

Harmonization of Reactor Safety in WENRA Countries

Overview of National Results

Czech Republic

(Extract)

January 2006

Overview of results – the Czech Republic

1. Graphs

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



Code A – Already harmonized in substance;

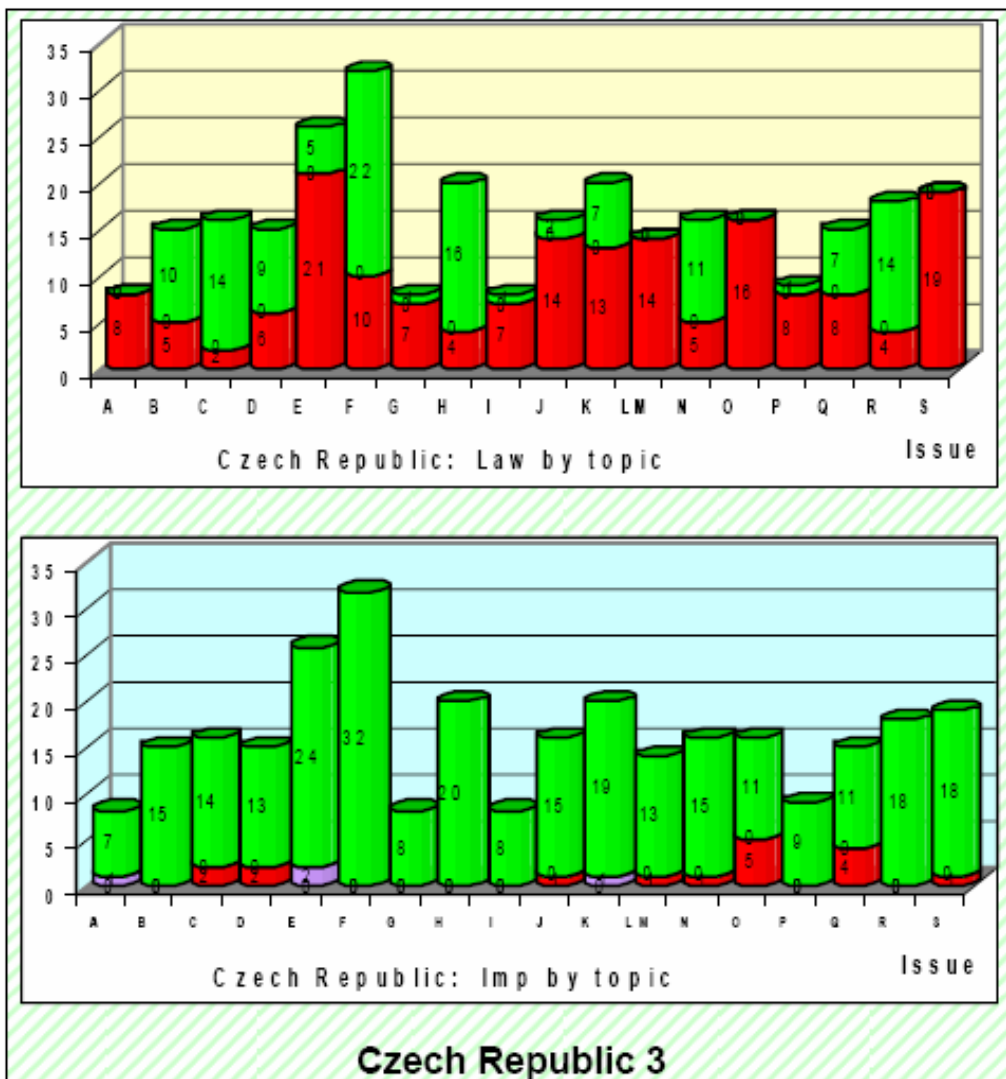


Code B – A difference exists, but can be justified from a safety point of view; and



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. The Working Group makes no further comment on these graphs.



2. Summary tables

Table A – Assessment summary

Required	Not Required	Implemented	Not implemented	Conclusion

Table A summarizes the assessment results from the benchmarking table by noting which Reference Levels of the particular safety issue are (and are not) legally required and implemented. Reference Level numbers are inserted in the appropriate column.

A summary conclusion of the overall position for each country on the safety issue under examination is given in the right-hand column of the table.

To qualify for an 'A', all Reference Levels for that safety issue have to be legally 'required' or 'implemented' on all NPPs.

Code 'B' indicates at least one substantial difference is justified in accordance with the criteria defined in the RHWG's harmonization report.

Code 'C' indicates that at least one substantial difference has not been justified for at least one Reference Level. As mentioned in RHWG's harmonization report, it is important to note that a 'C' can have quite different implications. It could be the result of an omitted Reference Level keyword or failing to meet an entire Reference Level.

The coding system for the final column of the summary table is different from the self-assessment table because it is possible to have a 'BC' for the legal system and/or implementation. This occurs when there is at least one Reference Level assessed as code 'B' and at least one Reference Level assessed as code 'C' in either the legal or implementation side (or both).

More information on the meaning of possible combinations is given in the note at the end of this annex (*).

To help explain what justification is provided and what needs to be done for harmonization information is provided in **Tables B** and **C**.

Table B – Justification of differences

Refs	Differences	Justification
1.x		
n.x		

Table B lists those items that have justified differences for Reference Levels (code 'B') for the legal and/or implementation aspects. For consistency, the following criteria were agreed for justification of a 'B':

- *Regulations are under development or revision and will include the missing Reference Level requirement(s) by the end of 2005 at the latest;*
- *The Reference Level requirement is covered by a different national requirement to such an extent that the added safety value of the reference requirement is minor;*
- *Specifically for issue N: the Reference Level is included in another controlled safety document than the SAR, but which has a similar status as the SAR, i.e. it is a document that is approved by the regulatory body and included in the licensing documentation;*
- *Implementation of a reference requirement is lacking in an older plant for which a shut down decision has been taken;*

- Implementation of a reference requirement is in progress and will be completed before the end of 2005; or
- Implementation of a Reference Level requirement has been exempted because the regulatory body has accepted a technical justification.

Table C – Recommendations

Refs	Differences which should be addressed for harmonization
1.x	
n.x	

Table C lists all differences, both for the legal and implementation aspects that will have to be considered for harmonization.

(*) Further explanation on the meaning of combinations

'A, A' means all Reference Levels for the issue being evaluated are fully harmonized for the country.

'A, B' and 'A, C' mean, respectively that the legal side is harmonized for all the Reference Levels in the document, but that there are entries in Tables B or C for implementation.

'B, A' and 'C, A' mean that implementation is fully harmonized but there are entries in Tables B and C for the legal side.

'B, B' means there are justifications on the legal and implementation sides and no harmonization issues.

'C, C' means that there are harmonization issues for both legal and implementation and no justification can be provided.

'B, C' 'C, B' means that some levels are justified but issues remain for harmonization.

By analogy, the 'BC' component in the following combinations means 'BC, A', 'BC, B', 'BC, B', 'A, BC', 'B, BC', 'C, BC', 'BC, BC' means there are differences that have and have not been justified on side corresponding legal and/or implementation side.

Summary tables:

Issue A – Safety Policy

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic			All	All except 1.5	1.5		C, B

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic	1.5	The improvement of the existing safety plans issued by licensee are not communicated to contractors, the solution is in progress. The Safety requirements to contracted works and deliveries are satisfied through Quality systems	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	All	Develop regulations on the respective themes of nuclear safety policy

Issue B – Operating Organization

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	All except 3.1-5		3.1-5	All			C, A

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic	3.1-5	None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	3.1-5	Considered addition of Regulatory guides based on IAEA Safety standards to cover these reference levels

Issue C – Quality Management

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	All except 1.3, 4.3		1.3, 4.3	All except 1.3, 4.3		1.3, 4.3	C, C

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	1.3	It is considered to issue technical guides to cover the grading of requirements to reflect their relative importance to nuclear safety.
	4.3	It is considered to provide technical guides to cover self-assessment of managers.

Issue D – Training and Authorization of NPP staff (jobs with safety importance)

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	2.1, 2.3-4, 3.1-4, 4.1, 4.3		1.1-2, 2.2, 3.5-6, 4.2	All except 3.6, 4.2		3.6, 4.2	C, C

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	1.1-2, 2.2, 3.5-6, 4.2	It is considered to issue the Regulatory Guides, based on IAEA Safety Standards to cover this reference level.
	3.6, 4.2	Specific rules for maintenance training and for handling with authorised personnel shall be précised by licensee.

Issue E – Verification and Improvement of the Design

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	3.2, 3.4-5, 4.2, 5.2		1.1-2, 2.1-6, 3.1, 3.3, 4.1, 4.3, 5.1, 5.3-9, 6.1	All except 5.1-2	5.1-2		C, B

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic	5.1-2	Only insufficient extent of adequate instrumentation for severe accidents monitoring is installed on some units	The Post Accident Monitoring System is gradually installed on Dukovany NPP

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	1.1-2, 2.1-6, 3.1, 3.3-4, 4.2, 4.3, 5.1, 5.3-9, 6.1	It is considered to issue the Regulatory Guides, based on IAEA Safety Standards to cover this reference level.

Issue F – Design Basis Envelope for existing reactors

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	2.1, 3.1, 4.1, 5.1-3, 6.2-3, 6.5-10, 7.1-3, 7.6-9, 7.11		1.1, 3.2, 5.4-6, 6.1, 6.4, 7.4-5, 7.10	All			C, A

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	1.1, 3.2, 5.4-6, 6.1, 6.4, 7.4-5, 7.10	Considered addition of Regulatory guides based on IAEA Safety standards to cover these reference levels.

Issue G – Safety Classification of Structures, Systems and Components

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	4.1		All except 4.1	All			C, A
Table B – Justification of differences							
Country	Ref	Difference		Justification			
Czech Republic		None					

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	1.1, 2.1-2, 3.1-3, 4.2	Considered addition of Regulatory guides based on IAEA Safety standards to cover these reference levels.

Issue H – Operational Limits and Conditions

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	1.1-2, 2.1-2, 3.1-2, 4.1, 6.1-3, 7.1-2, 8.1, 9.1, 10.1-2		2.3, 4.2, 5.1-2,	All			C, A
Table B – Justification of differences							
Country	Ref	Difference		Justification			
Czech Republic		None					

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	2.3, 4.2, 5.1-2	It is considered to issue the Regulatory Guides, based on IAEA Safety Standards to cover this reference level.
	5.2	The relation between OLCs and Safety analyses methodology and results should be addressed more precisely.

Issue I – Ageing Management

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	3.1		All except 3.1	All			C, A

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	1.1, 2.1-5, 3.2	The addition of a Technical Guide for Ageing Management is planned; Czech operating and research organisations are involved into majority of international activities in this field.

Issue J – System for Investigation of Events and Operational Experience Feedback

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	1.1, 3.1		All except 1.1, 3.1	All except 3.2		3.2	C, C

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	All except 1.1, 3.1	Although some of the reference levels are partly covered by in the existing Czech legislation, the set of Regulatory guides, harmonising safety requirements with the latest IAEA standards are under preparation.

Issue K – Maintenance, In-Service Inspection, and functional testing

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	1.1-2, 3.2, 3.6, 3.11-13		2.1-5, 3.1, 3.3-5, 3.7-10	All except 3.12	3.12		C, B

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	2.1-5	New Regulatory Guides should identify detail recommendations for maintenance and in-service Inspection process.
	3.1, 3.3-5, 3.7-10	New Regulatory Guides should be issued on operational aspect of In-service Inspections.

Issue LM – Emergency Operating Procedures and Severe Accident Management Guidelines

Table A - Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic			All	All except 4.1		4.1	C, C

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	All	It is considered to issue the Regulatory Guide covering the recommendations of NS-R-2 and NS-G-2.2 and establish legally bond requirements for Emergency Operating Procedures and Severe Accident Management.

Issue N – Contents and updating of Safety Analysis Report (SAR)

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	1.2, 2.1-3, 2.5-7, 2.9-10, 2.12-13		1.1, 2.4, 2.8, 2.11, 3.1	All except 2.8		2.8	C, C

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	1.1, 2.4, 2.11, 3.1	Actualised requirements to SAR according the Reference level will be implemented to Czech legislation and guidelines.
	2.8	The emergency operation procedures and accident management guidelines, ageing etc. are not required directly to the SAR – needs to be realised out of the SAR content according US NRC RG 1.70
	2.8	On the implementation side, a description is to be included in the SAR documenting the EOP and SAMG concept.

Issue O – Probabilistic Safety Analysis (PSA)

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic			All	1.1-5, 2.2, 3.2-3, 4.1-3		2.1, 3.1, 3.4-6	C, C

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	All	The legal requirements for PSA level 1 and level 2 shall be implemented to Czech legislation. A format of changes of the Regulation No. 195/1999 Sb. and the issue of new Regulatory Guide as a part comprehensive set of guides was agreed by SUJB and is under preparation.

Issue P – Periodic Safety Review (PSR)

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	1.1		All except 1.1	All			C, A

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	1.2-5	Consider providing legal requirements to cover the objectives of the safety review.
	2.1-2	Consider providing legal requirements to cover the scope of the periodic safety review.
	3.1-2	Consider providing legal requirements to cover the methodology of the periodic safety review.

Issue Q – Plant modifications

Table A - Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	1.1-2, 2.1-2, 3.1, 3.4, 4.3		3.2-3, 4.1-2, 5.1-4	All except 5.1-4		5.1-4	C, C

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	3.2-3	It is considered to fix QA of modifications in detail to the Regulatory Guide.
	4.1-2	It is considered to fix detail requirements for implementation of modifications to the Regulatory Guide.
	5.1-4	It is considered to implement legal requirements to cover the temporary modifications.

Issue R – On-site Emergency Preparedness

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic	1.1, 2.1, 2.3, 3.1-5, 4.3-4, 5.1-3, 5.5		2.2, 4.1-2, 5.4	All			C, A

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations		
Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	2.2	It is not legally required that the licensee provides treatment of a limited number of contaminated or overexposed persons. The medical services are responsible for such treatment.
	4.1-2	There are not legally binding requirements for emergency control room protection and separation
	5.4	Exercises, integrated to include as many as possible of the off-site organizations concerned are required only through emergency plans and procedures.

Issue S – Protection against internal fires

Table A – Assessment summary							
Country	Required	Not Required		Implemented	Not Implemented		Conclusion
		Table B	Table C		Table B	Table C	
Czech Republic			All	All except 3.2		3.2	C, C

Table B – Justification of differences			
Country	Ref	Difference	Justification
Czech Republic		None	

Table C – Recommendations

Country	Ref	Differences which should be addressed for harmonisation
Czech Republic	All except 4.3, 6.2	More detailed nuclear legislative documents have recently been developed. Some NPPs do not have a complete probabilistic fire hazards analysis. In response to actual IAEA Safety Requirements, needs for upgrading of the analyses have been identified.