

**RAPORTEURS' REPORT SLOVAKIA**  
**ENSREG NATIONAL ACTION PLANS WORKSHOP**

**DRAFT Rev7, 22-04-2015**

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 Slovakia contains a compilation of conclusions and recommendations from 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.

The country followed the structure proposed in the ENSREG Action Plan.

In the Part I (generic activities), the title refers to the ENSREG recommendations, but no explicit references to these recommendations are provided for the activities.

NACp Part IV (implementation) has a good system of references to the above-mentioned documents. However, the correspondence of the measures listed in Part IV to the activities in Part I is not always clear.

2015:

*Parts I – III have been deleted from the NAcP. This makes the structure clearer; up-to-date information on the relevant topics is easy to find. (See also 1.2.)*

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

The Slovak NAcP generally follows the ENSREG guidance. Part I deals with generic activities to Topics 1-3. This part exclusively contains safety improvements which were planned pre-Fukushima, most notably in the framework of the SAM program which was began in 2008, and to a large extent already had been implemented pre-Fukushima. Some of these improvements were the results of Periodic Safety Reviews.

Part II concerns Topics 4-6.

Part III presents specific activities to Topics 1-3, resulting from the Peer Review Country Report of Slovakia. Part IV presents the implementation of activities in table form.

An introductory section provides compact information on Slovak NPPs.

2015:

*The NAcP has partially been condensed. The updated NAcP contains an introduction, which also deals with the status of implementation of the WENRA safety reference levels (including the latest, post-Fukushima version) in Slovakia, and a brief part on the basic approach. Parts I – III of the 2012 NAcP are not included in the 2014 version of the NAcP.*

*Part IV with a table on the implementation of measures has been expanded with information on the current status, and additional measures which have been or are being taken.*

*It is commendable that relevant information is provided not only on actions which have been completed, but also on actions which are currently on-going and are scheduled to be completed by the end of 2015.*

*“Main changes in the NAcP since the 2013 workshop with justification, including: - additional measures...” (see ENSREG Information Pack, section 3): Written clarification was provided on the question whether certain measures listed as additional in Part IV are indeed new measures, or have been part of the respective action from the beginning (see 2.2).*

## 2.0 ASSESSMENT OF THE CONTENT OF NATIONAL ACTION PLAN

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

A significant part of the measures listed in the Slovak NAcP is in an advanced stage of implementation or concerns analyses, studies and planning of further measures.

ENSREG recommendations as well as recommendations from the Peer Review Country Report of Slovakia appear to be fully covered, partly by measures which have already been completed. In some cases, this does not become completely clear from the information in the NAcP. However, these points were clarified in the Slovakian presentation at the Workshop and the subsequent discussion.

2015:

*The ENSREG document “Compilation of Recommendations and Suggestions” recommends the re-assessment of natural hazards as part of periodic safety assessments. In the 2014 NAcP this activity is listed as “completed” (as it was 2012). The objective of the Periodic Safety Review (PSR) is explained in the NAcP; in the written answers it is stated that a full re-assessment of seismic hazard is not part of a PSR.*

### 2.2. Schedule of the implementation of the NAcP

The measures listed in the NAcP Part IV, some of which have already been implemented, are scheduled in three categories: Completion by the end of 2013 (short-term), by the end of 2015 (medium-term) and additional measures, which may result from analyses performed in the medium term (implemented after 2015).

The implementation of technical and administrative measures after 2015 will depend on what will be considered as necessary, based on the outcome of the analyses performed until that year.

In Part I dealing with measures planned pre-Fukushima, three actions with an original deadline at the end of 2018 are listed, one of which concerns accident management, and another increase of seismic resistance. During the national presentation of the NAcP at the workshop, it was stated that a number of previously approved actions like in the area of SAM have been re-prioritized and accelerated, so that these actions are now to be implemented by 2015.

2015:

*It is commendable that most activities of the NAcP have been completed according to the planned schedule, or are proceeding according to plan. Some activities have been completed before the planned deadline.*

*Analysis of the SAM project in relation to multi-unit accidents and preparing a plan for implementation of additional measures were to be completed by the end of 2014. This is connected with nine activities of the NAcP (27bis, 32, 34, 39, 41, 43, 44, 48 and 52).*

*While the main part of the task (the corresponding analyses) has indeed been completed, the evaluation of the analyses by the licensee is still on-going and the plan of implementation of additional measures (which is dependent on the evaluation of the analyses' results) is still under preparation.*

*These further activities are addressed in the 2014 NAcP, in Part II. It is stated that UJD requested the licensee to expedite this work and to propose a new deadline for it.*

*Furthermore, the NAcP lists several additional measures which have resulted from analyses defined by originally planned medium-term measures. Written clarification was provided on the question whether measures listed as "additional" have not in fact already been part of the action as originally planned. This concern, for example, mobile rectifiers and shelters for mobile 0.4 kV DGs.*

*The measures in question constitute an optimization of the action which was identified during its implementation.*

*In a number of cases, no schedule is provided for additional measures whereas in some cases, additional measures are already in the process of implementation.*

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

The NAcP contains comprehensive information on the actions planned post-Fukushima, as well as on earlier safety improvements and measures taken as a result of Periodic Safety Reviews. The correspondence between pre-Fukushima and post-Fukushima measures is not always entirely clear in the report; however, this was explained in the Slovakian presentation at the Workshop and the subsequent discussion.

The NAcP is accessible on the regulator's website; in English as well in as the national language.

Its implementation will be closely monitored by UJD, and the major results are to be made available to the public.

2015:

*The current status of implementation is clearly presented in section III of the 2014 NAcP. Slovakia received 89 questions. Written answers to questions were provided and published by the regulator.*

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

The systematic use of Periodic Safety Reviews, as documented in the NAcP Part I, to identify improvement measures in a structured manner, including appropriate schedules, can be seen as a good practice in Slovakia.

The explicit use of a return frequency of  $10^{-4}$ /year for extreme weather events, and to consider events corresponding to this frequency as basis for evaluation of selected SSCs (Part IV, ID 4.) can also be regarded as a good practice.

In-vessel retention is already implemented in both Slovakian NPPs. Analyses of consequences of IVR failure and the preservation of containment integrity in case of a severe accident are on-going and were emphasized to be important in the discussion at the Workshop.

Consideration of long-term heat-removal from the containment, including the option of filtered venting and taking into account the control of radioactive releases, is on-going and was considered to be important at the Workshop.

Pre-Fukushima and post-Fukushima improvement programs are interlinked – they proceed, to some extent, parallel in time and concern the same topics. For example, the consideration of multi-unit accidents was not part of the pre-Fukushima activities, but these have been modified to take this aspect into account to some extent, and after their conclusion new projects will be planned.

For Slovakia, it is a complex task to integrate these improvement programmes which started before Fukushima with new activities and to generate a consistent overall schedule. Such a schedule has been developed reflecting both categories of measures.

The NAcP contains a chapter on Monitoring of the Action Plan Implementation. Most tasks resulting from the NAcP are covered by ÚJD decisions issued in the past. According to these decisions, the operator has to report to ÚJD on course and results of implementation at yearly intervals. ÚJD SR will perform specific activities within its annual inspection plan – inspections the aim of which will be to ascertain the factual implementation of measures.

2015:

*Analyses (or any other activities) related to the consequences of the failure of in-vessel retention, identified as important at the 2012 Workshop are not addressed in the 2014 NAcP. However, updated information has been provided during the 2015 Workshop. There have been further measures leading to the result that failure of IVR is extremely unlikely. Also, in case of IVR failure, the flooded cavity configuration is considered essential to provide mitigation.*

*Therefore no further analyses or investigations are planned in this respect.*

*The status of the activities concerning long-term heat removal from the containment, which are on-going, is reported in the 2014 NAcP.*

*The task of integrating post-Fukushima improvement programs may constitute a challenge to some extent since work on multi-unit accident management is still on-going (although the main part has been completed) and no new deadline has been given.*

## 2.5 Technical basis related to main changes and relevant outcomes of studies and analyses

*There were no main changes; regarding a change in schedule which occurred, see 2.2.*

*Studies and analyses are mentioned in the 2014 NAcP. Results are still under review in some cases (e.g. for multi-units accidents, see 2.2) and therefore are not reported. However, in several cases information has been made available, e.g. concerning the measures resulting from meteorological studies and studies of ventilations systems.*

### 3.0 PEER-REVIEW CONCLUSIONS

*The 2014 NAcP provides the overall impression that the activities are well under way, and all issues identified post-Fukushima are pursued. This is well presented in the updated NAcP. The structure of the report is clear; up-to-date information is easy to find.*

*The original (2012) NAcP followed the structure proposed in the ENSREG Action Plan. It contained comprehensive information on the actions planned post-Fukushima, as well as on earlier safety improvements and measures.*

*The actions listed covered the ENSREG recommendations and the Country Peer Review recommendations.*

*In the 2013 NAcP, a considerable part of the measures listed was either in an advanced stage of implementation or concerned analyses, studies and the planning of further measures. There was a clear schedule for these measures. Depending on the outcome of analyses which were to be performed until 2015, the implementation of the technical and administrative findings was mostly expected to take place after 2015.*

*Good practices could be identified in the NAcP, in particular in respect to the systematic use of Periodic Safety Reviews to identify improvement measures, the implementation of in-vessel retention which is already completed, and the application of a return frequency of  $10^{-4}$ /year for extreme weather events, as basis for the evaluation of safety important components and systems.*

*It is commendable that, as the updated NAcP shows, most activities have been completed according to the planned schedule, or are proceeding according to plan. Some activities have been completed before the planned deadline.*

*One important task which was to be completed by the end of 2014 according to the original NAcP is still ongoing - the work on multi-unit accidents which has consequences for a number of activities (concerning SAM for SFP and for external events, SAMG verification, SAMG training). The report explains that the main part (the analyses) has been completed. The results of the analyses are still being evaluated by the licensee, and the plan of implementation of additional measures, which is part of this task, is still under preparation since it is dependent on the evaluation of these results; the regulator required that the licensee provide a revised deadline..*

*Furthermore, the updated NAcP lists several additional measures which have resulted from analyses defined by originally planned medium-term measures. Brief explanations have been provided in the written answers to clarify whether these measures have not in fact already been part of the action as originally planned.*

*In some cases, the updated NAcP mentions studies and analyses, without providing results; also, measures which are to be performed as a consequence of studies and analyses are not specified. Explanations have been provided in the written answers.*

*In a number of cases, no schedule is provided for additional measures whereas in some cases, additional measures are already in the process of implementation.*

*In-vessel retention is already implemented in both Slovakian NPPs. Analysis of consequences of IVR failure and the preservation of containment integrity in case of a severe accident are ongoing and were emphasized to be important in the discussion at the 2013 Workshop.*

*Analyses (or any other activities) related to the consequences of the failure of in-vessel retention are not addressed in the updated 2014 NAcP. However, updated information has been provided during the 2015 Workshop. There have been further measures, leading to the result that failure of IVR is extremely unlikely. Therefore no further analyses or investigations are planned in this respect.*

*The task of integrating pre-Fukushima programs, which were modified after the Fukushima accident, and post-Fukushima improvement programs may constitute a challenge to some extent, since work on multi-unit accident management which was to be completed in 2014 is still ongoing.*