

## Conclusions

Post-Fukushima stress tests peer review  
Public meeting, Brussels, 17 January 2012

The first public meeting associated with the stress test peer review was well attended. There was sufficient time for question and answer sessions which permitted an open and constructive discussion. Participants used the opportunity to express their views on the process, to share comments, to express their expectations on the ongoing process. They also extensively discussed with representatives of the organizations that played a role in developing and organizing the stress tests and peer reviews, including the European Commission, ENSREG, WENRA and the peer review board.

While carefully listening to the discussions, the chairman took notes and summarized the main conclusions as follows:

- 1) The decision to conduct a European Stress-Test in a coordinated way has generally been appreciated. It constitutes an immediate response to early lessons from the Fukushima accident. Also the unique character of an international benchmark was highlighted. Topics addressed in the scope of the stress tests and stress test specifications were generally well received. However, skepticism remained regarding topics not included in the stress tests and stress test specifications. The lack of concrete information on the security-track and the interface with the safety track has been repeatedly discussed. The specific example of including airplane crashes partially into the first and second track respectively was an area that lacked clarity to the participants. Additionally the fact that the stress test specifications call for a targeted reassessment of safety margins rather than a comprehensive risk assessment has been criticized. Some concern was also expressed on the expected outcome; in particular weather wide ranging consequences could be taken.
- 2) The stress-test execution has been globally welcomed. It was recognized that operators and regulators have provided extensive analyses. They have respected the given deadlines and published their respective reports, providing comprehensive information to all interested parties, including means for public participation.
- 3) The independence of the review process was questioned, since regulators need to partially review own decisions and do not systematically involve other organizations during the review and peer review. Some organization also expressed the wish to have more frequently the occasion to express concern and to have an impact on the process via public meetings, public consultations and other means of public involvement.
- 4) Mixed feelings were received on the modalities of the peer review. It has been recognized the given timeframe foreseen by the European Council and ENSREG is very tight for a thorough analyzes, considering in particular the large quantities of material to be reviewed. The logistical effort needed to coordinate all participants and to assure the quality of the review and reviewers is another burden lying basically on the peer review board. Above, some participants have seen the fact that most national regulators have already published conclusions as another obstacle for the peer review to produce a meaningful outcome.
- 5) Many participants expressed high expectations towards the outcome of the peer review. In particular the peer review board and ENSREG are expected to establish a

common and consistent European dimension in the evaluation of the Stress Test results. Team leaders of the peer review are requested to direct all team members to perform in depth peer reviews, to identify weaknesses, cliff edge effects and to propose appropriate plant improvements to enhance safety, while maintaining technical relevance. It is expected that the outcome of the Stress Test be validated against the highest existing standards for nuclear safety and the WENRA reference levels, where applicable. However, this shall not exclude thinking the unthinkable beyond design basis and existing legal requirements, i.e. to determine reliable safety margins. On a more technical side, the individual team members should also take into account multi-reactor or multi-installation failure and carefully look at reactor containment issues. Some fears were expressed that other considerations, such as financial aspects, might jeopardize a thorough follow up of potential violations and of concluded needs for improvement.

- 6) A need for continuous improvement beyond the Stress Test has anonymously been recognized, while views differ on the related priorities. A further strengthening of the European legislative framework, in particular the directive on nuclear safety certainly constitutes a main element with this regard. Some participants were further in favor to develop new harmonized mandatory standards from the lessons learned. The EU is expected to act as a global promoter of nuclear safety. This should include an active contribution for strengthening relevant international conventions and the initiation of safety cooperation with third countries. Good examples in this respect are the participation of Switzerland and the Ukraine to the EU Stress Test. Several participants also wished to see further analyses of a similar character as the running Stress Test. Some potential issues for further analyses were briefly addressed, such as the effect of the dependence on nuclear energy, aging of NPP's, human factors and safety reassessments. The proposal for organizing a 3<sup>rd</sup> track stress test on off-site emergency preparedness was repeatedly put forward by various speakers.

It is finally worth highlighting the good quality of the different interventions and the willingness of a constructive dialogue between all involved stakeholders. This has allowed establishing meaningful conclusions that will impact on the ongoing Stress Test process.