



Cryogenic safety organisation at CERN

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Safety at CERN – Safety Policy

- Objectives

- To ensure best possible protection in health and safety matters of all persons (Organization and vicinity) and to guarantee the use of best practices in matters of Safety;
- Limit impact of activities on environment.

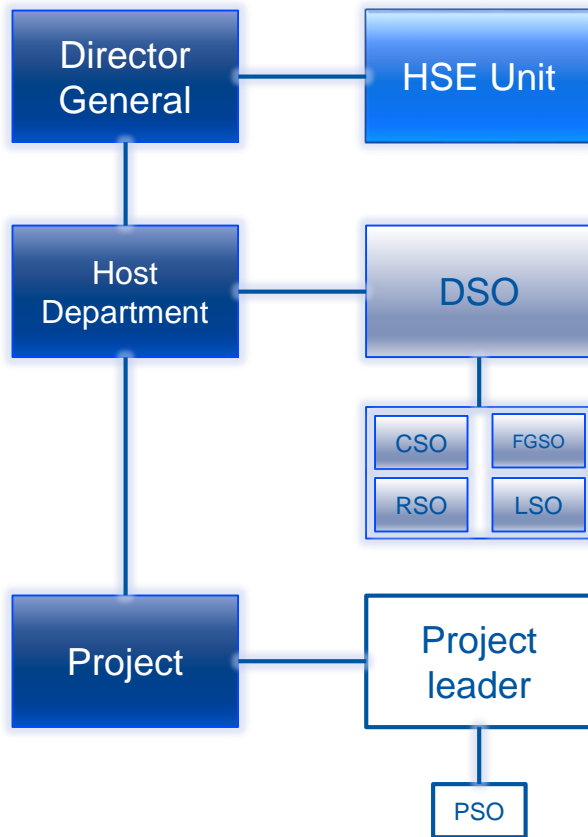
- Means

- Continuous improvement of Safety;
- Constant & proactive communication and training;
- Safety Rules.

- Implementation principles

- Organic units responsible for implementation of CERN Safety Policy at all levels;
- HSE role of providing assistance for implementation, monitoring role related to continuous improvement;
- Set-up of safety management system to update prevention objectives, handling of emergencies;
- Individual responsibility.

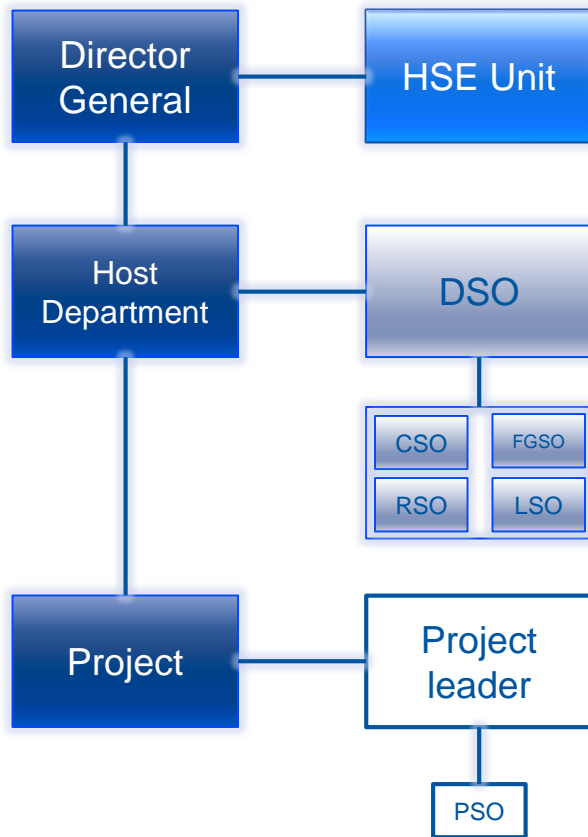
Roles and responsibilities



[Adapted from SR-SO]

- **Project/Experiment leaders**
 - Responsible for Safety within his project
 - Takes necessary measures to ensure that Safety Files for his Project are established and updated; Safety clearance is obtained.
 - Appoint a Project Safety Officer if so deemed appropriate.

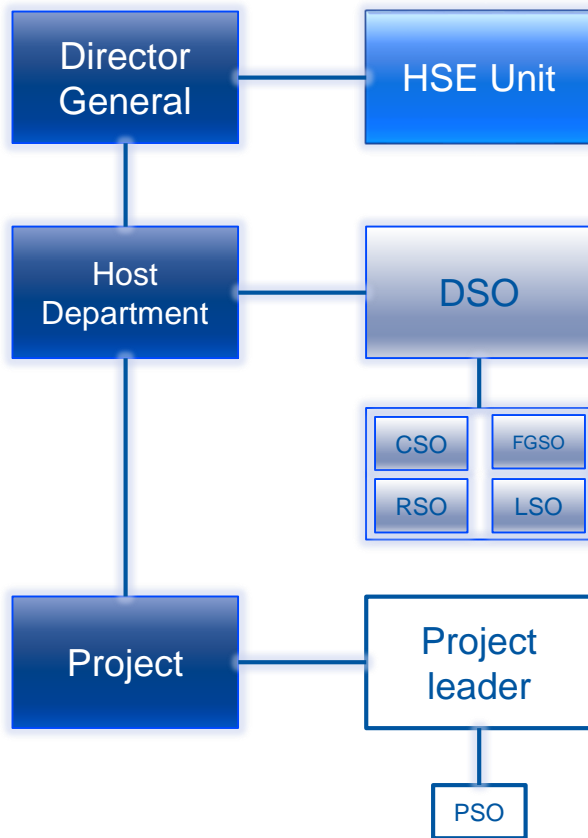
Roles and responsibilities



[Adapted from SR-SO]

- **DSO – Departmental Safety Officer**
 - “keep himself and his Dept. Head informed regarding all aspects of Safety within his Dept. and the experiments hosted by it”
 - “propose and monitor the implementation of appropriate measures to ensure compliance of installations, activities and projects under the responsibility of his Dept. with the CERN Safety Policy, CERN Safety Rules and Best practices”
 - “contribute to the improvement of Safety in his Dept.”
- **CSO – Cryogenic Safety Officer**
- **FGSO – Flammable Gas Safety Officer**
- **RSO – Radiation Safety Officer**
- **LSO – Laser Safety Officer**

Roles and responsibilities



[Adapted from SR-SO]

HSE – Health, Safety & Environmental Protection Unit

Mission

- Support and monitor implementation of CERN Safety Policy, CERN Safety Rules, best practices at all levels;
- Establish and update Safety Rules;
- Grant Safety clearance for Installations, including special equipment, activities, projects and experiments with major Safety implications.
- Report to the Director-General on the activities and results in matters of Safety.

Scope of work

- Provide expert support in Safety risk assessment, mitigation and control;
- Propose Safety improvements;
- Provide training, information and awareness-raising in Safety matters;
- Monitor compliance in matters of Safety through targeted audits, reviews and inspections.

HSE Unit – Regulatory role

- Establishes the Regulatory framework in matters of Safety for the organization. In cryogenic equipment: SR-M & GSI-M-4
- Determines equipment liable to have major Safety implications and defines the terms of compliance for such equipment.
- Carries out compliance project checks required to provide Safety Clearance.
- Safety inspection service – CERN authorized inspection body in charge of:
 - Pressure tests of equipment designed at CERN, pressure installations
 - Periodic Safety inspections of Safety valves
 - Periodic inspections (visual) of pressure vessels
 - Re-qualification of transportable vessels
- Investigation and follow-up of accidents.

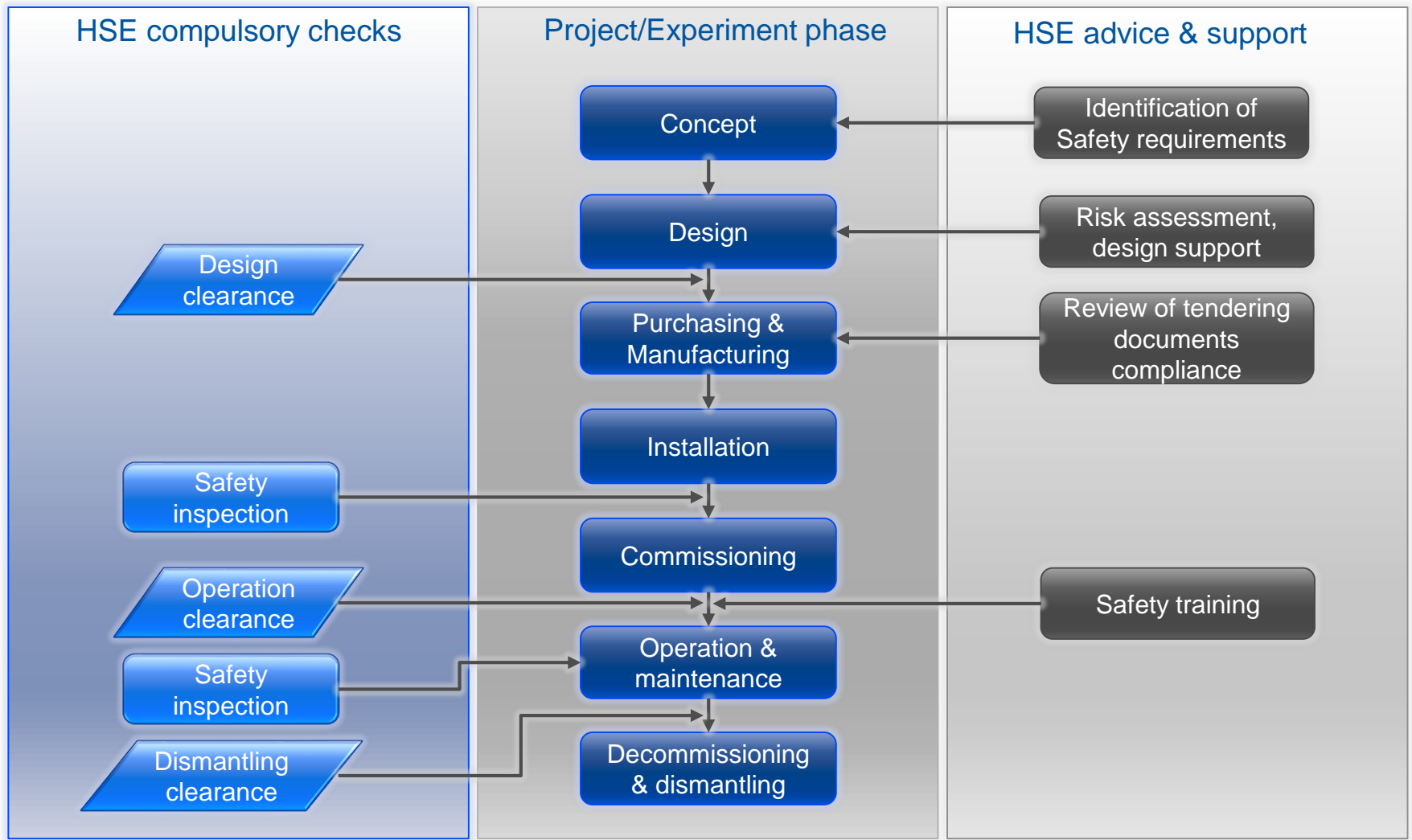
HSE Unit – Regulatory role

- CSOC – Cryogenic Safety Officers Committee.
 - Regulated by GSI-SO-11.
 - Identification of issues, exchange of information, lessons learnt, proposal of improvements.
 - CSO and HSE Cryogenic Safety experts.
 - Active process in the creation of Safety Rules and Safety guidelines.
- Continuous improvement on Safety matters in collaboration with other departments/groups
 - Internal qualification of welders procedure established with EN/MME, work in progress.
 - Agreement with EN/MME on minimum scope of NDT inspections of metallic piping as per cat. I, EN 13480-5 (EDMS 1414108).
 - Survey of Safety valve stock conformity on CERN Stores.

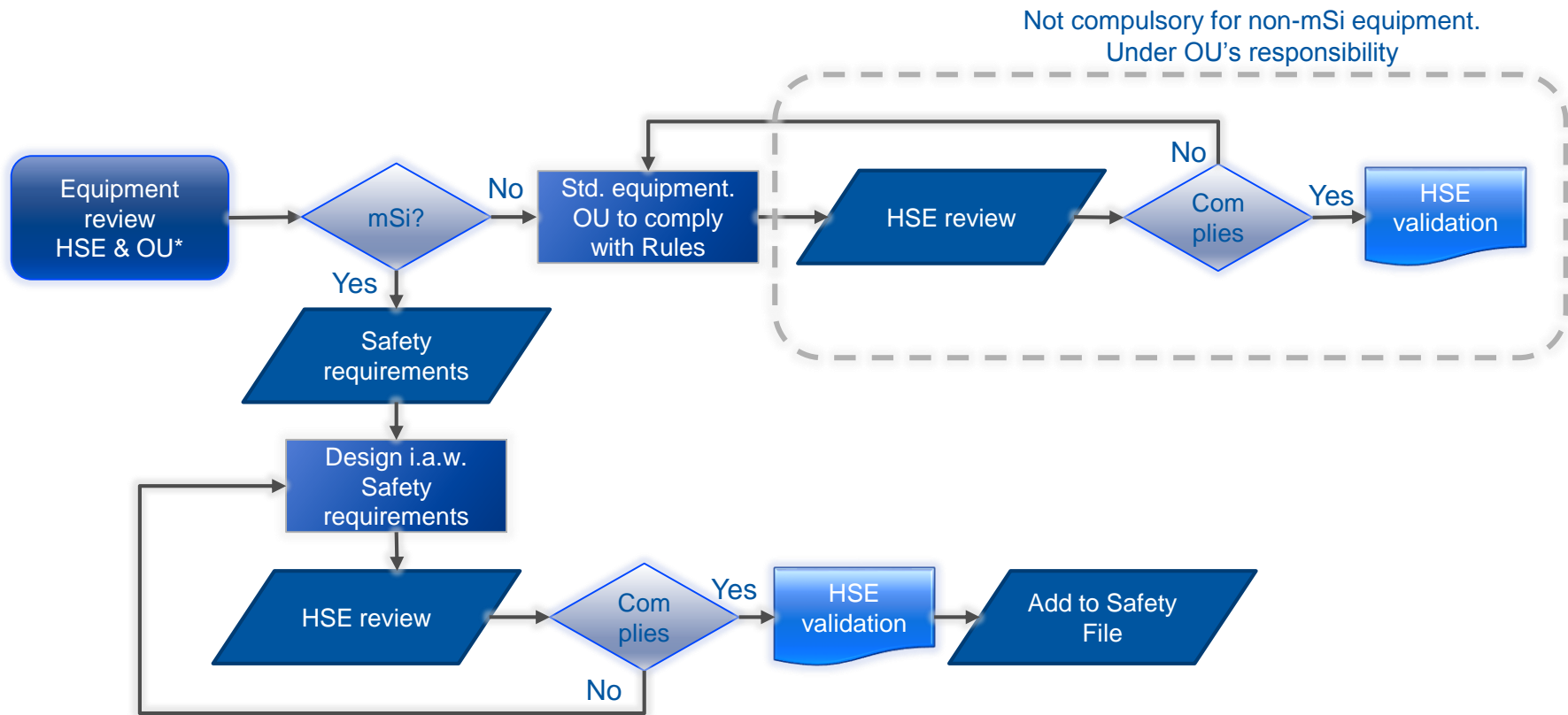
HSE Unit – Support and advisory role

- Provides advice on interpretation and application of Regulatory Framework.
- Engineering expertise support on implementation of EN standards: design, manufacturing, inspection requirements.
- Risk assessment methodology.
- Tender Support Activity: review of technical specifications in call for tenders. Attendance to specification committees.
- Tools, guidelines, templates:
 - Kryolize
 - Cryogenic Safety Guideline SG-M-4-0-1, Safety assessment checklist.
 - Safety guideline OHS-0-0-1 – Risk Assessment
- Online and classroom training:
 - Cryogenic Safety – Awareness (online, developed by HSE & TE-CRG-CI)
 - Cryogenic Safety – Fundamentals & Helium Transfer (classroom, developed and imparted by TE-CRG-CI & HSE)

HSE Unit – project life cycle



HSE - Safety validation process



*OU = Organic Unit

