

Brussels, 08 May 2012

ENSREG Public meeting II

Post-Fukushima stress tests peer review

Stress tests deliver too little. How further?

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Introduction

On 17 January 2012, during the first public meeting concerning the EU post-Fukushima stress tests, I challenged the peer-reviewers to prove us wrong in our assessment that the stress tests were threatening to become a greenwashing exercise for all nuclear power stations in Europe, no matter what their safety condition. The peer-reviews did not meet that challenge.

It was shocking to see that even the most modest suggestions from our side were not taken into account, like for instance the request to properly source data in reports, so that reports would become more transparent. Neither could we recognise in the reports that any of the other suggestions in our 18 point presentation was taken on board. We therefore honestly have to doubt the sincerity of the public consultation in this process.

The second issue that is of concern is the credibility of the peer-review itself. Much of this credibility rests on the notion that the national nuclear regulators – the members of ENSREG – are, as prescribed in the Euratom Nuclear Safety Directive, art. 5(2), functionally independent from any institution promoting or operating nuclear energy. Indeed, the lack of independence from Japan's nuclear regulator NISA and the entire regulatory system was pivotal in the catastrophe. Not all European national nuclear regulators have been able to fulfil that criterion either, and with that have shed doubt on the thoroughness and impartiality of the peer-review process itself. I will give a few examples here-under.

A third issue is the role of the European Commission. The Commission is said to have insisted on the inclusion of airplane crashes in the assessments. In its joint statement with ENSREG, the Commission states: “*ENSREG and the European Commission recognise that the results of the stress tests related to loss of safety systems and severe accident management provide valuable insight also in all indirect initiating events like aircraft crashes.*”¹ [emphasis added, JH] This is a step away from claiming that airplane crashes have been included in the

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1 European Commission, ENSREG, *Stress tests and Peer Review Process - Joint statement of ENSREG and the European Commission*, Brussels (27 April 2012); <http://www.ensreg.eu/node/389>

assessment, but it is still misleading. SBO and loss of ultimate heat sink are part of the problems facing operators in the case of an airplane crash, but this reference is like claiming SBO and loss of ultimate heat sink were the only factors playing a role in Fukushima without taking into account the devastation to infrastructure caused by the earthquake and tsunami and the resulting complications. What about the effects of kerosene fires, the chance on a second attack, the security emergency situation and related limitation of possibilities to transport people and goods, to name a few? Only one country so far has analysed airplane crashes and drew conclusions: Germany. The few other regulators that included the effects of airplane crashes moved their conclusions towards the closed Ad Hoc Group on Nuclear Safety (AHGNS), but in most countries the issue has not been investigated at all. Already in January we demanded clarity on this issue from the Commission, a demand that resulted in a heated debate and the claim from the Commission that airplane crashes would be included in this part of the stress-tests. The peer-review report shows that the stress-tests did not deliver this and the fact that ENSREG and the Commission mention airplane crashes in their declaration is therefore misleading the public.

Greenpeace study upcoming

Greenpeace currently analyses the stress-tests and peer-reviews of 12 sites with in total 30 reactors. This analysis confirms our fears that the current regulatory system is not strong enough to deliver what the stress-tests aimed for.

We found major gaps in the assessment of earthquake and flooding risk as well as in the effects of SBO, loss of ultimate heat-sink and on-site emergency response. On top of that, we found that no or insufficient attention was given to important issues like:

- Ageing of reactors;
- Power uprate by thermal power increase;
- Containment stability in cases of impacts from outside (aircraft crash);
- Design deficiencies;
- SNF storage;
- Severe accident management, e.g. functioning of venting systems or lack there-of, habitability of emergency control rooms, limitation of analyses to “ideal” emergency situations;
- Hydrogen build-up and explosions.

The conclusion from this report is that citizens around the investigated power stations have valid reasons for concern. Given the limitations in international cooperation in off-site emergency response, this concern is especially warranted in near-border situations. The risk of nuclear power has a tensed relationship with the national sovereignty in choice of energy mix. We call upon member states and their citizens to be actively and critically involved in the ongoing assessments of nuclear safety and following political decision processes not only of their own nuclear power stations, but also of those in neighbouring states.

Regulator independence

In our intervention in January, we concluded that virtually all national regulators had tried to hijack the results of the stress-tests by coming with positive language on the nuclear safety situation in their country even before the peer-reviews had even started. During the peer-reviews, this kind of behaviour toned down, but did not completely disappear. We still observed the odd positivist interview with peer-review team members and idem statements during ex-post organised public meetings on the national stress test reports.

What we had not expected was that some national regulators would not hold back from breaking with their legally prescribed independent position (Nuclear Safety Directive, art. 5(2)) by putting forward non-independent experts for the peer-review teams. Two examples from my own area of activity, Central Europe: Attila Aszodi is in Hungary widely considered to be the country's number one nuclear lobbyist and should never have been put forward by HAEA. The Slovak UJD appointed expert and peer-review team-leader Josef Mišák is development director at the majority nuclear operator (ČEZ) owned nuclear research centre ÚJV in the Czech Republic. These conflicts of interest undermine the credibility of the peer-review process.

But so do other recent incidents involving regulatory independence, like the recent move from former STUK director Jukka Laaksonen to Rosatom virtually directly after his retirement as head regulator in Finland. Or the fact that Czech SUJB president Dana Drabova so far did not understand that her being a co-president of the government commission to propose the country's energy policy is an unholdable conflict of interests.

The lack of independence of the Japanese regulator NISA has led to several weaknesses in the Fukushima Daiichi design and operation that were crucial in the escalation of the catastrophe. We continue to ask ourselves whether the lack of attention for several issues in the the EU stress tests, e.g. the lack of secondary containment, the lack of discussion of ageing issues, the impact of airplane crashes, the lack of multi-installation failure analysis, the use of zirconium and others, were not driven by the fear that serious discussion would inevitably have to lead to closure of certain nuclear reactors. By its refusal to take up a substantial amount of independent experts, the set-up of the stress-tests structurally prevented a critical assessment of regulator independence.

Other specific issues

On 17 January, we highlighted 18 points of concern. Based on standing practice of the Aarhus Convention art. 6(8) that input from the public should have been taken into due account. We expected some reflection of our suggestions and observations in the practice and reporting of the peer-reviews. We have been disappointed, however. This leaves us wondering why we bother to come with constructive input.

I maintain here the numbering from my presentation in January.

2. **Can you think the unthinkable?** – We have seen some suggestions that regulators were forced during the peer-review process to open their eyes for unthinkable events, for instance concerning the lack of secondary heat-sink at the Dukovany power station in the Czech Republic. These were, however, exceptions. A shocking example of not being able or willing to think the unthinkable is the case of the Santa Maria de Garoña power station in Spain, where we come to the conclusion that on the basis of the lessons learned from Fukushima and the complications coming forward from the stress test report and the peer-review, the recently given life time extension is inexplicable.
3. **Can you live up to your own standards?** – Several peer-review reports referred to the WENRA reference levels. However, we see no concrete information that would enable us to test whether indeed the WENRA safety levels have been adhered to in the strictest interpretation. Although the final ENSREG report mentions differences in interpretations of safety levels between countries, we did not see any concrete discussions about such differences.

4. **Can you raise the next issues?** Here I refer to the upcoming Greenpeace report. The issues we raised in January were insufficiently addressed during the peer-review.
5. **Can you call the bluff?** We asked the peer-review teams to **compare the reports with earlier domestic assessments**. We have found no indication that this has happened. *Ex generale*, the fact that the Swiss stress-tests were using weaker seismic analyses than previous reviews, an issue we highlighted as example in January, was not addressed in the peer-review report – was it addressed by the team?
6. **Can you clear out the fog?** The lack of clarity about inclusion or non-inclusion of an **airplane crash** was not resolved, but by mentioning airplane crashes in the “joint statement”, ENSREG and the Commission continued to mislead the public by implying they were analysed.
7. **Lack of a true secondary containment.** The peer-review reports of Switzerland, Spain, Hungary, Slovakia, Czech Republic and the UK do not address the issue. The following peculiar remark in the Slovak regulator report even went uncommented: *“The secondary containment is not required by IAEA as nothing prevents a single containment from providing all the necessary protection from internal as well as from external events.”* So, why do other reactor designs even bother with this costly safety precaution? Maybe because of a higher safety level?
8. **Multi-reactor failure or multi-installation failure.** We had expected more attention to this issue in the peer-review reports.
9. Our question on whether fuel for **mobile generators and pumps** is reachable in emergency situations, and whether operation personnel is available under these circumstances was not addressed in the reports.
10. **National public seminars** were held in some countries ex-post, in others there was no public consultation at all. As far as we are aware, only France organised public participation in a time that could still influence the national reports. There was no mechanism to have the other public consultations influence the peer-review process, nor were there opportunities for civil society to share their concerns with country peer-review teams. The short period for anonymous web-based questions was insufficient.
13. Most of the stress test **reports lacked proper sourcing of data**. To our great surprise this remark did not lead to any data sourcing in the peer-review, except for a general reference to the national stress test reports! This makes the peer-review reports extremely intransparent.
15. The peer-review reports do not give clarity how **suggestions for the peer-review process** from the website were taken into account. With that it became impossible to see whether this tool functioned or not. One possibility would have been to include a list of questions generated during the plenary sessions in Luxembourg as annex to each country report – preferably also with some reactive information.
18. There were no **possibilities for NGOs and independent (academic and other) experts to give input** to the peer-review teams.

To conclude: Our input was not properly valued or taken into due account.

How further?

- a) Both ENSREG and the Commission should improve on public participation in the process, if the process of stress tests is to continue. Public input should from now be taken into account – this has not happened so far.
The national regulators should improve on public participation in their regular safety review processes: pro-active publication of all non-confidential information, prompt and generous access to requested information, early consultation, sufficient time for the public to express and discuss concerns in an early phase and a constructive attitude to resolving conflicting claims of public interest versus confidentiality. They should furthermore **act** on the input.
More concretely: the Commission and national regulators should ask the public and especially NGOs actively for input in upcoming specific reactor assessments, including in the by Commissioner Oettinger proposed further reactor visits by peer-review teams.
- b) Transparency and public participation should be included in the normal regulatory practice. The transparency practices used in the stress-tests should be used and enhanced during periodic safety reviews (PSRs), life-time extension licensing procedures, WENRA and IAEA (OSART, IRRS) inspections.
- c) ENSREG and the Commission should actively support the proposal from Luxembourg e.a. for a third track in the stress-tests focusing on off-site emergency response.
- d) The Commission should facilitate some form of public consultation on the outcomes of the security track of the stress-tests.

Conclusion

Although the use of peer-review was a structural breakthrough in the traditionally nationalised area of nuclear safety, our conclusion that the stress tests have been still too much business as usual remains standing. Instead of increasing the credibility of the European nuclear regulatory system, the result is rather more scepticism.

We also think that the stress tests do not give decision makers - be they corporate or political - sufficient information for their task to draw proper conclusions.

If the total of stress-test reports and peer-review reports reveal anything, it is that the European nuclear safety regulatory systems are not able to guarantee safety of nuclear power stations. Following the discussion in the German Ethics Commission for a Safe Energy Supply², given the immense impacts of larger accidents, this should logically lead to a phase-out of nuclear power when viable alternatives for the services from nuclear power stations exist. Greenpeace and many others have shown that these alternatives exist. We call on the European Commission to pass this conclusion to the Council.

2 Ethics Commission for a Safe Energy Supply, *Germany's energy transition - A collective project for the future*, Berlin (2011) Bundesministerium für Umweltschutz;
http://www.bmu.de/english/transformation_of_the_energy_system/doc/48311.php