AN APPROACH TO STAKEHOLDERS INVOLVEMENT IN THE PREPAREDNESS FOR NUCLEAR AND RADIOLOGICAL EMERGENCY RESPONSE AND RECOVERY IN SPAIN

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INTRODUCTION

The elaboration of a generic decision-making strategy to address the evolution of an emergency situation, from the stages of response to recovery, and including a planning stage, can facilitate timely, effective and consistent decision making by the response organisations at every level within the emergency management structure and between countries, helping to ensure optimal protection of health, environment, and society. The degree of involvement of stakeholders in this process is a key strategic element for strengthening the local preparedness and response and can help a successful countermeasures strategy.

CIEMAT and UPM in close interaction with the Nuclear Safety Council will explore, within this project, the use and application in Spain of such technical tools, including other national tools and information and communication strategies to foster cooperation between local, national and international stakeholders. The aim is identify and involve relevant stakeholders in emergency preparedness to improve the development and implementation of appropriate protection strategies as part of the consequence management and the transition to recovery.

In this paper, an overview of the "state of the art" on this area in Spain and the methodology and work Plan proposed by the Spanish group within the project NERIS to grow the stakeholder involvement in the preparedness to emergency response and recovery is presented.

IMPLEMENTING A PILOT METHODOLOGY ON EMERGENCY AND POST-EMERGENCY PREPAREDNESS AT LOCAL LEVEL

Accomplishment 1: Establishing the Base[1]

1.1. Review State of Art

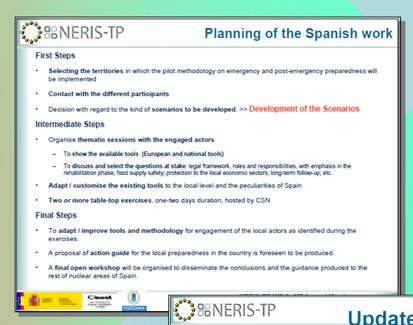
- The emergency preparedness and response systems around Europe have long been focussed on national capabilities directed from national authorities. Lately, the need for local (and regional) involvement has been addressed.

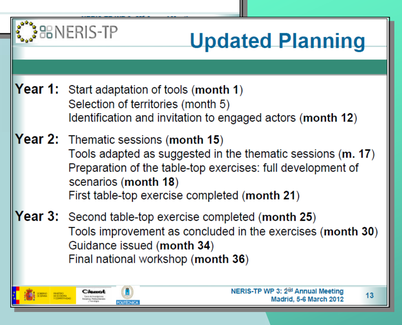
1.2. Conduct Needs Assessment

- Establishment / improvement of mechanisms and tools for the feedback from local and regional level to the national authorities in case of emergency response and recovery.
- To strengthen cooperation between actors in the around municipalities by preparing guidances and assisting tools to be able to perform their roles successfuly during the response and recovery phase.

1.3. Assess Capability and Resources

- Pilot methodology implemented under the WP3 on "**Processes and tools for emergency preparedness and subsequent recovery at local level**" of the European project **NERIS-TP** (7FP-EURATOM-FISSION).
  - **Team** - CIEMAT and UPM as technical advisors and facilitators; CSN (Nuclear Safety Council) and DGPCE (Civil Protection): collaborating and giving support to identifying and engaging the main actors.
  - **Methodology** - Focused practice activity that places the participants in a simulated situation requiring them to function in the capacity that would be expected of them in a real event.
  - **Resources** - Decision Support Systems (JRODOS, MOIRA, TEMAS); Other tools (Recovery Handbooks for radiation incidents; Vulnerability maps...)





1.4. Developing work Plan and Schedule

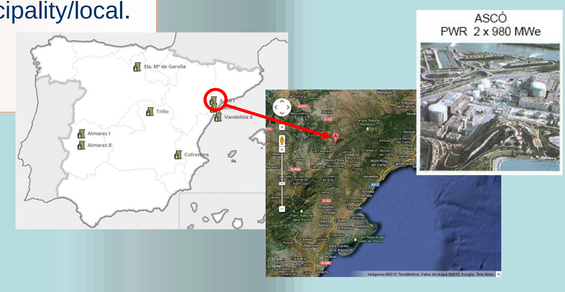
Accomplishment 2: Exercise Design

2.1. Assess Needs

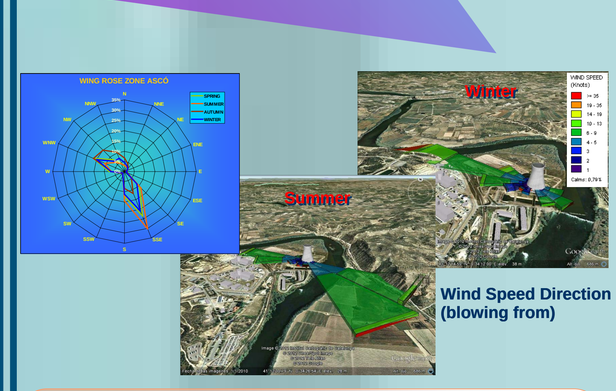
- **To take into account for local preparedness :**
  - I. **Threat assessment** – what are possible scenarios that could cause radioactive contamination of our municipality/local territory?.
  - II. **Sensitivity analysis** – what parts of the local community would be most heavily affected by a contamination situation?.
  - III. **Evaluating mitigating actions** – what are the choices? Can they be implemented in our community? What are the national recommendations?.
  - IV. **Engaging local actors** – who needs/should be involved in the local cooperation to solve the challenges, at various phases of the emergency? What are their responsibilities and roles? How will the engagement be done in practice?.

2.2. Defining the Scope and Statement of the exercise goal

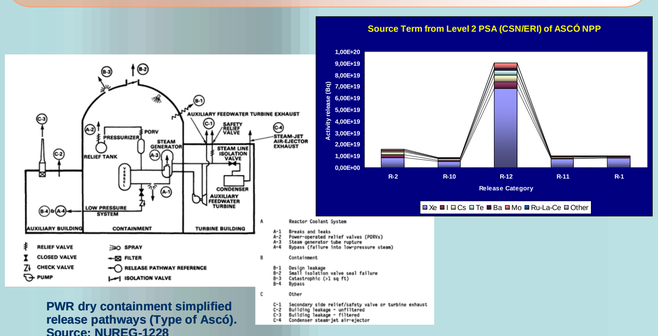
- The **Final Objective** of the proposed exercise is:
  - Complete analysis and discussion of the aspects (I) to (IV), clarifying the roles and responsibilities of the actors at each level of the chain national ⇔ regional ⇔ municipality/local.
- With a **Tabletop Exercise**
- Simulating a **Severe Accident in the Ascó NPP**



2.3. Development of the Scenario



2.3.1. Selection of the Source Term (ST) - Potential Release Pathways from a severe NNP accident (core damage) based on the **Level 2 PSA** (Probabilistic Safety Assessments) **for Ascó NPP,** according a ranking of the Release Categories.



PWR dry containment simplified release pathways (Type of Ascó). Source: NUREG-1228

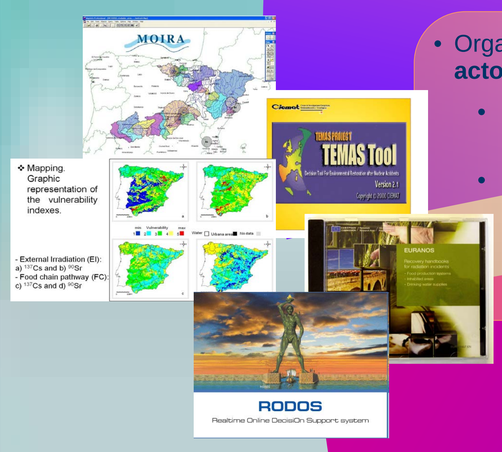
2.3.2. Selection of the Meteorological Data (MT) - According the seasonal characteristics shown by the annual rose from the **local meteorology studies** conducted in the safety evaluation of Ascó NPP.

Accomplishment 3: Exercise Conduct

3.1. Selecting and contacting observers and partners.

- National authorities: Civil Protection authority, Government delegation in the Autonomous Community (organisers and competent authority for implementation of emergency plans), Ministry of Environment (including water management authority), Ministry of Health (food safety agency);
- Regional authorities delegates from the Autonomous Community Government (responsible for environmental quality);
- Municipalities of the selected area (local authorities) and their Association (AMAC), the Local information committee;
- Nuclear Power Plant representative;
- Associations of farmers, trade, industry, consumers, etc.;
- Military unit for emergencies;
- National company for radioactive waste management Enresa.

3.2. Previous Briefing with the Participants



- Organise **thematic sessions with the engaged actors**
  - To **show the available tools (European and national tools)**
  - To **discuss and select the questions at stake**: legal framework, roles and responsibilities, with emphasis in the rehabilitation phase; food supply safety; protection to the local economic sectors; long-term follow-up; etc.

3.3. Conduct the exercise

- **Development of the Table-top exercise** with one-two days duration, hosted by CSN.
  - Narrative of the simulated event;
  - Introduce the problems to discuss and resolve;
  - Draw answers and solutions from the group;
  - Summary of the main conclusions.

2.3.3. Results from modeling with JRODOS for discussion in the tabletop exercise (TTE)

- Atmospheric dispersion
  - Instantaneous concentration in the air, Bq/m3;
  - Integrated concentration in air, Bq.s/m3;
- Soil deposition (Bq/m2)

2.3.3. Results from JRODOS for the discussion in TTE

- Radiological impact
  - Cloud Effective Gamma Dose Rate, mSv/h;
  - Total Potential Dose Effective from external exposure and inhalation, mSV
  - Ingestion dose, lifetime, mSv
  - Activity Concentration in products along the food chain, Bq/Kg
  - Zones for preventive actions and for long term interventions.

3.4. Evaluation and Results

- Assess **achievements** of objectives
- To **adapt / improve tools and methodology** for engagement of the local actors as identified during the exercises.
- A proposal of **action guide** for the local preparedness in the country is foreseen to be produced.

Accomplishment 4: Evaluation and Recommendations

4.1. Evaluation and Results

- Establish a monitoring plan and testing to track the progress of implementing recommended improvements.

4.2. Plan of dissemination

- A **final open workshop** will be organised to disseminate the conclusions and the guidance produced to the rest of nuclear areas of Spain.

Accomplishment 5. Exercise Followup

NOTES:

- The representation of the structure of the exercise process has been adapted from the FEMA's Independent Study Program http://training.fema.gov
- JRODOS: Real-time On-line DecisiOn Support system.
- TEMAS: Methodology for Decision Making in Environmental Restoration after Nuclear Accidents.
- MOIRA: A Model-based Computerised System for Management Support to Identify Optimal Remedial Strategies for Restoring Radionuclides Contaminated Ecosystems and Drainage Areas.

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