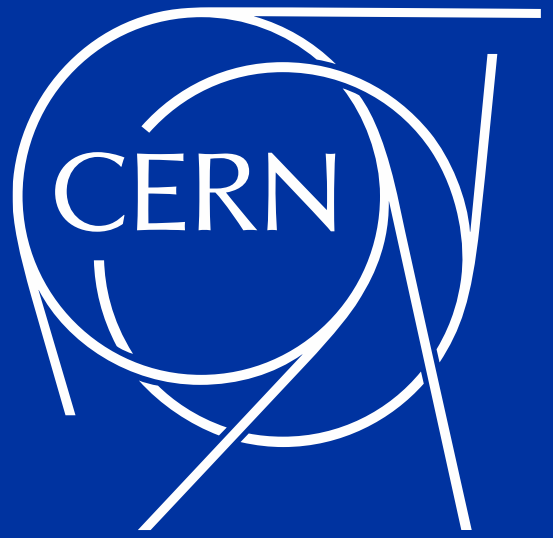

CERN

Technical Galleries Consolidation- Follow up of actions

TG-CONS Project board meeting #2

Adrianos Filinis, on behalf of the TG-CONS core team

Actions defined at the last PB#1

TECHNICAL GALLERIES CONSOLIDATION

Action no. Description

1. Contact SCE regarding the Integrated Safety documents update.
2. Define the detailed scope of the TG-CONS Project.
3. Consider rearrangement of SCE and CV piping works. Sebastien will address on Schedule slides
4. Distribute specific guidelines to clarify the ECR process
5. Prepare M2P request for MTP exercise. Sebastien will address on budget slides
6. Check the official French/Swiss regulations on how often specific systems must be replaced.
7. Contact SCE, CV and other relevant services (e.g.: HSE) regarding Desired temperature range of heating system. Sebastien will address
8. Create a global budget request regarding maintenance and operation after the completion of galleries' renovation.

Action no. 1 and 2

TECHNICAL GALLERIES CONSOLIDATION

1) Contact SCE regarding the Integrated Safety documents update:

- Still early to be able to close this action
- There is a clear distinction between tertiary and machine galleries since 2011, EDMS : 1176596
- There are new discussions to define the ownership of the galleries (in our case) and the distinction between machine and tertiary at the meeting: Boundaries Responsibilities EN/SCE
- In the TG-CONS project we follow the guidelines from GIS until new guidelines are published, an excel file have been prepared with all Tertiary and machine galleries, existing TSO

2) Define the detailed scope of the TG-CONS Project:

- It is clear that TG-CONS will not replace all existing equipment but rather the critical ones, that can't last for the next 30 years.
- An example of such system, is the Cryogenic equipment. It is in good condition and there are discussions to find optimal solution between displacing and replacing them

J5

	A	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	47 TG	Tertiary, 31 total	Machine, 16 Total	TSO	Deputy	Loop network	Single network	EPF	EI	Chilled water	AC	Overch aufe	He	Ar	CO2	Kr				
2	180			Faes Rodrigue Daniel	Leboube Christian Georges															
3	183			Faes Rodrigue Daniel	Becle Steve Thierry															
4	371			Mastrostefano Christian	O'Neil Michael															
5	787			N/A																
6	793			N/A																
7	794			Genillon Xavier	Mathieu David Patrick															
8	797			N/A																
9	815			N/A																
10	817			N/A																
11	819			N/A																
12	821			N/A																

Galleries Prevessin | Galleries Meyrin

Action no. 4 ECR, When Handling Changes

TECHNICAL GALLERIES CONSOLIDATION

- 1st step: need for a change identified
- Projects responsible for the required change

- In Technical Galleries: using Engineering Change Requests (ECRs)
  - Determine an associated name for the change (equipment, function, layout, service…)
- What for:
  - Inform other stakeholders and get their approval/refusal
  - Impact analysis (cost, schedule, performance)
  - Allow all persons concerned the opportunity to comment about the impact of changes on surrounding equipment or general planning
- ▶ Use TG CONS version of ECR with approval procedure and checkers list, EDMS:2664831

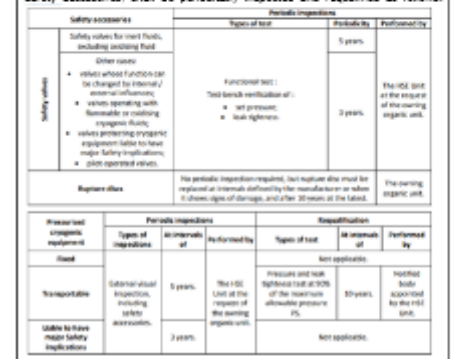
Action no. 6: Check the official French/Swiss regulations on how often specific systems must be replaced

TECHNICAL GALLERIES CONSOLIDATION

2. CERN regulations according to the Swiss and French authorities on inspection and maintenance of equipment in the TG.

Table 1 – How often specific equipment found in the technical galleries should be checked and changed

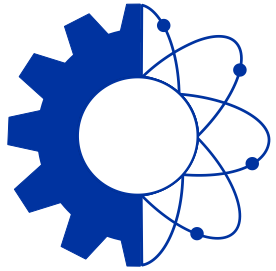
Equipment	Maintenance Regulations
Level 3 Alarms	The group technically in charge must ensure that the alarm systems are regularly maintained and, at least once a year, checked and calibrated in accordance with procedures to be established with the TIS Division. Each test must be documented by the group technically in charge to ensure the traceability of maintenance work [1]
AUG	* The competent electrical service at CERN must make arrangements for their regular maintenance and must carry out operational inspections of the alarm systems at least once a year, in line with procedures to be drawn up with TIS Division (IS-37). * These inspections will be the subject of a summary report, a copy of which must be sent to the TIS-GS Group. * Work on the AUGs must be traceable. * The AUGs must come under the responsibility of a single service with an adequate knowledge of the electrical power distribution network [2]
Electrical Equipment	Safety regulations must be taken into account right from the initial conception stage of electrical equipment and installations. In particular, the design of electrical installations must comply with CERN regulations concerning emergency stops (Ref. IS-2). Moreover, electrical equipment and installations must be inspected before they are first used, after any major modifications and subsequently at suitable intervals: - Before putting into service, inspections must be carried out by those responsible for the construction and operation of the equipment. They must be recorded. - Users are responsible for carrying out and recording regular inspections [3]
Lighting/Emergency lighting	1) Maintenance mensuelle • Mise en service des éclairages de sécurité en simulant la défaillance des alimentations normales, sans nuire l'autonomie de l'installation ; • Essais des dispositifs de mise à l'état de repos. 2) Maintenance semestrielle Test d'autonomie d'au moins 1 heure, sans dégrader la disponibilité des installations de sécurité dans les périodes d'exploitation des ouvrages. 3) Registre ou carnet de maintenance Chaque opération de maintenance devra être tracer dans le registre de l'ouvrage (rapport EDMS par ex) 4) Inspection initiale • Examen du dossier technique de l'installation ; • Examen sur site des conditions d'installations ; • Mise en service des éclairages de sécurité en simulant la défaillance des alimentations normales, sans nuire l'autonomie de l'installation ; • Essais des dispositifs de mise à l'état de repos ; • Contrôle visuel d'état et du positionnement des luminaires. 5) Inspection périodique annuelle Mise en service des éclairages de sécurité en simulant la défaillance des alimentations normales, sans nuire l'autonomie de l'installation ; Essais des dispositifs de mise à l'état de repos ; Contrôle visuel d'état et du positionnement des luminaires. [4]
Mechanical Equipment	**Periodic inspections.** The owning organic unit shall ensure that, where required, the item of mechanical equipment is subject to the periodic inspections defined in the applicable CERN Safety Rules or, where none exist, in the laws of the Host State in which the item of mechanical equipment is used. **Maintenance.** The organic unit owning an item of mechanical equipment shall ensure that it is correctly maintained to guarantee its safe use and the safety of its users. Maintenance shall be based, in particular, on the manufacturer's instructions, where they exist. [5]

Standard Pressure Equipment	**Periodic inspections** Standard pressure equipment (excluding standard pressure equipment with a maximum allowable pressure of PS ≤ 0.5 bar)), as well as all safety accessories, shall be subject to periodic inspections comprising: • a check of the Safety File; • a general check of the installation conditions (if applicable); • a visual check; • a check that the item of equipment is in an identical state to that defined by the manufacturer for all reasonably foreseeable conditions; • functional checks to make sure that the item of standard pressure equipment can perform its specific functions safely, with no risk to personnel or the surrounding environment. These periodic inspections shall take account of the additional Safety requirements of the Specific Safety Instructions, where they exist. A check of the correct operation of safety accessories, where they exist, is compulsory for all standard pressure equipment. Except in the case of a hired item of standard pressure equipment, the periodic inspections shall be performed by the CERN Safety Inspection Service, at the request of the owning organic unit. The user entity using an item of standard pressure equipment, including hired equipment, shall be responsible for making sure that it has undergone a periodic inspection. Any item of standard pressure equipment which fails a periodic inspection and cannot be repaired shall be decommissioned and dismantled without delay (cf. Section 2.10). Periodic inspections shall be documented and the corresponding data archived in the Safety File. Maintenance The organic unit owning the item of standard pressure equipment shall establish a maintenance schedule which guarantees the safety of users and operational safety, based on the manufacturer's instructions or on the additional Safety requirements of the Specific Safety Instructions where they exist. **Maintenance** operations shall be carried out, documented and included in the Safety File. Where such standard pressure equipment has been hired, maintenance shall be the responsibility of the owner. The user entity using the item of standard pressure equipment shall be responsible for making sure that the maintenance operations have been performed [6]
Cryogenic Equipment	**Periodic inspections** All items of pressurised cryogenic equipment, as well as safety accessories, shall be periodically inspected and requalified as follows:  The visual inspection consists of a general check of the installation conditions and a check that the item of pressured cryogenic equipment is in an identical state to that defined by the manufacturer for all reasonably foreseeable conditions. This

Action no. 8: global budget request

TECHNICAL GALLERIES
CONSOLIDATION

- **A very important action for the project, that it is not possible to address 100% at this stage**
- **As many inventories are on going, it is not easy to know the impact of the consolidation and maintenance work**
- **For every modification and intervention an impact is created for the different stakeholders to be informed**



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