

Summary of the Bulgarian National Results

Of the Harmonization of Reactor Safety

March 2006

Introduction

This document contains a short overview of the Bulgarian national results of the benchmarking, performed in the framework of the WENRA's Reactor Harmonization Working Group (RHWG). The detailed results, which are not presented here, are intended to help the development of a national action plan and consider wider implications of the study. The information below should be read and interpreted together with RHWG's report "Harmonization of Reactor Safety in WENRA Countries", November 2005.

Safety areas and safety issues




The benchmarking of the national position had been carried out with respect to Reference Levels, grouped in safety issues and safety areas, as listed in table 1 below.

Safety area	Safety issue	
Safety Management	A	Safety policy
	B	Operating organization
	C	Quality management
	D	Training and Authorization of NPP staff (jobs with safety importance)
Design	E	Verification and improvement of the design
	F	Design basis envelope for existing reactors
	G	Safety classification of structures, systems and components
Operation	H	Operational limits and conditions
	I	Ageing management
	J	System for investigation of events and operational experience feedback
	K	Maintenance, in-service inspection and functional testing
	LM	Emergency Operating procedures and severe accident management guidelines
Safety verification	N	Contents and updating of safety analysis report (SAR)
	O	Probabilistic safety analysis (PSA)
	P	Periodic safety review (PSR)
	Q	Plant modifications
Emergency preparedness	R	On-site emergency preparedness
	S	Fire protection against internal fires

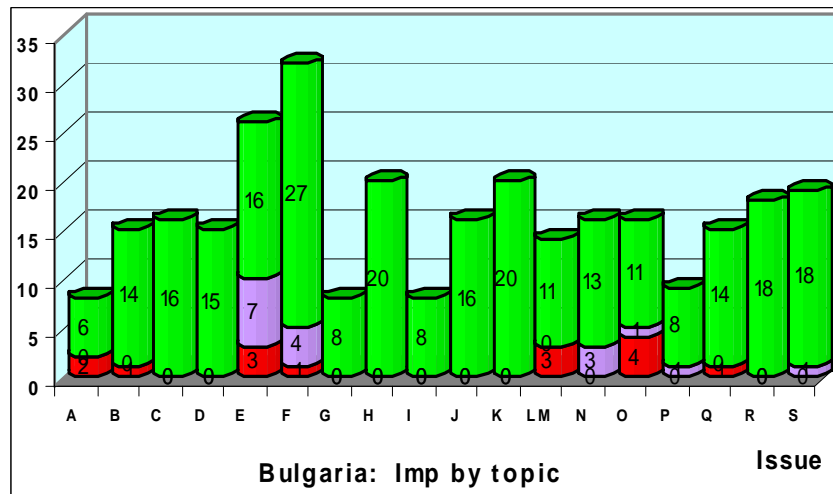
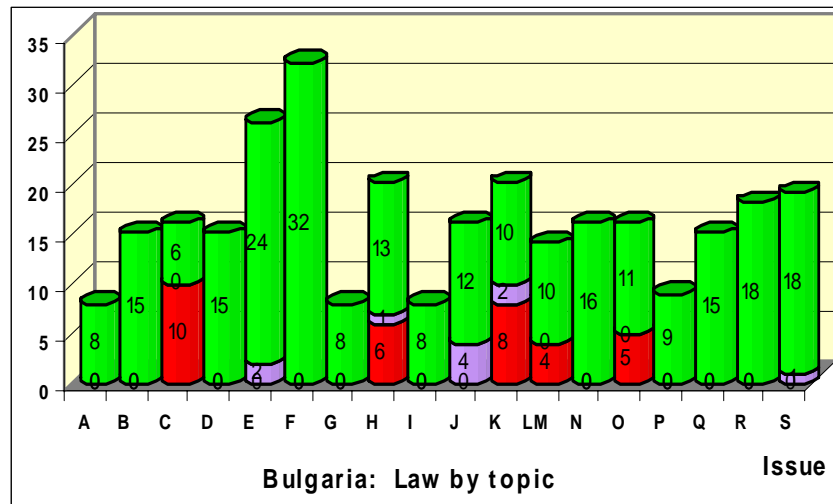
Table 1: Safety areas and issues

Overview of results by issue

This summary contains an overview of the Bulgarian benchmarking results in the form of graphs on all the 18 safety issues (A to S). The first one is showing the results for the legal side and the second - for the implementation side. The graphs use the following colour scheme throughout:

-  **Code A** – Already harmonized in substance;
-  **Code B** – A difference exists, but can be justified from a safety point of view; and
-  **Code C** – A difference exists, and should be addressed for harmonization.

The vertical scale gives the number of assessments coded 'A', 'B', or 'C', as appropriate.



Benchmarking tables and acceptance criteria

A self-assessment has been performed for each Reference Level of each of the 18 safety issues, using a Benchmarking Table to give the national position. Two questions had to be answered for each Reference Level:

- i. Is there a national requirement that is equivalent in substance to the Reference Level?
- ii. Is the Reference Level implemented to an acceptable extent on all operating nuclear power plants in the country?

The national position had been supported by written evidence, reflecting the content, and where possible, the keywords of the Reference Level. This information was presented in the Benchmarking Table for peer reviewing in the panel sessions described in Section 4.3 and Annex 2 of RHWG's harmonization report. Where appropriate, the Benchmarking Table was reassessed and revised.

Code '**B**' for either aspect (legal and/or implementation) indicates that a justification has been provided and agreed. However, such differences will also be reviewed at a national level in order to see whether further measures can be taken to improve safety.

As presented in RHWG's harmonization report, the following criteria were agreed for justification of a '**B**':

- Regulations are under development or revision and will cover the Reference Level(s) by the end of 2005 at the latest;
- The Reference Level is covered sufficiently by alternative national requirements;
- Specifically for issue N: The Reference Level is covered by another controlled safety document than the Safety Analysis Report, but which has a similar status, i.e. it is a document that is approved by the regulatory body and included in the licensing documentation;
- Implementation is lacking with respect to a Reference Level in an older plant for which a shut down decision has been taken;
- Implementation with respect to a Reference Level is in progress and will be completed before the end of 2005; or
- Implementation has been exempted with respect to a Reference Level on the basis of a technical justification that has been accepted by the regulatory body.

The detailed results for each specific Reference Level are completed in the benchmarking tables and are not summarised here.