

Restoring Canada's Leadership in Nuclear Arms Control and Disarmament

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The Group of 78 Annual Conference

GETTING TO NUCLEAR ZERO: BUILDING COMMON SECURITY FOR A POST-MAD WORLD

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Albert Einstein when asked why physicists were able to invent nuclear weapons but politicians were hard pressed to control them, said *"Because politics is more difficult than physics"*. That remains the crux of the problem – the science and technology already exists to dismantle and eliminate nuclear warheads and associated weapon-usable materials; what are lacking though is the political commitment, leadership and engagement to realize a world without nuclear weapons.

General Lee Butler, the last Commander of the US Strategic Air Command (SAC)¹ at a speech in Ottawa, on 11 March 1999 to the Canadian Network Against Nuclear Weapons, cited WWII General Omar Bradley, who had said on Armistice Day 11 November 1948 that, *"We live in an age of nuclear giants and ethical infants, in a world that has achieved brilliance without wisdom, power without conscience. We have solved the mystery of the atom and forgotten the lessons of the Sermon on the Mount. We know more about war than we know about peace, more about dying than we know about living. If we continue to develop our technology without wisdom or prudence, our servant may prove to be our executioner."* Recent statements at the United Nations General Assembly and elsewhere, by the Twitter Man and the Rocket Man, certainly reflect the prescience of General Bradley's words nearly 70 years ago.

The Group of 78

Before going further, I should like to thank The Group of 78 for inviting me to their 2017 Annual Conference and for extending the honour and privilege to speak this evening on the greatest issue facing Canadians and the global community today – the prevention of nuclear war and the prohibition of nuclear weapons.

The Group of 78 was founded in 1980 by visionary Canadians to promote Canadian and global action for peace and disarmament, equitable and sustainable development, and a strong and revitalized United Nations system.

As the name implies, in November 1981, 78 prominent Canadians sent a statement on Canadian Foreign Policy to Prime Minister Pierre Elliott Trudeau on building of a peaceful and secure world. You might

¹ The US Strategic Air Command was created on 21 March 1946. With the end of the Cold War, on 1 June 1992, SAC was stood down and that same day U.S. Strategic Command was established.

recall that the election in 1980 in the United States of Ronald Reagan as President had raised fears globally of a renewed nuclear arms race with the Soviet Union that had alarmed Prime Minister Trudeau to the extent that he embarked on a global peace tour to promote his strategy of suffocation of the nuclear arms race launched at the first UN Special Session on Disarmament (UNSSOD I) in 1978. While “sunny ways” are back in Canada, sadly no concern about a renewed nuclear arms race!

78 is an important number for me personally, as it was in September 1978 that I arrived in Canada to start a doctoral programme at Carleton University, here in Ottawa. As is 81, because in 1981, I transferred to the University of Toronto fleeing from the irrelevance of quantitative international relations that had so captured the Political Science department at Carleton. Coming out of the higher education system of one of Canada’s mother countries, the correlates of power, composite indicators of national military capabilities to explain conflict based on six indicators - military expenditure, military personnel, energy consumption, iron and steel production, urban population, and total population – you get it, had precious little relevance for my thinking on understanding or addressing the great international security questions of the day. Before offending Ottawans or Carletonians any further, I hasten to add that I returned to Ottawa in 1986 to join the (then) Canadian Centre for Arms Control and Disarmament – an independent think-tank on Canadian and international security policy, partly funded by the then Department of External Affairs and International Trade Canada (EAITC) – where I spent many happy years before the Centre folded given the funding cuts imposed by Prime Minister Brian Mulroney’s government. Among the Centre’s achievements among others were the creation of the Arctic Council, rejection of participation in the ill-fated Strategic Defence Initiative, and cancellation of the ill-advised policy to acquire nuclear-powered submarines (given the pathetic state of repair of the Canadian Navy’s four used diesel submarines offloaded by the Royal Navy, it’s just as well that the nuclear subs were abandoned).

I mention the Canadian Centre for Arms Control and Disarmament as in common with The Group of 78; it attracted the support of several visionary Canadians from all walks of life – among them, Ambassador Peggy Mason, The Hon. Senator Douglas Roche, the late Admiral Robert Falls, Paul Martin (who went on to become Prime Minister), Lloyd Axworthy (later foreign minister) and others. At this stage I must acknowledge my debt to Ambassador Peggy Mason, then Ambassador for Disarmament, as it was she who included me in Canada’s delegation to the 1987 meeting of States parties to the nuclear Non-Proliferation Treaty (NPT) held in Geneva and that gave me my start in international nuclear diplomacy. A belated but sincere thank you to you, Peggy.

Returning to The Group of 78 and its founding principles of: 1) removal of the threat of nuclear war; 2) the mobilization of world resources to achieve a more equitable international order and bring an end to the crushing poverty which is the common lot of the majority in the Third World; and, 3) the strengthening and reform of the United Nations and other global institutions designed to bring about a pacific settlement of disputes, foster international cooperation, promote the growth of world law and the protection of basic human rights; allow me to focus my comments today on aspects of nuclear governance as it pertains to nuclear weapons and some suggestions regarding restoration of Canada’s leadership in this field.

Nuclear Weapons and Related Risks

The depressing reality today is that nine States—China, France, India, Israel, North Korea, Pakistan, Russia, the United Kingdom and the United States—possess approximately 4,150 operationally deployed nuclear warheads. In all, these States together possess a total of approximately 14,935 nuclear warheads. It is important to recognize that the unit of measure should be nuclear warheads not delivery system.



Though the five nuclear-weapon States have undertaken a legally binding obligation pursuant to Article VI of the nuclear Non-Proliferation Treaty (NPT) to disarm, they have not and continue not to engage in any meaningful discussion on nuclear disarmament in any multilateral forum other than the NPT review process. There is the Russia-US track which has yielded several nuclear arms limitation and reduction treaties, but these have been concluded under a bilateral track and not pursuant to implementation of NPT Article VI. The four other nuclear-armed States absent any binding commitment are not accountable in any forum. Worst yet, divisions between the nuclear-armed States and the non-nuclear-weapon States and amongst the non-nuclear-weapon States themselves are at their worst since the NPT entered into force in 1970.

De-alerting Nuclear Weapons

With regard to the specific risks associated with nuclear weapons, there is no better analysis than that in the report of the *Global Zero Commission on Nuclear Risk Reduction: De-Alerting and Stabilizing the World's Nuclear Force Postures* that was launched and presented during the 2015 NPT Review Conference – unfortunately not many NPT delegations were in attendance. The Global Zero Commission was chaired by the former Vice Chairman of the US Joint Chiefs of Staff General James Cartwright and included some 30 diplomatic and military experts, drawn from nearly all of the nine States currently deploying nuclear weapons; supported by more than 75 former national security experts and military commanders, as well as senior political officials. Some of the risks of nuclear weapons highlighted by the Global Zero Commission that still persist include:

- Fifty per cent of deployed Russian and US strategic nuclear forces are maintained on continuous ready-to-launch high-alert – nearly 1,800 nuclear warheads are on launch-on-warning status. The current nuclear modernization programmes in both Russia and the US essentially are replicating the inherently risky legacy Cold War postures with new weapons systems. Former US defence secretary William Perry and former US senator Sam Nunn continue to sound the alarm in this regard and have been active in promoting de-alerting.
- Disciples of nuclear deterrence theory continue to maintain that leaders behave more cautiously in the face of real risks of loss of control and apocalyptic threats to their homeland. In practice, deterrence is a poor construct for reducing operational nuclear risks; nuclear weapons have become tools of coercive diplomacy, blackmail and other intimidation and such risky behaviour has been on display in past nuclear confrontations such as the Cuban missile crisis of 1962, the Arab-Israeli war of 1973, and the current ongoing DPRK-US confrontation.
- Stuxnet and other cyber-attacks on Iran’s nuclear facilities have let the genie out. Growing risks of cyber-attack are increasing. Nuclear weapon deployment and storage sites, critical early-warning, command and control systems, are not immune to cyber-attack. All computer systems are vulnerable to theft of sensitive information, interruption or spoofing of critical communications, manipulation of security and warning systems, or catastrophic acts of sabotage.

General Butler quoted earlier recalled that as a principal nuclear advisor to the President of the United States, he was required to be prepared on a moment’s notice, day or night, 7 days a week, 365 days a year to be within three rings of his telephone and to respond to this question from the US President: “General, the nation is under nuclear attack. I must decide in minutes how to respond. What is your recommendation with regard to the nature of our reply?”

Butler stated that *“in the monthly exercise known as a missile threat conference, virtually without exception the scenario encompassed one, then several dozens, then hundreds and finally thousands of inbound thermonuclear warheads to the United States. By the time that attack was assessed, characterized and sufficient information available with some certainty in appreciation of the circumstances, at most he had 12 minutes to make that decision. 12 minutes. The prospect of some 20,000 thermonuclear warheads being exploded within a period of several hours. Sad to say, the poised practitioners of the nuclear art never understood the holistic consequences of such an attack, nor do they today.”* Earlier this month, former US defence secretary William Perry said that, *“... we have today the situation where one person, the President of the United States, can give a command which nobody can override, which would launch all of our missiles, would basically start a nuclear war which could end our civilization.”*

Russian President Vladimir Putin reportedly has said that in such a scenario the last 2-3 minutes would be taken over by machines with little chance of override. And, every United Kingdom prime minister hand writes four letters - one for each ballistic missile nuclear submarine; it is not known exactly what they say, but could order a full nuclear strike. As for the other nuclear-armed States we have very few clues. Clearly not a satisfactory situation, especially for Canadians in such close proximity of the US. It is

regrettable in my view that most of the nine nuclear-armed States are modernizing their nuclear forces, without reducing dependence on high-alert systems or are going for nuclear forces that lower the threshold for use including for systems that blur the operational differences between nuclear and conventional weapons. De-alerting of removing all deployed nuclear forces from ready-to-launch operational status especially by Russia and the US should be a high priority for Canada. An international “de-alerting” agreement could greatly mitigate the manifold risks of nuclear weapons launch, including from computer error, cyber-attack, accidental release, unauthorized “insider” launch, false warning of enemy attack and crisis nuclear decision-making.

Nuclear Risk Reduction

Reducing the risks created by nuclear weapons has been high on the global agenda for decades. These risks include, but are not limited to, accidental detonation whether by accident or design, systems failure, political or military miscalculation or adventurousness, or terrorist use. In recognition of the risk of accidental launch of nuclear weapons, the US and the USSR set up the “Presidential hot line” in 1963 in the aftermath of the October 1962 “Cuban missile crisis”.

The concept of “Nuclear Risk Reduction” was first proposed by a working group co-sponsored by US Senators Sam Nunn and John Warner in the mid-1980s that envisaged the creation of Nuclear Risk Reduction Centres (NRRC) as a means of lessening Cold war tensions between the US and the USSR. This concept of risk reduction was discussed at the November 1985 Geneva Summit between US President Ronald Reagan and USSR General Secretary Mikhail Gorbachev. On 15 September 1987, US Secretary of State George Shultz and USSR Foreign Minister Eduard Shevardnadze signed the NRRC Agreement signed in Washington. The two NRRCs established the first direct communications link between the two capitals since the hot line, established the exchange of ballistic missile launch notifications. Under the 1987 Intermediate-Range Nuclear Forces (INF) Treaty the NRRCs also were tasked to exchange INF messages related to inspections, eliminations and conversion activities, and a comprehensive database.

Cooperation between Russia and the US to deal with the so-called Y2K problem, or Millennium Bug, led to the setting up of the Joint Strategic Stability Centre at Peterson Air Force Base in Colorado during the Year 2000 transition period. This was followed in June 2000 by a Memorandum of Agreement Between the United States of America and the Russian Federation on the Establishment of a Joint Centre for the Exchange of Data from Early Warning Systems and Notifications of Missile Launches (JDEC MOA), to minimize the consequences of a false missile attack warning and to prevent the possibility of a missile launch caused by such false warning.

It would be advisable for Canada to propose establishment of Global Nuclear Risk Reduction and Strategic Stability Centres with the participation of the nuclear-armed States to reduce the risks and dangers associated with nuclear weapons, especially those on high alert. If Centres of Excellence can be established to strengthen security of civilian nuclear materials, it stands to reason that serious consideration must be given to risk reduction and strategic stability centres to increase security and safety of nuclear weapon systems pending their dismantlement and elimination.

Deterrence and Extended Deterrence

The history of the Cold War is replete with compelling evidence of the pernicious effects of the open-ended quest for nuclear deterrence—this was one of the conclusions reached by Professors Janice Stein and Richard Ned Lebow in their detailed 1995 study entitled *We All Lost the Cold War*, more recently Ward Wilson reached similar conclusions in his book *Five Myths About Nuclear Weapons* (2012), and earlier by US presidential adviser McGeorge Bundy in his seminal work *Danger and Survival* (1988). The ultimate irony of nuclear deterrence may be the way in which the strategy of deterrence undermined much of the very political stability that the reality of deterrence should have created.

It might surprise this audience to learn that in the 1960s when US Defence Secretary Robert S. McNamara adopted “mutual assured destruction” (MAD) as the official US strategic doctrine based on a US capability to destroy 50 percent of the USSR’s population and industry in a retaliatory strike, he recommended to Soviet Premier Alexei Kosygin in 1967 that the USSR develop a similar capability to ensure stable deterrence. Equal opportunity, balance of terror in other words, to be disrespectful of their citizens’ lives. Despite their best efforts the supporters of the concept of nuclear deterrence cannot prove that nuclear weapons preserved the peace in Europe or elsewhere.

Discussion of nuclear disarmament tends to be hampered by faith-based fervour at the altar of deterrence and stability. Nuclear deterrence was and continues to be based on readiness for war fighting that targets predominantly civilians. This is not surprising as the use of nuclear weapons in war, in Hiroshima and Nagasaki, led to nearly exclusively civilian deaths and casualties.

International Humanitarian Law Dimensions of Nuclear Weapons

Nuclear deterrence as practiced during the Cold War and also at present is based on targeting cities, i.e. holding civilians hostage. This is the logical evolution of the area targeting of cities and civilians during the Second World War – USAF General Curtis “Bombs Away” LeMay and Marshal of the Royal Air Force Sir Arthur Travers “Mad Bomber” Harris pioneered systematic strategic bombing of cities that led eventually to the nuclear bombing of Hiroshima and Nagasaki. This experience was later encapsulated in evolving nuclear deterrence strategy based on long-range bombers and later supplemented by intercontinental ballistic missiles – recall the McNamara strategy of MAD alluded to earlier. This legacy is still with us and it is unfortunate that the all the nuclear-armed States remain enamoured with the targeting of cities and civilians – counter-force targeting, i.e. targeting military capabilities is secondary. There are no scenarios that in any way warrant nuclear strikes, let alone on cities and civilians – not only should the use of nuclear weapons, but also the threat of use of nuclear weapons, should be regarded as a crime against humanity if we are to survive in a civilized world.

It is unfortunate that in the current nuclear standoff between the DPRK and the US, threats of nuclear attacks are being exchanged by the Rocket Man and the Twitter Man without any concern for international legalities or unacceptable civilian casualties. Some US senators have advocated a nuclear attack on the DPRK “*as the casualties would be over there*” and not in the US! It is regrettable that international law abiding countries such as Canada have remained silent. “*A nuclear war cannot be won and must never be fought*” to quote Ronald Reagan (1984 State of the Union). Earlier, President John F.

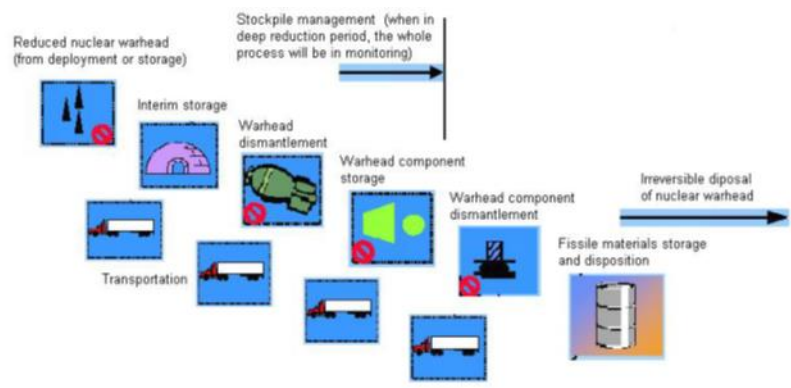
Kennedy had said following the 1962 Cuban Missile Crisis: “Above all, while defending our own vital interests, nuclear powers must avert those confrontations which bring an adversary to the choice of either a humiliating defeat or a nuclear war.”

Proliferation cannot be contained in a world where a handful of self-appointed nations both arrogate to themselves the privilege of owning nuclear weapons, and extol the ultimate security assurances they assert such weapons convey, as noted by General Lee Butler (4 December 1996).

Verification of transparency measures

Verification of transparency measures, in particular of nuclear warhead dismantling and elimination, remains a major challenge. There are both legal and practical impediments. Pursuant to Articles I and II of the NPT, it will not be legally possible to share classified nuclear weapons information that gets into the complex details of warhead design, fissile material shapes and isotopics, fuzing and firing mechanisms, and safety and security features among other details. From a practical perspective, it is highly unlikely that nuclear-armed States will share nuclear weapon information with their counterparts or adversaries due to military-strategic, as well as legal, reasons. The UK-Norway nuclear verification experiment is a case in point. More importantly, the UK-US cooperation to address technical challenges in verification of nuclear disarmament that goes back more than two decades still faces differences of opinion on key technical matters and the two sides have yet to agree on a methodology to characterize a nuclear warhead as such. The *Joint US-UK Report on Technical Cooperation for Arms Control* noted that “An overarching lesson learned is that the ability to strike a balance between information protection and information sufficiency is key to an effective monitoring and verification regime”.

Nuclear Warhead: Chain of Custody

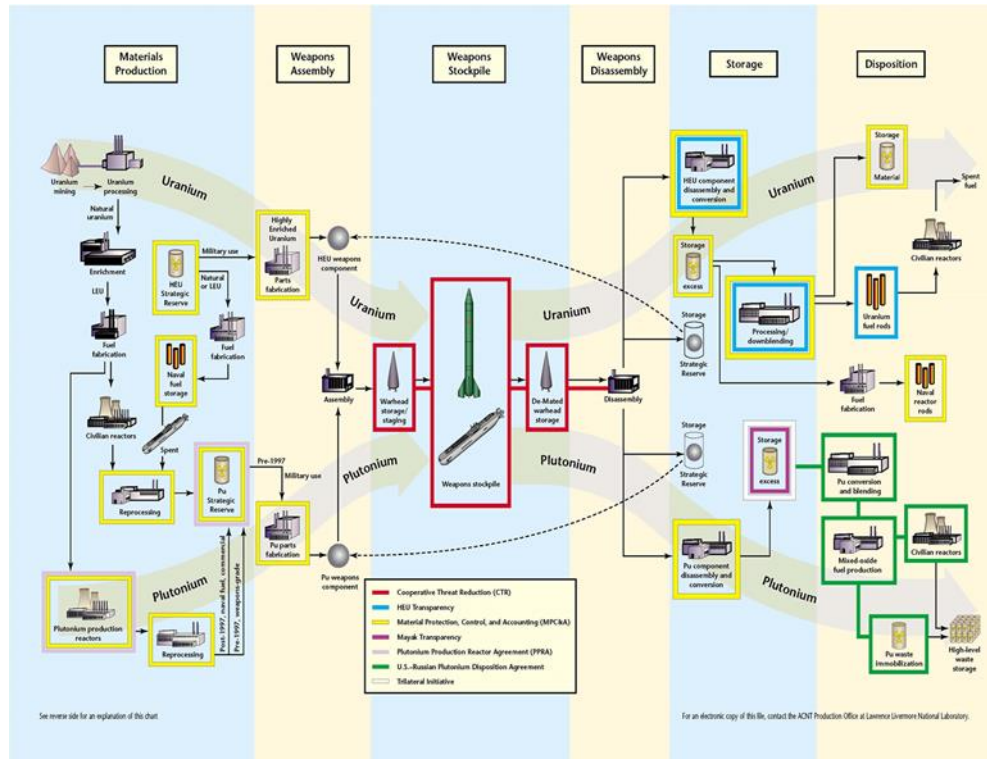


Source: Verification of Nuclear Disarmament: A Presentation by the United Kingdom, UK Working Paper Verification of Nuclear Disarmament, 2003.

Assessing “nuclear warhead: chain of custody” and “nuclear warhead lifecycle” demonstrates that dealing with transparency and verification of nuclear warhead dismantlement and elimination are complex and involved procedures, cloaked in secrecy and protection of confidential information.

Devising workable, credible, scientifically sound and cost-effective verification procedures are likely to be time-consuming and extensive exercises. Few States have the requisite scientific and technological capabilities to contribute to monitoring and verification of nuclear warhead dismantlement, and the only true measure of nuclear disarmament is dismantlement and elimination of nuclear warheads.

Nuclear Warhead Lifecycle



Source: US DoE, NNSA, Office of Nonproliferation Research and Engineering, Technology R&D for Arms Control, Spring 2001.

On 4 December 2014, US Under Secretary of State for Arms Control and International Security Rose Gottemoeller announced a new initiative to develop the tools and technologies in the quest to reduce and eliminate nuclear weapons – the International Partnership for Nuclear Disarmament Verification (IPNDV) to channel expertise from both nuclear-weapon and non-nuclear weapon States to address the complex challenges involved in the verification of nuclear disarmament. Following the inaugural meeting in March 2015 in Washington, the 29 countries including Canada and the EU in the Partnership agreed to form three working groups² to inform closer study on verification issues that exist at all stages of the nuclear weapons lifecycle to build capacity and explore solutions to fundamental nuclear monitoring and verification challenges. It is noteworthy that the chairs of the working groups all come from States

² Working Group One: “Monitoring and Verification Objectives,” chaired by the UK and the Netherlands. Working Group Two: “On-Site Inspections,” chaired by Australia and Poland. Working Group Three: “Technical Challenges and Solutions,” chaired by Sweden and the United States.

that are parties to nuclear-armed alliances or defence arrangements, except for Sweden, and there is no representation from the global South.

In the House of Commons on 8 June 2017, The Hon. Andrew Leslie, Parliamentary Secretary to the Minister of Foreign Affairs, highlighted the IPNDV as one example of positive progress for nuclear disarmament policy and underscored the positive contribution of the IPNDV to help address “doubts and mistrust [that] can and have stalled non-proliferation, arms control, and disarmament talks in the past”. He noted that Canada is contributing of \$175,000 – real Canadian dollars – to build an IPNDV website for the public as well as experts, organize an IPNDV Plenary meeting later in 2017, and provide communications, outreach and administrative support for the IPNDV.

On 5 December 2016, the General Assembly adopted a resolution led by Norway on nuclear disarmament verification. The resolution called on the UN Secretary-General to establish a group of governmental experts of up to 25 participants to consider the role of verification in advancing nuclear disarmament. Pursuant to the resolution, the group would meet in Geneva in 2018 and 2019 for a total of three sessions of five days each. The resolution also called for the development and strengthening of practical and effective nuclear disarmament verification measures, and encouraged the Conference on Disarmament and the Disarmament Commission to substantively address nuclear disarmament verification.

While all these may be worthwhile exercises, given the enormous technical and security challenges of designing a credible and robust verification regime of nuclear warhead dismantlement and elimination it is likely that many years will elapse before the problems can be resolved – if at all. The protracted negotiations on the verification regimes of the Chemical Weapons Convention and the Comprehensive Nuclear-Test-Ban Treaty should be instructive in this regard.

In my view, the practical way forward would be for each of the nine nuclear-armed States to follow the South Africa model – dismantle their own nuclear warheads and make available records for international verification, and place all nuclear material from dismantled warheads under international monitoring and verification – while this is not an ideal solution, let not the good be the enemy of the best.

Fissile Material Production Ban Treaty

On 23 December 2016, the General Assembly adopted a resolution led by Canada on a treaty banning the production of fissile material for nuclear weapons (FMCT). The resolution requested the UN Secretary-General to establish a high-level preparatory group with a membership of 25 States, chosen on the basis of equitable geographical representation, which will operate by consensus to consider and make recommendations on substantial elements of a future non-discriminatory, multilateral and internationally and effectively verifiable FMCT. The group also is expected to draw on earlier work in this field, including the Shannon Mandate (CD/1299) and the report of the previous GGE in 2015, as well as the views submitted by member States (as contained in two reports by the UN Secretary-General). The chair of the high-level preparatory group, Ambassador Heidi Hulan of Canada, is to organize two open-ended informal consultative meetings of two days each in New York. The first of these in 2017 to

consider the report of the GGE. The second in 2018 where the chair will provide her own report on the work of the high-level preparatory group. The final report of the high-level preparatory group is due to be presented to the General Assembly at its 73rd session and to the Conference on Disarmament prior to its 2019 session.

You will recall that a treaty prohibiting the production and stockpiling of nuclear material for nuclear weapons and other nuclear explosive devices has been on the international nuclear non-proliferation and disarmament agenda since the 1950s. In its early iterations and until 1998, the proposals for such a treaty covered only the prohibition of future production and stockpiling of fissile material for nuclear weapons, i.e. a 'fissile material cut-off treaty' (FMCT). Following the nuclear explosive tests first by India, and then by Pakistan, in May 1998, the discussion in the Conference on Disarmament also focused more specifically on a treaty that should cover existing stocks, or past production, of weapon-usable fissile materials, i.e. a 'fissile material treaty' (FMT). In light of current developments, such as the 2005 nuclear cooperation agreement between the US and India, the subsequent "waiver" of restrictions on nuclear exports to India in 2008 by the participating governments of the Nuclear Suppliers Group (NSG) including Canada; the controversy over Iran's nuclear programme resulting in the July 2015 Joint Comprehensive Plan of Action limiting Iran's enrichment and reprocessing capabilities; the earlier undeclared reprocessing activities in the Republic of Korea reported by the IAEA in 2004; the nuclear explosive tests by the Democratic People's Republic of Korea (in 2006, 2009, 2013, 2016 and 2017); and the focus on securing and strengthening the security of weapon-usable nuclear materials as evidenced in the Nuclear Security Summits (2010, 2012, 2014 and 2016), among others, only a FMT covering future production and stockpiling as well as current stocks can contribute inter alia to regional and international security in terms of irreversibility of nuclear disarmament.

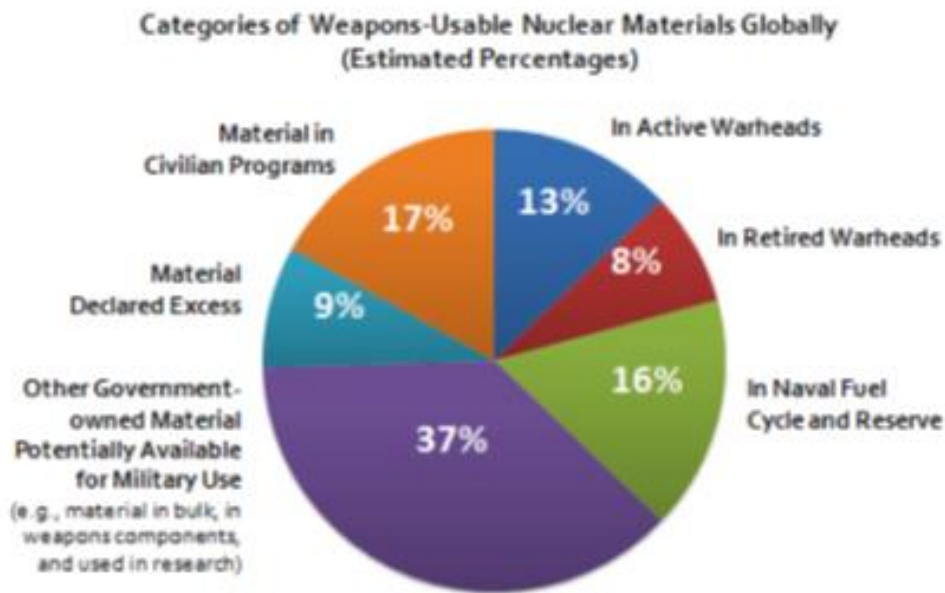
The 24 March 1995 Report of the Special Coordinator (CD/1299), Ambassador Gerald Shannon of Canada, contained an agreed mandate that basically repeated the operative language from resolution 48/75L together with the understanding that all issues pertaining to scope could be addressed in the context of the treaty negotiation. Hence, the key differences were fudged, in particular on the issue of scope – whether the treaty would be limited to banning the future production of fissile material or it also would cover existing stocks of fissile material (a critical area of disagreement in view of the asymmetries in fissile material holdings between the various nuclear-armed States).

In this context, it needs to be recalled that the Shannon report was cobbled together rather quickly as many Western delegations felt it important to achieve some consensus on a FMCT negotiation at the CD before the opening of the critically important 1995 Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPTREC). Hence, Western delegations that were opposed to the notion of including existing stocks in the negotiating mandate successfully manoeuvred consensus on the so-called 'Shannon mandate' contained in report of Ambassador Shannon to the effect that while stocks were not included specifically, any delegation could raise the matter during negotiations in an ad hoc committee. This in-built defect in the 'Shannon mandate' has blighted discussions on a FMCT for more than two decades – in my view the Shannon mandate now is dead and a new negotiating mandate is required.

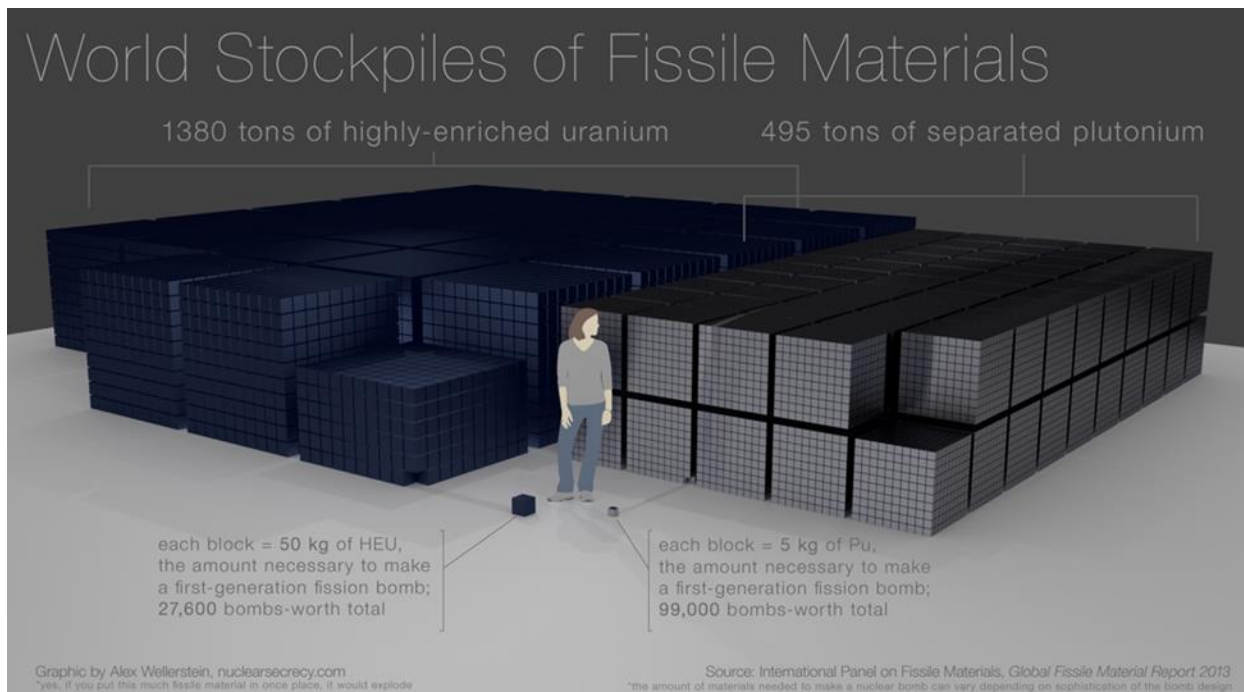
The debate over scope is also split on another level – whether the treaty is meant to further the goal of nuclear disarmament, or is it merely a non-proliferation instrument. The cause of nuclear disarmament would get a huge boost if the treaty covered the existing stocks of fissile materials as well as future production. In the words of one expert, ‘[a] legal prohibition on the production of fissile material for weapons purposes would do nothing to reduce already accumulated stocks of material and would consequently help to preserve the status quo in nuclear arms levels’. Also, from a practical perspective, in case existing stocks are excluded from the treaty’s scope, ‘a major loophole would exist if the prescribed verification regime were unable to differentiate between stocks held at the date of entry-into-force and stocks produced illegally after that date’.

An important question relates to the verification and oversight of the implementation of a FMT. Three possible options could be considered: (1) assigning the verification to the IAEA; (2) the establishment of a Fissile Material Treaty [Verification] Organization (FMTO); and (3) a hybrid arrangement in which verification is assigned to an independent new Department for FMT Verification (FMTV) within the IAEA.

It is presently estimated that about 1,800 metric tonnes of weapon-usable materials are located across 25 countries, with about 83% of these materials in non-civilian use and thus relevant for purposes of a FMT – these were not addressed in the four NSS. Not all weapon-usable nuclear materials are contained in active nuclear warheads, but also in retired warheads, naval fuel cycle and reserve, material declared excess to defence requirements, in government-owned stocks as well as civilian use.



Source: Nuclear Threat Initiative, Discussion Paper: Enhancing the Security of Military Materials, Solutions for a Secure Nuclear Future, 30 March 2016.



Non-Proliferation Treaty

The NPT was negotiated in 1967-1968 at the Eighteen Nation Disarmament Committee (ENDC) in Geneva, a forerunner to the CD, following a number of initiatives at the General Assembly led by Ireland and Sweden. Canada became an early staunch supporter of the NPT. While Canada was not the originator of the NPT, it was Canada that played a key crucial role to achieve the Treaty's indefinite extension in 1995. And, it was Canada through its emphasis on "permanence with accountability" as reflected in the strengthened review process and principles and objectives for nuclear non-proliferation and disarmament that established the new benchmarks for the review process and elaboration of defined steps for implementation of non-proliferation and disarmament objectives. In 2000, it was the New Agenda Coalition that delivered the "13-steps" on nuclear disarmament, and in 2010 it was a weakened NAC along with Egypt and others that developed the 64-point "action plan" on implementation of the three pillars of the NPT and the 1995 Resolution on the Middle East.

Canada's role in the NPT review process has slowly diminished since 1995 and it came as a rude shock in 2015 when Canada joined the US and the UK in denouncing the draft presidential outcome document – on the matter of the Middle East, where Canada played no role in the multilateral consultation process carried out the facilitator, Under Secretary Jaakko Laajava of Finland (2012-2014). While the previous administration in Ottawa diminished Canada's NACD credentials, it is a matter of concern that the "sunny ways" administration has not made material improvements. Canada continues to champion FMCT negotiations based on the Shannon mandate and chaired the 2014-2015 GGE and chairs the new GGE, but the value of such expert groups remains doubtful. And, as I noted a few minutes ago, Canada is supporting the US led IPNDV and the Norwegian led GGE on verification. But, again as I have noted, in my view effective multilateral verification of nuclear warhead likely is not a realistic or achievable

proposition and will devour many years of consultations or negotiations without resulting in any dismantlement of nuclear warheads.

The recently concluded Treaty on the Prohibition of Nuclear Weapons (TPNW) has been signed by more than 50 States yesterday and today, and 3 of the 50 ratifications for entry into force already have been deposited – Guyana, the Holy See, and Thailand. We all know the Maple Leaf was not flying at the opening for signature ceremony at the United Nations in New York yesterday, even though the Prime Minister was dispensing “sunny ways” elsewhere in that city.

The TPNW has rattled the five nuclear-weapon States, NATO members and others relying on extended deterrence (Australia, Japan and South Korea). Last October, a US drafted letter was circulated by NATO admonishing its members not to support TPNW negotiations. On 7 July, the day 122 States approved the TPNW, France, the UK and the US issued a Joint Statement that asserted that they had not taken part in the negotiation of the treaty, and that they did not intend to sign, ratify or ever become party to it. India and Pakistan too have rejected the treaty. Just yesterday, the North Atlantic Council issued a Statement on the Treaty on the Prohibition of Nuclear Weapons that said, *“The ban treaty is at odds with the existing non-proliferation and disarmament architecture. This risks undermining the NPT, which has been at the heart of global non-proliferation and disarmament efforts for almost 50 years, and the IAEA Safeguards regime which supports it. ... As long as nuclear weapons exist, NATO will remain a nuclear alliance. ...We call on our partners and all countries who are considering supporting this treaty to seriously reflect on its implications for international peace and security, including on the NPT.”* What is deplorable is that some of the nuclear-weapon States are threatening non-nuclear-weapon States to not sign the TPNW – one case in point is Sweden as reported in a Stockholm newspaper. Kazakhstan and Switzerland along with some others which voted for the TPNW also will not be signing citing various reasons.

The criticisms against the TPNW levelled by the nuclear weapon States and their allies do not stand up to scrutiny and reflect their desperation in the face of the international community’s rejection of nuclear weapons. The “international community” is not the 15 States of the Security Council, or the 29 NATO States, but it is the 159 States that signed up to the Humanitarian Pledge and it is the 122 States that have approved the TPNW – 122 out of 193 UN member States, are the international community and not “populism” as claimed by some.

Let me briefly address some of the criticisms. 1) TPNW does not define a nuclear weapon. Nor does the NPT or the CTBT or any NWFZ treaty other than Tlatelolco > no complaints there. 2) TPNW does not include verification procedures. No verification procedures or mechanisms exist for warhead dismantlement despite 40 years of US-Russia/USSR nuclear arms reduction treaties because of technical difficulties and classification concerns; the South Africa model does provide a useful precedent for unilateral dismantlement and IAEA verification and monitoring of weapon-usable nuclear material. 3) TPNW does not include the IAEA Additional Protocol. The APs concluded by the five NWS and by India do not include the full verification provisions of the AP as is provided for in the AP itself thus such APs bring zero additional verification capabilities. 4) TPNW will undermine the NPT. 100+ States are party to NWFZ treaties, no one talks about confusion, so why confusion re TPNW? The NPT is not self-

implementing > Article III requires conclusion of an agreement with the IAEA in accordance with its safeguards system (so specific agreement is specified in the NPT); Article IV requires nuclear cooperation agreements; Article VII requires NWFZ agreements; hence logic would suggest that Article VI would require a TPNW or similar agreement.

Opportunities for Canada and Concluding Themes

For Canada, the first country ever to formally renounce nuclear weapons, to be absent at the General Assembly conference negotiations on a nuclear weapons prohibition treaty and place its chips with those of the New Procrastination and Delay Initiative (NPDI) – I mean the Non-Proliferation and Disarmament Initiative³ – and with NATO that has the self-contradictory policy of being a nuclear alliance as long as nuclear weapons exist, is a betrayal of the aspirations of Canadians. Any objective poll of Canadians would show overwhelming support for a world free of nuclear weapons and for the TPNW as a starting step. Adherence to concepts of nuclear deterrence invariably means that governments disregard the wishes of their populace and show fealty to foreign capitals and outdated alliance structures.

“Sunny ways” for Canadian nuclear arms control and disarmament policy (NACD) policy could benefit from, for example, calling out the increasing dangers of inadvertent or deliberate nuclear war in the Korean peninsula and globally, supporting de-alerting of ready to launch nuclear weapons, strengthening the NPT through enhanced verification capabilities for the IAEA and implementation of nuclear disarmament through the TPNW, encouraging a new strategy to suffocate renewed nuclear arms races, reversal of exports of nuclear material and technology to non-NPT States, developing a NACD plan of action for the 2018 United Nations high-level international conference on nuclear disarmament even though Canada voted against the resolution (A/71/71)50, promoting the early entry-into-force of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) by denying political support to the remaining eight Annex II States holding up the treaty; proposing establishment of Global Nuclear Risk Reduction and Strategic Stability Centres, and elaborating a clear NACD agenda for its quest for a Security Council seat for 2021-2022.

There are many other issues that I could have addressed, but as I draw these remarks to an end, I cannot help but be reminded of a despatch from London by the renowned American newscaster Edward R. Murrow, in the spring of 1940, as the clouds of war were gathering over Europe, when he was referring to UK Prime Minister Neville Chamberlain, in which Murrow reported, *“The people here feel the machine is out of control, that we are all passengers on an express train traveling at high speed through a dark tunnel toward an unknown destiny. The suspicion recurs that the train may have no driver”!*

The last word goes not to a General, nor to a diplomat, but to a school child at the United Nations kindergarten in New York who said that she could not understand *“why a country that makes atomic bombs would ban fireworks?”*

³ Founded by Australia, Canada, Chile, Germany, Japan, Mexico, the Netherlands, Poland, Turkey, and the United Arab Emirates in September 2010, now with Nigeria, the Philippines (12).

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