



NPP risk assessments

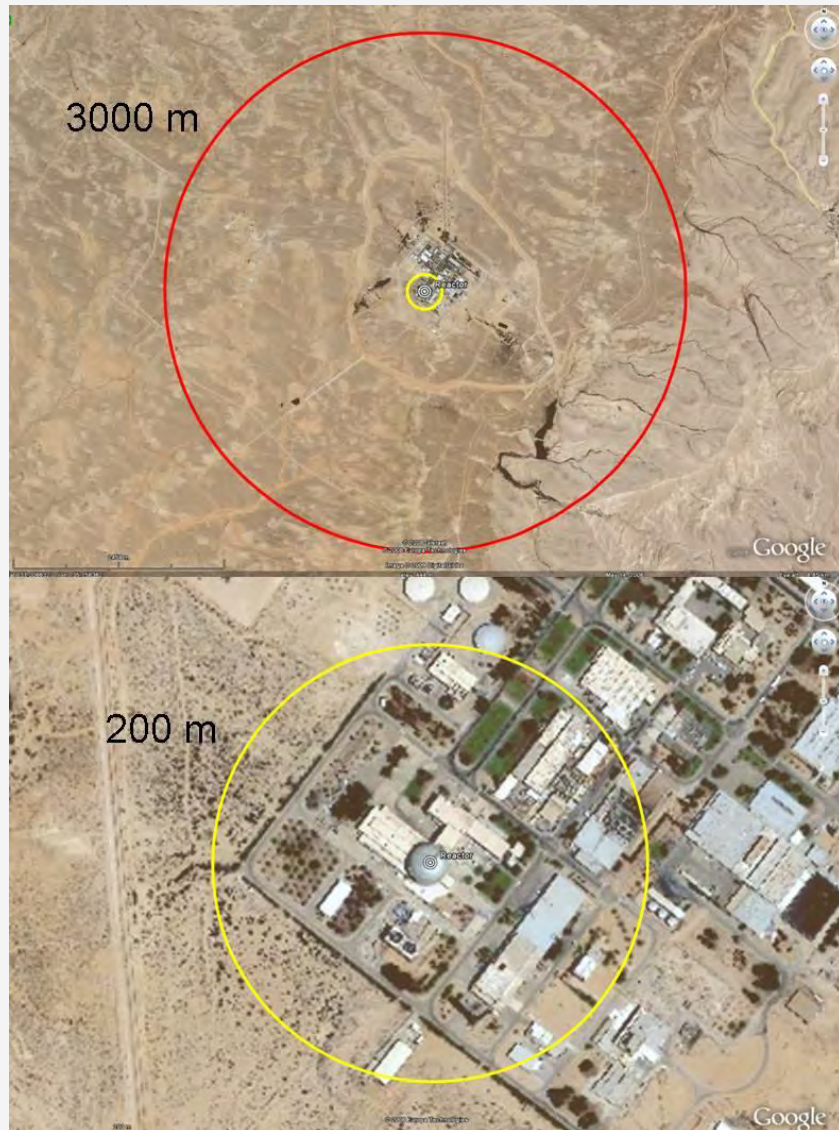
Towards an impact resistance framework
adapted to 21st century risks

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Working Group on EIA and SEA

12th meeting, Geneva, June 15, 2023

NPP targeting incidents



<https://www.armscontrolwonk.com/images/1249.jpg>
June 15, 2023

1972 Hijackers threaten to crash airline into US nuclear weapons production complex

1984-1988 Iraq bombs Iran's Bushehr NPP 7 times

1990s Serbia considers strike against Krško NPP

2009 Iran Natanz facility cyberattack

2014 Hamas and Iraq use Scud missiles to target Dimona NPP in Gaza

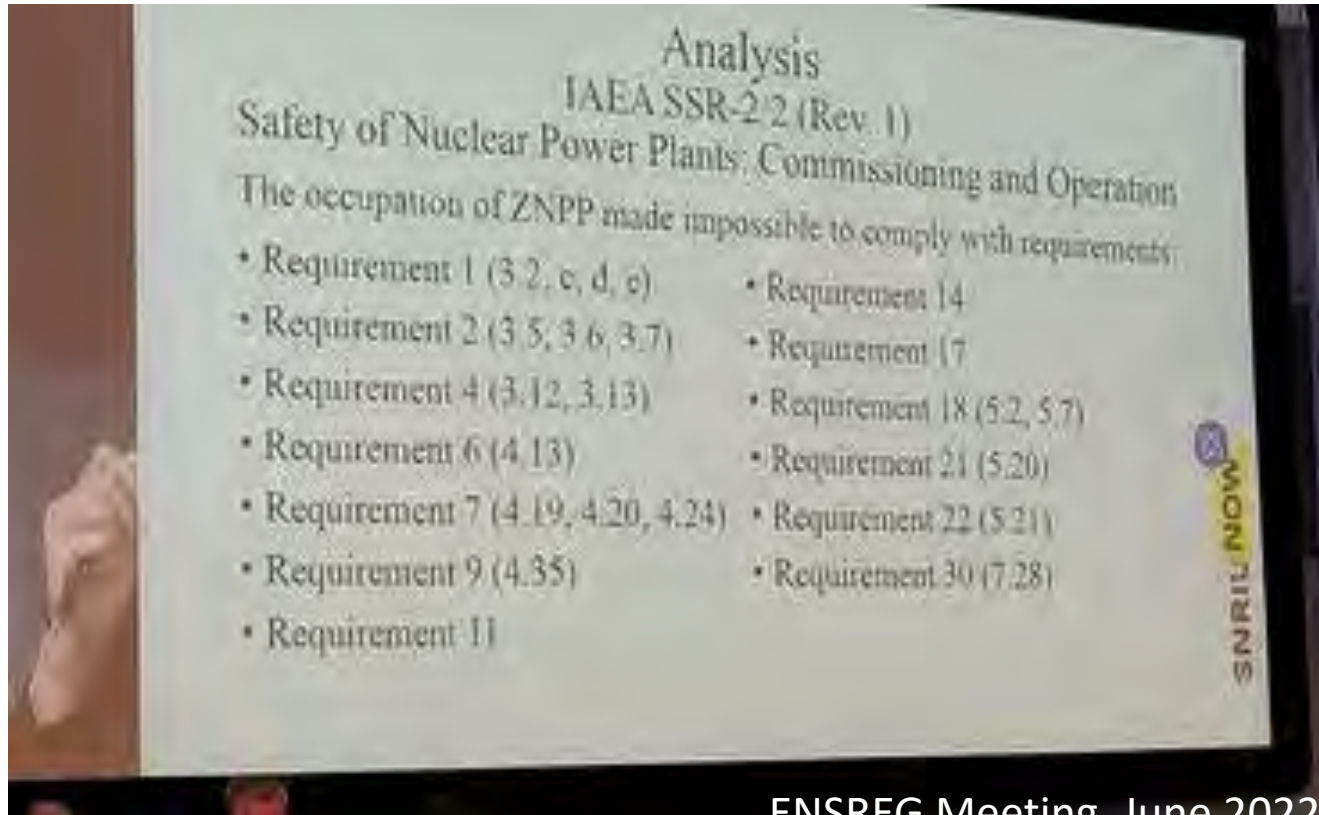
2020 Azerbaijan considers attacking Armenian NPP Metsamor

Securing the physical integrity of nuclear facilities



- States disregarding national & security international protocols
- Risks associated with operating plants (in their current state) must be addressed

Securing the physical integrity of nuclear facilities



- Safety principles cannot be fulfilled under war circumstances
- The operation of nuclear power stations poses a threat that is *serious, specific & imminent*

How resilient is the nuclear fleet?



In line with IAEA guidance the security of nuclear facilities from threat of attack by terrorists or military forces still not included in operation license design basis requirements

'Civil Nuclear Energy Risks from Russia's invasion of Ukraine',
UK House of Commons Testimony, 2704.2022

Nuclear Power and War

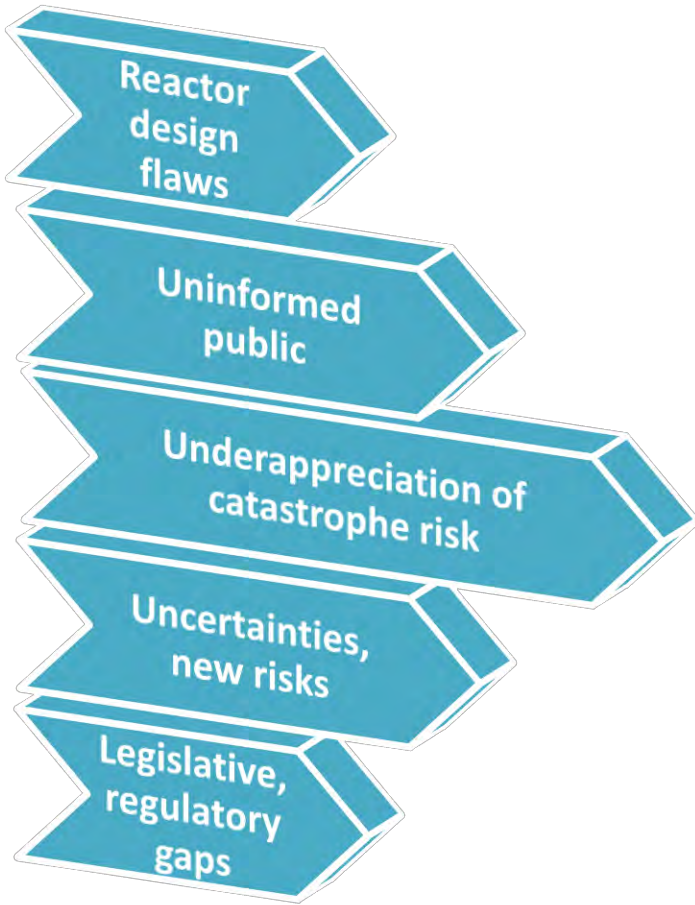
- Russia's invasion of Ukraine has led to several unprecedented situations including the operation of commercial nuclear power plants during a full-scale war.
- No nuclear power plant in the world has been designed to operate under wartime conditions.
- The key challenge is to maintain continuous cooling of the reactor core and the spent fuel pool, even after the shutdown of the reactor.
- Failure to evacuate residual decay heat can lead to core meltdown within hours or spent fuel pool fire within days or weeks with potentially large releases of radioactivity.
- Cooling requires an effective chain of elements providing a reliable supply of electricity and water.

<https://www.worldnuclearreport.org/IMG/pdf/wnisr2022-v3-hr.pdf>

Nuclear security governance & procedural rights

- Elaboration of procedural implementation, i.e. the kind of information that must be provided under Aarhus Convention Art. 6(6) and the environmental impacts of sabotage, terrorism & acts of war in the energy sector
- Participation modalities for independent entities to formally engage with submissions of analyses, information and comments relevant to the continued operations of facilities at risk (with respect to Art. 5 and Art. 6(10) of the Aarhus Convention)

Recommendations



- Before EIAs & SEAs public participation procedures must be informed by assessments of potential impacts of sabotage, terrorism and acts of war
- The IAEA could include ‘sufficient interest’ parties in decisions concerning the environment and in operational procedures
- Thematic session on nuclear risk and security