



# Design Engineering Project Workflow



**Kickoff Meeting**  
Sales, Engineering and Project Management.  
“Sales to OPS Handover”

PM 080

**Quality Gate**  
Sales to Operations Turnover Checklist

**Project Management and Project Engineering Teams Plan:**  
**Project Management Strategy**

- Project Engineering Strategy
- Project Graphics
- Project Deliverables

**Design Mechanical Control Systems via Siemens “Design Tool”. All Points are confirmed and named per Apple Point Naming Convention and the following deliverables are produced:**

- Mechanical Drawings
- Electrical Drawings
- Bill of Material with Data Sheets
- Sequence of Operations
  - Graphics
- Powers Programming Control Language (BAS Programming)
  - Point Database
  - Engineering Cost

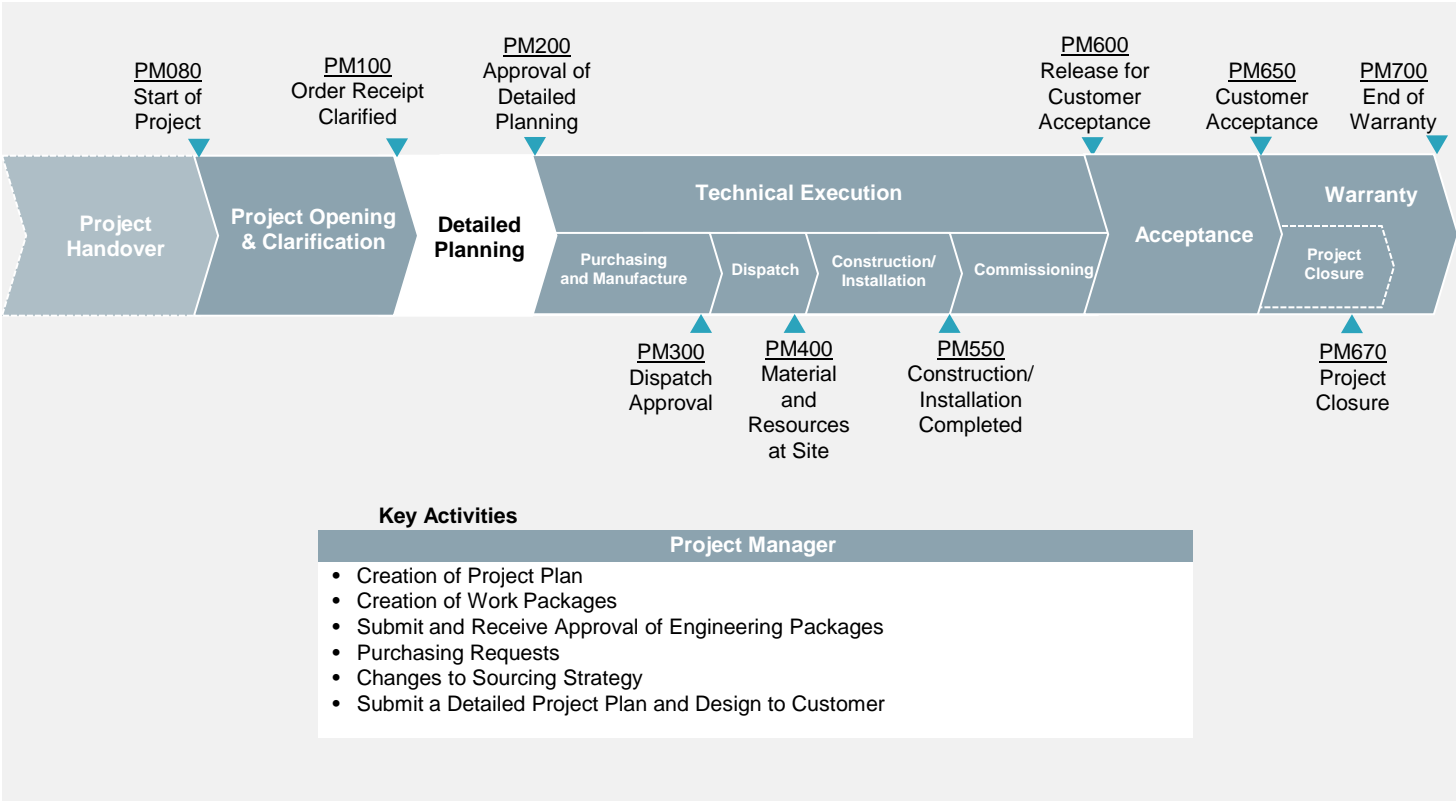
Identified Non-Conformance Items?

Yes

No

**Quality Gate**  
Siemens Internal Audit:  
Project Team Verifies Scope Against Apple Spec

PM 100



**Quality Gate**  
Confirm Siemens Mechanical Control System against the Apple Plans and Specifications (Checklist Completed)

Create Control System Profile in Siemens “Design Tool” and Produce Riser Diagram

Create Sequence of Operations per Apple Plans and Specs

Develop Bill of Materials (Keysheet) in Siemens Design Tool

**Quality Gate**  
Design Engineer and Project Manager Review Including Sequencing, Riser Design and Electrical Layout

Is Design Complete?

No

Yes

Submit RFI to DPRS

RFI Response Received with Clarification from DPRS

Assemble Full BAS Submittal Package

**Quality Gate**  
Design Engineer and Project Manager Review Complete Submittal

Submittals per Apple Project Specs

Submittal Approved?

No

Yes

Assess Rejection Comments and Make Corrections

Graphic Design Completed and Programmer Completes PPCL

**Quality Gate**  
Review Graphics and PPCL PM/ Specialist Turnover Meeting

Design Team Orders Materials

From Field Activities Work Flow: Warranty Phase  $\Omega$

To Field Activities Work Flow: Pre-Functional Phase  $\Sigma$

Complete As-Built and PPCL Documentation

Archives Graphics, As-Built Files and PPCL.

**Quality Gate**  
Engineering Closeout

PM 670

