



Nuclear Challenges in 2013

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There is no shortage of nuclear challenges as we immerse ourselves in 2012, despite the apparent willingness of both North Korea and Iran to discuss cooperation.

In the case of North Korea, most experts believe that openness to talks, while positive, is tied to the celebrations scheduled in April 2012 to celebrate the centenary of Kim Il-sung's birth. As the year matures, so will the new North Korean leader Kim Jong-un's understanding of his job and his political calculus of what he needs to maintain power. By 2013, however, it should be a little more apparent whether the North Koreans are serious about cooperating and all that it entails. The next U.S. administration should not be surprised by the decades-old demand of North Korea for help with electricity generation—whether it is nuclear based, coal fired, or based on renewables.

The North Koreans are likely to seek attention and assistance regarding the construction of their own light water reactor even if it is just a ploy to get the United States and other countries to extend real assistance on nuclear safety. After Fukushima, it is hard to disagree with the need to ensure that all nuclear power reactors are designed and operated safely,

although assistance to a North Korean reactor under construction is not likely to be at the top of the U.S. policymaking agenda.

In the past, efforts with North Korea have soured when indicators of real, step-by-step progress in assistance were lacking. Of course, that nation must demonstrate its seriousness to merit assistance. But there are some steps that could get around the conundrum of which party acts first. For example, some highly enriched uranium fuel still sitting in spent fuel pools at the North Korean research reactor should be removed to improve safety and nuclear security (repatriated to Russia), and the reactor should be converted to low-enriched uranium fuel. Removing the fuel would provide an immediate safety benefit to North Korea, which is not operating the research reactor now, and an immediate nuclear security benefit for the West. Once this is accomplished, further talks could progress on how to refuel the reactor and monitor its operations, which would have benefits for both sides.

On Iran, all the talk of a potential attack might have had the desired effect of extracting an Iranian promise to come to the negotiating table. With U.S. elections in November, Iranian negotiators may see some advantage in stringing

out talks through the fall, but with their own presidential elections looming in mid-2013, perhaps even longer. And yet, no matter which party is in the White House next year, military options may appear more attractive: to an Obama administration that feels it has more flexibility, less to lose politically, and would like to resolve the crisis before it's too late; or to a Republican president who might listen more closely to the hawkish voices that now advocate a strike on Iran's nuclear facilities. No matter what, this year is likely to see intensified efforts to engage Iranian diplomats in a negotiated solution.

One other “nuclear crisis” is likely to bubble up in 2013: how the United States and South Korea settle their differences on their peaceful nuclear cooperation agreement, which must be negotiated by the end of next year. Right now, both sides are waiting until after the conclusion of the Seoul Nuclear Security Summit in March before continuing talks, which have centered on whether South Korea can, at some point, engage in enrichment and/or reprocessing of U.S.-origin nuclear material. The United States has only ever allowed countries that already had such technology to do so. South Korea does not currently have commercial scale capabilities in either area.

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Between two strong allies, it is hard to imagine such controversy. But the South Korean agreement represents the edge of U.S. nuclear nonproliferation policy and U.S. efforts to maintain its leadership. The South Korean nuclear program owes a significant debt to U.S. nuclear technology: reportedly the \$20 billion sale of four reactors from South Korea to the United Arab Emirates (UAE) still has Westinghouse technology and equipment embedded in the Korean-designed APR-1400.

If the United States cannot lead through being the dominant nuclear exporter, it must rely on allies that are exporting nuclear technology to require all the right safety, security, and nonproliferation preconditions to ensure that technology does not go awry. Is the price of those assurances an additional member into the club of those countries that engage in the most sensitive, and proliferation-risky, nuclear activities—enrichment and reprocessing?

On the longer horizon, the next administration will need to figure out what it really wants to promote in terms of nuclear energy (fast reactors? small modular reactors? recycling? long-term storage of nuclear waste? regional approaches to fuel cycle development?) and how those affect its job of ensuring nuclear safety, security, and nonproliferation. This would require more thought at the top on how to manage nuclear energy research and more policy integration between the Department of Energy's nuclear energy and nonproliferation management.

Lastly, in the coming years, the U.S. government will have to get serious about bringing India into the nonproliferation mainstream. This entails more than a policy of benign neglect, which appears to have been the path chosen since 2008. The United States needs to lead the way on developing a new paradigm that even India can agree to—one that may not be called nuclear nonproliferation, but one that ensures better nuclear security (whether it applies to weapons or nuclear energy) for all. ■