Evolution of the IAEA

Using nuclear crises as windows of opportunity (or not)

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13 March 2013

Outline

- Book project: *The IAEA & Global Nuclear Governance*
- Background: the IAEA and its stakeholders
- IAEA track record in using global nuclear crises as windows of opportunity to strengthen and/or reform itself (3 exemplars)
- What concatenation of elements for windows of opportunity to appear and for IAEA to leap through them?
- Is Fukushima an exception?
- Other nuclear crises: why not windows?
- Conclusions and policy implications
- Questions for the audience

The Book: *The IAEA and Global Nuclear Governance*

- The IAEA's since the end of the Cold War (Chernobyl to Fukushima)
- take up where two masterworks left off:
  - Larry Scheinman, *The IAEA and World Nuclear Order* (1987)
  - David Fischer, *History of the International Atomic Energy Agency: The First 40 Years* (1997)
- more than an historical narrative, but political science analysis of international organizational behaviour
- focus on how the IAEA has used various crises to strengthen and reforming itself (or not)

International Atomic Energy Agency

'An independent, intergovernmental, science and technology-based organization in the United Nations system that serves as the global focal point for nuclear cooperation'

- deals with nuclear safeguards, safety, security and peaceful uses
- derives from Eisenhower's 1953 Atoms for Peace proposal
- established in 1956 in Vienna
- 153 member states
- 2,300 employees, including 150 inspectors
- regular budget €321 million; plus €34 million for technical cooperation
- General Conference and Board of Governors
- Director General: Japan's Yukiya Amano

IAEA stakeholders (the players)

- Director General
- Secretariat
- Board of Governors (35 members; 15 semi-permanent)
- General Conference
- Subsidiary bodies: Special Advisory Group on Safeguards Implementation (SAGSI); Nuclear Safety Commission etc.
- Individual member states (governments; nuclear agencies; regulators)
- Various groupings of member states: Group of 21/nonaligned movement; Geneva Group; Western Group)
- Nuclear industry
- Scientific community
- United Nations (Secretary-General; General Assembly; Security Council)

The IAEA and international crises: 'punctuated equilibrium'

- IAEA's evolution mostly slow, incremental, uneventful
- But interrupted by 3 international crises that has each produced major strengthening and reform in 3 different areas:

  Chernobyl (1986) for nuclear safety

  Iraq (1990) for nuclear safeguards

  9/11 (2001) for nuclear security
- IAEA has skillfully used a window of opportunity before it closed
- Gould's evolution metaphor seems apt (up to a point)
- But Fukushima may be an exception, as may others (the Iran case)

Response to Chernobyl: a new nuclear safety regime with significant new IAEA responsibilities

- Four new international conventions overseen by IAEA
  - 1986 Convention on Early Notification of a Nuclear Accident
  - 1986 Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency
  - 1994 Convention on Nuclear Safety (safety principles; state peer review; closed Chernobyl-style reactors)
  - 1997 Joint Convention on the Safety of Spent Fuel and Radioactive Waste
- IAEA Emergency Response Framework
  - Emergency Preparedness and Response Plans
  - Incident and Emergency System
  - Incident and Emergency Centre
  - Response Assistance Network (RANET)
  - International Nuclear and Radiological Event Scale (INES)
- IAEA Commission on Safety Standards: principles, standards, guidelines and guides
- IAEA-led peer reviews; safety and regulatory reviews
- Assistance to states bolstered

Response to Iraq: an IAEA safeguards revolution

- The ‘poster child’ of IAEA strengthening and reform
- Safeguards philosophy changed: from correctness to completeness; whole of state approach new emphasis on undeclared materials and facilities
- Strengthened safeguards system (93+2), including Additional Protocol to Comprehensive Safeguards Agreements
- State Systems of Accounting and Control (SSAC)
- Safeguards ‘culture’ overturned
- All-source information: open sources; intelligence; satellite imagery; remote monitoring; new technology
- Successful facilitation and verification of Iraq’s nuclear disarmament

Response to 9/11: new IAEA responsibilities

- IAEA Office of Nuclear Security established
- Three-year Plan of Activities to Protect Against Nuclear Terrorism
- Advisory Group on Nuclear Security (AdSec)
- Nuclear Security Fund
- IAEA nuclear security series: principles, standards, guides, guidance
- IAEA peer review, evaluation missions, support centres, education and training
- Nuclear Trade and Analysis Unit (partly due to A.Q. Khan revelations)
- IAEA assistance in repatriating HEU to Russia and US
- 2006 Amendment to 1980 Convention on the Physical Protection of Nuclear Material expedited

Leaping through windows: what concatenation of factors is required as indicated by the 3 cases?

- An international crisis serious enough to open a window for the IAEA—both political and substantive: longstanding political positions shift and an enhanced role for the IAEA identified
- Support or at least concurrence of US (in all 3 cases) and other key BOG members; acquiescence of the nonaligned states
- Leadership/policy entrepreneurship by principal(s) or agents: member state(s),Directors General (Blix for Chernobyl and Iraq and ElBaradei for 9/11) and Secretariat
- 'Shovel ready' measures, apparent for years, that could be speedily implemented(before window closed)

Main outcome of Fukushima: Nuclear Safety Action Plan

- agreed by Board of Governors in September 2011
- contains only general recommendations
- not legally binding
- does not allocate funding
- no mandatory peer review: recommended voluntary reviews once every 3 years
- revised safety standards, but not mandatory
- does not even cover all aspects of IAEA role
- considered to be a work in progress

Other progress to date

- Many states have conducted IAEA recommended 'stress tests'
- IAEA peer review missions have almost tripled (but still only 13 in 2012 for 430 reactors worldwide)
- Major reports on Fukushima: IAEA; Japanese government; TEPCO
- Updating of safety standards has begun (but still only voluntary)
- Meetings galore: 5 expert workshops; meetings for nuclear safety conventions; Fukushima Ministerial Conference on Nuclear Safety (December 2012): but little concrete has emerged
- IAEA establishing unit to advise states on reactor decommissioning
- No extra funding

Response to Fukushima: a window appeared to open …

- Major international nuclear crisis shifted the political ground
- Japan, Germany, France, other states with nuclear programs and plans began to rethink commitments to nuclear energy
- International community generally demanded improved global nuclear safety, not least due to impending 'nuclear renaissance'
- Political window opened: France, Russia, others called for mandatory safety regime
- Substantive window opened given IAEA's self-description as the global 'hub' of nuclear safety
- Obvious, long mooted, reforms were 'shovel ready': mandatory nuclear safety standards and mandatory, periodic peer reviews of every nuclear power plant

But then appeared to close

- Poor initial leadership/entrepreneurship: DG Amano failed to put IAEA at centre of crisis; stressed post-crisis amelioration, study, research and lessons-learned
- Others leapt through political window: Sarkozy and Ban-ki Moon made early conference proposals: Amano eventually announced June 2011 IAEA Ministerial Conference
- After much hesitation Amano proposed voluntary peer reviews of every nuclear power plant every three years
- Despite French, Russian and other support, US opposition appeared too strong (apparently on rather narrow grounds - legal advice of State Department)
- Did Amano's weakened position prevented him from achieving better outcome?
- Perhaps complexity is inhibiting radical change post-Fukushima; but two years on has the window completely closed? (Strengthened safeguards took 4 years)
- Low-hanging fruit already taken by Chernobyl?

Other ‘crises’ that did not open windows for the IAEA

- **1974 Indian ‘peaceful nuclear explosion’:** PNE wording in safeguards documents changed but not fundamental challenge to emerging safeguards system
- **1979 Three Mile Island:** no trans-boundary radioactivity; US kept it as a domestic issue
- **1981 Israeli attack on Osiraq reactor**: no perceived role for IAEA, but rather the Conference on Disarmament
- **2003-2013 Iranian non-compliance saga**: too ‘slow burning’ to create sudden political opening; in-house learning but strengthening and reform of safeguards already underway; failed BoG attempt at further strengthening
- **2003 North Korea’s departure from NPT and IAEA:** out of IAEA hands; focus on Security Council and 6 Party Talks
- **2003 Security Council crisis over Iraqi WMD**: focus not on IAEA
- **2003 A.Q. Khan network and Libyan non-compliance revealed**: greater IAEA attention to nuclear trafficking, networks and imports/exports but UK/US kept window shut for IAEA
- **2007 Israeli attack on Syrian reactor:** political window tightly shut

Conclusions and policy implications

- Traditional explanation of IAEA window-leaping appears to hold: 3 major opportunities taken; one possibly major opportunity lost; multiple non-starters
- Leadership by the DG in combination with key states appears crucial; having obvious strengthening and reform measures ready helps
- IAEA DG and Secretariat should thus be prepared for windows of opportunity: strategic planning, including risk analysis; research; and a management 'rapid reaction team'
- One window that should be prepared for is a major nuclear security incident: nuclear security is the least developed and resourced of the IAEA programs
- Given the importance of leadership and policy entrepreneurship, perhaps time to reconsider how Directors General are recruited.

Questions for audience

- Is this clear, useful/enlightening?
- Have I missed any key considerations?
- Could it be organized by way of charts, grids?
- Any useful conceptual or theoretical tools I could use?