HSE
Occupational Health & Safety
and Environmental Protection Unit

Safety request form : Environmental Assessment for the use of SF6 in PS tunnel and PS Booster

Type of request: Environmental Assessment for the use of SF6 in PS tunnel and PS Booster	***Location:*** PS tunnel and PS Booster

A request was received to assess the need of an environmental assessment for the use of Sulphur Hexafluoride (SF6) in connection boxes which interface kicker magnets and transmission cables and in some special transmission cables in the PS tunnel and in the PS Booster.

The following information was given:
- The quantity of SF6 present in the PS is around 245 kg and the annual consumption is around 10 kg;

- 161 kg of SF6 is present inside the PSB and the annual consumption is around 5kg/year.

Documents provided by the requestor: [Documents provided by the requestor]

SAFETY DOMAIN CONCERNED

☐ Biological	☒ Environment	☐ Radiation protection
☐ Chemical	☐ Ergonomics	☐ Structural
☐ Cryogenic	☐ Fire	☐ Workplace
☐ Electrical and electromagnetic	☐ Mechanical	☐ Worksite
☐ Emergency	☐ Non-ionizing radiation	☐ Other (Specify)

ANSWER TO THE REQUEST

An environmental analysis based on the following issues shall be provided to the HSE Unit (sonja.kleiner@cern.ch):

a) Overview of the use of SF6:

- Inventory of the installations containing SF6 including quantity of SF6 (kg/year);
- Annual consumption (expected or known) of SF6 (kg/year);
- Annual emissions (expected or known) into atmosphere (kg/year);
- Annual quantity of SF6 recovered (kg/year);
- Valorisation/elimination pathway of SF6.

b) Control measures:

Description of existent or expected control measures. Control measures shall fulfil the requirements of the REGULATION (EC) No 842/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2006 on certain fluorinated greenhouse gases (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:161:0001:0011:EN:PDF), namely:

"Article 3:

2. Operators of the applications (…) shall ensure that they are checked for leakage by certified personnel who comply with the requirements of Article 5, according to the following schedule:

(b) applications containing 30 kg or more of fluorinated greenhouse gases shall be checked for leakage at least once every six months;

The applications shall be checked for leakage within one month after a leak has been repaired to ensure that the repair has been effective.

6. Operators of the applications (…) containing 3 kg or more of fluorinated greenhouse gases, shall maintain records on the quantity and type of fluorinated greenhouse gases installed, any quantities added and the quantity recovered during servicing, maintenance and final disposal. They shall also maintain records of other relevant information including the identification of the company or technician who performed the servicing or maintenance, as well as the dates and results of the checks carried out under paragraphs 2, 3 and 4 and relevant information specifically identifying the separate stationary equipment of applications referred to in paragraph 2(b) and (c).

Article 4:

1. Operators (…) shall be responsible for putting in place arrangements for the proper recovery by certified personnel, who comply with the requirements of Article 5, of fluorinated greenhouse gases to ensure their recycling, reclamation or destruction (…)

2. When a refillable or non-refillable fluorinated greenhouse gas container reaches the end of its life, the person utilising the container for transport or storage purposes shall be responsible for putting in place arrangements for the proper recovery of any residual gases it contains to ensure their recycling, reclamation or destruction.

4. Recovery, for the purpose of recycling, reclamation or destruction of the fluorinated greenhouse gases, pursuant to paragraphs 1 to 3, shall take place before the final disposal of that equipment and, when appropriate, during its servicing and maintenance.

Article 5:

3. The operator of the relevant application shall ensure that the relevant personnel have obtained the necessary certification (…) which implies appropriate knowledge of the applicable regulations and standards as well as the necessary competence in emission prevention and recovery of fluorinated greenhouse gases and handling safely the relevant type and size of equipment."

Suggestion: to describe in the Safety folder how these requirements are followed.

Documents relating to the answer: [Documents relating to the answer]

TRACEABILITY

Reference No.: [Ref No]	***EDMS No.:*** 1228403 v.1
Requested by: C-E. Sala BE/ASR	***Date: 10/10/2012***
Answered D. Rio DGS/SEE, S. Kleiner DGS/SEE	***Date: 10/24/2012***
Safety actors concerned: M. Tavlet BE/ASR	