

## HOW STAKEHOLDERS IN THE HEALTH SECTOR PERCEIVE THE ORGANIZATION OF RADIATION PROTECTION CONTROLS IN FRANCE

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In France, organisation of radiation protection controls involves:

- External actors at a national or regional level
- Internal actors inside the company

The external actors define rules and make regular inspections to assess the efficiency of these rules.

Internal stakeholders control the procedures in the field, in order to avoid bad practices.

The external regulatory bodies in hospitals are:

- ASN (Nuclear Safety Authority)
- Work Inspectorate
- AFSSAPS (French Health Products Safety Agency)
- DGS (French Ministry of Health)
- CRAM (Regional Health Insurance Fond)

ASN ensures the controlling of nuclear safety and radiation protection in France to protect workers, the public, patients and environment. It « drives » the system.

The Work Inspectorate is in charge of checking the regulatory observance of labour law.

AFSSAPS ensures the control of all the medical devices, including radiological equipment.

DGS, through AFSSAPS and DRASS (Regional Directions of Sanitary and Social Action) defines the policy of health system.

CRAMs aim to prevent accidents at work and occupational diseases. They have a role of advice and control.

Some compulsory controls are regularly performed by IRSN (Radiation Protection and Nuclear Safety Institute) or some registered organisms. They control the facilities and their conformity, but also how the radiation protection is organized inside the firm. They check also the observance of regulatory prescriptions (particularly by checking the measures ensuring workers' safety).

This approach from the outside is necessary to evaluate the measures taken to reduce the risks. Measures for external surveillance of facilities, equipment and architectural conformities are just a precondition to implement an effective radiation protection.

The advice of external control organisms may sometimes help internal actors to get some financial and human means, in terms of time and training.

The occupational physician is the central actor of the French occupational health system, in association with other multidisciplinary competence. He advises directly the employer and the workers about occupational risk management, and obviously the radiological risk, which is only one risk among many others (chemical, biological...) The guiding principle of this organization is to avoid any worsening of workers' health condition due to work and relies on the implementation of medical, technical and organizational competences.

After assessing the situation and making it standard when necessary in terms of health and safety, the physician will improve the radiological risk management, in collaboration with medical physicists, qualified experts or radiation protection officers (Radiation Protection Competent Person, PCRPP), safety engineers, etc.

Indeed, most of the identified problems in radiological protection in the medical field are due to poor professional practices, inadequate training, poor working management and defective radiological devices.

So, the occupational physicians will take in account the different sources of information from external controls, such as dosimetric results, workstation studies, architectural conformities...

In a second time, talking to the employee allows him to gather information about the exposure risk, exposed people, pregnant women... The collaboration between occupational physicians and the person competent in radiation protection, which is a regulatory obligation, is essential to organise training actions, procedure controls, methodological advice and complementary controls of the equipment. In addition, internal actors have an essential role in treatment of incidents: each incident requires an investigation and a causal tree to take the necessary corrective actions. The feedback to the workers is important and eased by the proximity of the internal actors. Learning from incidents is essential to avoid an accident and improve the quality of the radiation protection.

The PCRP is a French characteristic and is equivalent to the Radiation Protection Officer in other countries. He is the internal operational link of the radiation protection system. In collaboration with the occupational physician, the Hygiene, Safety and Working Conditions Committee, and the health department managers, he is an adviser to the employer in terms of ionising radiation protection. He can orientate the stakeholders or deal with current affairs.

First, he must analyse the workplaces.

This study is essential to assess the risk in normal working conditions. It is thus possible to give some quantifiable answers to the exposed workers, in order to convince them that there is a real danger or not.

This analysis will allow us to improve the level of occupational expositions, and to quantify this optimisation by measurement.

Afterwards, his role and missions are :

- To train and inform the exposed workers
- To define risky situations and make sure they are managed properly
- To make sure that regulation is applied
- To give technical advice
- To manage the active dosimetry system
- To make sure that external equipment controls are really performed

In this field, he has a special relationship with external regulatory authorities, control organisms or inspection bodies.

He checks himself regularly a lot of working situations, and being close to the workers allows him to take action rapidly in case of incident.

How does he perceive external controls?

One may think that only his job is assessed, and that poor results of an external control will be detrimental to him. So, in some cases, he may be suspicious of the external controls since the control policy measures have been newly introduced in the health sector.

Conversely, he thinks that external controls or inspections support the PCRP and comfort his advice in the opinion of internal actors. In addition, it is a good way to explain specific interpretations of technical or regulation problems. In the same way as occupational physicians, PCRP take the recommendations into account to set up corrective actions and assess them. A constant dialogue between PCRP and the authorities highly improves the level of radiation protection. Besides the explanation of the real situation sometimes allows a sensible application of regulation. This can be carried out if inspections allow exchange and confronting points of view, and not only a checking of compliance.

The problems identified are mainly:

- ✓ The extent to which the private control organisms are independent. We agree with the fact that the employer cannot realise himself the inspections, because he is both a judge and judged at the same time (but when you pay an organism, is it independence?)
- ✓ The controls of patients' exposures – in this case it is a peer review – in collaboration with experts, but what power of enforcement do they have?
- ✓ The structural and architectural conformities are assessed, but what about procedures and actors training levels?

In conclusion, one single external inspection is not enough because of its low frequency, and is favourably completed by an internal control, which is continuous but has no power of enforcement.

Generally the radiographer controls the source of X rays, and by this way, is the last safeguard to observe the radiation protection's principles. He is trained about imaging and treatments technique using ionising radiation, therefore he has essential knowledge to realise these acts in safety for patients and workers. For this reason, amongst paramedical profession, only radiographers are allowed by regulation to realise them.

In addition, they are obliged now to have training for radiation protection every three years. The external controls in radiation protection do not include the qualification level of radiographers, which is essential.

Indeed, these controls principally take into account the compliance of medical devices and installations. So, we can find a radiological installation which has a perfect level of technical compliance, but is used by untrained workers. In these conditions, it is difficult to always comply with radiation protection principles.

The good quality level of workers needs to be included in the regulatory external controls. In fact, radiographers have no contacts with people in charge of external controls and, if necessary, are used to ask internal actors (PCRPs and occupational physician) about the good level of compliance.

The manager is in charge of workers' safety. For this, he has to be helped by experts and take advice from them. They are often afraid by external controls, afterwards they may be asked formally to modify installations or equipment, even to stop activity. Conversely, this external look gives him a real idea of compliance level of the

installations. Consent by a registered organism is a juridical security for him. They consider that the advice of internal experts and occupational physicians is necessary to take good decisions in a very specialised field.