

# PROCEDURE MANUAL FOR TPA-N SOURCES

*Subject: Utilization of Sources under GE-0748.35.00 AUTHORIZATION*

*Date: April 28th, 2015*

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## Room S01 has been declared « controlled zone » by the OFSP

### Introduction

The merger of the GE-748.35.1 and GE-748.36.1 authorizations into an unique authorization with the reference GE-748.35.1 occurred on March 17th, 2015, and was the opportunity to update the procedure manual for radioactive TPA-N sources.

### Established measures:

#### Physical security

The physical security of the sources is insured through:

- Separation of the sources  
The sources have been sorted out and only those frequently used in the lab are currently stored in the lab's safe. Other sources have been either destroyed or stored in Pavillon des Isotope's strongbox Nr 8. Indeed, experience shows that a multiplication of sources renders adequate control difficult.
- Storage place has been moved closer  
The safe storing frequently used sources has been placed in the lab itself. This was possible because the two following conditions are true:
  - 1- the visible activity at the surface of the safe is not higher than 0.5  $\mu\text{Sv/h}$  (obtained through the modification of the armor plated containers)
  - 2- the safe is equipped with one or more retention devices enabling the retention of sources in case of fire (obtained through the installation of stainless steel trays and by using a safe certified to resist up to 2 hours (120 minutes) to paper fire as per ETL standards).
- Access to sources  
To access the safe, a key and a PIN code are needed. Only people having signed the present procedure may be given the PIN code. It is absolutely forbidden to disclose the PIN code to anyone. The fact that the PIN code can be changed at any time prevents any unauthorized access. The PIN code will be changed as soon as the security is compromised, in particular in case of a suspected leak. The safe can also be locked with a key, of which only 2 copies exist.
- Solely sources which are effectively in use are allowed to be out of the safe

1 A movable source is allowed outside the safe only while in effective use. It must be replaced into the safe immediately after use. Taking out several sources at once, in order to avoid opening the safe several times, is strictly forbidden.

2 Following the merger of the GE-748.35.1 and GE-748.36.1 authorizations into a unique authorization with reference GE-748.35.1 on March 17th, 2015, the use of TPA-N sources is allowed in room S14 under the condition that the present procedure is strictly observed. Their storage remains nevertheless the location described in the list of sources covered by the GE-748.35.1 authorization dated March 17th, 2015.

- Identification of sources  
Sources are labeled so as to be easily recognizable (Sr-1, Sr-2,...)
- Unique Place  
Sources stored in room S01 do have a unique and exclusive location in the safe, in order to allow an easy identification of their precise position within the safe and simplify the control of their presence.

### Traceability

It is important to be able to trace the sources' utilization in order to facilitate their localization in case of loss or to take the appropriate measures in case of contamination.

- Keeping a log journal  
Prior to taking the source out of the safe, the name of the source, the name of the user, the date and time the source was taken out of the safe must be recorded in the log journal.
- Check the presence of the source prior to placing it back in the safe  
Storing an empty container is useless! Make sure that the container holds the source before placing the container back in the safe and record the return of the source in the log journal.

### Signalization

Movable sources can be very small. It is therefore important to signal each one of them clearly with a LED-flash-block once it is outside of the safe. (Don't forget to switch off the LED flash block once the source has been placed back in the safe)

### Rules of use

The rules of use are those set forth in the directive applicable to the use and handling of sealed radioactive sources. As a reminder,

- The lab is considered a controlled zone. You must wear the dosimeter at all times.
- It is strictly forbidden to eat or drink in premises containing sources under the GE-0748.35.1 authorization.
- In order to prevent an uncontrollable contamination, sources taken out of their shielded storage container must be placed on disposable surface material (paper sheet, plastic, etc.). This surface material - as well as the material used for the operation - has to be checked with the surface contamination monitor prior to being thrown away. Immediately initiate the decontamination procedure if any contamination is detected.
- Wash your hands whenever necessary but at least when leaving the lab. It is strongly recommended to use the disposable gloves that can be found next to the safe.

## Training

- Assistants who are using sources must have followed radiation protection training like for instance the one from CERN.
- As a general rule, students are not allowed to touch sources, unless duly authorized by the person in charge of the lab. During the first lab session, students will be given an introduction to radiation protection and the proper use of sources by the person in charge of the lab.

By signing this document (French or English version), you acknowledge having read and understood it and agree to follow the rules and guidelines therein.

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For the Nuclear Lab