validation**

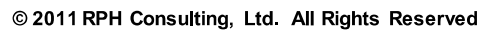
- Task 3.1: Requirements Validation (2023-01-01 to 2023-03-31)
- Task 3.2: Requirements Validation (2023-04-01 to 2023-06-30)
- Task 3.3: Requirements Validation (2023-07-01 to 2023-09-30)
- Task 3.4: Requirements Validation (2023-10-01 to 2023-12-31)
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- Task 3.12: Requirements Validation (2025-10-01 to 2025-12-31)

**PR4 - Requirements Change**

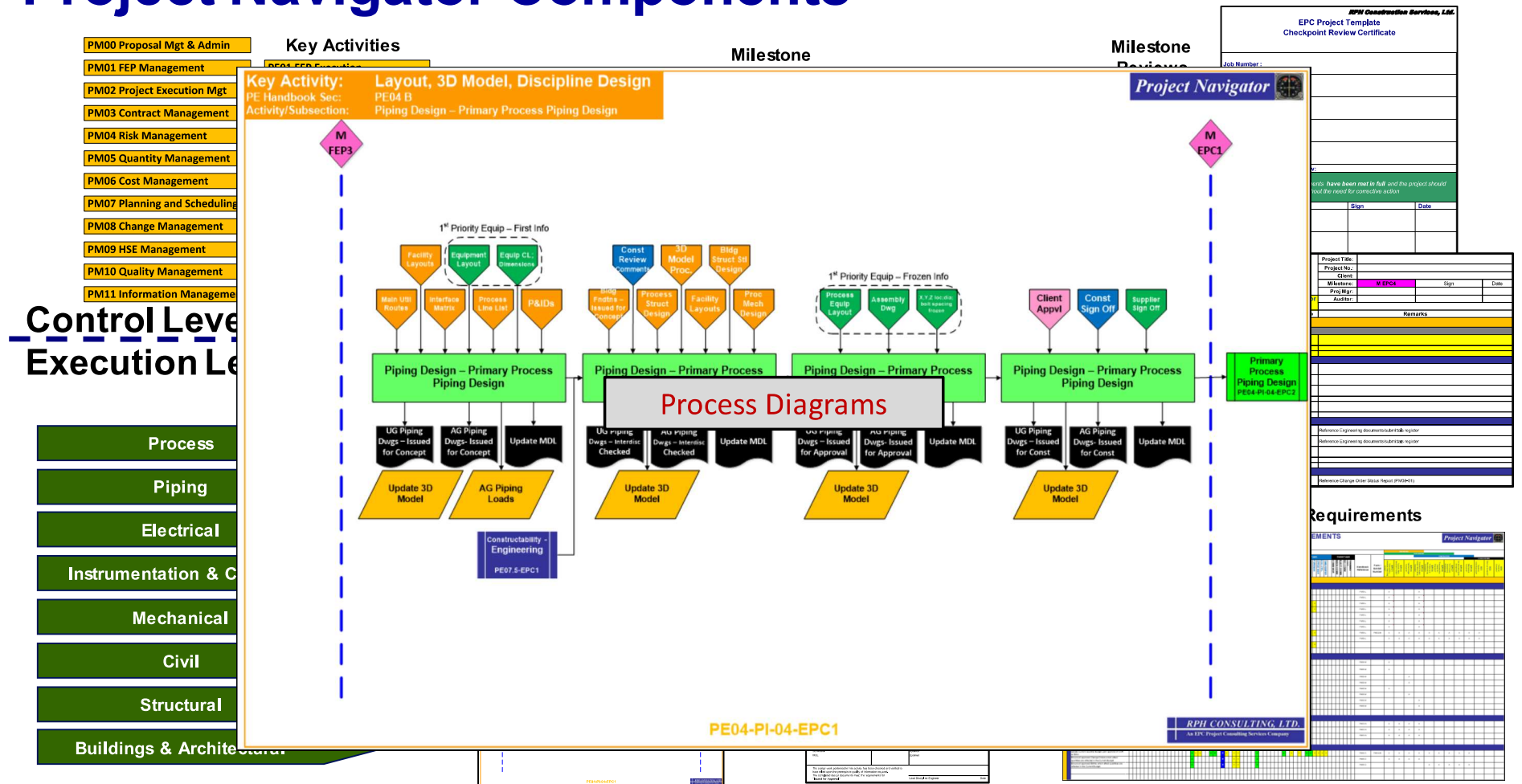
- Task 4.1: Requirements Change (2023-01-01 to 2023-03-31)
- Task 4.2: Requirements Change (2023-04-01 to 2023-06-30)
- Task 4.3: Requirements Change (2023-07-01 to 2023-09-30)
- Task 4.4: Requirements Change (2023-10-01 to 2023-12-31)
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- Task 4.11: Requirements Change (2025-07-01 to 2025-09-30)
- Task 4.12: Requirements Change (2025-10-01 to 2025-12-31)



**Control Level**  
**Execution Lev**



# Project Navigator Components



**Control Level**  
**Execution Level**

Process

Piping

Electrical

Instrumentation & Controls

Mechanical

Civil

Structural

Buildings & Architectural

## Milestone Reviews

[illegible]

# RACI Performance Requirements

## Control Loop Execution

Project Navigator

# Project Navigator Components

Key Activities		Milestone Requirements		Milestone Reviews	
PM00 Proposal Mgt & Admin	PE01 FEP Execution				
PM01 FEP Management	PE02 HSE in Design				
PM02 Project Execution Mgt					
PM03 Contract Management					
PM04 Risk Management					
PM05 Quantity Management					
PM06 Cost Management					
PM07 Planning and Scheduling					
PM08 Change Management					
PM09 HSE Management					
PM10 Quality Management					
PM11 Information Management					

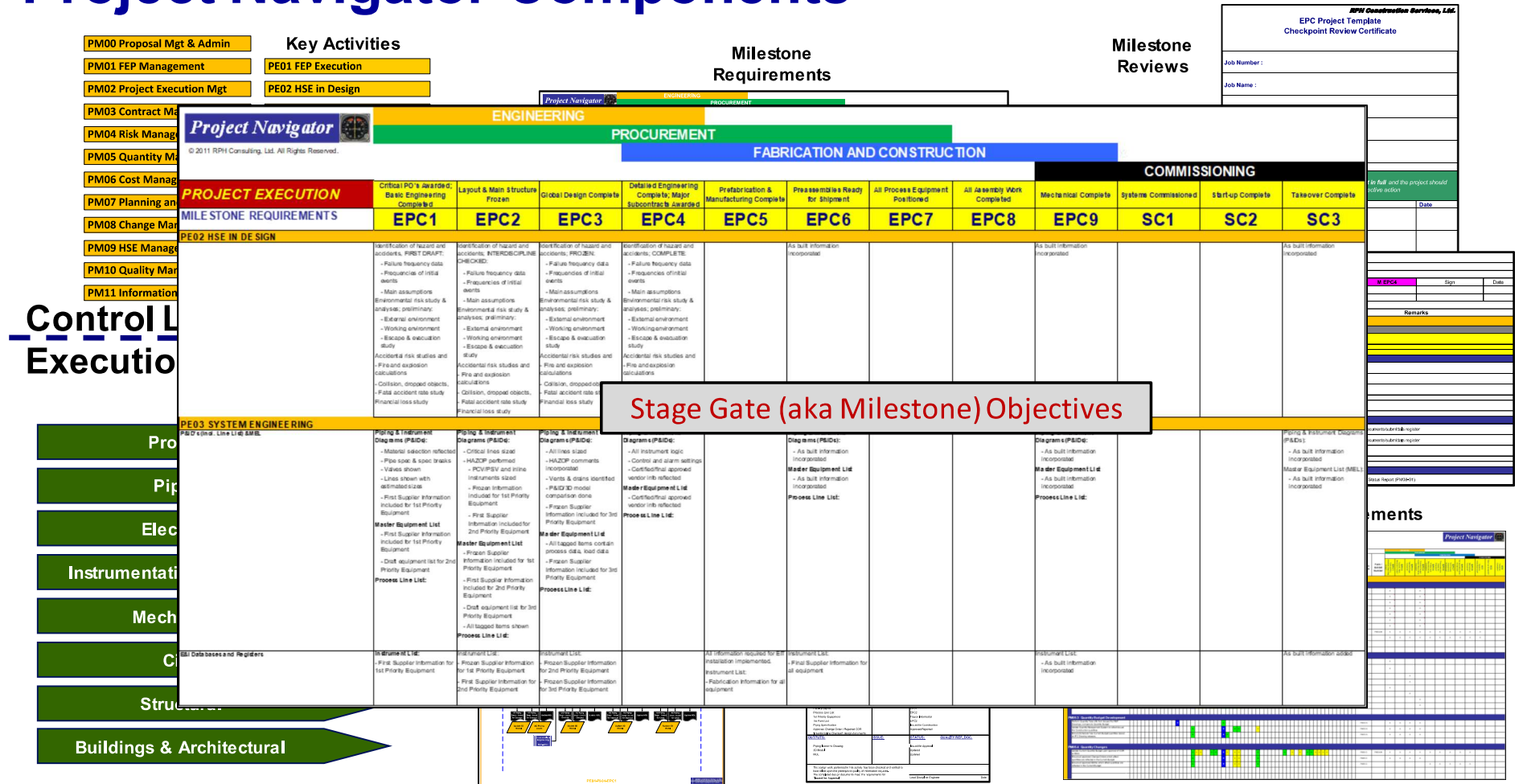
  

Project Navigator		Project Title:		Project No.:		Client:		Milestone:		Sign		Date	
Key Activity		"Detailed Design Complete; Major Subs Awarded"						M EPC4					
Process or Handbook Subsection		Performance Requirement		Responsibility		Form No.		Complete		Remarks			
PM05 QUANTITY MANAGEMENT													
Milestone Requirements (Control Level)													
Quantity budgets for all commodities finalized based on IFC engineering information		PRQJ MGR											
Quantity reporting to client in accordance with client agreement		PRQJ MGR											
Quantity Management													
All Quantity Management changes to date reflected in the Project Execution Plan?													
Quantity management personnel mobilized to project in accordance with PEP02-04?													
Quantity tracking personnel for each discipline mobilized and trained in data collection processes and procedures?		PRQJ MGR											
Quantity tracking personnel trained; responsibilities communicated?		SITE MGR											
Quantity tracking personnel trained; responsibilities communicated verified?		PRQJ MGR											
Quantity Budget Development													
Quantity Take offs performed from each Issued For Concept drawing releases; quantities compared to Quantity Budget?		DIR EST											
Quantity Management System updated to reflect each Issued For Construction drawing releases?		COST ENG											
Has Scheduler been forwarded Current Budget quantities based on IFC Drawing releases?		COST ENG											
Quantity budgets finalized based on IFC engineering information?		PRQJ MGR											
Quantity Changes													
All approved Change Orders which affect quantities are reflected in the Current Budget?		COST ENG											
Have quantity change calc sheets been prepared for all proposed changes?		COST ENG		PM05-04									

Buildings & Architectural		Process		Piping		Electrical		Instrumentation		Mechanical		Civil		Structural	

# Project Navigator Components





# Project Navigator Components

PM00 Proposal Mgt & Admin

PM01 FEP Management

PM02 Project Execution Mgt

PM03 Contract Management

PM04 Risk Management

PM05 Quantity Management

PM06 Cost Management

PM07 Planning and Scheduling

PM08 Change Management

PM09 HSE Management

PM10 Quality Management

PM11 Information Management

**Key Activities**

**Project Navigator**

**Milestone**

**MILESTONE REVIEW STATUS**

**Milestone**

**Milestone: EPC4**

☒ Milestone Objectives not met. The project has not met the requirements to pass the Milestone Review. Plan implemented to complete the Milestone Objectives. Follow up review required.

☐ Corrective Actions Required. The project has met the requirements to pass the Milestone Review. Plan implemented to complete required corrective actions.

☐ Punch List Items Open. The project has met the requirements to pass the Milestone Review. Plan implemented to close out open punch list items.

**PROJECT MANAGEMENT**

PM02 Project Execution Management

PM03 Contract Management

PM04 Risk Management

PM05 Quantity Management

PM06 Cost Control

**PROJECT EXECUTION**

PE02 HSE in Design

PE04 Discipline Design

PE05 Procurement

**PROJECT EXECUTION**

PE06 Subcontracting

PE07 Construction

PE08 Commissioning

**Requirements**

**REQUIREMENTS**

**Control Level**

**Execution Level**

**Process**

**Piping**

**Electrical**

**Instrumentation & Control**

**Mechanical**

**Civil**

**Structural**

**Buildings & Architecture**

# Project Navigator Components

- Training Modules
- Training Videos





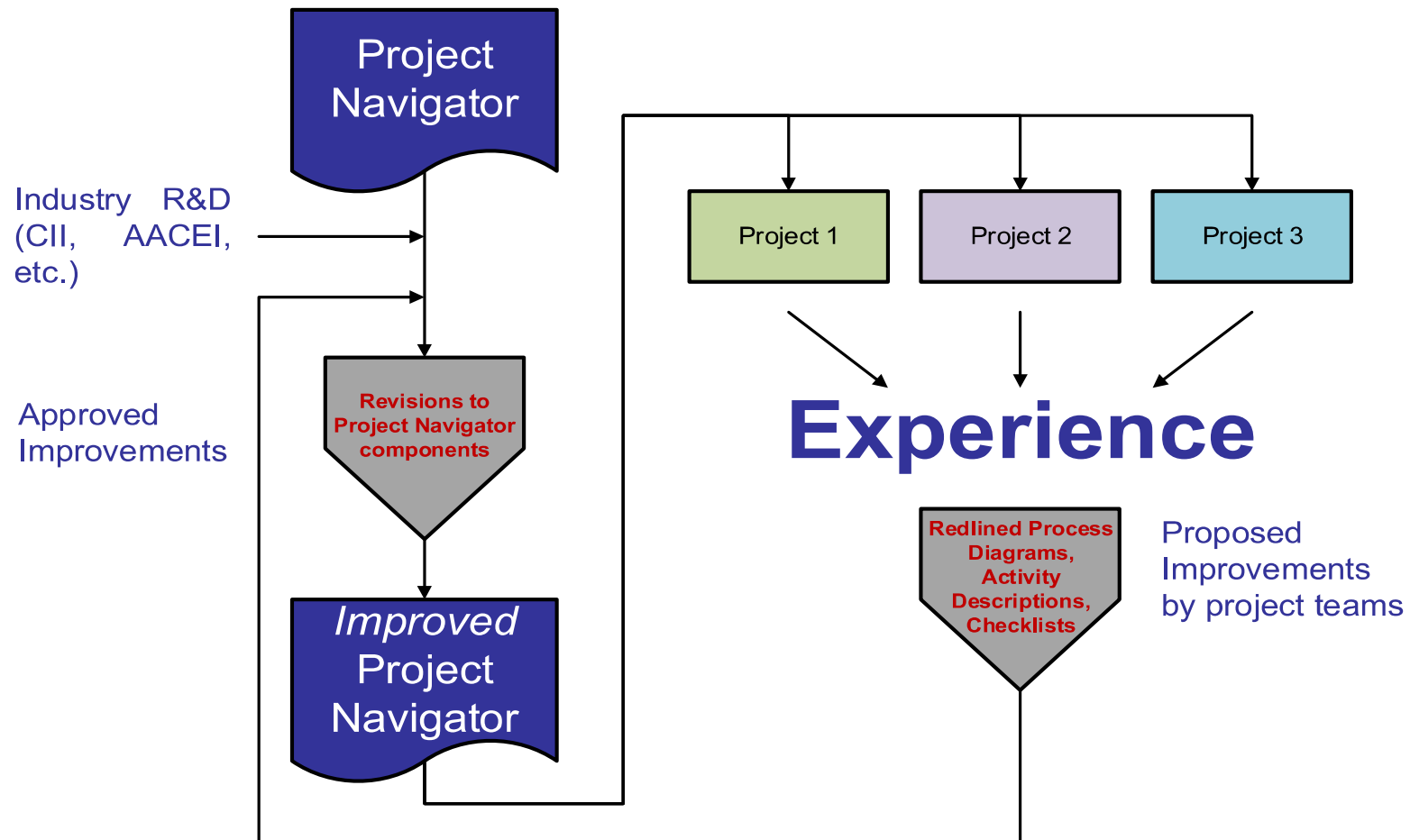
# Planning with the Project Navigator

- Standard Work Breakdown Structure (WBS) and Project Execution processes use same taxonomy for L1, L2 and L3.
- As the project WBS is developed, each process (L3) and account (L4) has a default Milestone successor.
- WBS information can be imported into P6 for CPM scheduling
- Upon completion of the estimate, man hours and quantities can be imported into P6.
- Activity durations and logic are completed to maintain the desired Stage durations / Milestone dates.
- Detailed Engineering, Procurement, Construction and Commissioning registers are developed using the process outputs “cloned” to match the project WBS.

# Milestone Reviews

- Milestone Reviews are formal review processes coinciding with the end of each project milestone.
- Purpose is to qualitatively assess project performance against best practices.
- Milestone Reviews are designated by operations management as Major or Minor reviews. This is determined by risk factors.
- Team members are assigned responsibility for maintaining Key Activity Milestone Checklists.
- Checklists are compiled; discrepancies identified on the Milestone Review Punch list.
- External audit team reviews findings; conducts site walks, interviews team members in order to complete the review.
- Result is qualitative and appears on several management reports.
- Results published to executive management.

# Project Navigator Improvement Process



## Conclusion

*If you don't know where you are going, you might wind up someplace else....***Yogi Berra**

## Conclusion

