



Development of a National Doctrine for the Post-Accident Phase of a Nuclear Accident

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Outline

- **The CODIRPA (steering committee) activities**
- **Policy elements for post-accident management in the event of a nuclear accident**
- **Main protective actions for the post-accidental phase**
- **CODIRPA next steps**





The CODIRPA activities (2005-2012)

The CODIRPA was implemented in 2005 to establish the framework, define, prepare and implement the steps necessary to deal with a post-accident situation.

The CODIRPA : a pluralistic structure

- National and local administrations, expert bodies, operators
- Non-institutional members: NGOs, local elected officials, trade unions, experts and consultants
- Foreign radiation protection authorities (Germany, Switzerland, Luxemburg)

Thematic working groups (technical reports and recommendations)

2 “transversal commissions” (transition and long-term)

1 test of the doctrine at local level (3 NPP sites and one local community)

2 international seminars in Paris (Dec. 2007 and May 2011)



The CODIRPA scenarii

Scenarii of nuclear accidents affecting a French NPP and leading to a release of radioactive substances in the atmosphere < 24 hours

- Various meteorological conditions
- Sheltering of the population living near the NPPs and iodine prophylaxis during the emergency phase on a perimeter < 5 km
- Contamination levels of foodstuffs at a distance of several tenths of kilometers from the NPP IA1
- Scenario with atmospheric dispersion of plutonium
- Main pathways of exposure in post-accidental situation: inhalation of resuspended particles and ingestion of contaminated foodstuffs

Slide 4

IA1

CFIL : Council Food Intervention Level (traduction des Niveaux Maximaux Admissibles/ NMA)

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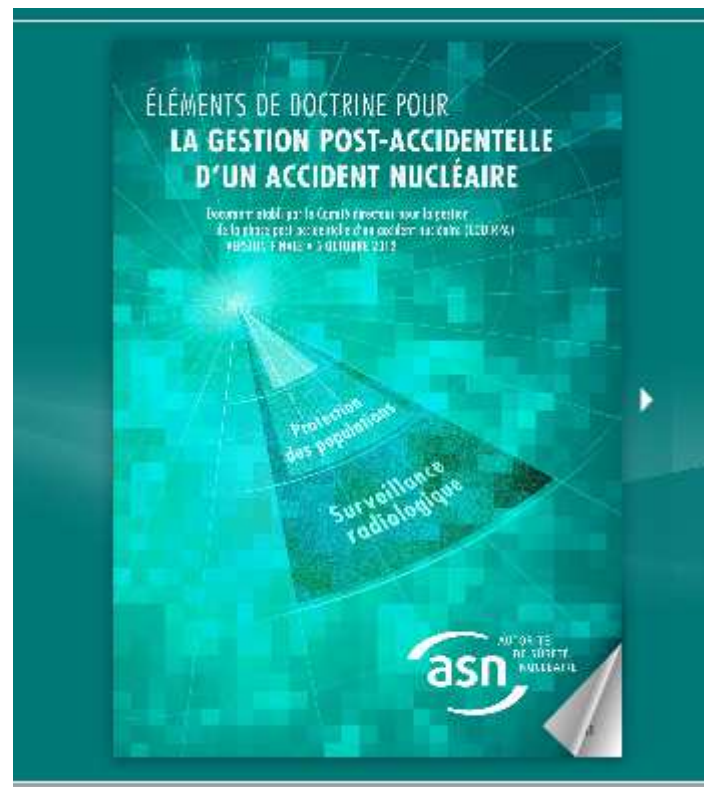
Policy elements for post-accident management in the event of a nuclear accident

Publication of “Policy elements for post-accident management in the event of a nuclear accident” made of 4 documents:

- Main document : objectives, principles, key actions and strategic orientations for the transition and long term phases
- Annex 1 : First actions to be put in place at the end of the emergency phase
- Annex 2 : Guidelines for managing transition period (few months)
- Annex 3 : Guidelines for managing long-term period (several years)

Validation in 2012 by CODIRPA followed by publication in November (www.asn.fr)

Translation in English, Japanese and Russian (coming soon)





Policy elements for post-accident management in the event of a nuclear accident

3 fundamental objectives - strongly connected:

- protecting the population against the dangers of ionising radiations,
- providing support for members of the population who have suffered the consequences of an accident,
- preparing the social and economic recovery of the affected areas.





Policy elements for post-accident management in the event of a nuclear accident

4 principles

- **Principle 1 : Anticipation** → issues related to nuclear post-accident management must be taken into account immediately once the emergency phase is over. Consequently, the first actions for the protection of the population must be planned in advance.
- **Principle 2 : Justification**
- **Principle 3 : Optimisation**
- **Principle 4 : Co-construction and transparency** → the management of post-accidental situation must involve the population, the elected officials, the social and economical stakeholders. Transparency of information is an important factor.



Policy elements for post-accident management in the event of a nuclear accident

6 key points

1. Immediate delineation of a PA zoning for the contaminated area, with an evolution during the transition period.
2. Medical and psychological care, radiation monitoring, financial support and compensation for those affected by the consequences of the accident.
3. Radiological characterisation and surveillance of the environment, foodstuffs and drinking water.
4. Rapid implementation of a specific approach to management of foodstuffs and drinking water.
5. Emergence of new forms of governance based on the vigilance and active participation of the affected population considered as a key point for economic recovery within affected areas.
6. Sustainable waste management solutions in response to the rapid increase of the volume of contaminated waste.

The main protective actions for the post-accidental phase

Public protection zone (ZPP)

Actions needed to reduce population exposure

Food bans, radiological measurements, health surveillance, decontamination actions and specific wastes management

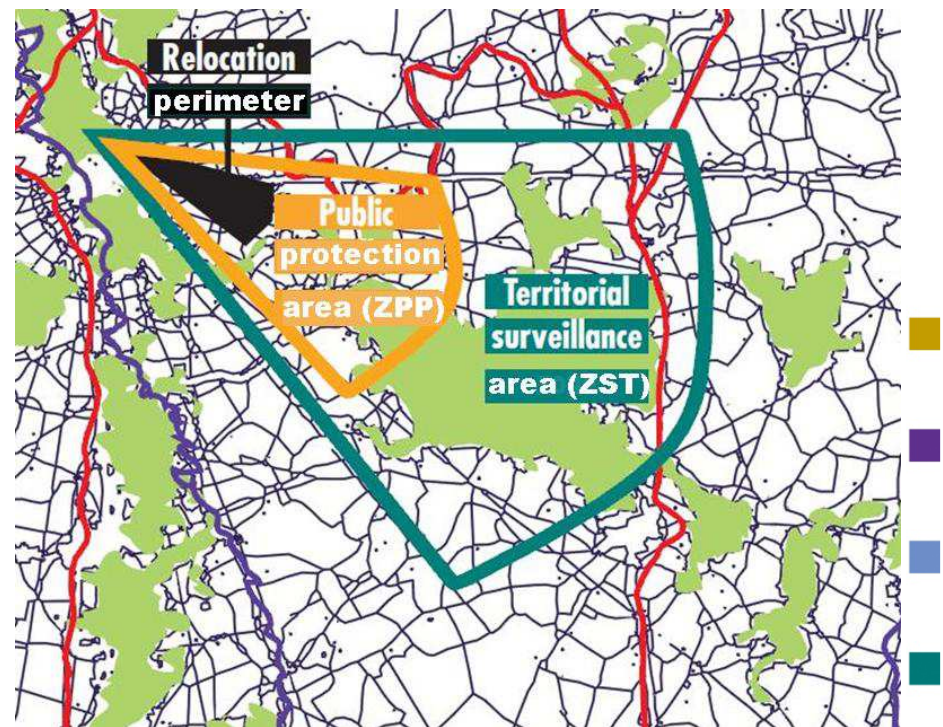
Guide value based on dose criteria

Effective dose (external + ingestion) > 10 mSv / 1st month or

Thyroid equivalent dose > 50 mSv / 1st month

May include a Relocation perimeter

If effective dose from external exposure alone > 10 mSv/ 1st month



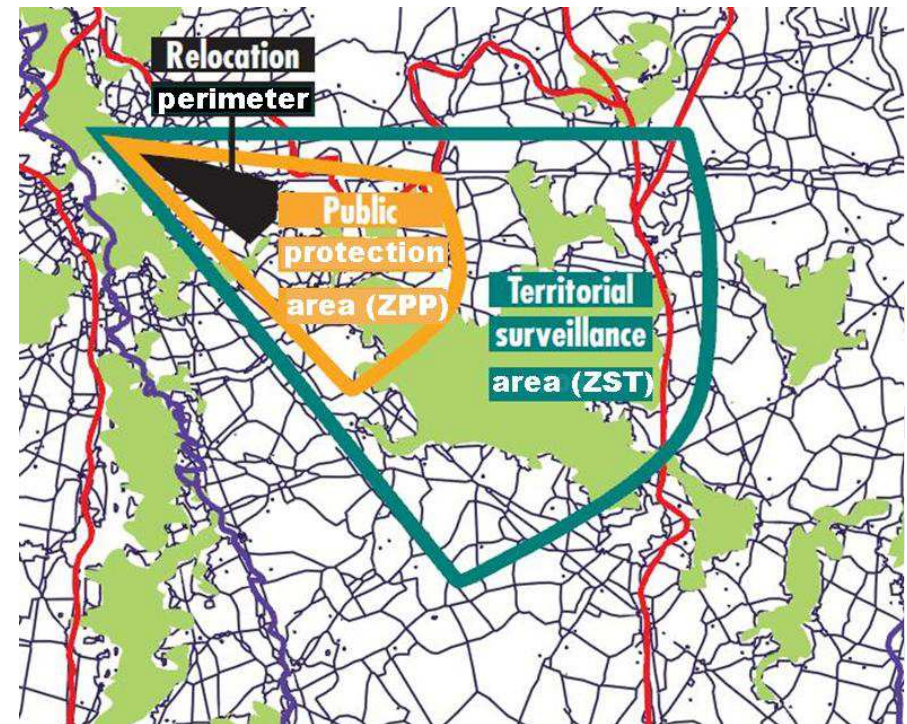
The main protective actions for the post-accidental phase

Territorial surveillance zone (ZST)

Contamination levels of locally produced foodstuffs > Council Food Intervention Levels (Council regulations Euratom n°3954/87, n°944/89 and n°770/90)

Food bans based on an assessment of contamination levels of foodstuffs considered as the most sensitive to radioactive contamination (eg. milk, salads)

The extent of this area is however likely to decrease during the firsts months of post-accidental phase (decay of short-lived radionuclides, measurements results)





The main protective actions for the post-accidental phase

Immediate delineation of a PA zoning for the contaminated area provides the structural framework

For initial protection measures

- To decide about the long term evacuation and relocation (after sheltering during the early phase)
- To organize food bans of locally produced food and feedstuffs
- To engage the first clean-up operations within urban areas

For the implementation of medical and psychological care, human radiation monitoring, financial support and compensation

- Opening information centers for the affected populations

For the radiological characterisation of:

- the environment, foodstuffs and drinking water,
- waste and manufactured products

As well as preparing the economic recovery of contaminated areas in transition period





Preliminary conclusions

The development and publication of the “Policy elements for post-accident management in the event of a nuclear accident” is an important first step in preparing the management of nuclear post-accident situations.

ASN recommends to continue and intensify the process of preparation:

- by initiating the planning of the first protective actions to be implemented at the end of the emergency phase, to be able to organize it quickly in case of nuclear accident
- by preparing in advance the health, social and economic elements that would be necessary to establish, in the first months after the accident, the first national program for the management of contaminated territories



CODIRPA next steps: 3 objectives

1. To test and complete the post-accidental doctrine

- Take into account accident scenario including long-term release of radioactivity
- Analyze the feedback from real accidents (Fukushima, Chernobyl) and from emergency exercises

2. To accompany the local preparation of the post-accident management

- Assist in the preparation of tools to support the local declination
- Participate in the dialogue with the local public authorities for emergency plans
- Inform and train the elected officials, association, economic stakeholders

3. To exchange with neighboring countries and international organizations (IAEA, WHO, NEA, HERCA,...)