WESTERN EUROPEAN NUCLEAR REGULATORS' ASSOCIATION

GENERAL CONCLUSIONS OF WENRA
On nuclear safety in the candidate Countries to the European Union

We, Heads of the Nuclear Regulatory Authorities assembled in WENRA, considering the status achieved on nuclear safety in the candidate countries to the European Union and taking into account the results of the investigations of experts from WENRA and from French and German technical support organisations, come to the following conclusions:

BULGARIA

Status of the regulatory regime and regulatory body

At present, the regulatory regime is not in line with Western European practice because it does not provide sufficient independence to the regulatory body. The resources of the regulatory body are also insufficient to allow it to carry out its responsibilities.

Nuclear power plant safety status

Kozloduy units 1-4 (VVER-440/230)

Although improvements have been made, the Kozloduy 1-4 units have not reached an acceptable level of safety. Among others, a concern remains about the ability of the confinement system to cope with the failure of the large primary circuit pipework. Even if a solution could be found to this issue, significant time and effort would be required to achieve the necessary improvements to bring them up to equivalent Western European reactor standards. The Bulgarian Government has announced its decision to close down Kozloduy units 1-2 before 2003.

Kozloduy units 5-6 (VVER-1000/320)

If their modernisation programmes are carried out properly, the Kozloduy 5-6 units should reach a level of safety comparable to that of Western European reactors of the same vintage.

CZECH REPUBLIC

Status of the regulatory regime and regulatory body

The regulatory regime and regulatory body in the Czech Republic are comparable with Western European practice. A well-defined licensing process according to Western practice is in place.

Nuclear power plant safety status

Dukovany units 1-4 (VVER-440/213)

Already in the early years of operation, improvements were implemented to remove safety deficiencies of the original design. An extensive modernisation programme has been established and it will allow Dukovany units 1-4 to reach a safety level comparable to that of Western European reactors of the same vintage. All issues, except the modernisation of the Instrumentation and Control systems, will be completed by 2004..Nuclear safety in EU candidate countries **- 6**

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Temelin units 1-2 (VVER-1000/320)

The safety improvement programme for Temelin units 1-2 is the most comprehensive one ever applied to a VVER-1000 reactor. Standard Western practices were used to integrate Eastern and Western technologies and to deliver the corresponding authorisations. The on-going commissioning process has to confirm the integration of the different technologies. A few safety issues still need to be resolved. If these are resolved, Temelin units 1-2 should reach a safety level

comparable to that of currently operating Western European reactors.

HUNGARY

Status of the regulatory regime and regulatory body

The regulatory regime and regulatory body in Hungary are comparable with Western European practice. A well-defined licensing process according to Western practice is in place.

Nuclear power plant safety status

Paks units 1-4 (VVER-440/213)

A major safety improvement programme has been implemented at Paks units 1-4, bringing these units to a safety level that is comparable to that of Western European reactors of the same vintage. An extensive modernisation of the Instrumentation and Control system is underway for further enhancement of safety.

LITHUANIA

Status of the regulatory regime and regulatory body

The legal and regulatory system has substantially developed over the past years. A licensing system is in place. However, further efforts are needed to reach a level comparable to Western European practice. In particular, the legal status of the plant need to be changed in such a way that operating organisation is given full responsibility and authority for the safety of the plant. The resources and technical support of the regulatory body need to be strengthened and its independence need to be maintained in the ongoing reorganisation of governmental institutions.

Nuclear power plant safety status

Ignalina units 1-2 (RBMK 1500)

The Ignalina units 1-2, although they have been much improved, cannot realistically reach a safety level comparable to that of Western European reactors of the same vintage. A decision has already been taken to shutdown unit 1 before 2005. The current financial situation of the plant needs to be improved in order not to delay the ongoing safety improvement programme.

ROMANIA

Status of the regulatory regime and regulatory body

Romania is taking the appropriate steps to establish a regulatory regime and regulatory body comparable with Western European practice. Further efforts are needed to ensure the necessary safety assessment capabilities, to develop the emergency response organisation within the regulatory body and to revise the pyramid of regulatory documents..Nuclear safety in EU candidate countries **- 7**

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Nuclear power plant safety status

Cernavoda unit 1 (Candu 6)

The Candu 6 reactor of Cernavoda is similar to those in operation at Gentilly 2 and Point-Lepreau

in Canada. The main concern is with the financial situation of the plant: under the current situation, the plant management may have serious difficulties in ensuring and maintaining an adequate level of safety.

SLOVAKIA

Status of the regulatory regime and regulatory body

The regulatory regime and regulatory body in Slovakia are comparable with Western European practice. However, the human and financial resources of the regulatory body need to be further improved in order to provide reasonable work conditions for the staff.

Nuclear power plant safety status

Bohunice V1 (VVER-440/230)
A major upgrade programme is nearing completion, which has made significant improvements to reactor safety. A concern remains about the ability of the confinement system to cope with the failure of the large primary circuit pipework. If a solution can be found to this issue, the plant should reach a safety level comparable to that of Western European reactors of the same vintage. The Slovak Government has announced its decision to close down these units in 2006 and 2008.
Bohunice V2 (VVER-440/213)
Since 1990, significant improvements have been implemented at Bohunice V2 (units 3-4). Once the on-going upgrading measures have been implemented, i.e. around 2002, the safety level of these units is expected to be comparable to that of Western European reactors of the same vintage.
Mochovce units 1-2 (VVER-440/213)
Compared to earlier reactors of the same type (VVER 440-213), the Mochovce units 1-2 included several modifications already at the design stage. Although some residual work is still needed to confirm all parts of the safety analysis, the safety level of the Mochovce units 1-2 is comparable to that of nuclear power plants being operated in Western Europe.

SLOVENIA

Status of the regulatory regime and regulatory body
In order to be fully comparable with Western practice, the nuclear legislation needs to be revised, addressing the identified deficiencies. The regulatory body has evolved and operates in general accordance with Western practice and methodologies, however the budget and financial situation need to be improved in order to increase its independent safety assessment capability.
Nuclear power plant safety status
Kr ko (Western PWR)
The Kr ko plant is a Western design pressurised water reactor and its safety level is comparable with that of nuclear power plants in operation in Western European countries. A large modernisation programme has been recently completed. The safety implications of the long-term.Nuclear safety in EU candidate countries - 8
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plant ownership need to be assessed. In addition, the evaluation of a few technical issues needs to be finalised.

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