# Insanity – playing with fire

The NAPSNet Policy Forum provides expert analysis of contemporary peace and security issues in Northeast Asia. As always, we invite your responses to this report and hope you will take the opportunity to participate in discussion of the analysis.

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## I. Introduction

In his piece on the insanity of pursuing nuclear power, Nikhil Desai asks "How many billions of dollars have to be bet, and how many lives put at risk, in order to learn, and re-learn lessons of nuclear power?"

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## II. Policy Forum by Nikhil Desai

**Insanity – playing with fire**

Some sage – not me – is said to have said that insanity is doing the same thing over and over again and expect a different result.

Nuclear advocates learnt early on that the promise of "forever energy" was so great, so intoxicating and potentially addictive, that to not be seen as insane and indeed to perpetuate an aura of sanity, rationalism, care for the collective good, all they had to do was assure the public, whenever necessary, that "this time it is different."

Yes, a different reactor type. A different supplier. A safety upgrade. Or new protections against fires, earthquakes, airliner crashes, tsunami, operator error.

This duplicity in service of insanity had three elements.

First, rely on changing reactor and power plant technologies and learn-as-you-go (or protect-th--reputation betting-other-people's money) designs and regulatory regimes[i].

Second, keep people excited enough about reactor safety, even while fighting the industry opponents (in some countries) and claiming absolute safety – or at least, "acceptable risk" of loss-o--coolant probability of x in a million reactor-years, something that lay people would find it difficult to grasp – ignore or hide the risks to workers and general public from the fuel-cycle risks, from uranium mining to waste management to disposal.

And third, of course, titillate people about the glory of nuclear technology, bearing nuclear power as a badge of technological prowess and acquiring nuclear weapons capability as a defense necessity.

Of course, all this required double-speak. Some things could not be said publicly and it was necessary to ensure that some such things were not said at all, even privately.

"What if not nuclear (power or weapons)?"  The necessity borne of certainty.  If there was no God, at least there was the Atom. One way of playing dice with God's creation.

After TMI and Chernobyl (27 years ago this past week), the industry found a "forever" problem – climate change – perfectly matching the "forever" of the atom.  As Nick Stern said HIV/Aids was not a priority while facing "existential risks" of climate change, nuclear reactor or fuel cycle accidents, or nuclear weapon discharges by accident or design, were not to be bothered with when facing up to the risk of mother of all catastrophies – climate change.

But, just as people had begun to forget that a candle caused the devastating fire at Browns Ferry 1 power reactor, they were shown that in repairing Fukushima, just so as to get it ready for permanent retirement, "a rat caused a blackout and subsequent work to prevent a recurrence led to another system failure".

Ah. So we may have an earthquake-proof technology that is not rat-proof.

And we are told again that Fukushima was due to "outdated nuclear reactors, overuse of the generators and overall bad maintenance." No reactor will remain forever fresh and ready, but no, next time it will be different.

In TMI-1 we learnt that operator error combined with a slight equipment dysfunction forced evacuation of a city. And now we learn that a Russian supplier has been held for delivering "shoddy parts" to an Indian nuclear reactor.

We also learnt in the US that incomplete designs and open-ended regulatory or technical issues led

to long construction delays and cost escalation. Now we learn that India's siting reports are shoddy or warn against nuclear plant construction (at least according to the parameters provided).

How many billions of dollars have to be bet, and how many lives put at risk, in order to learn, and re-learn lessons of nuclear power?

Or need we accept, howsoever painfully, that while in some countries some power reactors have operated reasonably well, and may also have reduced air pollution and $CO_2$ loadings in the atmosphere – claims of dubious value, depending on the baseline – we have been defrauded, deluded, fooled, taken for a ride, and our lives and monies are at risk?

The entire apparatus of "peaceful uses of nuclear energy" needs re-examination, to say the least. If weapons of mass destruction – and the threat of mutual assured destruction – are seen as morally abhorrent, nuclear power must be seen as financially abhorrent. In poor countries with limited land, water, infrastructure and institutional capacity or research, planning and emergency response, nuclear power and weapon power must be accepted as a nightmare to get over.

As governments struggle with nuclear issues in Iran or North/South Korea, or contemplate response to potential chemical weapons use in Syria, nuclear power exit remains by far the more tractable problem than nuclear disarmament. Nuclear power remains a potent chemical weapon, not intentionally used against own people but in search of the nuclear weapons of mass destruction to threaten other countries with. Governments may also end up risking their own populations and terrorizing them to boot if they refuse to go along.

Indications are, that terrorizing face of nuclear power is coming to the fore now. And the intoxication of "forever energy" may be so high, India may well teach the world how "peaceful" uses of nuclear energy can be anything but.

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## III. Background material for further reading:

Three Mile Island's lessons for Japan, Winifred Bird, The Japan Times [21 August 2011]

US nuclear exit? Special issue (March/April 2013), the Bulletin of the Atomic Scientists, available free online, 1 March 2013 version of record.

A) How to close the US nuclear industry: Do nothing, Peter A. Bradford;

B) Nuclear policy responses to Fukushima: Exit, voice, and loyalty

Egyptian professors discuss benefits of nuclear and solar energy to fight blackouts, Louise Sarant, Egypt Independent, [4 April 2013]

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Ex-regulator says reactors are flawed, Matthew L. Wald, The New York Times [8 April 2013], as cited in "Former Chairman of Nuclear Regulatory Commission: Reactors should be phased out" [9 April 2013]

Kudankulam N-plant in danger? Supplier held for shoddy parts, Kuman Chellappan, The Daily

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The Experts: What's the Best Way Forward on Nuclear Power? The Wall Street Journal [17 April 2013]

What marriage can teach us about the nuclear waste problem, Suzanne Baker, The Energy Collective (online). [17 April 2013]

MPs point to 2.3 bn annual nuclear subsidy, Sylvia Pfeifer, Financial Times [24 April 2013]

Fukushima nuclear plant cleanup may take more than 40 years: IAEA, AP Japan Times [24 April 2013]

Centre's report indicates N-plant not safe for Jaitapur, Dilnaz Boga, DNA (Daily News and Analysis, Mumbai), [28 April 2013]

Ontario's energy transition, World Nuclear News (29 April 2013)

Take Action at Fukushima: An Open Letter to Secretary General Ban Ki-moon, Akio Matsumura – Finding the Missing Link [30 April 2013]

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### IV. REFERENCES

[i] This began with the meltdown at INEL (Idaho National Laboratories, US) EBR-1 (experimental breeder reactor), the first reactor that produced electricity circa 1951, and another meltdown of Fermi-1 power reactor of Detroit Edison circa 1966. These 'fast breeder' reactors, the ultimate dream machine, were not pursued in the US. The BORAX-1 reactor, prototype of the Boiling Water Reactor, and the first to power a city solely on nuclear energy, was deliberately destroyed in 1955. The Pressurized Water Reactor (PWR) used in US naval submarines, was selected for the first utility commercial prototype and, according to Alvin Weinberg, its principal designer, not for reasons of demonstrated technical superiority.

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## v. NAUTILUS INVITES YOUR RESPONSES

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