

PREVENTIVE DISTRIBUTION OF IODINE IN THE EVENT OF A NUCLEAR ACCIDENT

"Experience feedback on iodine distribution around Saint-Alban NPP in 1998"

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In the surrounding areas of the French nuclear power plant of Saint-Alban, the distribution of iodine tablets to the community was made possible by a combination of several factors:

⇒ Pooled efforts between public authorities (sub-prefect, local MPs, local information commission representatives), technical managers working at the nuclear power plant, plant spokespersons and plant occupational doctor,

⇒ The pre-existence of a close-knit network between the plant medical centre and the health services located around the NPP,

⇒ Preliminary groundwork: meetings on the advance distribution of iodine tablets had been held since 1993.

Teamwork enabled all players to get a grip on the decision to distribute these tablets and understand the reasons for and methods of distribution. It also broadened everyone's knowledge. Participants had the opportunity to prepare themselves for public debate and become familiar with the issues, giving them an advantage in public meetings.

Work was facilitated by the organisation set in place:

⇒ A steering committee consisting of the sub-prefect, the plant manager, the plant deputy manager, the plant occupational doctor, and a sociologist specialised in technological and natural risk. This committee met 4 times and organised the entire operation.

⇒ A commission of local authorities, consisting of the steering committee members led by the Chairman of the local information commission, with the mayors of the towns and villages concerned by the operation, the heads of the fire and emergency services, the French gendarmerie and the education authority, as well as representatives of the local associations and other services concerned by health protection measures.

⇒ A health workers' committee working together with representatives of local doctors and pharmacies, on the involvement and remuneration of health professionals in the populated area surrounding the power plant. The committee organised training and information sessions for all health professionals – general practitioners, school doctors, occupational doctors, dentists, nurses, physiotherapists and veterinary surgeons.

These meetings were co-ordinated by Professor ORGIAZZI, endocrinologist, from the Lyons Medical Faculty, and by Professor GERARD, radiotherapist, from the Lyons Medical Faculty.

The following topics were dealt with:

⇒ Nuclear accidents (plant occupational doctor)

⇒ Summary of radiopathology (Professor GERARD)

⇒ The thyroid and its function followed by stable iodine protection (Professor ORGIAZZI).

The second meeting dealt with organisational aspects, such as welcoming the inhabitants and distributing boxes of iodine tablets, and in particular, with the fielding of likely questions.

The sociologist, a specialist in major risks, gave advice on the concept of risk and on the ways in which to respond to such an event.

The content of the discussions that took place during these meetings included the design of a nuclear power station, the safety of the facilities and their operation, accident scenarios including core melt-down, releases, radioactive cloud, and the protective role of stable iodine.

Pharmacists play an essential role, as they are responsible for the tablets, which are supplied in a blister pack of 10. They distribute the tablets to families and establishments, the latter term being used in its broadest sense, i.e. schools, factories, health centres, commercial facilities, hotels, etc. The pharmacists' role was consolidated by the specific training of their staff, including assistants and dispensing pharmacists.

Though useful, the role of veterinary surgeons was slightly sidelined in order to avoid provoking additional panic among communities with an animal population, whether domestic or stock bred. Iodine protection is being studied with the participation of the veterinary Centre for Toxicological Information, and if radiation-countering dosages equivalent to those specified for adults are adopted, it is reported that these dosages could be easily administered in practice.

In reality, families would receive a letter from the sub-prefect and local mayor, as well as a brochure on iodine together with a voucher to be presented in exchange for one or more boxes of potassium iodide tablets. This could be done at their local pharmacy, their doctor or at the town hall where a medical student or a pharmacy would be on duty.

These vouchers were a useful monitoring tool, showing that 82% of the population went to claim their tablets. 66% had gone to the pharmacy and 20% to the doctor, thereby validating the decision taken at national level by the Interdepartmental Committee for Nuclear Safety, to assign pharmacists the leading role in the distribution of

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iodine tablets in the event of a nuclear accident.

Following St Alban's experience, the distribution of iodine tablets was implemented countrywide around all French nuclear power plants, under the supervision of the Ministry of Health, with the assistance of EDF as the nuclear operator.