

## SCIENCE

# As Nuclear Security Summit Begins, Materials Remain Vulnerable to Theft

By DAVID E. SANGER and WILLIAM J. BROAD MARCH 29, 2016

WASHINGTON — As President Obama gathers world leaders in Washington this week for his last Nuclear Security Summit, tons of materials that terrorists could use to make small nuclear devices or dirty bombs remain deeply vulnerable to theft. Still, Mr. Obama's six-year effort to rid the world of loose nuclear material has succeeded in pulling bomb-grade fuel out of countries from Ukraine to Chile, and has firmly put nuclear security on the global agenda.

But despite the progress, several countries are balking at safeguards promoted by the United States or are building new stockpiles.

President Vladimir V. Putin of Russia, where some of the largest stockpiles of civilian nuclear material remain, has decided to boycott the summit meeting, which begins Thursday night. Mr. Putin has made it clear he will not engage in nuclear cleanup efforts dominated by the United States.

In addition, Pakistan's embrace of a new generation of small, tactical nuclear weapons, which the Obama administration considers highly vulnerable to theft or misuse, has changed the way the administration talks about Pakistani nuclear security. While Mr. Obama declared early in his presidency that the United States believed Pakistan's nuclear assets were secure, administration officials will no longer repeat that line. Instead, when the subject comes up, they note the modest progress Pakistan has made in training its guards and investing in sensors to detect break-ins. They refuse to discuss secret talks to persuade the Pakistanis not to deploy their new

weapons.

Pakistan, China, India and Japan are all planning new factories to obtain plutonium that will add to the world's stockpiles of bomb fuel.

And Belgium, where a nuclear facility was sabotaged in 2014 and where nuclear plant workers with inside access went off to fight for the Islamic State militant group, has emerged as a central worry. The country is so divided and disorganized that many fear it is vulnerable to an attack far more sophisticated than the bombings in the Brussels airport and subway system last week.

For the first time, the Nuclear Security Summit will include a special session on responding to urban terrorist attacks — and a simulation of how to handle the threat of imminent nuclear terrorism.

“The key question for this summit,” said Matthew Bunn, a nuclear expert at Harvard and a former White House science adviser, “is whether they’ll agree on approaches to keep the improvements coming.”

The nuclear initiative has been a signature issue for Mr. Obama: It is among the goals he campaigned on in 2008 and part of the reason he was awarded the Nobel Peace Prize barely a year into his presidency. Benjamin J. Rhodes, a deputy national security adviser, told reporters on Tuesday that the administration's overall efforts had made it “harder than ever before for terrorists and bad actors to acquire nuclear material.”

But the administration's budget for aiding global nuclear cleanups has been cut by half; some officials argue that less funding is needed with fewer nations willing to give up nuclear materials. A report Mr. Bunn helped write noted, “The administration is now projecting lower spending year after year for years to come, postponing or canceling a wide range of nuclear security activities that had been included in previous plans.”

In a recent report, the Nuclear Threat Initiative, a private advocacy group in Washington that tracks nuclear weapons and materials, warned that many radioactive sources were “poorly secured and vulnerable to theft.” The report called

the probability of a terrorist's detonating a dirty bomb "much higher than that of an improvised nuclear device."

Ingredients for so-called dirty bombs, which use conventional explosives to spew radioactive material, are still scattered around the globe at thousands of hospitals and other sites that use the highly radioactive substances for industrial imaging and medical treatments. Less than half of the countries that attended the last nuclear summit in 2014 pledged to secure such materials, and they in turn represent less than 15 percent of the 168 nations belonging to the International Atomic Energy Agency.

And while the administration succeeded in getting more than a dozen countries to give up their civilian stockpiles of highly enriched uranium, a main fuel of atomic bombs, the Nuclear Threat Initiative said in another report that some 25 nations still had such materials — enough for thousands of nuclear weapons.

The report called highly enriched uranium "one of the most dangerous materials on the planet," warning that an amount small enough to fit in a five-pound sugar bag could be used to build a nuclear device "with the potential to kill hundreds of thousands of people."

Still, that does not mean Mr. Obama's efforts have failed altogether. He is expected to announce a major achievement soon: the removal of roughly 40 bombs' worth of highly enriched uranium and separated plutonium from Japan. Some of the uranium was fabricated in pieces the size of squares of chocolate that could be easily slipped into a pocket, a terrorist's dream.

And Ukraine was the site of a success that, in retrospect, looks even bigger than it did four years ago.

On a bitterly cold day in Kiev, the Ukrainian capital, in March 2012, two years before Ukraine descended into crisis, a team of Americans and Ukrainians packed the last shipment of highly enriched uranium into railway cars, ridding the country of more than 500 pounds of nuclear fuel. It would have been enough to build eight or more nuclear bombs, depending on the skill and destructive ambitions of the bomb maker.

“We had vodka,” recalled Andrew J. Bienenawski, then a United States Energy Department official central to the elimination. “It was amazing.”

Yet there are signs that what began as a global effort to prevent terrorists from obtaining the world’s deadliest weapons is fracturing.

In fact, there is a case to be made that even as vulnerable stockpiles have shrunk, the risk of nuclear terrorism has not.

There is evidence that groups like the Islamic State are more interested than ever in nuclear plants, materials and personnel — especially in Belgium, where the attacks last week killed more than 30 people.

The Belgian police discovered last year that Islamic State operatives had taken hours of surveillance video at the home of a senior official at a large nuclear site in Mol, Belgium. The plant in Mol, a northern resort area, holds large stocks of highly enriched uranium.

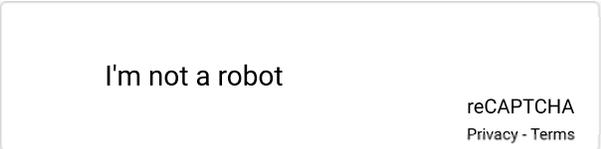
Laura Holgate, Mr. Obama’s top adviser on nuclear terrorism, noted on Tuesday that the United States had worked with Belgium to “reduce the amount of nuclear material” at one key site. Asked about the Islamic State’s interest in obtaining nuclear fuel from Belgium, she said, “We don’t have any information that a broader plot exists.”

Ms. Holgate told reporters that this week’s meeting would address the question: “How do you sustain the momentum to the summit after the summit ends?”

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The results of previous summit meetings have ranged from treaty ratifications to the establishment of more than a dozen training centers around the globe where guards, scientists, managers and regulators sharpen their skills at preventing atomic terrorism.

Near Beijing, one of the largest training centers opened this month. “It’s in our national interest” to help foreigners secure their atomic materials, said Nick Winowich, an engineer at Sandia National Laboratories, one of the American nuclear labs that helped in the center’s development.

The biggest wins have been the removal of all highly enriched uranium from 12 countries, including Austria, Chile, Hungary, Libya, Mexico, Turkey and Vietnam. The material was mostly reactor fuel. But officials said terrorists could have turned it into least 130 nuclear weapons.

Critics of the summit process point to vague communiqués that seem to have done little to drive hard decisions. A sense of summit fatigue now seems to prevail, the critics add, noting that Russia’s withdrawal evades some of the biggest security problems.

The Obama administration has also presided over a steady drop in American spending on international nuclear security. Budgets fell from over \$800 million in 2012 to just over \$500 million in 2016. For 2017, the White House has proposed less than \$400 million — half the spending of the high point.

The administration has defended the cuts, saying they reflect the completion of some programs and upgrades and the suspension of cooperative work with Russia after its invasion of the Crimean Peninsula.

“The summit process has achieved some very important objectives,” said

**Kenneth N. Luongo, president of the Partnership for Global Security, a private group that advocates new nuclear safeguards. “But it needed to aim higher. The world is not becoming any easier to deal with. There’s still a responsibility to think big.”**

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