Briefing

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European Parliament

Chernobyl 30 years on

The EU's response

SUMMARY

In the early hours of 26 April 1986, a test on the fourth reactor of the Chernobyl Nuclear Power Plant resulted in a massive energy surge, which led to the biggest nuclear accident in history. Some 600 000 men participated in the containment operations, putting their lives at risk, and around 350 000 people were displaced in the years after the accident.

Since 1986, the international community, led by the European Union, has been assisting Ukraine, Belarus and Russia in dealing with the far-reaching consequences of Chernobyl. The EU is the main donor to the two post-Chernobyl accounts of the European Bank for Reconstruction and Development (EBRD) and funds major remediation projects, including the building of a new sarcophagus for the reactor. With its expertise amassed over the past 30 years, the EU has been extending its assistance in the field of security and cooperation to more and more countries in the world, in particular, to Belarus, Russia, Armenia and China.

In this briefing:

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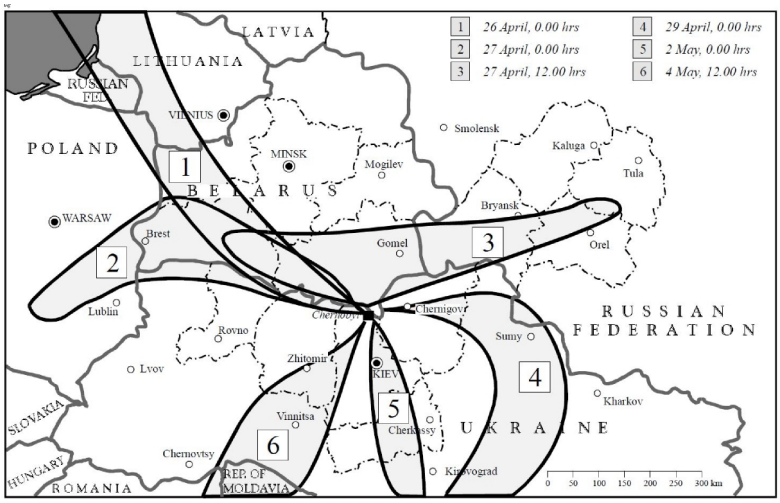
The disaster

In the early hours of 26 April 1986, a test on the fourth reactor of the Chernobyl nuclear power plant in Ukraine (then part of the Soviet Union) resulted in a massive energy surge. The first post-accident evaluations revealed that the test procedure had not followed the normal approval chain or the usual scientific protocol. Later evaluations showed that a significant flaw in the reactor's design had also been among the prominent factors that led to the explosion. While the installation was being tested, the emergency shutdown failed, provoking a major reactor-vessel rupture and a series of steam explosions. At first, the Soviet authorities thought that the reactor was still intact and dismissed dosimeter measurements.[1] Without wearing any protection, men started pumping water through the reactor, as fire seemed to be the main issue. The first ones to enter the contaminated zone died within a few minutes.[2]

Figure 1 - Plume formation by meteorological conditions for instantaneous release on dates and times (GMT) indicated



Data source: UNSCEAR, 2000.

The consequences

The Soviet nuclear programme was run directly from Moscow, and the Ukrainian authorities received little information in the initial days following the disaster. The first public statement came on the day after it happened, after the Swedish authorities had publicly warned of a major nuclear accident in the Soviet Union. Within a few days, a special commission ordered the evacuation of a 30-kilometre zone around the plant. Some 600 000 specially trained staff, including 240 000 servicemen, were brought in from all over the Soviet Union to clean the zone; of them, 50 000 were 'bio-robots', tasked with removing the debris and building a sarcophagus-like structure to contain the reactor. This first sarcophagus was completed in December 1986. The Ukrainian authorities continued operating the three other reactors until 2000, when the government eventually shut down the plant. In 2013, after 600 square metres of the roof collapsed, the international community called for the construction of a new sarcophagus.

In April 1986, the explosion dispersed 400 times more radioactive material than the one in Hiroshima, over 100 000 square kilometres of territory in Belarus, Ukraine and Russia. The authorities[3] sealed off a 30-kilometre exclusion zone around the reactor, which they declared unsafe for human life for the next 20 000 years.

Between 1986 and 2000, 350 000 people were displaced due to radiation, while around 200 refused to leave the exclusion zone. Estimates from the 2003-2005 period show that 5-7% of Ukraine's budget expenses were related to Chernobyl, including pensions for victims; the situation in Belarus was similar. In 2000, the United Nations estimated that there were 3.5 million recognised victims in Ukraine receiving state support.

The response of the EU and the international community

International support

In 1993, the European Bank for Reconstruction and Development (EBRD) set up a 'Nuclear Safety Account' (NSA) to gather international aid to mitigate the consequences of the explosion, dismantle the remaining operating reactors in Chernobyl and enhance safety checks in the post-Soviet region. By the end of 2015, the NSA had received some €365 million.

Following a recommendation by the G7 in 1997, the EBRD set up a second fund – the 'Chernobyl Shelter Fund' (CSF) – to finance a second sarcophagus for the reactor. A group of European, American, Japanese and Ukrainian experts designed a new Shelter Implementation Plan, which resulted, in 2007, in the first work on the ground by the French-led Novarka Consortium. The new sarcophagus is expected to be completed in 2017 at a cost of €1.5 billion, of which the European Commission and EU Member States are providing €420 million. The EBRD announced that it would provide an additional €350 million, while international donors pledged €180 million under the German G7 presidency in 2015.

European support

Since 1991, the EU has been at the forefront of efforts to help post-Soviet countries cope with the devastating consequences of the explosion, for example through the Tacis programme. Between 1991 and 2006, the European Union provided €857 million in funding for safety, research and decontamination projects, mainly in Ukraine and Russia. Within this framework, the European Commission committed over €600 million for Chernobyl projects (including €480 million for industrial projects, of which €400 million was channelled through international funds, and €80 million was managed directly by the Commission); €65 million for power generation projects; €15 million for social projects; and €100 million for research projects.

The rise of European global nuclear cooperation

Building on the expertise acquired in Chernobyl-related projects, the EU has expanded its support for nuclear safety to many other countries, with the nuclear safety component of the Tacis programme evolving into a fully fledged European Instrument for Nuclear Safety Cooperation (INSC), with global coverage, in 2007. Between 2007 and 2013, the EU provided €492 million for over 100 nuclear safety projects in 21 countries worldwide, compared to €857 million between 1991 and 2006. These projects focus on capacity-building for regulatory authorities, safety of nuclear facilities, radioactive waste management, safeguards and offsite emergency preparedness.

Figure 2 – Regional allocation of the nuclear cooperation budget, 2007-2013 (million euros)

Geographical region	€m
Eastern EU Neighbourhood	
Russian Federation	6
Ukraine, including	275
— cooperation measures to increase nuclear safety	112
— EU contributions to Chernobyl Safety Fund and Nuclear Safety Agency	163
Other eastern EU neighbours (Armenia, Belarus, Georgia)	41
Central Asia (Kyrgyzstan, Tajikistan, Uzbekistan)	6
Southern Mediterranean (Morocco, Egypt)	14
Latin America (Brazil, Mexico)	16
South-east Asia (Indonesia, Malaysia, Philippines, Thailand, Vietnam)	11
Asia (Mongolia, China)	11
Multi-country and regional	29
International cooperation	20
Management support	25
Total	**453**

Data source: European Commission, EuropeAid, 2014.
For CSF and NSA, see p.3.

The EU is now running several projects in Ukraine, including creating an updated map of the contamination around the exclusion zone (Ivankiev district) and opening an information centre; providing analytical equipment to the Ivankiev hospital to monitor the impact of radioactivity on public health; erecting a greenhouse to provide pregnant women and children with clean vegetables, and delivering a wood incinerator for burning contaminated wood and producing energy and hot water.

To date, apart from Ukraine, the main beneficiaries of INSC funding have been Armenia, Belarus, Jordan and China. After the Fukushima accident, the EU offered to help beneficiaries of INSC run stress-tests on their reactors and to fund more projects aimed at improving their emergency response. The EU is also using its assistance as a tool for enhancing regional safety: in 2013, it decided that no further assistance would be provided to Armenia until the government decides to shut down its Soviet-designed VVER/44/270 unit in a region highly prone to earthquakes.

Position of the European Parliament

Since it occurred, the European Parliament has devoted considerable attention to the consequences of the Chernobyl accident, through regular debates and resolutions. For example, even though it supported restrictive measures against Belarus in 2013, the EP urged to continue 'to provide technical and health assistance to the population affected by the Chernobyl nuclear disaster'.

Main references

Marples, David R, *The Social Impact of the Chernobyl Disaster*, 1988, St. Martin's Press, New York.

Medvedev, Zhores A, *The Legacy of Chernobyl*, 1990, Basil Blackwell, Oxford.

Endnotes

[1] Medvedev, Zhores A, *The Legacy of Chernobyl*, 1990, Basil Blackwell, Oxford.

[2] Alexievich, Svetlana, *Chernobyl Prayer: A Chronicle of the Future*, 2016, Penguin.

[3] *Marples, David R,* The Social Impact of the Chernobyl Disaster, *1988, St. Martin's Press, New York.*

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