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THE MEDIUM TERM ACTION AGENDA: TO 2025

REACHING THE NUCLEAR RISK MINIMIZATION POINT

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1. BASIC ARGUMENT: OBJECTIVE OF THE NUCLEAR RISK MINIMIZATION POINT (HEREAFTER: MINIMIZATION POINT OR VANTAGE POINT).

The objective of the minimization point is to achieve substantial progress in terms of nuclear disarmament, reducing to the fullest possible extent the risk of nuclear conflict. Steps undertaken to reach the minimization point should be congruent with the ulterior abolition of nuclear weapons: but in contrast to the latter, the minimization point does not presuppose a fundamental transformation of international relations; “Running with the grain” of the existing international system, measures towards the vantage point can be undertaken in the framework of existing international institutions and practice, and take into account the strong likelihood that many of the current global and regional security challenges will not have been fully resolved by 2025. Vantage point measures will certainly require substantial political will and proactive diplomacy; but they do not imply the pure and simple abandonment of the basic interests and value systems of existing actors within the international system.

Minimization point measures will be characterized by “principled pragmatism” not only because of the need to reconcile far-reaching disarmament and non-proliferation measures with the realities of ongoing security challenges and interests between today and 2025. No less important will be the need to address nuclear disarmament and non-proliferation in their global dimension while taking full account of their regional aspects: whereas during the Cold War, the US-Soviet nuclear confrontation was a key feature of the global security landscape, regional nuclear tension –in North-East Asia, in the Subcontinent, in the Middle East- has become of utmost concern. The world of the vantage point will be markedly multipolar, with sharply contrasting regional security situations as well as one in which non-state actors will have continued to accumulate power and influence of their own, extending possibly to the nuclear domain, whether in the hands of terrorist groups or among contenders for power in failing states. Small numbers of nuclear weapons in tense, multidimensional regional confrontations, are of no less, and probably of more, concern than the vastly inflated nuclear arsenals inherited by post-Cold War Russia and America no longer locked in a bipolar military confrontation. The challenge for the vantage point will therefore be to deal with the specificities of each regional situation, while working towards much reduced nuclear inventories at the global level, without losing sight of the ultimate objective of general

disarmament. The challenge is compounded by the absolute necessity of minimizing the risk of nuclear war, whether accidental, inadvertent or deliberate, during the disarmament process.

As the number of nuclear warheads comes down, each individual nuclear warhead will acquire greater significance in the eyes of all and sundry. Extending defence guarantees to allies; ensuring the reliability and survivability of the remaining nuclear forces; preserving the credibility of their forces in the face of strategic missile defences: such considerations will weigh more heavily for the countries concerned than had been the case hitherto. These concerns will grow in the US and Russia, and among their allies, as the numbers come down. In regional settings, where warhead numbers are vastly lower than in the US or Russia, vantage point measures will have to take into account often tense security situations.

The overall content of the minimization point will be determined by the convergence of the factors described above with a temporal framework of sufficient length to actually get significant things done but which remains comparatively short with regard to political and technical realities. Even with the best of goodwill, it can take several years to craft a multilateral security commitment. It takes many years, usually decades, to dismantle nuclear arsenals as is witnessed *inter alia* by the close to twenty years of ongoing and far from completed nuclear warhead dismantlement in post-cold war Russia and the US (notably under the Cooperative Threat Reduction Program). In other words, 2025 is an ambitious date for the vantage point. Because of the longer than 15-year timelines encountered in a number of instances, the vantage point will be a combination of regulatory initiatives, of completed disarmament measures, and of “work in progress”. However, provided that a number of preconditions be fulfilled (see below), the fifteen years from 2010 to 2025 may be sufficient to generate the momentum necessary to move towards the goal of general nuclear disarmament.

II. PRECONDITIONS OF THE MINMIZATION POINT

In order to make it to the vantage point by 2025, a short-term action agenda between now and 2012 is put forward in this report.

Beyond the specific suggestions included in that action plan, the preconditions for advancing towards the vantage point can be described in general terms:

- ✓ the international non-proliferation regime, in the form of the NPT and the IAEA’s system of safeguards, does not collapse in the near future, either as a result of deep dissensus on the occasion of the 2010 NPT Review conference, or as a consequence of significant signatories of the NPT removing themselves de jure or de facto from the disciplines of the non-proliferation regime; by the same token, runaway nuclear proliferation has not occurred in areas of actual or potential strategic instability, such as the Middle East or North-East Asia. Nor has the post-World War 2 taboo on the use of nuclear weapons been broken;
- ✓ the US and Russia successfully resume nuclear disarmament; and, as was the case during the Cold War, redefine numerical and qualitative limits to be set on the deployment of strategic missile defences, limits to which other countries may also subscribe. Such a pre-condition will be of particular importance in securing the cooperation in the disarmament process of nuclear states (China most prominently) possessing comparatively small arsenals;

- ✓ in the legal and symbolic realm, as well as for its practical consequences, the Comprehensive Test Ban Treaty is ratified by all states with significant nuclear activities, most obviously by the nuclear-armed states. Politically, the goal of nuclear disarmament will be difficult to take seriously, if even the comparatively limited threshold of CTBT ratification cannot be crossed. Hence also the particular importance of a rapid US ratification of the CTBT;
- ✓ the “renaissance” of the peaceful uses of nuclear energy will be unfolding in a safe, secure and safeguarded manner, reinforcing rather than undermining the non-proliferation regime and efforts towards nuclear disarmament.

III. THE CONTENT OF THE NUCLEAR RISK MINIMIZATION POINT

MASSIVE NUMERICAL REDUCTIONS

The most spectacular dimension of the vantage point will be vastly reduced numbers of nuclear weapons, flowing by definition from deep cuts in those countries which possess today more than 95% of the world’s nuclear warheads, Russia and the United States. The number of operational, reserve or “awaiting-dismantlement” warheads currently stands at around 9400 in the US and some 13 000 in Russia (see table below). By 2025, another round of arms reduction treaties and additional warhead dismantlement under the cooperative threat reduction program will have taken place: the number of operationally deployed strategic nuclear warheads will presumably have been brought down to less than 1500 in each of these countries (versus 2200 in the US and close to 2800 in Russia today), and aiming for less than a thousand is not unrealistic within such a fifteen-year timeframe.

TABLE

- For the US. The number of 9400 nuclear warheads includes :
 - some 2200 operationally-deployed strategic nuclear warheads
 - some 500 operationally-deployed “non-strategic” nuclear warheads
 - around 2500 warheads in reserve (of which some 500 are “non-strategic”)
 - around 4200 awaiting dismantlement (which is currently proceeding at around 350 a year)
- For Russia. The number of 13000 includes:
 - close to 2800 operationally-deployed strategic warheads
 - roughly 2000 operational “non-strategic” warheads
 - an estimated 8150 warheads in reserve or awaiting dismantlement (of which some 3400 are “non-strategic”)

As current rates of warhead dismantlement, les US will not have completed by 2025 the elimination of all of its reserve warheads (some 2500 in 2009) plus 4200 warheads currently awaiting dismantlement. At current rates of dismantlement (350 per year), a backlog of more

than 2000 reserve warheads would still be awaiting dismantlement in 2025. There is little reason to believe that the situation would be very different in Russia. Therefore, the vantage point should include a Russian-US agreement on the mutual verification of the level of remaining stockpiles pending dismantlement.

Taken together, by 2025 these reductions will have led at the very least to the elimination of some 60% of US and Russian warheads of all categories, from more than 24 000 today. Their arsenals would include less than 3 000 operational strategic nuclear warheads (ie, less than 1500 each, and possibly under a thousand) and an unspecified number of remaining so-called “non-strategic” weapons: these include battlefield nukes, nuclear weapons deployed on the territory of allies for extended deterrence purposes (in Belgium, Germany, Italy, the Netherlands and Turkey), and nuclear-tipped anti-aircraft and anti-ballistic missiles (eg, the Gazelle ABM system around Moscow). Numbers of such operational weapons are estimated at more than 2 000 in Russia and several hundred US. These numbers could be deeply cut by 2025, notably in Russia; their complete elimination is technically feasible by 2025, but presupposes major doctrinal changes in Russia and within NATO. In such a case, the total number of operational Russian and American warheads would have been cut by more than 60%, from some 7 500 today to less than 3 000, always assuming that in 2025, the US and Russia will continue consider approximate parity as their guiding principle.

Such deep reductions would still leave the US and Russia with more nuclear weapons than are currently held by all of the existing nuclear-armed states considered as a whole (a total in the vicinity of 1 000 warheads under the most “generous” assessments concerning the UK, France, China, Israel, India, Pakistan, and North Korea).

These deep reductions are the substantial but low-hanging fruit of nuclear disarmament: comparatively easy to pick, with little direct interaction with regional security dynamics. The only serious difficulty in this regard would appear to be the fate of the US B-61 bombs based in 5 NATO countries: their removal, notably from Turkey, could lead countries which have renounced national nuclear endeavours to reconsider their choice. But numerically, this is a very minor proportion of nuclear reductions otherwise achievable without negative strategic consequences.

Overall, even in the absence of any reductions by any of the other nuclear powers, a vantage point in which more than 60% of operational US and Russian nuclear weapons would have been eliminated would, in numerical terms, be well advanced on the road of nuclear disarmament.

It may be tempting to include in the vantage point a binding mechanism whereby the numerically smaller nuclear powers would reduce their holdings as a function of deep American and Russian cuts. This will not happen in the real world by 2025, for the basic reason that individual nuclear decisions in specific regions are taken because of particular nuclear circumstances: the comparatively small nuclear forces of countries such as China, India, France etc. have been, and will continue to be, driven independently of the offensive nuclear force levels of the US or the USSR/Russia, before or after the end of the Cold War. US and Soviet/Russian offensive nuclear warhead numbers, whether rising or falling, have not served as the main force dimensioners of the other nuclear powers. Conversely, and by definition, subsequent moves to Zero will entail the full involvement of all nuclear armed

states. In the interval, unilateral warhead cuts (as has already occurred in the UK and France) may be encouraged by the momentum of US-Russian disarmament; pending force modernization choices may be deferred as a consequence. But efforts to persuade those holding collectively less than 5% of the world's nuclear warheads to index their force numbers on Russian and US cuts are not likely to be rewarded.

In a 2025 perspective, it is unlikely that the smaller nuclear powers could agree on a common warhead ceiling: the security circumstances and assessments of countries as different as, say, the UK and China, do not lend themselves readily to a single ceiling of, for example, 160 warheads. No less importantly, the smaller nuclear powers are at greatly differing points in their modernization cycle: the UK, for instance, is at the very beginning of a modernization cycle; it therefore has a substantial amount of flexibility in setting a target for its vantage point nuclear arsenal. France on the other hand, is in the closing phase of its modernization cycle: although in technical terms it may have scope in reducing warheads-per-missile numbers, it possesses a new-generation 4 submarine force whose service life encompasses the vantage point.

There won't be much scope for the global elimination of so-called "non-strategic" nuclear weapons: for geographical reasons, countries such as India and Pakistan will not abandon the possession of short-range nuclear system in a non-zero world.

Warhead reductions among the smaller nuclear powers are feasible vis-à-vis a 2025 vantage point, but they won't be of a one-figure-fits-all category, and will be heavily dependent on regional security perceptions and on factors such as the presence of strategic anti-ballistic missile systems. While symbolically helpful, their warhead cuts (such as those announced and effected by France and the UK) will be in the best of cases, a small fraction of US-Russian force reductions.

DOCTRINES AND FORCE POSTURES CONDUCTIVE TO STABILITY AND FURTHER NUCLEAR DISARMAMENT

Whereas massive cuts in numbers can be achieved without significant impact on specific regional situations, such will not be the case with doctrinal and force posture issues, in which the regional security circumstances will sometimes override the quest for global measures at the vantage point. Two examples, among others, will make the point:

- ✓ -transparency on doctrine and force postures are a desirable global aim. However, in the 2010-2025 situation prevailing in the Middle East, it is questionable whether full doctrinal transparency would foster stability rather than instability; jettisoning nuclear opacity may pose more than a few problems.
- ✓ -no-first use of nuclear weapons is possibly even more desirable than transparency; yet, in situations of perceived or actual asymmetry (eg, Pakistan vis-à-vis India, NATO vis-à-vis the Warsaw Pact), no-first use affirmations by the stronger party will be met with disbelief and distrust (not without reason in the case of the USSR's policy, in light of Soviet war plans uncovered after the Cold War).

Therefore, in a world reaching the vantage point, only some doctrinal principles and force posture options will be of an *erga omnes* nature; most will be of a partial, even *ad hoc*, nature.

In the doctrinal realm, it may be possible to secure broad, maybe even general adherence to the principle that the sole purpose of the possession of nuclear weapons at (or before) the vantage point, is to deter the use of such weapons against one's own security, and that of one's allies. Such a sole purpose statement by the nuclear armed states would also lead to common language by those states in the field of negative security assurances, which are currently characterized by disparate commitments.

Force postures should be congruent with such declaratory policies: nuclear forces should not be instantly usable (hence the interest of measures such as separate storage of warheads and land-based ballistic missiles or "de-alerting") while remaining demonstrably survivable to a disarming first-strike: the lack of survivability creates a major incentive to contemplate one's own first strike in a perceived 'use them or lose them' situation. Furthermore, such force postures need to be well known and understood by friend and foe alike: hence the desirability of transparency.

States which have remained vaguer than others in this regard, most notably China among the major powers, should be encouraged to much greater openness. Even Israel's nuclear opacity could accommodate a more deliberate display of its force posture (at the level of its delivery systems and platforms) without abandoning its current "non-declaratory" policy on nuclear weapon proper.

Non-nuclear force postures will weigh considerably on the choices of nuclear-armed states. At a 2025 vantage point, it may not be realistic to assume massive shifts in conventional force deployments and postures. Similarly, there is little chance for the global elimination of entire categories of ballistic missiles. Russia, the US, France and the UK have foregone the possession of medium-range missiles; but for China, India, Pakistan, Israel and North Korea such missile will remain a key component of their strategic forces. But there is plenty of scope to deal with the issue of anti-ballistic missiles (ABM). Historically, attempts to build up significant ABM defences against enemy missiles has played a major role in dimensioning the number of nuclear warheads of countries facing such a challenge. During the Cold War, not only did the USSR and the US enter into an unbridled buildup of strategic nuclear warheads on their ICBMs as they began deploying ABM systems; but the smaller nuclear powers, France and the UK, considered that they had to follow suit, multiplied up to six-fold the number of warheads on their submarine-based missiles. Similarly, China currently asserts its strong opposition to global ABM systems, which could lead it to greatly increase its warhead holdings. In the past, the US and the USSR had, from 1972 onwards, established limits on strategic ABM systems. These, and subsequent measures, were scrapped during President Bush jr.'s first term, when the US abandoned its ABM treaty commitments. In a vantage point world, an agreement should have been reached limiting strategic ABM –and thus removing a substantial source of strategic uncertainty, not only for the smaller nuclear powers but also for Russia and the United States themselves: at the risk minimization point, both Moscow and Washington will have much reduced nuclear arsenals, acutely sensitive to the existence or absence of strategic ABM systems.

In the same spirit, ongoing attempts to prevent an arms race in outer space (PAROS) will, if successful, contribute to removing concerns about the vulnerability of small nuclear arsenals, notably to military activity directed against space-based command, control and information assets or to space-based ABM systems.

REMOVING THE ABILITY TO EXPAND NUCLEAR FORCES OR TO REVERSE COURSE OF NUCLEAR DISARMAMENT

The minimization point should function as a ratchet in the nuclear disarmament process, making forward movement possible while preventing backsliding.

By 2025, this can be effected through several initiatives.

CTBT-PLUS. An element of irreversibility can be built into the CTBT, above and beyond current treaty language. Existing nuclear test sites for can and should be dismantled, as has been shown with the de-commissioning of the French facilities in Mururoa and Fangataufa. Research allowed under the CTBT does not call for the continued existence of the massive nuclear testing grounds and the kinds of facilities used for treaty-banned nuclear explosions. Although this dismantling can be done unilaterally, there would be virtue in making this a common commitment, with agreed verification procedures.

Under such a regime, CTBT signatories would commit themselves not to undertake new test site construction work: visible from outer space, this is a rather conspicuous and time-consuming activity which lends itself to challenge inspection.

FMCT. Cutting-off the production of fissile material (uranium enriched to more than 20% of isotope U235; separated uranium 233 produced in the thorium fuel cycle; plutonium containing less than 80% of isotope Pu238) is one of the longest-standing items on the nuclear disarmament agenda. There is a long history of lack of success in moving towards a Fissile Material Cut-off Treaty (FMCT). Current divergences of interest between nuclear-armed states which have a surfeit or sufficiency of fissile material (US, Russia, France, UK) and those which apparently want to build-up their stocks (China, India, Pakistan) make it unlikely that there will be rapid progress in the new CD-based negotiating process. However, by 2025 such differences of interest may have been erased, as the latter group of states has built up its inventories. At the time of the vantage point, the FMCT can and should have been established. Although the specifics of such a treaty, resulting from a long, many-sided, and technically complex negotiation, cannot be second-guessed at this point in time, several generic characteristics will make the FMCT a major milestone in the nuclear disarmament process:

- ✓ The treaty should build on the existing IAEA safeguards system, supplementing existing safeguards agreements as necessary; this makes sense in technical (existing expertise), economic(rational use of scarce human resources) and political (*erga omnes* acceptability) terms. Difficult as they will be, the verification issues are not in themselves insuperable, since the inspections would not require access to nuclear warheads and their associated facilities. Building on the IAEA's safeguard system as suggested here does not prejudge the question of the FMCT's decision-making bodies (purpose-built or IAEA-based governance).
- ✓ FMCT safeguards should be both non-discriminatory and irreversible, in contrast to the NPT regime. If a state were to withdraw from the FMCT, safeguards agreements would not automatically lapse as a consequence. HEU enrichment and processing facilities, reprocessing and plutonium-separation facilities should come under a regime which treats nuclear-armed and non-nuclear states in the same way. Issues of compliance would be referred to the UN Security Council.
- ✓ The FMCT should not be negotiated as if it were a Fissile Material Treaty (FMT): the purpose of an FMCT is to stop new production, the goal of the latter would, *inter alia*, be to manage fissile material resulting from the dismantlement of nuclear warheads,

notably in a “Zero” world. The FMCT is achievable by the time of the minimization point; the FMT belongs to a post-vantage point world moving to Zero and beyond. However, the FMCT’s governance, compliance and safeguards system can be crafted in a manner which subsequently may facilitate the negotiation of a FMT.

- ✓ The FMCT should contain provisions for the dismantling of existing fissile-material production facilities, somewhat along the lines of the Chemical Weapons Convention. It is one thing to stop the production of HEU and weapons-grade plutonium by mothballing the corresponding facilities which can rapidly resume their activity; it is quite another to destroy the ability to durably prevent uranium enrichment and plutonium extraction... Dismantling fissile material production facilities is a lengthy and costly process, somewhat quicker and cheaper in the case of HEU enrichment facilities, than for reprocessing plants. In the French experience, the dismantling of the military enrichment capability in Pierrelatte has been achieved in around a decade at a cost of under 1 billion euro; the comprehensive build-down of the military reprocessing facility in Marcoule is a multi-decade enterprise (with long cooling-off periods) at a estimated cost of some 5 billion euro. These costs would have to be multiplied manifold to eliminate the mod larger similar facilities in the US and Russia. Therefore, facilities dismantlement will, for the most part, not have been achieved by 2025: but the process can, at the very least have begun, and will hopefully be part and parcel of FMCT commitments. Dismantlement is a necessary part of a vantage point with a real “ratchet-effect”.

NON-EXPANSION. In the real world, several nuclear armed states are currently increasing, not reducing the number of their nuclear warheads, along with their fissile material production. India, Pakistan, North-Korea belong to this category; what China and Israel’s policies are in terms of warhead numbers remains unclear. Only the four other nuclear powers have been clearly educing their nuclear arsenals and have ostensibly ended fissile material production for military purposes. An explicit commitment by all nuclear armed states not to further increase their warhead holdings would be in order well before the minimization point has been reached. This is an admittedly modest goal, and an achievable one: but it will still take Nobel Peace Prize qualities to actually secure it.

IN CONCLUSION

The nuclear risk minimization point will thus be characterized by:

- ✓ -vastly reduced numbers of nuclear weapons globally, more than two-thirds of which would have been eliminated by 2025: nuclear disarmament, will be well advanced;
- ✓ -major legal and material constraints on the ability of nuclear armed states to easily reverse course.

Fifteen years is a very short period of time in which to achieve such results. Furthermore, no provisions have been made here for negative scenarios such as a breakdown of the US-Russian strategic dialogue, a dramatic failure of the NPT review conference, proliferation chain reactions in the Middle East or North East Asia or other disruptive events... It will be difficult enough to reach the nuclear risk minimization point in the absence of such disruptions. All the more reason to move forward now./.