

Europe and Nuclear Security

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Any European view of nuclear security naturally focuses on how best to secure deployed nuclear weapons and nuclear weapons usable fuels against theft or attack. It also focuses on how best to manage or limit deployed tactical nuclear weapons in the region. After Fukushima and the Arab Spring, though, any two more topics have to be included. The first are the dangers of failing to meet the requirements of civilian nuclear plant design, construction and operations safety; the potential vulnerability of such plants to terrorist or hostile state-induced accidents. The second is the potential for Europe's least integrated state, Turkey, to develop a nuclear weapons option as an adjunct to its own civilian nuclear power program. Insufficient cooling for one or two hours of the nuclear core of Europe's most popular nuclear power design – the light water reactor -- can result in massive fuel failures, followed by possible radiological releases. Also, these systems' spent fuel ponds and that of other reactors and reprocessing facilities could potentially lose coolant and release major amounts of radioactivity. Natural disasters, terrorist and hostile states attacks, could induce such coolant losses by forcing the failure of critical electrical lines, plant software, transformers, back up diesels, key valves, coolant pumps, pond structures, etc. Such vulnerabilities put a premium on sound operation, design, and safe plant location. Recent concerns about Russian plants located in earthquake zones (e.g., Turkey); upstream from major cities (e.g., on the Vilna River) and on seismically active sites (e.g., at Belene) are indicative of the kind of worries Europe faces but may not be able to work as a part of the current EU nuclear power stress test effort. In addition, the IAEA's director has warned that Stuxnet-like attacks may be launched against advanced states' nuclear plants. Nuclear plant failures and the costly evacuation and public safety headaches that followed have already challenged the political viability of the Soviet Union after Chernobyl and, to a lesser extent, Japan after Fukushima. As for Turkey, its earlier interest some 30 years ago in using its civilian program as a cover for a developing a nuclear weapons option, might revive. This could enable Turkey to agree to stop basing NATO nuclear weapons without giving up on a nuclear weapons option. Such a development could easily challenge the continued cohesion of NATO.