



*Inquiry about
Radioactive Workshops & Storage
needs*

A status report

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OUTLINE

Inquiry about RW&S needs

1. Why an inquiry?

*Workshops and storage facilities span **across Departments and Directorates**. Why embarking in such a huge and delicate task ?*

2. How are we doing it?

***Needs are many and varied**. The methodology to collect, store, study and present the data is a key issue.*

3. What is the current status?

*Given the task nature, it is important to have **guidance and support by the management** based on the intermediate results.*

4. What's next?

*"Clients" are knocking at the door with their RW&S needs! Despite the complexity of the task, **tight deadlines are required**.*



Why an inquiry ?

An alarming situation...

*Radiological surveys have pointed out an **unsafe, inefficient** and sometimes **alarming** management of radioactive accelerator components in workshops and storage areas. These concerns have been expressed by DG SCR & RSOs on several occasions (e.g. EDM5 997833 & 995282).*

*This situation is against the **safety rules** and the **effective operation** of the accelerator complex.*

*The Directorate is pursuing CERN-wide a **rationalization of radioactive workshops and storage**. At the last BFSP, the Director of Accelerators and Technologies has asked that, as a **first step**, a complete survey of all Departments' needs be performed.*



How we are doing it?

A unified inquiry form

① Case A Identification	1. Install.	2. Eq.code	3. Location	4. Short description	
	5. Depart.	6. Group	7. Section	8. PE / PL	9. MTF or EDMS/CDD refs.
① Case B Characteristics	1. Dimensions [m]	W L H	4. Items	a) Total Installed	5. Activation
	2. Weight [kg]	Total Spares 0		b) Spares Not active	
① Case C Maintenance	3. Unit cost [kCHF]	Activated	c) Total Faulty	d) Turnaround [items/yr]	e) Procurement [wk]
	h) Consequences if no spare is available : i) Detachable sub-components : Y / N				
① Case C Maintenance	1. Activity (per item)	2. Duration [man x h]	3. Remarks (e.g. location)	4. Machining (activated comp.)	
	a) Visual inspection on site	b) Removal / Installation	c) Total Transport	d) Maintenance Not active	e) Machining Not active
① Case D Storage	f) Metrology	g) Alignment	h) Special Equipm. needed	i) Cost:	j) Remarks
	k) Cutting	l) Milling	m) Grinding	n) Brazing	o) Welding
1. Requirements	2. Buffer	3. Long Term	4. Oper. Waste	5. Medium Term	6. Other
a) Area [m ²] Not active	b) Height [m]	c) Storage type	d) Conditioning	e) Packaging	f) Pack. Weight [kg]
g) Environment	h) Handling devices	i) Liquids/gases inside	j) Chemical composition	k) Location existing storage	l) EDMS docs.
m) Other	n) Other	o) Other	p) Other	q) Other	r) Other

A *systematic, unified approach* is being followed by a unique inquiry form (EDMS 998529) to collect the equipment exploitation data. The form covers:

- ① *Equipment Identification*
Structuring the collected data, (traceability, existing documentation);
- ② *Characteristics*
Scoring the relevance of the need/equipment (operational, radiological, economical)
- ③ *Maintenance*
Identifying the technical needs (maintenance, machining, radiological)
- ④ *Storage*
Locating where the needs are/could be fulfilled (technical, operational, radiological, present & future needs).



What we will get?

The deliverables...

*In order to limit the data collection effort to the minimum reasonable level, the inquiry form will be filled for the **general equipment assemblies** (e.g. an RF cavity, a beam monitor). This will provide:*

- The roots of the **Assembly Breakdown Structure** (ABS) of all accelerators, i.e. a complete overview of the equipment managed by each Group;
- The detailed **list of labs and workshops** needed by each Group and their present/future use.
- The **storage area, volume, type, environment** needed to ensure the maintenance of the installed/future equipment.
- The **amount of waste** created each shutdown by machining and by preventive maintenance. Information about the waste due to equipment dismantling can also be inferred.



What is the status?

Intermediate results and outlook

The *inquiry form* & instructions have been *developed, tested, and distributed* to BE, EN, TE, PH. *Data collection is well advanced* in the BE Department.

First facts for your consideration:

- Radioactive *workshops, assembly labs* and *medium-term storage* are *tightly linked*: the same location is often used ;
- *Test equipment* for radioactive and non-active items is often *unique* and/or *very expensive*; it is often located in non-designated areas;
- Small radioactive spare items (e.g. electrical motors) are kept in the assembly lab (*long-term storage* and *assembly lab overlap*);
- *Equipment is not always identified/traced*, even for the LHC; *traceability* of pieces of equipment in the machines, workshops and storages *will be an issue*.



Concluding remarks

Inquiry about RW&S needs

1. We face a global, complex and delicate problem

*Several **Departments** (BE, EN, TE, PH, GS) and all **Directorates** are concerned in the effort to rationalize workshops & storage. The inquiry for which we are responsible is only a part of this effort.*

2. We need guidance and co-ordination

- *to **integrate our results** within the frame of general storage needs,*
- *to help in **identifying the resources** for any solution future solution (time, budget, spaces);*
- *to point out the **constraints** (e.g. technical, operational, legal).*

3. Support and advice is needed

- *to collect data from the experiments (PH);*
- *To obtain a timely response from the equipment owners.*