

## Doomsday clock moves forward 2 minutes

## January 17 2007

The Bulletin of the Atomic Scientists (BAS) is moving the minute hand of the Doomsday Clock today from seven to five minutes to midnight. Reflecting global failures to solve the problems posed by nuclear weapons and the climate crisis, the decision by the BAS Board of Directors was made in consultation with the Bulletin's Board of Sponsors, which includes 18 Nobel Laureates.

BAS announced the Clock change today at an unprecedented joint news conference held at the American Association for the Advancement of Science in Washington, DC, and the Royal Society in London. In a statement supporting the decision to move the hand of the Doomsday Clock, the BAS Board focused on two major sources of catastrophe: the perils of 27,000 nuclear weapons, 2000 of them ready to launch within minutes; and the destruction of human habitats from climate change. In articles by 14 leading scientists and security experts writing in the January-February issue of the Bulletin of the Atomic Scientists (<a href="http://www.thebulletin.org">http://www.thebulletin.org</a>), the potential for catastrophic damage from human-made technologies is explored further.

Created in 1947 by the Bulletin of the Atomic Scientists, the Doomsday Clock has been adjusted only 17 times prior to today, most recently in February 2002 after the events of 9/11.

By moving the hand of the Clock closer to midnight--the figurative end of civilization--the BAS Board of Directors is drawing attention to the increasing dangers from the spread of nuclear weapons in a world of violent conflict, and to the catastrophic harm from climate change that is



## unfolding.

The BAS statement explains: "We stand at the brink of a Second Nuclear Age. Not since the first atomic bombs were dropped on Hiroshima and Nagasaki has the world faced such perilous choices. North Korea's recent test of a nuclear weapon, Iran's nuclear ambitions, a renewed emphasis on the military utility of nuclear weapons, the failure to adequately secure nuclear materials, and the continued presence of some 26,000 nuclear weapons in the United States and Russia are symptomatic of a failure to solve the problems posed by the most destructive technology on Earth."

The BAS statement continues: "The dangers posed by climate change are nearly as dire as those posed by nuclear weapons. The effects may be less dramatic in the short term than the destruction that could be wrought by nuclear explosions, but over the next three to four decades climate change could cause irremediable harm to the habitats upon which human societies depend for survival."

Stephen Hawking, a BAS sponsor, professor of mathematics at the University of Cambridge, and a fellow of The Royal Society, said: "As scientists, we understand the dangers of nuclear weapons and their devastating effects, and we are learning how human activities and technologies are affecting climate systems in ways that may forever change life on Earth. As citizens of the world, we have a duty to alert the public to the unnecessary risks that we live with every day, and to the perils we foresee if governments and societies do not take action now to render nuclear weapons obsolete and to prevent further climate change."

Kennette Benedict, executive director, Bulletin of the Atomic Scientists, said: "As we stand at the brink of a Second Nuclear Age and at the onset of unprecedented climate change, our way of thinking about the uses and control of technologies must change to prevent unspeakable destruction



and future human suffering."

Sir Martin Rees, president of the Royal Society, professor of cosmology and astrophysics, master of Trinity College at the University of Cambridge, and a BAS sponsor, said: "Nuclear weapons still pose the most catastrophic and immediate threat to humanity, but climate change and emerging technologies in the life sciences also have the potential to end civilization as we know it."

Lawrence M. Krauss, professor of physics and astronomy at Case Western Reserve University, and a BAS sponsor, said: "In these dangerous times, scientists have a responsibility to speak truth to power especially if it might provoke actions to reduce threats from the preventable technological dangers currently facing humanity. To do anything else would be negligent."

Ambassador Thomas Pickering, a BAS director and co-chair of the International Crisis Group, said: "Although our current situation is dire, we have the means today to successfully address these global problems. For example, through vigorous diplomacy and international agencies like the International Atomic Energy Agency, we can negotiate and implement agreements that could protect us all from the most destructive technology on Earth--nuclear weapons."

## Ticking towards midnight: Doomsday clock since 1947

The movements of the symbolic Doomsday Clock, set up by the The Bulletin of the Atomic Scientists, a prominent group of international scientists, together with reasons cited.

- 1947: Seven minutes to midnight



The clock first appears as a symbol of nuclear danger.

- 1949: Three minutes to midnight

The Soviet Union explodes its first atomic bomb.

- 1953: Two minutes to midnight

The United States and the Soviet Union test thermonuclear devices within nine months of one another.

- 1960: Seven minutes to midnight

Growing public understanding that nuclear weapons made war between the major powers irrational amid greater international scientific cooperation and efforts to aid poor nations.

- 1963: Twelve minutes to midnight

The US and Soviet signing of the Partial Test Ban Treaty "provides the first tangible confirmation of what has been the Bulletin's conviction in recent years -- that a new cohesive force has entered the interplay of forces shaping the fate of mankind."

- 1968: Seven minutes to midnight

France and China acquire nuclear weapons; wars rage in the Middle East, the Indian subcontinent, and Vietnam; world military spending increases while development funds shrink.

- 1969: Ten minutes to midnight

The US Senate ratifies the Nuclear Non-Proliferation Treaty.



- 1972: Twelve minutes to midnight

The United States and the Soviet Union sign the first Strategic Arms Limitation Treaty and the Anti-Ballistic Missile Treaty.

- 1974: Nine minutes to midnight

SALT talks reach an impasse; India develops a nuclear weapon.

- 1980: Seven minutes to midnight

The deadlock in US-Soviet arms talks continues; nationalistic wars and terrorist actions increase; the gulf between rich and poor nations grows wider.

- 1981: Four minutes to midnight

Both superpowers develop more weapons for fighting a nuclear war. Terrorist actions, repression of human rights, and conflicts in Afghanistan, Poland and South Africa add to world tension.

- 1984: Three minutes to midnight

The arms race accelerates.

- 1988: Six minutes to midnight

The United States and the Soviet Union sign a treaty to eliminate intermediate-range nuclear forces; superpower relations improve; more nations actively oppose nuclear weapons.

- 1990: Ten minutes to midnight



The Cold War ends as the Iron Curtain falls.

- 1991: Seventeen minutes to midnight

The United States and the Soviet Union sign the long-stalled Strategic Arms Reduction Treaty (START) and announce further unilateral cuts in tactical and strategic nuclear weapons.

- 1995: Fourteen minutes to midnight

Further arms reductions stall while global military spending continues at Cold War levels. Risks of nuclear "leakage" from poorly guarded former Soviet facilities increase.

- 1998: Nine minutes to midnight

India and Pakistan "go public" with nuclear tests. The United States and Russia cannot agree on further deep reductions in their nuclear stockpiles.

- 2002: Seven minutes to midnight

The United States rejects a series of arms control treaties and announces it will withdraw from the Anti-Ballistic Missile Treaty. Terrorists seek to acquire and use nuclear and biological weapons.

- 2007: Five minutes to midnight.

North Korea's recent test of a nuclear weapon, Iran's nuclear ambitions, a renewed emphasis on the military utility of nuclear weapons," and the continued presence of 26,000 US and Russian nuclear weapons are cited.

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