



The 9 Key Elements of Successful Plant Commissioning

Element 3 - P&ID CHECKING -

Synonyms

- System Check
- System Check for Construction & Engineering Errors
- Plant Inspection
- Punching

Who checks?

Commissioning Team (Commissioning Engineers)

What to check?

- Piping - Every line has to be walked!
- Equipment - Vendor?
- Instrumentation
- Point of View
 - Safety
 - Construction
 - Operations
 - Maintenance

Additional Tasks

- Temporary identification tags
- Temporary signs for various lines, valves and equipment
- Temporary signs for medium and flow direction
- Why? - To assist subsequent commissioning & start-up activities

When to check?

- After handing over systems from construction to commissioning team
- Before starting any pre-commissioning activities
- Several checks can be done simultaneously
- A **final** check ("Conformity to P&ID check") after completion of all pre-commissioning activities

Which P&IDs?

- Latest revision!
- Marked with system boundaries

Which other documents?

- Plans
- Drawings
- Checklists
- Specifications
- Standards
- Hook Ups
- Vendor Documents

Remember!

Smooth start-up depends to a large degree on the thoroughness the unit is checked beforehand!

Checking Method (Example)

- Define which color has which meaning. Mark checked items with a highlighter on the system P&IDs.
- Faulty items get a check number. Write this check number on the P&ID and enter this number with a description of the fault into the punch list.
- Make two copies of the marked system P&IDs and two copies of the system punch list. Attach each punch list to its respective P&ID.
- One copy is used as work / re-check copy.
- The other copy is used as the commissioning team master copy and filed with the respective system files.
- The original punch list and marked up P&ID is the "System Master Punch List" and is sent to and kept in the system punch list master files by QA/QC department. Punch items should be signed-off by the respective "Originating Punch Team" or "Authority".
- Construction QA/QC control management through their respective punch list coordinator takes care of execution, correction and signing-off of the original "System Master Punch List" through the respective construction discipline punch list execution team.
- After correction of punch items the respective construction punch list execution team will inform the respective "Originating Punch Team" or "Authority" that the work is completed and will do a combined re-check for immediate signing-off of the original system master punch list.

Punch List

- If you are unsure of the validity of any item --> Contact the lead unit process engineer
- Any punch item which changes any feature of the P&ID must be screened by the lead unit process engineer from a design and safety point of view before implementation.
- Transmitted to
 - Construction
 - Engineering
 - QA/QC