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Nuclear Disarmament and the Future
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Introduction – The Proliferation Threat

Disarmament, arms control, is not a new issue. In the Middle Ages, the Pope outlawed the crossbow declaring it to be “hateful to God and unfit for Christians.” However, the crossbow was later overtaken in effectiveness by the destructive firepower of the cannon.

But everything changed in 1945 with the advent of the atomic bomb, for the first time humankind possessed a weapon with which it could destroy itself. Disarmament efforts gradually gained momentum and over time a web of international treaties and agreements was constructed which limited weapon development and inhibited the spread of nuclear weapons as well as chemical and biological weapons. And there is no question but these efforts changed the course of history.

However nuclear weapons are truly a thing apart as everyone in this audience knows. The atomic bomb used against Hiroshima in 1945 was 14 kilotons or 14 thousand tons of TNT explosive equivalent. But in a few years, the United States and the Soviet Union were testing nuclear weapons in the megaton range or million tons of TNT explosive equivalent. Just by way of reference, one megaton is roughly equivalent to a freight train loaded with TNT which stretches from New York to Los Angeles.

Soon, a vast nuclear arms race was underway, the Soviet Union built 45,000 nuclear weapons, the United States more than 70,000 and at one time had over 30,000 in its arsenal. This effort eventually bankrupted the Soviet Union and cost the United States in excess of \$5.5 trillion in 2004 dollars.

President John F. Kennedy truly believed that there was a serious risk that nuclear weapons were destined to sweep all over the world. In March of 1963 in response to a reporter’s question at a news conference, he said, “Personally, I am haunted by the feeling that by 1970... there may be 10 nuclear powers instead of 4 and by 1975, 15 or 20....I would regard that as the greatest possible danger and hazard.” He spent much of his presidency pursuing the cause of nonproliferation. President Kennedy had been told by the outgoing Secretary of State, Christian Herter, in December of 1960 that nuclear weapons would spread to additional countries and that the most likely next nuclear weapons states were India and Israel. He took this very seriously.

If such anticipated proliferation had in fact happened, there could be significantly more than two dozen nuclear weapon states in the world today, with nuclear weapons integrated into their national arsenals. Mohamed El Baradei, the former Director General of the International Atomic Energy Agency (the IAEA), expressed this concern in 2004 when in a speech in Washington DC, he said, “The danger is so imminent...not only with regard to countries acquiring nuclear weapons but also terrorists getting their hands on some of these nuclear materials – uranium or plutonium.” Director General El Baradei said in another speech around the same time that more than 40 countries then had the capability to build nuclear weapons. Thus, under such circumstances, with that many nuclear weapons states in existence, potentially every significant conflict could bring with it the risk of going nuclear, and it might become extremely difficult to keep nuclear weapons out of the hands of terrorist organizations, they would have become so widespread. Illustrating this danger of nuclear weapons proliferation and the threat of terrorist acquisition, former U.S. Defense Secretary William Perry, a scientist not given to exaggeration,

has often said that in his judgment nuclear terrorism which could involve a nuclear detonation in a major city is today's greatest security threat.

The Nonproliferation Regime

When President Kennedy became so concerned about nuclear weapon proliferation, the United States had approximately 22,000 nuclear weapons in its arsenal, the Soviet Union nearly 2,500 and the United Kingdom 50. This total is a smaller number of nuclear weapons than exist in the world today. But, from the earliest of days in the nuclear era it had been clear that it was necessary to prevent the spread of nuclear weapons, although early attempts to prevent proliferation of nuclear weapons did not succeed.

However, in 1965 the UN General Assembly took up the subject. A resolution was passed which over the next few years proved to be the blueprint of the Nuclear Nonproliferation Treaty, the NPT. Among other things this resolution called for "balanced obligations" between nuclear weapon and non nuclear weapon states in the treaty to be negotiated. The NPT was signed in 1968 and entered into force in 1970, and came to be recognized as the principal reason – along with the parallel extended deterrence policy of the United States and the Soviet Union – that President Kennedy's darkest fears have thus far not been realized.

But the success of the NPT was no accident. It was based on a carefully crafted central bargain which incorporated the "balanced obligations" concept. In exchange for a commitment from the non nuclear weapon states (today more than 180 nations, most of the world) not to acquire nuclear weapons and to submit to international safeguards to verify compliance with this commitment, the NPT nuclear weapon states (the U.S., the U.K., France, Russia and China) pledged unfettered access to peaceful nuclear technologies and undertook to engage in nuclear disarmament negotiations aimed at the ultimate elimination of their nuclear arsenals. It is this central bargain that for the last four decades has formed the central underpinnings of the international nonproliferation regime.

However, one of the principal problems with all this has been that the NPT nuclear weapon states have never fully delivered on the disarmament part of this bargain. The essence of the disarmament commitment in 1968 and thereafter was that pending the eventual elimination of nuclear weapon arsenals the nuclear weapon states would: agree to a treaty prohibiting all nuclear weapon tests, that is a comprehensive nuclear test ban; negotiate an agreement prohibiting the further production of nuclear bomb explosive material; undertake obligations to drastically reduce their nuclear arsenals; and give legally binding commitments that they would never use nuclear weapons against NPT non-nuclear weapon states. However, few of these disarmament elements of the NPT basic bargain have been actually accomplished forty years later.

But the NPT is essentially an international strategic political undertaking which should be observed, it is not a gift from the non-nuclear weapons states. Therefore, few deny that today the NPT is in trouble. The question is how long it can remain viable as an unbalanced treaty with an important part of its basic bargain unrealized and a significant part unraveling as North Korea and Iran pursue the bomb. It is true that the norm of nonproliferation runs deep after forty years. The NPT Review Conference this past spring was a real success in stark contrast to the predecessor Conference in 2005. It may be that the NPT can limp along for some years with only limited further proliferation, or maybe not.

A Reinvigorated Disarmament Policy

Recognizing this vulnerability of the NPT, and with the end of the Cold War accompanied by the potential spread of nuclear weapon technology to failed and failing states and international terrorist organizations, serious efforts have begun to attempt to move toward the elimination of nuclear weapons, as called for in the NPT.

On January 4th, 2007, in an op-ed article published in the *Wall Street Journal* by George Schultz, William Perry, Henry Kissinger and Sam Nunn (and signed on to by a number of other former senior officials in the Reagan, first Bush and Clinton administrations) the authors contended that reliance on nuclear weapons for deterrence “is becoming increasingly hazardous and decreasingly effective.” Noting that President Ronald Reagan had called for the abolishment of “all nuclear weapons” which he considered to be “totally irrational, totally inhumane, good for nothing but killing, possibly destructive of life on earth and civilization,” and that General Secretary Mikhail Gorbachev shared this vision, the four authors called for “reassertion of the vision of a world free of nuclear weapons and practical measures toward achieving that goal...” This op-ed article is most significant in that it represents the U.S. national security establishment coming to the realization that the world has in fact become so dangerous that nuclear weapons are now a threat even to their possessors. A second similar article followed a year later.

Since the mid-twentieth century almost all American presidents have placed arms control and nonproliferation policy high on their agendas. President Eisenhower considered his failure to achieve a nuclear test ban his greatest disappointment. The Nuclear Nonproliferation Treaty, the NPT, was signed on President Johnson’s watch. President Nixon oversaw the negotiation of the SALT I Agreements and the beginning of the SALT II Treaty process. The SALT II process was continued under President Ford and concluded under President Carter. President Carter also attempted to negotiate a comprehensive nuclear test ban which was finally concluded under President Clinton’s leadership. President Reagan advocated the abolition of all nuclear weapons and completed the medium range nuclear missile treaty. The most successful arms control president was President George H.W. Bush. His Administration concluded four major arms control treaties during his four years as president: the START I Treaty, the START II Treaty, the Conventional Armed Forces in Europe Treaty and the Chemical Weapons Convention. No other president has successfully completed more than one. Thus, nuclear arms control, nonproliferation, and disarmament negotiations have been at the center of U.S. foreign policy for much of the last 50 years.

But no president has spoken out more eloquently and in such a comprehensive way as did President Obama in Prague last April. He declared his strong support for a replacement START Treaty to be followed by deeper cuts in nuclear weapons leading to a multilateral nuclear weapon reduction negotiation involving all of the nuclear weapon states. He reiterated his support for U.S. ratification and entry into force of the Comprehensive Nuclear Test Ban Treaty (the CTBT), as Vice President Biden reaffirmed in his speech on February 18 in Washington, and confirmed his support for a process leading to a nuclear weapon free world. He underscored his commitment to the strengthening of the NPT, along with measures to do more to safeguard fissile material around the world. And he urged the prompt negotiation of a treaty prohibiting the further production of fissile material. The Prague speech unquestionably placed the current U.S. Administration generally and President Obama personally squarely behind an activist program in nuclear arms control and nonproliferation. And last September, with President Obama in the chair, the United Nations Security Council endorsed the goal of the elimination of nuclear weapons. In the spring of this year President Obama hosted the successful Nuclear Security Summit in Washington.

The replacement START Treaty, an important step forward, was completed early this year and next week may reach the final stages of Senate action to consent to its ratification by the President. In addition, the long awaited Nuclear Posture Review for this administration was

released a few months ago. Among many other things the NPR brings U.S. national policy into line with the U.S. 1995 NPT commitment, effectively never to use nuclear weapons against non-nuclear weapon NPT parties in good standing. It also reduces the role of nuclear weapons in U.S. security policy, another NPT commitment, made in 2000.

But it must not be forgotten that of greatest importance is the CTBT. The NPT is the central international agreement underlying international peace and security in today's world. The principal quid pro quo for most nations of the world to never acquire nuclear weapons under this Treaty was the test ban. It is the only arms control agreement explicitly mentioned in the NPT and it is the most significant commitment made by the nuclear weapons states to bring the necessary political balance to the NPT, the idea of "balanced obligations" that I mentioned. The 1995 Statement of Principles, which was the political price for indefinite extension of the NPT in 1995, explicitly called for the negotiation of a CTBT in one year, that is, by the end of 1996.

This deadline was met and the CTBT was signed in September 1996 with the United States as the first signatory. The Treaty provides by its terms that it will enter into force upon ratification by the 44 states that had nuclear facilities on their territory and were members of the Conference on Disarmament in 1996. Thirty-six of those states have now ratified the CTBT and most of the rest are waiting upon ratification by the United States, China, Israel and Indonesia more or less explicitly. Indonesia nevertheless has announced that it would ratify soon. Egypt likely is waiting for Israeli ratification which will happen after U.S. ratification. India promised ratification to the U.S. in 1998 but was let off the hook by the Senate's vote in 1999, perhaps India will return to this position and if so it is likely that Pakistan would follow suit. This would leave only North Korea.

However, in the first months of 2009, the Administration, perhaps correctly, chose not to seek ratification of the CTBT immediately – at the time when history tells us a new President's political strength is at its zenith. The START Treaty could have been formally extended by a simple exchange of diplomatic notes allowing sufficient time for negotiation of its replacement. Passing the CTBT in the U.S. Senate has never been primarily a matter of the merits of the Treaty; it largely has been about politics and views about nuclear weapons policy. Most Senators are unacquainted with the Treaty details and important specific issues such as verification and nuclear stockpile maintenance. Rather, they follow the lead of a few Senators who are knowledgeable and who have specific nuclear issue agendas which they wish to pursue. This was true in 1999, was true in February, 2009, and is true today. And, without U.S. ratification, the CTBT will never come into force.

However, there was great concern expressed about losing again as in 1999. The Administration wanted to be sure it could win, and 67 votes in the Senate, as required by the U.S. Constitution, can be difficult to achieve. In addition, important Senators such as Senator Lugar wanted the START Treaty to come first. The U.S. and world economies were in such a beleaguered state at that time that fiscal stimulus and other important but controversial economic legislation were considered mandatory to the exclusion of everything else. Much opposition in the Congress was anticipated. Thus it was thought best to await the outcome of the Nuclear Posture Review conducted by the Pentagon which was to determine nuclear weapon policy for this Administration – highly relevant to the CTBT debate – as well as of the bipartisan study of the CTBT undertaken by the National Academy of Science, both of which were to be forthcoming only in the early months of this year. The Academy Study is yet to appear, as I said the NPR was completed in the spring. But as it is now obvious that the CTBT will not be approved this year it is now too difficult to ascertain when it can be approved. There will be fewer Senators in the Senate who will naturally support it next year and Senator Kyl, the Republican leader on arms control, contains his dedicated opposition.

New START Ratification

A further complication has been the complexity of the process of achieving START Treaty ratification. The negotiations were completed in late March after a year of vigorous effort. A deployed total warhead level of 1,550 operational strategic warheads and a limit of 800 strategic nuclear weapon delivery vehicles were agreed. These are significant contributions. Their achievement will open the door to negotiations toward further, much steeper U.S.-Russian reductions in strategic nuclear weapons, perhaps to the level of 1,000 total nuclear weapons each. This level is regarded as a necessary step to permit consideration of multilateral nuclear weapon reduction negotiations involving all nuclear weapon states which, over a long period of time, if successful, would put the world community on the road toward the eventual elimination of nuclear weapons envisioned by Secretary Schultz and his three colleagues. Of course, as long as the NPT holds.

On August 3rd Senator John Kerry, the Chairman of the Senate Foreign Relations Committee, responding to Republican requests for delay, postponed a Committee vote on the Treaty to send it to the full Senate until mid-September. In mid-September it was voted out favorably by the Committee by 14-4, with three Republican Senators voting in favor, Lugar, Corker (who has since recanted) and Isaacson. This meant that there could not be a full Senate vote on the Treaty until the present lame duck session of the Congress.

Now in December only one Republican Senator, Richard Lugar, has indicated unequivocally that he will vote for final passage of the Resolution of Ratification for New START. Senator Kyl and others asserted that the Administration pledge of \$80 billion over the next ten years for nuclear weapons modernization is not nearly sufficient and Senator Kyl, supported by other Republicans, claimed – incorrectly – that the new START Treaty will make deploying ballistic missile defense more difficult. Senator Kyl, in control of the Republican Caucus for START, also has been arguing that there is not enough time to complete consideration of START this year and therefore has been blocking a vote on the Treaty. Senator Corker recently has been saying that there is no hurry. But there is of course, it has been a year since the U.S. had the benefit of the verification provisions of the expired START I Treaty and if the New START Treaty is put over until next year the process will have to begin all over again. Thus, it could be November, 2011 before the full Senate again has a chance to vote on START. But Russia has made it clear that START is important to them. The U.S. wants Russian cooperation on nonproliferation particularly with Iran, and Russia wants START. Thus if the Iran case reaches a crisis next spring or summer, perhaps because of an imminent Israeli attack, without START essential Russian cooperation may be wanting. Taking action against Iran is difficult for Russia. Iran has never supported Muslim insurgents in Russia or in its border states, thus Russia needs the incentive of good relations with the U.S., which to them START symbolizes, to risk alienating Iran.

All of this is in spite of the fact that all living former Secretaries of State and Defense and National Security Advisors support the Treaty. John Isaacs of the Council for a Livable Free World, a long-time Senate observer has said “If this Treaty’s going to be so difficult, God knows how difficult it is going to be for the Test Ban Treaty, particularly after the election when Republicans are expected to pick up seats.” The New York Times on August 4th cited an “arms control advocate” as speculating that the Republicans have intentionally made the road to ratification more difficult for New START to block more meaningful action down the road (that is CTBT and deeper reductions). Republicans of course deny this, saying they are only applying responsible scrutiny and arguing against a rush to judgment. In December a negotiation began which by the end of last week concluded with a deal between the White House and the Republicans in Congress which essentially would trade extension of the Bush tax cuts for extension of unemployment benefits as well as indirectly it seems a vote on START. Nothing

like careful strategic analysis. In any case the debate on New START in the Senate is scheduled to begin on Monday, December 13. The Treaty should pass if there is a vote.

Pending Issues

So, at the end of the year, the New START Treaty might be in force but with political obstacles placed in the path toward a second phase START Treaty, which will be difficult enough in any case, as well as CTBT ratification. Thus a multilateral nuclear weapon reduction negotiation involving the five NPT nuclear weapon states and in some way the three others, India, Pakistan and Israel, could be well off to the further future. And there will be seriously diminished chances for CTBT ratification in the foreseeable future. The only hope in the near term for this latter issue is personal involvement by President Obama directly negotiating with key Senators one by one. Hopefully, the positive outcome at the recent NPT Review Conference will mitigate any short-term damage to the NPT from CTBT entry into force not yet being achieved.

In May the important five year review of the NPT took place in New York. This Review Conference was of special importance because of the refusal of the U.S. to accept the commitments to nuclear disarmament made at the 1995 NPT Review and Extension Conference, at which the NPT was indefinitely extended and their reaffirmation at the 2000 Review Conference and the resultant failure of the 2005 NPT Review Conference. But there could not have been a positive outcome to the NPT Review Conference this spring unless the issue brought forward by Egypt of the need for progress toward a Middle East zone free of nuclear weapons and other weapons of mass destruction could be resolved. This is not a new issue, I personally dealt with it extensively in leading U.S. government efforts directed toward achieving a permanent NPT in 1995. Many times I met with the then Egyptian Foreign Minister, his Excellency Amr Musa, and listened to his concerns about the Israeli nuclear program and his belief in the importance of a nuclear weapon free zone in the Middle East, even better a zone free of all weapons of mass destruction. This issue was resolved in 1995 by the inclusion in the Statement of Principles accompanying NPT indefinite extension a reference to the importance of achieving a nuclear weapon free zone in the Middle East as well as a Separate Resolution of the Conference appealing to all states in the Middle East that were not yet NPT parties to join the Treaty and to work toward such a Middle East zone free of nuclear weapons and all other weapons of mass destruction.

This year Egypt said that this was no longer enough. Egypt proposed a conference in 2011 for all Middle Eastern states, which would have included a negotiating mandate, to attempt to achieve a treaty establishing a zone in the Middle East free of nuclear weapons and all other weapons of mass destruction. The United States, which in the past has never supported such a conference, actively offered in return to support such a conference, on the condition that it not include a negotiating mandate. This led to a long diplomatic struggle between the United States and Egypt in the early months of this year. The U.S. had some reason to believe that Israel would attend such a conference as long as the conference was not given a negotiating mandate. Iran was also expected to attend should such a Conference take place, bringing together the Middle Eastern states to discuss nuclear disarmament.

In the final week of the Review Conference Egypt and the United States were able to reach a compromise solution: the conference will take place but in 2012, not 2011, and it will not have a negotiating mandate. The United Nations Secretary General, together with Britain, Russia and the U.S. (depositories of the NPT and co-sponsors of the 1995 NPT Resolution in the Middle East) were charged with identifying a 'host government' and appointing a facilitator to organize preparations for the 2012 Conference.

Also important was the reaffirmation at the Review Conference of the various disarmament measures agreed at the 1995 and 2000 Review Conferences as well as the successful pressure

placed on Iran to inhibit from blocking consensus agreement on the Final Document of this year's Review Conference. All in all it was a successful Conference but in the background, although not agreed, was the insistence by 125 NPT parties that negotiations begin soon on an agreement abolishing nuclear weapons. If such negotiations have not begun by the next NPT Review Conference in 2015 the outcome of that Conference could be different.

But the NPT remains in crisis, in part because of the failure of the disarmament agenda, in part because of the continuing high political value of nuclear weapons whereby the possession of nuclear weapons are seen as the distinguishing feature separating great powers from other states. And we should all always remember that without the NPT disarmament is nothing.

Two Problem Cases: Iran and North Korea

At this point it might be useful to look at the two current problem cases, Iran and North Korea, that are threatening to break open the NPT regime and unleash the wide-scale nuclear proliferation that President Kennedy so greatly feared.

The nuclear program in Iran has a long history. The Shah was interested in developing a substantial nuclear power capability, which made the nuclear option possible through the reprocessing of spent fuel. The Atomic Energy Organization of Iran was established in 1974 and in 1976 the Shah's government reached agreement with Siemens of Germany to build two reactors at Bushehr near the border with Iraq. This was not controversial in the West as Iran in those years was seen as an ally against the aggressive forces of totalitarian Communism, bent on world domination. Indeed a conservative columnist of the day wrote an article in which he said that U.S. policy was misguided, rather than pursue nonproliferation, the U.S. should pursue controlled proliferation to ensure that the "good guys" got nuclear weapons and the "bad guys" did not. The first two candidates that he recommended to receive nuclear weapons as "good guys" were Iran and Yugoslavia.

After the Islamic Revolution, Ayatollah Khomeini opposed the acquisition of nuclear weapons on religious grounds and thus abandoned the Bushehr reactor project. However, toward the end of the devastating 1980-88 Iran-Iraq war, the policy of Iran changed. Germany declined to return to the reactor project after the war and Iran invited Russia to rebuild the two unfinished reactors which had been badly damaged during the war. Thus began a close Russian-Iranian commercial nuclear relationship which has continued to the present day. Meanwhile, already by the early 1990s A.Q. Khan, the rogue Pakistani proliferator, had been in contact with the Iranian leadership.

The United States has been concerned about the Iranian nuclear program for many years and has tried innumerable times, with limited success, to reduce Russia's involvement in it. In 1992, Director of Central Intelligence Gates testified to Congress that Iran was seeking nuclear weapons and might acquire them by the year 2000. Iran was attempting to purchase sensitive nuclear technology from Argentina and China; these sales were blocked by the United States as a result of diplomatic approaches to both countries. The Iranian program seemed to slow somewhat during the 1990's and by 1997 the Clinton Administration was predicting that Iran would not be in a position to build a nuclear weapon before 2005. Until the year 2000, the U.S. was relatively uninformed concerning the expanding cooperation between Iran and the A.Q. Khan network. Iran was acquiring centrifuge technology from the Khan network for the purpose of uranium enrichment at its facilities being built at Nantanz and not reporting these acquisitions to the International Atomic Energy Agency as required by its NPT Safeguards Agreement.

In 2002, the existence of a heavy water reactor program at Arak, along with the enrichment facilities at Nantanz, were revealed to the world by the National Council of Resistance of Iran,

the political arm of the People's Mujahedin known as the MEK. The MEK had been a terrorist organization operating in Iran and was listed as such by the United States for many years. It was expelled from Iran in the 1980's to Iraq where it became a wholly owned subsidiary of Saddam Hussein. Thus, the source was suspect, but the facts apparently were real.

The Nantanz facility, construction of which began in 2000, included a pilot enrichment plant, which could house some one thousand centrifuges and a large underground facility eventually intended for perhaps fifty thousand centrifuges, where Iran could enrich on an industrial scale and produce enough highly enriched uranium for in the range of 20 weapons a year or more. The heavy water reactor at Arak, when operating, potentially could produce plutonium sufficient in amount for one to two weapons per year. It will be approximately the same size as the North Korean reactor that has fueled that country's nuclear weapon program.

Disclosure of the nuclear facilities led Iran to accept IAEA inspections at Nantanz and Arak and other places. With the increased inspections and Iran's admission of having violated its Safeguards Agreement, Iran also agreed to enter into negotiations with the European Union represented by Britain, France and Germany. The EU sought Iran's agreement to suspend enrichment, which Iran was unwilling to do for more than a relatively brief period. Iran has insisted that its program is peaceful, and that it has an "inalienable right" to peaceful nuclear technology guaranteed by the NPT. Iran took a somewhat harder line in negotiations after the election of Mahmoud Ahmadinejad as President in 2005. Negotiations were very much on and off again; over time the United States was able to forge a consensus among the UN Permanent Five (U.S., U.K., France, Russia and China) to pass resolutions sanctioning Iran – one in late 2006 and a second in the spring of 2007. A third was passed in early March of 2009 but those sanctions had little effect.

The United States seemingly has not been willing to offer Iran the same "carrots" (diplomatic relations and guarantees against attack) that it has offered North Korea. Washington may believe that such incentives would not work with the current Iranian leadership. Meanwhile the domestic audience in Iran has become convinced that Iran's nuclear program is essential to Iran's development and a matter of national pride. This continues even after the emergence of the "green" movement in Iran.

In the fall of 2009 an agreement was developed at the IAEA whereby Iran would transfer most of its stocks of low enriched uranium to Russia to be modified to up to about 20 percent enriched suitable for Iran's research reactor which makes medical isotopes. After enrichment modification the uranium would be transferred to France for fabrication into research reactor fuel and then returned to Iran. This agreement would have significantly reduced Iran's bomb making ability for about a year while fulfilling an Iranian requirement. The Iranian representative agreed to it in Vienna but it was quickly disavowed by Tehran. At this time president Obama's one year negotiating with Iran timeframe has long since expired, stalemate reigns, the Iranians continue to move ahead (albeit with some doubts expressed internationally about the rapidity of progress of the program), and the Israelis periodically hint at a military option.

A new tripartite Agreement was signed by the Presidents of Iran and Brazil and the Prime Minister of Turkey in May, 2010. It was similar to the IAEA Agreement but was less attractive in that with the passage of time Iran had more enriched uranium and thus the agreement would affect only half of Iran's supply. Iran would have deposited 1200 kg – over half of its current supply of low enriched uranium (in the 2-4 percent range) in Turkey for "safekeeping" under IAEA Safeguards. In return Iran would receive in one year 120 kg of medical research reactor fuel enriched to 19.75 percent supplied by the "Vienna Group" (U.S., France, Russia, the IAEA). Nothing else would have been affected. Iran would continue to enrich, both to 2-4 percent as well as to 19 percent. The Permanent Five were not interested – particularly the United States

– and released a new draft Resolution for a fourth round of sanctions the next day, which was passed later in the week. Not much has happened since. Iran continues to move ahead, hampered however by sabotage and a computer worm successfully aimed at its nuclear technology. In the last few days a meeting was held in Geneva between the Permanent Five, plus one (Germany) and Iran at the Foreign Ministers/Secretary of State level, but the Iranians said it was not supposed to address the nuclear issue.

Iran asserts that their program is peaceful, that they are only interested in nuclear power but the entire history of their program appears to be largely inconsistent with that assertion. Beginning with the Shah in the 1970's there was an apparent interest in the prestige and power associated with nuclear weapons. When Ayatollah Khomeini disowned an interest in nuclear weapons the Bushehr reactor program was put on the shelf, when Iranian policy changed the reactor project was revived. A.Q. Khan was not known as a promoter of nuclear power, he was selling nuclear weapon capability. Iran had a nearly 20 year clandestine relationship with him and acquired from him centrifuge enrichment technology and possibly the design of a Chinese nuclear weapon – the same one Khan supplied to Libya. Having an enrichment capability to fuel two reactors – we don't see Iran building any more at this time – is one thing. Constructing an industrial scale facility capable of producing material for more than 20 nuclear weapons a year is quite another. And how does a heavy water reactor producing plutonium relate to the electricity grid?

And there are other indicia such as the many links of the nuclear program to the military, as well as constantly changing explanations and the destruction of evidence and buildings before inspection. The assertion of an "inalienable right" to peaceful nuclear technology is not relevant in this case. The NPT does grant such a right but only to NPT parties in compliance with their NPT nonproliferation obligations. Iran has twice been found by the IAEA to be in violation of NPT related obligations and the Iran case has been referred to and is in the hands of the UN Security Council. So until a nuclear explosive test removes all doubt, or until a settlement satisfactory to all of the negotiating parties positively resolves this issue, one must prudently assume, based on existing evidence, that the Iranian objective is in reality the achievement of nuclear weapons or at least a nuclear weapon technical capability from which status weapons could be quickly produced if desired.

And why might Iran want nuclear weapons? Undoubtedly it would be to increase Iranian influence in the Middle East, that would certainly be a prime objective. Second, Iran likely was impressed that of its two other fellow members in the so-called Axis of Evil Club, the one without nuclear weapons was attacked, the one with such weapons was not. Iran could see a nuclear weapon program as some insurance against a future attack. Third, Iran is a Shia Muslim state, Pakistan is a Sunni Muslim state. If a radical Sunni regime ever took power in Islamabad and came into possession of Pakistan's nuclear arsenal, Iran would have a right to be fearful. After Pakistan's nuclear tests in 1998 former President Rafsanjani said "This is truly a dangerous matter and we must be concerned." And lastly, and in some sense perhaps the most important reason, since early in the Cold War the possession of nuclear weapons has distinguished great powers from other states, and this political value of nuclear weapons has not declined since the end of the Cold War despite urgings that nuclear weapons should play a lesser role in the security policies of states. The UN Permanent Five are the five nuclear weapon states authorized by the NPT. British Prime Minister Harold MacMillan said in 1958 that the British program "puts us where we ought to be...in the position of a great power." President Charles De Gaulle of France said in 1961 that "a great state" that does not possess nuclear weapons when others do "does not command its own destiny." Prime Minister Vajpayee of India indicated in 1998 after the Indian tests that India now was a truly important country since "We have a big bomb now. India is a nuclear weapons state." When the Permanent Five met in Paris to fashion a response to the Indian and Pakistani tests, there were reports that Germany and

Japan sought to come as well but were told no at some level since they were not nuclear weapons states.

Iran is a proud country, the Persian cultural heritage is one of the richest in world civilization. The Persian Empire was once the world's most powerful. If former provinces and client states of the Empire now have nuclear weapons, why shouldn't Persia, or Iran, itself? The view may be that Iran deserves to be a great power. As former president Lula of Brazil put it in his first presidential election campaign, "What Brazil needs is respect and the way one achieves respect in this world is to acquire nuclear weapons."

So what does all this mean for Western Policy? It appears that sanctions may have run their course. They have not been effective, they have not changed Iranian behavior. The new sanctions also seem unlikely to change Iranian behavior. And Russia and China probably will be opposed to further sanctions.

The military option does not seem practical either. Secretary Gates has said that it would only delay the Iranian program for "a few years." Anything more than causing a temporary delay would seem to require something truly massive, conceivably months of sustained bombing coupled with an invasion by at least Special Forces and perhaps main line military units. This will not happen. And in any case Iranian retaliation would be severe. Probably they would begin with attempts to devastate Gulf State allies of the West with missiles and bomber attacks. And who would know what to expect from Hezbollah? But there is a caveat here, apparently some Israeli leaders, including the Prime Minister, see the Iranian nuclear program as an "existentialist" threat. Thus, they may, at some point, be willing to risk general war in the Middle East just to delay Iran "a few years" and hope something will happen to the program in the interim. The result could be disastrous.

All this being the case, perhaps Western policy should be to try to continue negotiations in the hope that something will come from that someday and at the same time pursue policies to slow the Iranian program so as to create more time; time may in fact in this case be a friend. Seventy percent of the Iranian populace is under 30 with no personal experience of the events that began the long-standing hostile impasse. All this being said, however, we all may have to deal with this regime a long time. Thus, it would be wise to begin planning how the West might cope with a nuclear armed Iran.

Some argue that classic Cold War deterrence would be the policy to follow. President Clinton said on Larry King's show over a year ago that he didn't worry about Iran using nuclear weapons rather he was concerned about the effect of an Iranian bomb on proliferation in the region and on the NPT. If the Iranians ever used a nuclear weapon against the U.S. or its allies President Clinton said, the day before they did that would be "their very best day."

But there is a problem with deterrence. On the surface, echoing President Clinton and harking back to Cold War experience, it would appear to be a workable policy. But someday, if in fact the Iranians do go all the way to stockpile nuclear weapons, they probably also will develop nuclear capable ballistic missiles that can strike Europe and eventually the United States. For a nuclear umbrella to work it has to be credible. Even during the Cold War doubts were expressed by some as to the reliability of the American deterrent, General de Gaulle is famously said to have asked "Will Americans risk New York to save Paris?" He obviously thought not, hence the Force de Frappe and thus his was not an idle comment. There was a poll conducted many years ago that concluded that the American people favored going to war to save no other country, including the UK, France, Israel and so on, except for one – Canada – and that was a close vote. So if the Americans were thought by some with at least some justification, not to be

willing to risk New York to save Paris during the Cold War, what would the Saudis think about American willingness to risk New York to save Riyadh now?

So where this leads is where it led De Gaulle – to nuclear proliferation. Certainly Saudi Arabia and Egypt would want nuclear weapons. Turkey, as a NATO member might or might not, but would the NPT survive such proliferation? There could be other states in the region as well that would see nuclear weapons as a necessary option under such circumstances. And of course a sophisticated nuclear weapon program already exists in the region.

However, international respectability appears to be important to the government of Iran. If in fact the Iranian program is directed toward nuclear weapons, perhaps even so the government of Iran can be persuaded to stop short of actually building weapons but settle for a recognized nuclear weapon capability. Iran would have the capability but it might also thereby be able to retain more international respectability. This, of course, would not be the best result but it would be a far safer outcome for everyone than an Iranian nuclear weapon stockpile and it would not necessarily automatically result in further nuclear weapon proliferation.

As is obvious, Iranian acquisition of nuclear weapons, or even a nuclear weapon capability, will cause many international complications. Since the primary cause of all this is the unremitting hostility of successive Iranian Islamic Republic governments, maybe someday all this will cease, Iran will become more of a country than a cause, and these sorts of calculations will no longer need to be made. But such a change is certainly not likely in the near term.

Now more briefly on North Korea; the Obama administration inherited a terrible situation in this case. North Korea has conducted two nuclear weapon tests, the second partially successful coming in at six kilotons. It has a fleet of reasonably accurate ballistic missiles which possibly could deliver nuclear weapons from its stockpile – now estimated at between 10 and 12 weapons – onto regional cities. In October it revealed a new uranium enrichment plant giving it a second path to nuclear weapons. And it has in recent months attacked South Korea twice causing death and destruction with the South Korean President publicly vowing that the next attack will bring, in effect, total war. Seoul and Tokyo at some level have to fear nuclear attack. Japan could build nuclear weapons in months, South Korea in about a year. This is another place where the NPT could fail.

The Bush administration inherited a situation with the DPRK in January, 2001 where the long running crisis was contained and there existed a road toward resolution. At the end of the Clinton Administration the DPRK had in its possession perhaps enough plutonium for one or two nuclear weapons but the plutonium program was capped and contained by the Agreed Framework Agreement. The U.S. was beginning to learn the details of North Korea's illicit bargaining with A.Q. Khan but at this stage the DPRK had not actually done much with its uranium enrichment nuclear weapon program beyond receipt of the centrifuge technology from Khan and related research. There was near agreement on termination of the North Korean missile program, both the domestic and for export parts, and progress had been made toward some sort of broad settlement with North Korea which, however uneasy, might have at least removed the DPRK from the ranks of rogue nations.

However, the new administration entered office with the view that there should be no negotiations with "evil," rather it should be overthrown. Regime change was the way to go. And the new president upon taking office early on asserted that because of his oppressive internal policies he "loathed" the North Korean dictator Kim Jong-il who apparently at the time had been ready and was still working to try to reach a sort of peace with the United States. And the Administration needed North Korea as the poster child for its cherished missile defense program. The new administration seemed to think that missile defense and regime change were better policies to pursue than peace with North Korea. The results that flowed from this

world view was that the Agreed Framework was destroyed, the emerging agreement on missiles was put aside, the DPRK was energized to actively pursue uranium enrichment, a peace process became a descent toward severe antagonism and confrontation, and North Korea withdrew from the Nuclear Non-Proliferation Treaty. The situation became completely unconstrained while North Korea twice conducted plutonium reprocessing from its Yongbyon reactor increasing its near-term nuclear weapon potential from one to two weapons to eight to ten weapons, an act that the Clinton administration was prepared to go to war to prevent.

Now there is no Six Party Nuclear Disarmament Process for North Korea and there is an active ballistic missile development program. North Korea has conducted two nuclear weapon tests, and has declared that it is a nuclear weapon state. These are developments deeply contrary to U.S. and world security interests and who knows if North Korea now will ever give up nuclear weapons, and allow this dangerous problem to be solved.

Nevertheless, in spite of all these serious threats, none of which are new, this remains a time of promise because of the commitment of President Obama and his administration and the widespread support for progress on nuclear arms control and nonproliferation in the international community as well as the growing support for Global Zero as many call it. Of course it is also a time of great difficulty because of the many overwhelmingly serious crises that were left at the end of 2008 and against which only limited progress has been made, such as the world economic downturn, climate change, Afghanistan, Iraq and Palestine, in addition to the three I have discussed tonight, Iran, North Korea and the NPT. The polarized political situation in the United States is a serious obstacle to progress and much time has passed. Great damage to the disarmament process has been sustained and the proliferation crises seem to grow steadily more dangerous. But while the hour is growing late, it is not too late. Success remains possible; that safer and more secure world that all of us want can still be built. We must not give up. In a real sense we must all truly keep the faith and, to paraphrase a famous British statesman, never, never give in.