

Impact of the Russian aggression against Ukraine on EC-JRC activities

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The JRC within the Commission

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Strategy, work programme and resources

Growth and innovation

Energy transport and climate

Sustainable resources

Space, security and migration

Health, consumers and reference material

Nuclear safety and security

Knowledge management

Competencies

Nuclear decommissioning and waste management

Support services

Nuclear emergency preparedness in the EU

- European Commission
 - Euratom Treaty 1957: radioactivity monitoring (EURDEP); secure communication in the event of a nuclear or radiological emergency (ECURIE)
 - Assistance and relief to populations: Civil Protection Mechanism, RescEU (2022)
 - Development and cooperation: INSC, NDICI (2021)
 - Collaboration with nuclear regulators
- Member States
 - Carry out risk assessments and develop emergency plans
 - Take account and report emergencies in their own territories or in neighbouring countries
 - Member States are responsible to alert, communicate with and protect citizens in case of radiological/nuclear emergencies.

Impact of the Russian war on Ukraine

- Nuclear facilities in the line of conflict
 - Early occupation of Chernobyl site
 - Safety of ALL UA NPPs impacted by **loss of external power supply** (on 23/11: complete and simultaneous in all 4 NPPs)
 - ZNPP – in active war zone, **occupied by Russian army**: military actions, heavy artillery on-site, mining, repeated shelling, operation under adverse conditions
 - Shelling at other facilities (SNPP, research infrastructures)
 - Low/medium level waste facilities



Impact of the Russian war on Ukraine

- Radiological and Nuclear safety and security
 - Damage to monitoring systems
 - Risk of fire, floods, loss of power, explosions, disrupted operation
 - Disruption of safeguards verification
 - Loss of accountability of RN materials (nuclear facilities, industry, medical facilities)

Mitigation actions related to the war in Ukraine supported by the JRC

Emergency & Preparedness - 24/7

INFORMATION

Alert & Inform Member States
(EU + 4)

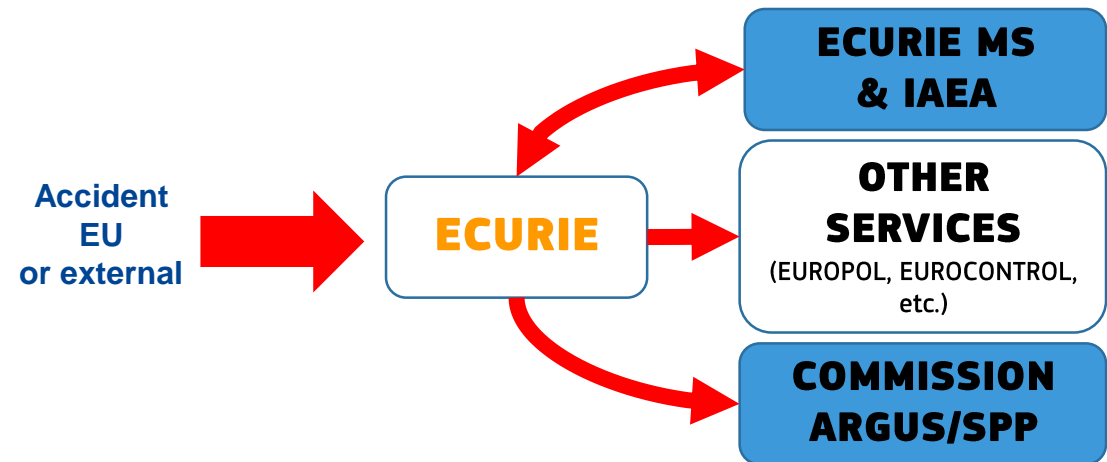
PROTECTION

Emergency restrictions on Food & Feed

ADVICE

Inform & advise Commission
services on situation (ARGUS)

ECURIE (European Community Urgent Radiological Information Exchange)

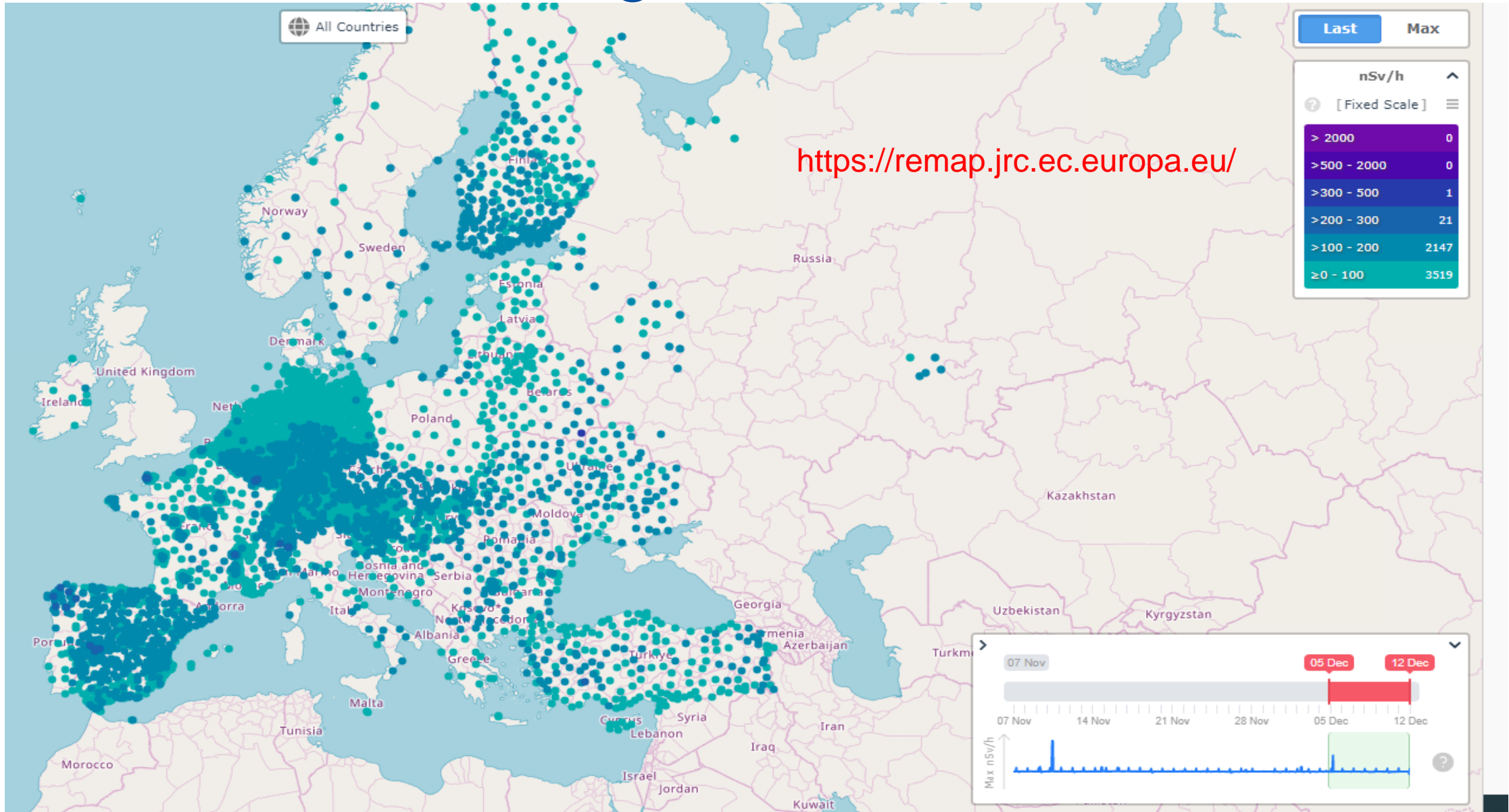


EURDEP (EUropean Radiological Data Exchange Platform)

- ✓ Continuous on-line exchange of radiation monitoring data
- ✓ 5100 automatic stations in 39 states
- ✓ Updated at least every hour during an emergency
- ✓ Primarily for MS authority use
- ✓ Limited public map is also available
- ✓ DG JRC maintains the servers

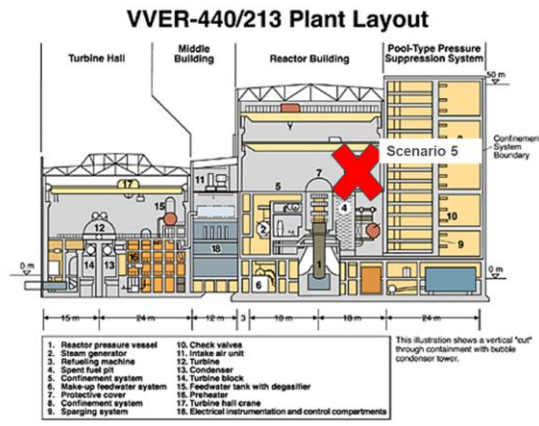
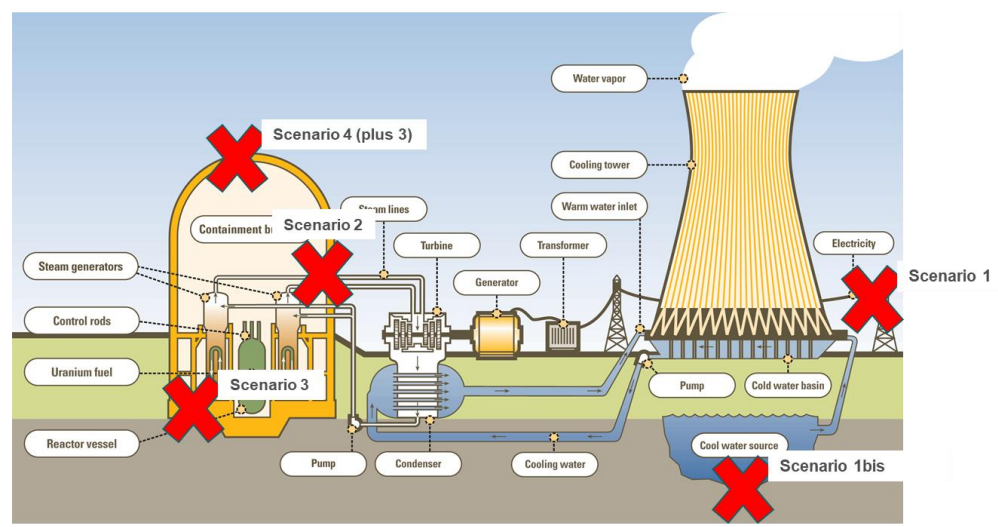
JRC technical support (REM activities, modelling, Nuclear safety expertise)

EURDEP monitoring stations



Modelling of nuclear releases

- Activated in-house JRC nuclear emergency modelling tool
- Definition of specific war-scenario hazards affecting NPPs
- Seasonal meteorological analysis
- Aims to deliver data for:
 1. monitoring/evaluation (DG ENER), 2. coordination aid preparedness/response (DG ECHO)
- Results: radiological risk assessment in UA and neighbouring countries



Increased risk of illicit traffic, terrorism and nuclear proliferation

Dirty Bombs
Illicit traffic
Nuclear weapons



JRC activities

- Detection technologies, Crime Scene Investigation, border monitoring
- Trainings for first responders (EUSECTRA)
- Forensics analysis
- Euratom safeguards



EUSECTRA – Nuclear security training center



Detection for front-line officers

Safeguards (IAEA & Euratom) trainings



Expert support technical advice

Nuclear forensics dedicated trainings and associated classical forensics support



Support to EU Preparedness and Response

- INSC - recovery of the laboratory in Chernobyl, safeguards support
- NDICI – EU CBRN Centres of Excellence
- EU CBRN Action Plan – CBRN risk assessment
- RescEU – risk assessment and technical advice
- Situational awareness – Copernicus
- Scenario based exercises – PACE 2022
- EU Clearinghouse on Operational Experience – Lessons learned on nuclear safety in war areas

Thank you and keep in touch



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