



**James Martin Center for  
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**Leading Nonproliferation Experts Identify Ten Most  
Significant Proliferation-Related Events and Trends of 2008**

Washington, D.C.—The past year saw many important and even surprising proliferation-related developments. While some trends offered hope that the spread of nuclear, biological, and chemical (NBC) weapons can be reduced and eventually eliminated, other events suggested that the desire of a few countries to acquire and use NBC weapons continues unabated and that significant dangers remain. Some of the year's most important developments received widespread national and international attention, others, though no less important, were largely overlooked by the news media.

The list below was prepared by the staff of the James Martin Center for Nonproliferation Studies, the largest nongovernmental organization in the United States devoted exclusively to research and training on nonproliferation issues. It represents an effort to identify the ten most significant proliferation-related events and trends in 2008. This list is intended both as a guide to the past year and as a road map for what to watch for in 2009.

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**Iran continues its uranium enrichment activities**

Based on its reported steady progress in enriching uranium during 2008, a number of observers, including the Israeli government, believe that later this year Iran will acquire the capability to produce a sufficient quantity of highly enriched uranium (HEU) for one or two nuclear weapons. (Whether Iran could then manufacture an actual weapon, let alone one small and light enough to be mounted atop a ballistic missile, remains to be seen.) Aggressive and sustained diplomacy by the Obama administration may yet slow or reverse Iran's progress, as could a covert effort to sabotage the Iranian nuclear program. If they do not, Israel is likely to intensify its planning for preventive attacks (with or without U.S. participation) to disrupt and destroy key portions of the Iranian program, and other countries in the region are likely to accelerate their nascent nuclear power programs as a form of insurance against a nuclear-armed Iran.

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## **North Korea begins to denuclearize**

After letting diplomacy with North Korea languish for most of its term in office, in 2007 the Bush administration, working through the Six Party talks (including China, Russia, Japan, South Korea, and North Korea), reached an agreement with Pyongyang to disable and dismantle the North Korean nuclear weapons program and allow on-site inspections inside the country to verify compliance with the agreement. Because of delays in implementing the agreement, however, the disabling of the Yongbyon reactor and the destruction of its cooling tower were not carried out until summer 2008. Additional disagreements over the verification requirements of the agreement, North Korea's alleged clandestine nuclear assistance to Syria (see below), the reports in the fall of 2008 that North Korean leader Kim Jong Il had suffered a debilitating stroke, and the U.S. claim in late 2008 that an HEU particle of recent origin had been found on documents turned over to the United States by North Korea as part of the agreement (resurrecting concerns of a covert uranium enrichment program), further slowed the disablement activities. Some observers speculated that North Korea was biding its time until the new U.S. administration took office, in the hope of extracting further concessions in return for its denuclearization.

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## **Syrian nuclear ambitions revealed**

In April, U.S. intelligence officials released a video and other documentation to buttress claims that had been circulating for months that the Syrian facility at Dair Alzour (also referred to as Al Kibar), which Israel bombed and destroyed on September 6, 2007, was a nuclear reactor constructed with North Korean help, albeit one that was not yet operational. The Syrian reactor was said to be modeled on the Yongbyon reactor that North Korea used to produce plutonium for its nuclear weapons. The one and only inspection of the Al Kibar site by International Atomic Energy Agency (IAEA) officials, made during a circumscribed visit in late May 2008, yielded inconclusive evidence, not least because Syria declined to provide any documentation to support its claims that the facility was not nuclear-related, and because Syria razed the damaged building shortly after the Israeli attack and then poured a concrete foundation over the site and constructed a new, larger building on top of it. Although the reactor was apparently designed to produce plutonium for nuclear weapons, the lack of a nearby facility to reprocess the spent fuel and extract the plutonium, if that was Syria's intention, only adds to the mystery. Speculation continues that North Korea not only built the Al Kibar reactor but that it provided Syria with uranium fuel.

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## **Troubling lack of concern or urgency about prosecuting or solving nuclear incidents**

To date, no one has been prosecuted in connection with Pakistani scientist A.Q. Khan's nuclear proliferation network, which was first exposed in 2003-2004. Sri Lankan businessman B.S.A. Tahir, reportedly a key player in the network, was released from jail in Malaysia in June, after four years of detention and is now restricted to his house in Kuala Lumpur after local authorities said he no longer posed a danger to national security. Urs Tinner, a Swiss engineer and Khan associate, was released from a Swiss prison in late December after four years of detention. In June, Swiss authorities announced that they had destroyed numerous files found in Tinner's possession relating

to the design of nuclear weapons, centrifuges, and ballistic missiles. The destruction, reportedly at the behest of the Central Intelligence Agency, complicated and ultimately scuttled plans to prosecute Tinner and members of his family for their roles in the network (Tinner has recently admitted to working for the U.S. intelligence community). Khan himself remains under house arrest in Islamabad, where the Pakistani government refuses to let U.S. officials or others interrogate him. (Pakistan, meanwhile, continued construction on two new plutonium production reactors. The potential dangers posed by the substantial enlargement of Pakistan's stocks of weapons-usable nuclear materials will be significantly exacerbated if Al Qaeda, long committed to developing weapons of mass destruction, continues to gain strength in Pakistan's border region with Afghanistan and—if U.S. charges are correct—it continues to receive clandestine support from elements of the Pakistani security establishment.) Finally, more than a year after a small armed team of assailants penetrated multiple layers of security at South Africa's Pelindaba nuclear research facility, reaching the site's control room and shooting and wounding the supervisor on duty, the perpetrators have been neither identified nor arrested (although three guards were later fired). The motivation for the November 8, 2007 intrusion, which was ultimately repelled by the site's security force after about forty-five minutes, has not been publicly revealed (a computer was stolen but then abandoned when the group fled the site). Although Pelindaba stores hundreds of kilograms of highly enriched uranium inside a separate secure area of the facility—the product of South Africa's now abandoned clandestine nuclear weapons program—officials with the Nuclear Energy Corporation of South Africa have downplayed the incident, even as they have cooperated with the IAEA to institute security improvements.

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### **U.S.-India civilian nuclear cooperation agreement approved**

The U.S.-India nuclear cooperation agreement was approved by the Nuclear Suppliers Group and the U.S. Congress in September, three years after it was first proposed by then-President George W. Bush and Indian President Manmohan Singh, and months after it had all but been declared dead by some observers in the arms control community (not least because of mounting Indian nationalist opposition). In an effort to further strengthen relations with India and open Indian markets to U.S. companies, the agreement waives the tight restrictions on trade in civilian nuclear technology that apply to every other non-signatory to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). Notwithstanding arguments that this reversal of longstanding U.S. policy would imperil nonproliferation objectives and exacerbate tensions between India and Pakistan, the Board of Governors of the IAEA and the 43-member Nuclear Suppliers Group, as well as lawmakers in the U.S. Congress (including then-Senators Joseph Biden and Barack Obama) accepted the Bush administration's arguments that provisions in the agreement would strengthen nonproliferation by requiring India to comply with terms previously only applicable to parties to the NPT. Among other provisions, the agreement would ban future nuclear assistance to India if it conducts a nuclear test, a potential constraint on India's nuclear weapons program. Whether U.S. nuclear vendors will benefit from the agreement may not be known for several years because before it can be implemented fully, U.S. companies must first comply with stringent U.S. laws on nuclear trade and India must pass legislation extending liability and patent protection to U.S. companies.

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### **Proliferating U.S. biological research laboratories increase insider security threats**

The FBI's determination in August that U.S. Army scientist Bruce Ivins was the sole perpetrator of the 2001 anthrax attacks refocused attention on the U.S. government's burgeoning biodefense research programs, in particular the proliferation of laboratories in the United States that are authorized to work with pathogens and toxins of bioterrorism concern (known as "select agents"). The number of research laboratories and centers in 2008 that housed select agents rose to approximately 1,350 biosafety level 3 (BSL-3) facilities (the number in 2001 is unknown but probably was less than 100) and 15 BSL-4 facilities in operation or planned (5 existed in 2001). Moreover, about 15,000 scientists have been cleared to work with select agents, roughly a 20-fold increase over 2001. As a result, the probability of an insider gaining access to a select agent and using it for malevolent purposes has risen dramatically. Indeed, some security experts believe that the risk posed by the proliferation of biodefense facilities and their staffs is greater than the threat they are supposed to be addressing.

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### **Last states in region ratify Central Asian Nuclear-Weapon-Free Zone Treaty**

On December 11, the upper house of the parliament of Kazakhstan ratified the Central Asian Nuclear-Weapon-Free Zone (CANWFZ) Treaty, paving the way for its entry into force this month. Kazakhstan's action followed ratification of the treaty by Tajikistan in November 2008, Turkmenistan in April 2008, Uzbekistan in April 2007, and Kyrgyzstan in March 2007. Central Asia now joins the three other nuclear-weapon-free zones covering Latin America and the Caribbean, the South Pacific, and Southeast Asia. (A fifth zone, covering all of Africa, requires only two more ratifications before it enters into force.) To a greater extent than the previous zones, the CANWFZ showcases the commitment to nuclear disarmament of a region that previously had nuclear weapons on its territory and continues to live in a nuclear-armed neighborhood. Surrounded by Russian, Chinese, Pakistani, Indian, and Israeli nuclear weapons, and housing Russian and U.S. military bases, the new Central Asian zone serves as a powerful example of nonproliferation. It is also the first nuclear-weapon-free zone located entirely in the northern hemisphere. (Nevertheless, the United States, the United Kingdom, and France have objected strongly to parts of the treaty and the United States will not pledge to honor it because of a provision that could theoretically allow Russia to deploy nuclear weapons in Central Asia under the guise of providing "military assistance", as allowed by the Commonwealth of Independent States Collective Security Treaty.) The CANWFZ treaty contains concrete provisions that strengthen regional and international nonproliferation efforts. Under its terms, the Central Asian states will be the first countries in the world legally bound to adhere to enhanced IAEA safeguards (known as the Additional Protocol) on their civilian nuclear facilities. The treaty also requires the member states to meet international standards for the physical protection of nuclear materials. Considering the danger that Central Asia could become a source or transit corridor for terrorist smuggling of nuclear materials, these provisions of the CANWFZ are an important counterterrorism measure.

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### **Nuclear disarmament efforts gain momentum**

Throughout the year, the drive to seek the eventual worldwide elimination of nuclear weapons gained additional adherents, as the proposals of former U.S. officials George Shultz, Henry Kissinger, William Perry, and Sam Nunn, first laid out in 2007, garnered increasing attention. Both Barack Obama and John McCain expressed support for a world free of nuclear weapons during the 2008 presidential campaign, with Obama saying, "I will not authorize the development of new nuclear weapons. And I will make the goal of eliminating nuclear weapons worldwide a central element of U.S. nuclear policy." The launch of the Global Zero campaign in December, supported by more than 100 prominent leaders around the world, provided the latest demonstration that proposals to eliminate nuclear weapons, as distinct from merely controlling or reducing them, are increasingly seen as not only realistic but necessary. Meanwhile, the U.S. Congress continued to question the need for developing new or replacement nuclear weapons and generally refused to fund programs that would do so. Such programs included the Department of Energy's ambitious and expensive plan to rebuild and modernize the nuclear weapons production complex, parts of which date back to the 1940s Manhattan Project. Instead, Congress essentially put the Bush administration's plans on hold pending the final report of the congressionally mandated Strategic Posture Commission (due in April) and the completion of the next Nuclear Posture Review in late 2009 or early 2010. Although it remains to be seen how closely Congress will scrutinize the administration's plans for the future of the U.S. nuclear arsenal, the combination of the deepening economic crisis, increasing concerns about nuclear proliferation, and growing support for deep reductions in nuclear forces (and their eventual elimination) could set the stage for significant changes in the future size and composition of the U.S. nuclear arsenal during the Obama administration.

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### **U.S. missile defense plans for Europe increase tensions with Russia**

The Bush administration's proposal to deploy elements of a regional ground-based ballistic missile defense system in Poland and the Czech Republic to defend against attacks from Iran was strongly opposed by Russia, which questioned its necessity and suggested that its real objective was to weaken Russia's nuclear deterrent. In response, Russia threatened to deploy additional nuclear and conventional weapons to "neutralize" any missile defense system and possibly to back out of existing arms control agreements. In July, a senior Russian air force official even floated the idea of sending nuclear-armed bombers to Cuba as a possible response. Although U.S.-Russian relations are certainly not as strained as they were at the height of the Cold War, such tensions have made it more difficult to secure Russian cooperation on matters such as constraining Iran's nuclear program. How the Obama administration chooses to proceed with the U.S. missile defense program, and with U.S.-Russian relations more generally, will have a significant impact on existing and new efforts to slow and reverse the spread of nuclear weapons.

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### **Member states made mixed progress in implementing Chemical Weapons Convention**

During 2008, Lebanon became the 185th country to join the Chemical Weapons Convention (CWC), and three other non-parties—the Bahamas, the Dominican Republic, and Iraq—took steps toward ratification or accession (Iraq ratified the treaty earlier this month). Although 98 percent of the world's population is now covered by the treaty, four countries suspected of possessing chemical weapons (CW) have not yet joined: Egypt, Israel, Syria, and North Korea. Also in 2008, the six CWC member states that have declared possession of chemical weapons completed the verified destruction of 42 percent of their stockpiles, and in October, South Korea became the second country (after Albania) to complete the destruction process. Even so, the CW destruction programs of the United States and Russia, both of which possess vast stockpiles of chemical arms left over from the Cold War, remain far behind schedule. As of December, Washington had destroyed 57.5 percent of its stockpile but admitted that it will be unable to meet the 2012 extended deadline specified by the CWC and may not even complete the task until 2023. Moscow, for its part, has destroyed about 34 percent of its stockpile is also unlikely to meet the CWC destruction deadline. Both countries are likely to come under increasing political pressure in 2009 to accelerate their destruction programs.

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