# EUROfusion - Commissioning

- Identify
  - Relevant people (Project Leader, Experiment team, Topical Group leader, Group/section leader, Commissioning Leader, Project Manager)
  - Machine areas for access (Torus hall, basement, control room).
  - Key systems – protection, safety, etc. (Local Controller, vacuum system, gas supply).
  - Key personnel – who is responsible for personnel and machine safety, protection systems, responsible officer for key systems for the interfaces (responsible officer, safety officer).
  - Operational processes – what assessments/authorizations are required (risk, work authorization)
  - Relevant meetings where the document and interfaces are discussed/approved, work is coordinated.
- Work control: Is a Risk Assessment applicable to this work? Is an Authorisation Form required?
- Prerequisites, Required services and status (Including list of commissioned subsystems) - Mains power, Pulsed power, Protection systems, Cooling water, Compressed air, Machine control, IT, Networks, Remote access, Torus Hall sole access, Torus Hall locked, Vacuum, Plasma.
- Documentation: Master manual, Manual(s) for subsystems, Control Interfaces describing the control (operational) modes, interfaces and sub-components, Factory Acceptance Test (FAT) functional test procedure, acceptance criteria, “demonstration of achieved performance” and other reports, On-Site Acceptance Test (O-SAT) procedure including checks of external interfaces (e.g. machine protection system) and the operation of the system “as a whole”and as-built drawings or CAD model.

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- Scope: Brief description of the aim of the commissioning procedure. Major stages: Offline tests, optimisation and characterisation, safe operation.
- Equipment: all the equipment needed to perform the commissioning, calibration records , etc.
- General Test Procedures: Prerequisites for system commissioning (status of the plant needed to perform the commissioning and all procedures that have to be completed prior to the start of the commissioning), specific procedure description.
- Test Reports: Initial conditions (reports from every subsystem), main tests, plant state at the end of tests.
- Readiness for operation: Category of the system being commissioned, Summary of the commissioning task, Commissioning team, Comments/Exceptions (any non-conformances that might limit system performance, if appropriate raise a non-conformance report and support with additional documents describing the exceptions).
- Declaration by the Section Leader: I confirm that, with the exceptions mentioned, the equipment has been commissioned and is safe and ready for operation.
- Final remarks: Lessons learned/additional comments, proposed considerations/modifications for the next commissioning cycle.