



PHYSICAL PROTECTION OF NUCLEAR MATERIALS AND FACILITIES IN CEA

M-H. GARNIER-GRATIA, A. JORDA

Commissariat à l'Énergie Atomique Fontenay aux Roses, Central Security Division, France

CEA (Commissariat à l'Énergie Atomique), as nuclear operator, is responsible for the control and protection of their nuclear materials.

Inside CEA, DCS (Central Security Division) is in charge of the security matters, DCS defines the CEA strategy in this field, especially in physical protection. The paper will present the physical protection strategy of CEA. DCS defines the rules and methods; the operators have to apply in order to fulfill the security objectives of CEA.

CEA has to provide the regulatory authority with documents proving that it is in accordance with the requirements of the 25th July 1980 law and 12th May 1981 decree. It has to implement all the necessary means in order to achieve the results requested by the regulatory authority.

All these arrangements are described in the "license and control file". This file should specify the facility safeguards and physical protection system. Accounting measures are also described. In this file, the petitioner has to justify its capacity for holding nuclear materials and for exercising authorized activities on them. So the organization and the installed means have to be described in this authorization file.

For physical protection, containment, surveillance and physical protection measures are presented:

- Containment measures must prevent the unauthorized or unjustified movements of nuclear material in the framework of the authorized activities ;
- Surveillance measures must guarantee the integrity of the containment, check that no material is exiting by an abnormal channel ;
- Physical protection measures for the materials, the premises and the facilities are intended to protect them against malevolent actions by means of security systems.

The Central Security Division has established guidelines to provide guidance to the nuclear materials holders in writing such files.

Each holding unit has to establish a "license and control file" and each CEA site establishes a "site license and control file". Guidelines have been written for both files.

In the holding unit "license and control file" guideline, activities, nuclear materials, locations and organization of the facility have to be described.

About physical protection arrangements, guidelines are fitted to the category of nuclear materials.

The following arrangements have to be presented:

- **for category I**, reinforced protected area, building and vault delay arrangements, detection, access control, response force organization, control and maintenance of physical protection equipment,
- **for category II**, protected area delay arrangements, detection, intervention, control and maintenance,
- **for category III**, controlled area, access procedure.

Whatever the category, nature and physical shape of nuclear material, containment and surveillance of the containment must be described.

For the site, the operator has to present the operations performed on nuclear materials, the common means, its quality organization. For physical protection, site fence, gates, and surveillance principles have to be described.

The operating procedures must also be presented: access of people and goods, nuclear materials transportation and patrols.

The response force organization has to be explained: central alarm station, interruption procedures, training exercises and interaction with outside agencies.

The paper will present these guidelines especially the physical protection chapters and will explain how CEA shows with this document that the regulatory requirements are fulfilled.