

**RAPPORTEURS' REPORT UKRAINE**  
**ENSREG NATIONAL ACTION PLANS WORKSHOP**

**1.0 ASSESSMENT OF THE STRUCTURE OF NATIONAL ACTION PLAN**

**1.1 Compliance of the national action plan with the ENSREG Action Plan:**

The National Action Plan of Ukraine contains a compilation of conclusions and recommendations contained in the Compilation of Recommendations of ENSREG, key topics of the 2<sup>nd</sup> Extraordinary Meeting under the CNS, the state review of stress test results and findings, Peer Review Country Report and the Communication from the Commission to the Council and the European Parliament on the stress test.

**1.2 Adequacy of the information supplied, taking into account the guidance provided by ENSREG.**

The NAcP has followed the ENSREG guidance very closely. The National Action Plan is structured, in accordance with the structure suggested by ENSREG into four parts. Part I is devoted to the issues of external hazards (earthquakes, floods, extreme weather conditions), loss of safety systems and severe accident management. Part II deals with key topics of the Extraordinary CNS (national organization, emergency preparedness and international cooperation). Part III is devoted to Additional Topics and Activities (peer review recommendations, Commission Communication, improvement of the national regulations). The focus of the Action Plan - Part IV - contains the list of measures aimed at implementing the recommendations contained in parts I - III. The set of these measures is the sum of corrective actions identified.

**2.0 ASSESSMENT OF THE CONTENT OF NATIONAL ACTION PLAN**

**2.1 How has the country addressed the recommendations of the ENSREG Action Plan?**

The proposed measures addressing each type of operating NPP units (VVER-440 V-213, VVER-1000 V-320, VVER-1000 V-302/338), ChNPP units 1-3 (decommissioning stage) and the interim spent fuel storage facility (ISF), and indicating the timeframe for the implementation. It is mentioned in the NAcP that the national regulator (SNRIU) regularly monitors this process.

In some cases it is not clear to which extent the NAcP is covering some of the ENSREG recommendations/findings for example in the area of external hazards or bunkered backup systems.

## 2.2. Schedule of the implementation of the NAcP

The implementation of improvement measures identified on European and National level in the aftermath of Fukushima is clearly scheduled. A number of measures are already on-going as defined by the Comprehensive (Integrated) Safety Improvement Program. This Program already existed and was updated in 2011 in the aftermath of the Fukushima accident (approved by the Government of Ukraine in December 2011). The majority of measures will be completed between 2013 and 2017 depending on the type of the NPP. The compliance with the schedule is a licensing condition and regularly monitored by the regulator.

## 2.3 Transparency of the NAcP and of the process of the implementation of the tasks identified within it

The NAcP informs on how the operator of NPPs intends to improve the safety of NPPs. The NAcP has been discussed and agreed at the open SNRIU Board meeting. Stakeholders including non-government organizations and media have been involved. The Ukrainian version of NAcP was made public on the SNRIU website and the English version on the ENSREG website.

## 2.4 Commendable aspects (good practices, experiences, interesting approaches) and challenges

Ukraine joined the stress test exercise voluntarily and as a follow up prepared a NAcP. The NAcP addresses each type of NPP including the ChNPP and the ISF facility.

A number of safety improving measures are being implemented under the "Comprehensive (Integrated) Safety Improvement Program for Ukrainian NPPs", which was updated after Fukushima in 2011 and monitored on a regular basis by the regulator. The Safety Upgrade Program was developed based on results of in-depth deterministic and probabilistic safety assessments (within the SAR), results of the EC-IAEA-Ukraine Joint Project "Safety Evaluation of Ukrainian Nuclear Power Plants" and Upgrade Package for Khmel'nitsky2 & Rivne-4. A number of important measures have been already implemented like mobile diesel generators and seismic monitoring systems in some sites.

It should be noted that the measure on containment filtered venting at VVER-1000 units was requested by the regulator prior to the stress tests based on the first analysis of the accident. The relevance for VVER-440 units is subject to further analyses.

The Safety Improvement Programme was approved by the Government of Ukraine.

An interesting aspect is that a measure is first implemented in a pilot power unit with reactors of each design and afterwards in other units taking into account the experience gained from the pilot NPP (results, technical solutions and findings).

### 3.0 PEER-REVIEW CONCLUSIONS

The Ukrainian NAcP informs in a transparent way on how NPPs in Ukraine are improved in the aftermath of Fukushima according to the National assessments, the recommendations and suggestions of the European Stress Tests and the conclusions of the CNS process.

The NAcP follows the structure proposed by ENSREG and covers all aspects specified in the ENSREG Action Plan. Additional topics related to the specific recommendations of the Peer Review of Stress Tests for Ukrainian NPPs and Safety Improvement Measures at Chernobyl NPP were reported.

The NAcP has been discussed and agreed at the open Board meeting of the national regulator, stakeholders including non-government organizations and media have been involved. The compliance with the schedule is a licensing condition and regularly monitored by the regulator. The Periodic Safety Review is used to verify the compliance with the licensing conditions and to identify additional measures if necessary.

A number of safety improving measures were defined before the Fukushima event and are subject to the on-going Comprehensive (Integrated) Safety Improvement Program (for operating plants) and under the "Safety Improvement Plan for Chernobyl NPP Nuclear Installations", which was supported by the European Commission and the IAEA. The scope and priorities of these measures were revised with due consideration of their relevance in the light of the Fukushima accident.

As regards filtered venting Ukraine already approved this measure for VVER-1000 units just after Fukushima. The relevance for VVER-440 units is subject to further analysis.

In some cases it was not clear to which extent the NAcP is covering all ENSREG recommendations/findings. These open issues have been discussed and clarified during the workshop.

An interesting aspect is that a measure is first implemented in a pilot power plant unit with reactors of each design and afterwards in other units taking into account the experience gained from the pilot NPP.