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the Chair of ENSREG, **Marta Žiaková**  
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Re.: The need for a stress test on safety related issues during nuclear security events, including acts of war

Paris/Brussels, 19 May 2022

Dear Ms Žiaková, dear Mr. Garribba,

The European Environmental Bureau (EEB) and Nuclear Transparency Watch (NTW) ask you with this letter to initiate steps towards a European post-Ukraine nuclear stress test process for all European nuclear power stations, that implements lessons learned for nuclear safety and regulatory oversight from the ongoing war crisis in Ukraine.

Already during the preparation of the post-Fukushima nuclear stress tests in the end of 2011, people from civil society, including those who later founded Nuclear Transparency Watch, called on the European Commission and ENSREG to include issues of nuclear security in the stress tests. However, the European Council decided to assess issues of nuclear security in a separate group, the Ad Hoc Group on Nuclear Security (AHGNS). The European Commission and the External Action Service published the report “EU efforts to strengthen nuclear security” in 2012, and the AHGNS submitted its final report on 6 June 2012 to the Coreper. The AHGNS, however, only assessed issues around theft, sabotage, unauthorised access, unauthorised movement of nuclear material or other malicious acts, and identified and shared good practices in that field.

On 24 February of this year, Russian military started an attack on the Chernobyl nuclear power plant in Ukraine and the closed zone around it, resulting in the temporary occupation of the territory. On 4 March, Russian troops attacked the Ukrainian Zaporyzhzhia nuclear power plant and occupied it. In the weeks afterwards, Russian troops tried to forward towards the South Ukrainian nuclear power station, but were repelled by Ukrainian forces.

Since those moments, a long list of events occurred that until so far had not been foreseen in scenarios concerning nuclear safety.<sup>1</sup> These include risks of direct impacts of severe weaponry on essential equipment, including the nuclear reactors, spent fuel containers, cooling and power relevant equipment, as well as risks related to extreme pressure on staff, lack of availability of spare parts, loss of off-site power,

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<sup>1</sup> Although there have already been malevolent and military attacks on nuclear installations in the past, including among others in Argentina (1973 by the People’s Revolutionary Army), Iran (six bomb attacks by Iraq between 1984 and 1987), Iraq (1980 by Iran, 1981 by Israel, 1991 by the US), Israel (1991 by Iraq), Slovenia (1991 by the Yugoslav air force), South Africa (1982 by the ANC), and Syria (2007 by Israel).

etc. These risks not only are related to the issues that traditionally are considered to fall under nuclear security – the issues that were assessed by the AHGNS. They went far beyond what the AHGNS ever has assessed and many of them have direct impact on nuclear safety and on the mandate and responsibilities of the nuclear regulatory authority. Were similar situations to occur on other countries, these issues would directly touch the work of any involved national nuclear regulator, irrespective of its mandate on nuclear security.

During the Russian invasion of Ukraine, it became clear that nuclear installations are not sufficiently protected against acts of war. It became furthermore apparent, that the current nuclear safety system is not prepared for situations of nuclear installations in a war situation. Nuclear installations appeared to be able to become a liability for the hosting country and expose workers and population to serious risks that were not foreseen. One of the Chernobyl shift operators, Valentin Heiko, [mentioned](#) that “It was not clear what to do. ... There was no protocol in case of war.” Also, the Ukrainian nuclear regulator SNRIU was beyond control after the Chernobyl site and the Zaporozhzhia nuclear power plant had forcefully been taken over and communication become poor or was lost completely. Automatic measurement systems did no longer function.

The Secretary General of the IAEA, Raffael Grossi, demanded that “[seven indispensable pillars of nuclear safety and security](#)” be upheld, but he had no authority or possibility to enforce these.

These seven pillars are:

1. The physical integrity of the facilities – whether it is the reactors, fuel ponds, or radioactive waste stores – must be maintained;
2. All safety and security systems and equipment must be fully functional at all times;
3. The operating staff must be able to fulfil their safety and security duties and have the capacity to make decisions free of undue pressure;
4. There must be secure off-site power supply from the grid for all nuclear sites;
5. There must be uninterrupted logistical supply chains and transportation to and from the sites;
6. There must be effective on-site and off-site radiation monitoring systems and emergency preparedness and response measures; and
7. There must be reliable communications with the regulator and others.

These are intended as minimal criteria, whereas a sufficient level of safety would also require full authority of the nuclear regulator, including the possibility to visit and oversee the site – announced or unannounced, without interference or undue pressure.

At different times, none of this was secured.

It was also completely unclear how in case of an emergency, emergency response would be able to operate in a situation of occupation and active war. Furthermore, the Russian invasion in Ukraine impacted nuclear supply chains beyond Ukraine, with potential safety relevance.

From the events in Ukraine, it has become crystal clear that the fact that safety related issues from lapses in nuclear security, as stated by members from civil society as mentioned before, constituted a black hole in the set-up of the post-Fukushima nuclear stress tests (together with the lack of assessment of the robustness of emergency preparedness and response).

In reaction on what is currently happening in Ukraine, the EEB and NTW would like to see the European Commission and ENSREG initiate post-Ukraine nuclear stress tests, in which safety relevant aspects of malevolent attacks (sabotage, terrorist attack or acts of war) are assessed, and measures are being worked out to reduce the risks from such events. We urge the Commission and ENSREG not to carry this out in the relative limited form of topical peer review exercises under the Euratom Nuclear Safety Directive, but in a similar comprehensive form as the post-Fukushima nuclear (safety) stress tests.

We are aware of the fact that many security measures require a certain degree of confidentiality. However, what happened in Chernobyl and Zaporozhzhia has shown that many aspects around the acts of war committed there are of a general nuclear safety related nature: the quality of the containment structures vis-a-vis potentially used weaponry, idem for radioactive waste storage facilities, vulnerabilities of cooling and power systems under military or terrorist attack and possibilities for improvement, disappearance of regular supply provisions, necessary structures to maintain a high level of well-being for staff under all circumstances. These are all issues where single nuclear regulatory authorities will be over-asked, and forms of international cooperation need to be used to reduce the resulting risks, including non-military forms of cooperation between nuclear regulators, international bodies like the EU, Euratom, ENSREG, WENRA and the IAEA. Especially the complete failure of the latter to be able to play a substantial constructive role overcoming the antagonisms between two of its signatory Parties and significantly reducing risks by, for instance, sending independent observers to the occupied sites, illustrates the immense lack of nuclear safety we face in these kinds of cases of malevolent attack.

In a time where the lifetime of an increasing amount of ageing nuclear power stations is extended with one or more decades and new nuclear power stations are expected to operate 60 years or beyond, it cannot be excluded for any nuclear power station in the Union, that it could during its lifetime face a similar situation as we are currently experiencing in Ukraine.

For those reasons, we think it is opportune that a post-Ukraine stress test is initiated for all European nuclear power stations, as soon as the circumstances allow it, similar to that of the post-Fukushima stress test, but then focusing on all safety relevant issues appearing from malevolent attack. Not about preventive security measures, which would need another platform, but about which technical measures need to be in place to reduce the risks from a malevolent attack, and what actions are to be taken after such attacks have become reality. Similar to the approach during the post-Fukushima stress-tests of lack of on-site power and lack of cooling sink, this should be assessed “no matter what the cause”. As after Fukushima, all the necessary lessons need to be learned from the horrible events of the last months, and implemented.

We believe that such a stress test can and should be carried out in a similar atmosphere of transparency as the post-Fukushima stress tests. That is, with wide dissemination of relevant information, wide inclusion of civil society and public consultations, including the execution of and results from peer-reviews.

The first steps for such an exercise should not be taken only once the hostilities in Ukraine are over. Preparation should be started as soon as possible.

The EEB and NTW would like to constructively cooperate with the Commission and ENSREG in making such stress-tests happen.

Sincerely,

Jeremy Wates – Secretary-General of the European Environmental Bureau

Davide Sabbadin – Senior Policy Officer for Climate and Circular Economy

Nadja Zeleznik – Chair of Nuclear Transparency Watch

Gilles Heriard-Dubrieux – Secretary of Nuclear Transparency Watch

Jan Haverkamp – Vice-Chair of Nuclear Transparency Watch