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Nuclear NPT Nightmare: Assessing the Impact of New and Aspiring Nuclear States

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Introduction

Barely a decade into the 21st century and the United States faces a future security challenge unlike others it has faced since the end of the cold war. Of course, traditional security issues like the Middle East, the ambiguous outcomes of the 'Arab Spring', the global financial crisis, continuing threats from worldwide terrorist groups and a host of other legitimate issues contend for our sustained geostrategic attention. None, however, pose as serious a global security problem as the irony of dealing with new and aspiring nuclear states.

This is an issue which draws some of its foundation from the evolving nuclear ambitions of North Korea and Iran but extends into more difficult terrain in determining the net threat posture of those states with the technical infrastructure to 'go nuclear' because it buys them a measure of deterrent stability along with the fig leaf of geostrategic leverage. When the political, economic and security climate out over the next 15 years to 2030 looks fraught with enough uncertainty and geopolitical risks that only the possession of even a limited atomic arsenal becomes the proven key to protecting state sovereignty, the United State should remain alert and prepared. Previous assumptions about alliances, security safeguards, non-nuclear deterrent postures and cautions about reckless nuclear 'breakout' from the NPT are likely not enough to offset the eroding global security situation. Instead a number of disturbing anomalies and trends seem now more plausible than ever before.

Syndromes Triggered by North Korea and Iran

A pattern of signs, development and events indicative of a disorder seems an appropriate term to use in defining the period spanning the first decade of the 21st century to examine the growing nuclear menace more carefully. North Korean behavior regarding their nuclear deterrent and pursuit of a viable weapon seems to have signaled at least two disturbing geopolitical undercurrents.

First, withdrawal from the NPT, continued enrichment actions and perfidious interest in diplomatic gestures like the Six Party talks suggest that Pyongyang is interested only in a symbolic recognition of its nuclear capacity to be treated on a par with Russia, China and the United States. This signifies that North Korea will never forsake a weapon which provides them with almost unlimited geopolitical leverage far beyond their second-class status as a viable nation state.

Second, Kim Jong Il understands very well that clandestine enrichment, continued nuclear activity, offering technical assistance to other states interested in acquiring nuclear capability and appearing to be committed to a long-term 'denuclearizing' of the Korean peninsula has purchased more than enough time to engage in further nuclear development. He knows this tactic will simultaneously strengthen North Korean influence outside its borders in ways which would otherwise be unthinkable.

So the first syndrome to be examined in some comprehensive geostrategic manner is the extent to which other states may model Kim's posture and thereby gain some degree of global leverage that otherwise would be unavailable to them. This should be studied as the '*Kim Syndrome*' and understood more systematically as a viable strategy for which the US and others appear to have no answer or remedy. This syndrome asserts a viable defensive deterrent is essential these days.

A second syndrome deserves better understanding and correlates to the first. What I shall term the '*Iran Syndrome*' is subtle and multifaceted with a keen emphasis on keeping all geostrategic options open and reserving the nuclear option as an unconditional foundation upon which the regime must be treated . Unlike the North Koreans who have a vested interest in using the Six Party talks as a ruse to extract further concessions from other participating states, Iran has no such diplomatic mechanism to use to secure the same degree of political and strategic leverage. Instead Iran uses its regular jousting tirades with the UN and IAEA to garner political influence far beyond their stature to heroically argue for the right of any sovereign state to pursue 'nuclear energy' dreams wherever they lead. In that way, a degree of international support is gained indirectly by getting other states with similar aspirations an avenue for attaining greater recognition for their own nuclear energy ambitions. It is the simple claim that all states reserve the right to develop on a trajectory as they wish with no express aim to upset regional or global security.

Another dimension of Iran's position is a slight derivation of their first tactic to preclude their own isolation from the global community and insulate them against other non-Shia Muslim states. By focusing on the principles embodied in the Nuclear Non-Proliferation Treaty (NPT) which expressly grants the right to all parties in Article IV of the treaty to develop, research, produce, and use nuclear energy Iran is simply drawing attention to the treaty's open invitation to exploit nuclear energy to the uttermost. Recognizing the risks of further political isolation in the array of Arab-Muslim states who may harbor concerns about a Persian-Shia bomb, Iran simply reinforces their sense of destiny as a state aspiring to wider global influence and legitimacy. They have chosen to pursue nuclear maximization.

The technical irony embedded in nuclear energy research is the question of when any reactor can be covertly converted or openly used to help enrich fissile material thereby shifting from energy production gradually and imperceptibly to weapons production. *This paves the way for aspiring states of likeminded sentiment to invest in nuclear energy maximization* and thereby retain a genuine standby 'hip-pocket'

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capability to shift into covert weapons production. In effect, this gives non-nuclear weapons states the solid guarantee they have been seeking to offset any failure on the part of nuclear weapons states in the NPT to ignore their nuclear disarmament obligations under Article VI. A hidden ambiguous gift guaranteed and embedded within the NPT itself.

Two Syndromes and at Least Twenty Two States

Both the *Kim Syndrome and the Iran Syndrome* takes us further into the alarming scenario which the most intense 15 year period 2015 to 2030 suggests. During these 15 years states will fundamentally have to decide on their legitimate security options in a changing geopolitical situation. One scenario indicates that some new and aspiring nuclear states will be encouraged by Kim or Iran to pursue their own nuclear ambitions for reasons of state power, sovereign legitimacy, geopolitical leverage, nuclear maximization or related rationales because the net result is to possess some useful deterrent and to see their global security ranking move upwards.

What can be easily overlooked in weighing these two syndromes is the degree to which they convey a substantial amount of influence and leverage for aspiring nuclear states that would otherwise be unavailable in conventional multinational and diplomatic venues, Put simply, if the degree of emerging international confidence in the UN as a primary instrument of state security is seen to be waning or enfeebled for any reason the temptation to exploit all the nuances of Article IV while still remaining an NPT partner in 'good standing' is too attractive an option to eliminate. Worse, there is no way to measure whether the IAEA can satisfactorily police a gradual 'crypto-breakout' of the NPT when all parties appear on the surface to be engaged in energy maximization under the legitimate umbrella of Article IV.

There are many states who have expressed an official interest in nuclear power in one way or another in recent years. Depending on the nature of their relative aspirations, and their geopolitical hunger for a degree of security not found in conventional security systems or alliances, there are at least 22 states which seem to be worth examining in no particular order during future years. The key issue is whether any of them will seek to expand their relative economic power in accelerating the overall long-term investment needed in *nuclear energy maximization*….

- UAE
- Egypt
- Algeria
- Saudi Arabia
- Indonesia
- Nigeria
- Ghana
- Kenya
- Venezuela
- Morocco
- Namibia
- Tunisia
- Belarus
- Kuwait
- Jordan
- Myanmar
- Syria
- Malaysia
- Thailand
- Vietnam
- Bahrain
- Philippines

It is not that each of these states will inevitably acquire some degree of nuclear sophistication but that some of them very likely will move forward towards enhanced capability during the period 2015-2030 and there does not appear to be any geostrategic posture, policy or program designed to deal with that eventuality. Many of these states have a limited technical infrastructure which will depend heavily on outside external assistance of some type. Nothing prevents them from cooperating—certainly not the NPT itself which actually encourages cooperation towards nuclear maturation in energy production.

There is no specific program the UN has adopted except its traditional reactive posture like UNSC resolution 1540 which attempts to forestall further proliferation now that significant proliferation has already occurred. The NATO allies and the United States seem to be *ad hocing* their way through the quagmire of new and aspiring nuclear states one at a time and on a case by case basis. Witness how the emergence of India and Pakistan's respective entry into nuclear power politics was handled. Special deals were struck and incentives and trade arrangements were solidified which to outside observers seemed a tacit approval by the world's superpower of a *fait accompli* that otherwise would be triggering global criticism and scorn.

True enough, there are 439 nuclear power reactors operating in 31 countries today with another 45 under construction and the number of nuclear facilities and nations with civilian nuclear programs is expected to grow dramatically, according to the International Atomic Energy Agency (IAEA). While it remains unclear whether the global security situation will actually compel some states to pursue a 'nuclear energy maximization' strategy as a legitimate geostrategic option we should be prepared to examine some unpleasant realities and severe dilemmas.

Unpleasant Realities and the Policy Void

The unpleasant realities we face in future years in a largely divided international community, some of whom are either clandestinely supportive of, or simply jealous of, aspiring nuclear states is not too difficult to assess. We simply cannot endure a situation where several states openly depart from the NPT one the next 15 years to pursue their own nuclear ambitions and no effective mechanism is available to redirect or thwart that development. Economic sanctions, the opprobrium of the UN, and the hypersensitive cajoling which some states embark upon will not stem the tide of new and aspiring nuclear states. As in the old saying, it is more of a case of 'when' not 'if' and we must be prepared for it. There are at last seven unpleasant realities we must face in coming years.

The first of these is to determine what options the United States would have to dissuade aspiring or new nuclear states to continue working towards a nascent nuclear capability. The options are not attractive, they are grossly expensive and they contain limited payoff risks. They include

- persuading states that they are adequately protected under a USA nuclear umbrella

- persuading states that a nuclear maximization path is too costly or too technical
- persuading states that existing UN and international security norms are sufficient
- persuading states that nuclear maximization could lead to sanctions or isolation
- persuading states that the costs of nuclear maximization far exceed any known benefits

The next unpleasant reality is the Pakistan-India dilemma which simply reflects the fact that both states pursued an effective nuclear weapons program outside the NPT, were officially recognized as nuclear powers [not under the NPT] and given some mixture of trade and financial rewards for their promise to be 'good nuclear stewards' of their respective arsenals. What is Kim and Iran to make of this development? Is this outcome forever foreclosed to Tehran and Pyongyang?

This third dilemma is the Israeli situation. Israel obviously holds a clandestine nuclear capability and it has declared itself justified under Article 51 of the UN charter as fully within its rights to develop a strategic defensive capability which has an undeniable deterrent power as well. Is it fair to speculate that other aspiring states may choose to follow Israel's path out of legitimate security concerns for their immediate surroundings?

A fourth dilemma is the apparent dilution of power which can accompany a state's decision to dismantle its nuclear capabilities in exchange for recognition as a peaceful member of the community of nations. Many remember what happened immediately after Ukraine, South Africa and Libya jettisoned their respective nuclear infrastructures and some states may shudder to think that the loss of geopolitical leverage and prestige that went with it leaves a devastating permanent mark on state sovereignty and geopolitical security.

Ironically, the fifth dilemma is related to the enshrined goals of promoting nonproliferation of nuclear weapons capability which flows from the assurance that non-nuclear weapons states harbor no desire whatsoever to acquire an atomic weapons option. Has it ever been clear that the current alignment of nuclear and non-nuclear states would hold in perpetuity? Has it ever been expected that with the trajectory of global nuclear scientific knowledge and the conversion potential of many nuclear reactors that some states would feel inclined to pursue nuclear maximization regardless of world opinion simply for defensive and deterrent purposes? What is a desirable nuclear order in the global array of sovereign states? Is it ten states or 12 or 16? Will the agreement to comply with IAEA safeguards be enough to contain any risky or undesirable behavior? This is less clear than it seems.

When we look at IAEA safeguards we collide with a growing dilemma inside a painful conundrum—IAEA cannot be everywhere at once and cannot police nuclear maximization in all states at all times - a priori. Even today, the IAEA is plagues by a number of issues and complex problems such as these:

- Operational safety of new nuclear facilities;
- Protecting reactors from terrorist attacks, sabotage, and other security breaches;
- Developing the human technical resources necessary to support new nuclear programs;
- Ensuring the transparency of civilian nuclear power programs;
- Economic viability of national nuclear construction initiatives;
- Ways to strengthen the international nonproliferation regime, including what some in nuclear-aspiring states perceive to be an inconsistent application of protocols and obligations by nuclear nations;
- The safe long-term storage of spent nuclear fuel, including opportunities for regional cooperation on waste repositories

If that were not enough, the sixth dilemma is the inherent puzzle of spent fuel. For a country interested in developing nuclear power, the possibility of having its spent fuel removed through a "take back" agreement would be considerable. It would greatly increase the incentive for relying on the international market for enrichment services. However, the take-back of spent fuel to the country of origin is controversial. How robust and helpful is the international market? Can the market be sufficiently diversified top offer low cost high security enrichment services that do not incur unexpected security risks along the way?

The seventh, and arguably final, basic dilemma is the case of Myanmar. Receiving extensive technical assistance from North Korea this small south Asian state would objectively appear to have no legitimate reason for acquiring a nuclear weapons production capability. Nevertheless the repressive and antagonistic state stands ready to move forward towards nuclear maximization at a time when IAEA and global efforts to deter and denuclearize both Iran and North Korea are going almost nowhere. Of course, the USA will try to dissuade Myanmar from embarking on so risky and politically perilous path but a regime which has already proven itself impervious to global condemnation is certainly capable of ignoring these warnings and moving ahead.

Ironically, Myanmar also has the option of invoking the *Kim and Iran syndromes*, along with the examples set by India and China, to select the best course of action enabling the retention of all its priorities. Myanmar can simply tolerate the scorn and criticism long enough to allow their internal programs to move forward to a point where external intrusion or inspection of would be insufficient to offset progressive accomplishments. Should we expect the UN to slam sanctions on Myanmar or to orchestrate global condemnation sufficient to persuade post-Rangoon leaders to drop their nuclear maximization desires? This is hardly likely with a global financial crisis, environmental problems, disaster-preparedness issues, international disease outbreaks, educational system shortfalls, promoting programs for sustainable development and the stemming of crime and terrorism so often at the top of the UN's agenda.

Nuclear Nightmares—Looking Ahead

Even if it is argued that the 22 aspiring states mentioned agree to delay their nuclear ambitions for a variety of impressive and justifiable reasons there is the dilemma of the nuclear weapons states under the treaty who may continue to promote the role of nuclear weapons in their own defense doctrines. With these concerns there is the added worry that after the 2010 NPT Review Conference it is possible the nonproliferation regime cannot tolerate even a single additional failure or absorb evidence of renewed breakouts not otherwise defensible under the treaty.

IAEA estimates that currently, nuclear energy supplies 15% to 16%

of the global demand for electricity. With at least 45 reactors still under construction worldwide, 25 of which are in Asia, one can legitimately wonder whether Japan's Fukishima crisis in early 2011 discouraged states from pursuing their nuclear energy ambitions. It is reasonable to expect that demands for nuclear energy will increase despite the crisis in the years ahead. Legitimate concerns about technically skilled workers, staff infrastructure and long term sustainment of nuclear communities of experts are well founded and some states may find this path too expensive to pursue. Remembering the Kim and Iran syndromes for a moment they offer the cheap and rigorous option to many states who may have no other avenue to pursue.

Certainly issues such as the US-India Civil Nuclear Agreement also risk undermining the set of traditional motivations that states may have had to remain a non-nuclear weapons state because others may be tempted to extract a similar deal for themselves. There is also the long term custodianship and management of dangerous spent fuel to consider as a disincentive for those aspiring states who may have imagined they could fashion a special nuclear deal for themselves.

So does this mean crypto-breakout of the NPT is a near certainty? It is far from clear but the risks of this happening are worth examining in some depth. While some would hold out hope for a more peaceful alternative such as eventual multinational ownership of a nuclear facility under strictly supervised UN auspices there is little to suggest that states would opt for this outcome given the other negative trends in global security. No doubt this arrangement would make clandestine enrichment and undetected diversion of nuclear material more difficult along with greater transparency; it begs the question of whether some states would tolerate the loss of sovereignty over their own internal power supply.

Some would hold out hope that NPT Article I which prohibits the manufacture or otherwise allow covert acquisition of nuclear weapons or nuclear explosive devices would be sufficient; along with pledges to not transfer nuclear weapons (or other nuclear explosive devices) would be enough to keep the status quo intact. For now, the 189 countries which are States Parties to the NPT and the more than 550 facilities and several hundred other locations which are subject to regular IAEA inspection may seem stable enough. Prospects for major change may be seen as unlikely and even perverse given the situations facing Iran and North Korea. However, we must allow for the possibility that aspiring states will one day want to become new nuclear states in such a way that the overall spirit of the NPT is preserved while the letter of the treaty is slowly transformed into a general and unenforceable set of principles.

What remains to be judged and assessed during the next 15 years is the developmental trajectory of aspiring nuclear states and whether they can divert, delay or withhold their nuclear maximization ambitions beyond 2030 because the disincentives far outweigh any discernible benefits. My reasons for limited optimism means that some states will find the temptation to move forward—for a variety of legitimate and fabricated reasons—too hard to resist.

New and Aspiring Nuclear States—the Impact?

Whether the 22 states collectively, or individually, elect to pursue their nuclear ambitions under Article IV in ways which can only be seen as maximization during the period 2015-2030 is far from clear. There are significant disincentives and risks for doing so. For relatively poor countries, paying for a nuclear power plant is a massive hurdle, even if the costs are spread out over several years. There is no precise way to measure whether a country can afford to modernize and how fast.

A second major barrier to aspiring nuclear states in the developing world is having the physical infrastructure to support a nuclear power plant or plants. This includes an adequate electrical grid (at least 10 times the size of a 1,000-megawatt reactor), roads, a transportation system, and a safe and secure site. The IAEA's milestones document includes a comprehensive list of hundreds of infrastructure targets, including physical infrastructure, for aspiring nuclear states to meet before they should commission a nuclear plant.

Thirdly, there is the challenge of governance. A country's ability to run a nuclear power program safely and securely depends on its capacity to successfully and sustainably plan, build and oversee successful construction of a plant. It must also manage a large and complex facility and its associated activities. For a nuclear reactor, such a commitment stretches over decades, at least 60 years from initial planning to decommission. For high-level, long-lasting nuclear waste, some of which can remain radioactive for millennia, the commitment is essentially forever.

Fourthly, another concern is adequate adherence to safety requirements and norms. Astonishingly, considering their announced enthusiasm for nuclear energy, 4 of the developing countries supposedly interested in nuclear energy—Bahrain, Kenya, Namibia, and Venezuela—are not party to any of the relevant nuclear safety conventions. Global governance of nuclear security is much less mature than that for nuclear safety. States are more secretive, often understandably, about nuclear security than about nuclear safety. International cooperation and transparency are therefore constrained. Heightened fears of nuclear terrorism are valid and have led to improvements but the overwhelming risks remain.

Finally, there are reasons for some cautious optimism. Most of the states that acquire nuclear power will not be able to fabricate their own fuel, much less succeed in enriching uranium, which is a technologically challenging and expensive process. None is likely to be legitimately interested in reprocessing plutonium, either for dealing with nuclear waste or for fast reactors. Nevertheless, the accompanying fear is that covert or undetected technical assistance can provide the level of expertise some states may need to overcome this impediment leaving the door open to smuggling and diversion outside the boundaries of an independent external review. Of course, Israel poses a unique problem as an undeclared nuclear state. Other may wish to follow that path and in so doing greatly complicate the landscape of would-be nuclear powers. Even if we accept Israel's claim that its nuclear capabilities exist solely to provide strategic deterrence it can hardly be argued that other aspiring states will not subscribe to the same view.

As it is, the IAEA's global governance system also needs to be able to discourage states when nuclear energy appears not to be an appropriate choice. Although the IAEA's detailed briefings and documentation may deter some from proceeding, the agency is neither mandated nor competent to provide advice on more appropriate alternative energy policies. The overall impact of having 22 states ready to breakout over the next decade in a variety of ways has at least three security implications for the United States

- The NPT may gradually evaporate as an enforceable global nonproliferation regime

- New nuclear states may be less constrained to limit their nuclear options when threatened
- The array of security threats with even 3 more nuclear weapons states is overwhelming

Understanding and Gauging the Nightmare

This comes down to calibrating the risks, developing strategies to offset the risks and devising mechanisms which reflect alliance and multilateral mechanisms for thwarting further breakout. In turn, it means taking a hard look at several alternative realities and scenarios which we may actually face in the 15 year period 2015-2030 and the implications of those divergent situations. These scenarios are not exhaustive of the range of options if NPT breakout happens, but they offer some unique challenges which do not lend themselves to speedy resolution within a decade.

Scenario 1—Status Quo

While I would give only 20% odds of this outcome, surely this is the best one available if for no other reason than it allows the world to buy time a develop meaningful policies to deter, delay or thwart nuclear maximization. No real changes take place and no new nuclear weapons actors enter the stage.

Scenario 2---Limited Breakout

My estimate is that a 50% chance exists for this scenario where at least four of the 22 itemized aspiring nuclear states for one reason or another continue efforts towards nuclear maximization and garner enough political, economic or geostrategic support to move forward towards a viable threshold nuclear weapons production capability. This state's when is anybody's guess butb the odds of at least four more by 2030 are not that farfetched.

Scenario 3---Extensive Breakout

In effect this is the end of the NPT as we know it and it launches a wholly new and dangerous world of several contending nuclear states who have lost confidence in the UN and the NPT to provide the sovereign defense, deterrence and global respect which nuclear maximization can provide. How many of the 22 states step forward? Perhaps as few as seven and as many as 10 may be moving towards this irrevocable geostrategic position where for reasons we may find hollow and specious the states involved have committed themselves towards a fundamentally altered security posture. The odds of this happening are probably less than 25% unless the advantages of Scenario 2 becomes compellingly attractive to other states and many fear a new line will be drawn in MPT-like language which forecloses the acceptance and recognition of any new nuclear states at all.

So the overall nightmare, like so many issues in forecasting global security's future, is fraught with risk, speculation and ambiguity without ironclad guarantees which allow anyone to make geostrategic plans based on the faulty assumptions of a 'stable and unchanging world'. It is a nightmare which contains some highly disturbing elements such as

- Knowing how to stem further breakout
- Knowing how to modernize the NPT against breakout or erosion
- Knowing how to dissuade aspiring nuclear states from nuclear maximization
- Knowing what the risks are inside a world with four or more new nuclear weapons state

This is just the beginning of analysis which must be encouraged in coming years to gauge the true extent of the nightmare and determine whether it is, after all, a dream from which we can awake or one which will haunt us for decades to come.

A note of caution makes sense as we contemplate that the PERM-5 is unlikely to drastically reduce their respective nuclear arsenals below the 1,800 warhead level over the next 15 years. With the prospects of NPT erosion and breakout during that period it would be illogical to assume any further reductions are warranted. Ironically, there is no reason to worry about any NPT breakout scenario, unless we allow ourselves to watch it happen in front of us and do nothing to prepare for it or to address it.