

# **Luxembourg**

National Report on actions, responses and new developments that have been initiated or influenced by the accident at the Fukushima Daiichi NPPs for the Second CNS Extraordinary Meeting (August 2012).

**“CONVENTION ON NUCLEAR SAFETY”**

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## A - Introduction

Luxembourg signed the Convention on Nuclear Safety (CNS) on 20 September 1994. It entered into force on 6 July 1997 by ratification. Luxembourg actively participated in all five previous review meetings of the contracting parties. The CNS pair review is considered in Luxembourg as to be a highly valuable exercise. Being reviewed, having frank and open discussions with qualified experts while profiting from constructive advice is considered to be essential for a small country with a limited own nuclear expertise.

Luxembourg highly welcomes the decision of the contracting parties at its fifth review meeting to hold an extraordinary meeting with the goal of a targeted assessment on actions, responses and new developments that have been initiated or influenced by the accident at the Fukushima Daiichi NPPs and to discuss necessary improvements for enhancing the efficiency of the CNS peer review process.

The present report follows closely the guidance for National Reports for the second extraordinary meeting. Given that no nuclear installation, except of nuclear medicine, exists in Luxembourg, not all aspects of the guidance is applicable, such as activities performed by the operator. Luxembourg only provides reports on Topics 4, 5, and 6 (National Organizations; Emergency Preparedness and Response and Post-Accident Management; and International Cooperation). In each case, actions, responses and new developments that were initiated by the regulator or others, such as the government are briefly discussed.

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## Topic 4 – National Organizations

In Luxembourg, the department of radiation protection (DRP) centralizes as a single department all competence of radiation and nuclear safety. The DRP is a department of the Directorate of Health under the Ministry of Health.

Following the nuclear accident in Fukushima, the interest of the public, NGO's, media and politics on issues related to nuclear safety has dramatically increased. With the DRP as only body with the necessary expertise, its agents have been highly solicited all over the year. Additionally the Government has asked the DRP to increase efforts on nuclear safety and nuclear emergency preparedness, including the request to participate actively in the European stress test. These aspects will be reported in more detail under Topics 5 and 6.

In order not to be forced to neglect its other “routine” missions, the DRP has officially requested in June 2011 an increase of permanent staff in the order of 2 additional experts. The government responded positively to that request and accorded in a first response one new staff member. A candidate with expertise in nuclear physics could be engaged as of 1<sup>st</sup> of January 2012. This is equivalent to a staff increase of over 12% of agents having an academic degree.

With this increase of staff and considering the ongoing activities, the risk of neglecting the routine activities in future could be reduced. During the first months of 2012, some of the issues that could not be dealt with in adequate ways during 2011 have again been put on the agenda. This basically concerns the systematic regulatory control and inspections of facilities using radioactive material and the development of specific information for the public. The DRP is however still beyond schedule in some other areas, such as the implementation of recent European directives and the follow up of EU legislative projects.

## Topic 5 – Emergency Preparedness and Response and Post-Accident Management (Off Site)

### Review of Intervention Plan

Following the nuclear accident in Fukushima, the Government has decided to review the national emergency response plan and asked the high commissioner for national protection to coordinate the review of the existing plan. A first critical analysis of the existing plan was done by the high commissioner. That assessment was then discussed with other relevant stakeholders during May 2011. The main conclusions were:

- lack of efficient coordination between the different ministries at the national level
- some organizational changes of key governmental organizations are not fully implemented into the plan
- insufficient implementation of the operational aspects (ex: preparedness of local authorities and critical infrastructures such as hospitals).
- post-accidental not included.

In June 2011, the coordination group, chaired by the high commissioner, decided to set up working groups for the following areas:

- Evacuation

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- Evacuation Centers
  - Decontamination
  - Municipalities
  - Hospitals
  - Communication
  - Radiological evaluation and post accidental preparedness.

Besides the coordination group started works on an updated intervention plan. The organizational structure of the crisis cells, alerts and communication channels, phases of an accident from first alert to post-accidental, planning zones and definitions of possible counter measures are reviewed and, where necessary, updated. It is foreseen to present a draft of a new intervention plan by June 2012. Remaining difficulties arise in the re-organization of the crisis cells. While it would be advantageous for a small country to use the same command structure for all types of national emergency situations, the definition of a structure able to work effectively in these various situations, including safety and security incidents, natural disasters and epidemics, is highly challenging. Eventually also legislative changes could be needed. The outcome of that discussion might impact on the deadline.

The work of the above working groups is scheduled over a two-year term. The updated operational procedures developed by those working groups would be added as annexes to the intervention plan.

#### **Nuclear Emergency Exercise**

The Executives of the Greater Region<sup>1</sup>, meeting in Extraordinary Summit in Metz (France) on 20 April 2011, agreed to strengthen cooperation in the establishment and implementation of operational management plans relating to nuclear accidents. The result is the joint project entitled "Nuclear Exercises Project 3 in 1", which aims to improve national and international cooperation in the Greater Region and, hence, the coordination of emergency measures in case of a nuclear accident at the NPP Cattenom.

The "Nuclear Exercises Project 3 in 1" is a series of three exercises with one continuous scenario. Hence each exercise is based on the previous one while the technical scenario evolves. The exercises focus on regional and international consistency of the organization of crisis management and crisis structures on the basis of national and international regulations and emergency plans around nuclear facilities. All territories of the Greater Region are participating in the exercise series, although their involvement and intensity vary. The series of exercises aims to maximize the joint action of partners in the Greater Region in crisis, also in relation to other potential crises and disasters.

The key points of the exercises focus on the development and ensuring a continuous flow of information depending on the situation, and on the mutual information of decisions taken to maintain public order and measures in the field communication and public relations. The exercise participants associate under their own responsibility the national authorities, local authorities and relevant agencies affected by the technical scenario.

The first exercise will take place during the last week of June 2012. It is organized by the German authorities and would comprise the alerting phase up to first releases in real time over

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<sup>1</sup> The Greater Region is composed of Luxembourg, Lorraine (France), Saarland, Rhineland-Palatinate (Germany), Wallonia (Belgium), and the German-speaking community of Belgium.

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16 hours. The main objectives are the exchange of information and a coordinated preparation of early protective measures. The second exercise, organized by Luxembourg, would be held in November 2012 and basically focuses on evacuation with particular interest in cross border movements of populations. The last exercise would permit to simulate over 3 to 4 days the post-accidental situation. That part is to be organized in early spring 2013 by France.

#### **Emergency kit for diplomatic missions**

In response to the accident in Fukushima Daiichi, the Ministry of Foreign Affairs (MFA) has asked the Rescue Services Agency (ASS) and the DRP to assist them in creating an emergency kit for diplomatic missions. This kit has been finalized by end of March 2012 and will now be distributed to the concerned embassies. It contains a manual with relevant information and some protective material. Concerning more specifically the nuclear emergency, information is given on the type of alerts and the respective behavior to adopt during the different phases (sheltering, iodine blocking, evacuation, foodstuff). It further comprises a handheld dose rate monitor and iodine tablets for the staff of those permanent missions in a 40 km radius of an NPP.

## **Topic 6 – International Cooperation**

#### **Mechanisms for communicating with neighboring countries and the international community**

The European Council decided at its meeting of 24 and 25 March 2011 to conduct analyses of the NPPs in Europe to reassess the safety and the safety margins of reactors (commonly called "stress-test "). In the following, the government of Luxembourg submitted a request to the French government for a participation to the stress-test of the Cattenom NPP. On 28 April, the French Prime Minister assured a close association of experts from Luxembourg. The French competent authority ASN invited the DRP in a letter, dated 26 May, to evaluate independently all relevant documentation and to participate in meetings of the permanent expert groups of the ASN.

In order that Luxembourg may accompany these additional assessments appropriately, the council of government decided June 3, 2011 to cooperate with the federal states Rhineland-Palatinate and Saarland (Germany). The three partners met several times and working meetings have also been held with the French interlocutors. The NPP Cattenom has also been visited by own experts from the DRP in August 2011 as part of an inspection conducted by the ASN. On 31 October, the DRP and its German homologues of the two associated federal states have submitted a common opinion on the operator's report to ASN. ASN took that opinion into due consideration for its general deliberations (ASN opinion 2012–AV-0139 of 3 January 2012). In particular, ASN has taken into account the need for improving the protection of the main control rooms against radioactivity and a need for further studies on the impacts of extreme loads due to snow.

This work was concluded by the publication of a final report, which addresses the various stages of the process and presents the results of the analysis and findings. The report was presented March 5, 2012 by the authorities of Luxembourg, Rhineland-Palatinate and Saarland.

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**Cooperation in the frame of international working groups**

When in March 2011 the accident at Fukushima Daiichi NPPs started, it rapidly became clear that national assessments and responses in Europe to such “distant” accidents could also dramatically be improved by a more rapid exchange of information, a better coordinated and more harmonized implementation of countermeasures, and, even in the absence of direct radiological consequences, a more coherent communication. In the following, HERCA which is a voluntary association of the Heads of the European Radiological protection Competent Authorities, charged its working group “emergencies” to identify the most urgent needs for further harmonization of the reactions in European countries to any such remote event and propose practical solutions to achieve it. The deadline for this task is set to December 2012. The DRP actively participated in HERCA and presently chairs the working group “emergencies”.

## Summary Table

Activity	Activities by the Regulator*		
	(Item 3.a)	(Item 3.b)	(Item 3.c)
<b>Topic 4 – National Organizations</b>			
DRP asked for additional staff	Staff increase of approx. 12% at level with academic degree	Staff engaged in January 2012	Yes (concerning neglecting of routine activities)
<b>Topic 5 - Emergency Preparedness and Response and Post-Accident Management (Off Site)</b>			
Government requested review of Intervention Plan	DRP has contributed to an assessment of existing plan – preparation of new Intervention Plan is ongoing	July 2012	Yes (concerning assessment of existing plan)
Executives requested organization of additional nuclear emergency exercises	Preparations in cooperation with neighboring countries are ongoing	Series of exercises scheduled from June 2012 to June 2013	No
MFA asked assistance for preparing an emergency kit for diplomatic missions	Achieved	Achieved in March 2012	No
<b>Topic 6 – International Cooperation</b>			
Government requested association to the stress test at French NPP in cooperation with German federal states.	Work was concluded	Achieved in March 2012	Yes
Contribution to a working group on harmonization with regard to distant accidents	Ongoing	Deadline is December 2012	No