

The Canberra Commission on the Elimination of Nuclear Weapons

Report (Part Two) ([Part One](#))

## The Nuclear Weapon Debate

### Steps to Eliminate Nuclear Weapons

The elimination of nuclear weapons must be a global endeavour involving all states. The impetus and driving force however must come from the nuclear weapon states and particularly the United States and Russia. A decisive signal from these longstanding nuclear powers that the risks associated with nuclear weapons far outweigh the presumed benefits would be of historic importance. Indeed, such a definitive commitment to a nuclear weapon free world would accelerate a course of events set in motion well before the Cold War ended.

Movement toward a nuclear weapon free world has begun. That movement rests fundamentally on the Anti-Ballistic Missile Treaty and was significantly advanced with the ratification of the Intermediate-range Nuclear Forces Treaty. The INF was unprecedented in that it was the first negotiated treaty to actually reduce nuclear weapons. More to the point of this report, it was also the first agreement to eliminate an entire class of nuclear weapons. In more recent years the United States and Russia have agreed to deep cuts to their nuclear arsenals which today in total approximate 40,000 to 50,000 warheads. The START I and START II agreements require a two thirds reduction in US and Russian strategic nuclear arsenals from pre-START levels of approximately 10,000 deployed strategic warheads each to 3000-3500 by 2003.

Both the United Kingdom and France have unilaterally reduced their nuclear postures by measures including withdrawal from deployment and elimination of elements of their nuclear forces. Tactical nuclear weaponry has been mostly withdrawn from deployment and removed from ships and sea-based aircraft. China has reiterated its support of the goal of the elimination of nuclear weapons, and its declaration of no first use of nuclear weapons. The experience the United States and Russia have accumulated through decades of negotiating and implementing nuclear arms control agreements will prove invaluable both as a basis for further bilateral reductions and as a store of knowledge that can be drawn upon by the other nuclear weapon states.

The first requirement for movement towards a nuclear weapon free world is for the five nuclear weapon states to commit themselves unequivocally to proceed with all deliberate speed to a world without nuclear weapons, not as an objective for the far distant future, but as an objective which deserves action from the time the commitment is given. A commitment of this kind would transform the whole process.

The process followed must ensure that no state feels, at any stage, that further nuclear disarmament is a threat to its security. To this end nuclear weapon elimination should be conducted as a series of phased, verified reductions that allow states to satisfy themselves, at each stage of the process, that further movement toward elimination can be made safely and

securely. Political commitment and allocation of adequate resources will be needed to overcome technical constraints such as the current slow rate of weapons dismantlement &shyp; around 2000 per year each by the United States and Russia.

The rate of present dismantlement should not be the factor which determines the rate of elimination. The important condition is to have agreed procedures for establishing new targets, which drive the process forward to the ultimate objective of total elimination.

While the nuclear weapon states have a special responsibility, all states must contribute to development of and support for an environment favourable to nuclear weapons elimination, including an end to nuclear testing and prevention of further horizontal nuclear proliferation.

The Commission reaffirms its strong conviction that immediate and consequential steps are possible. These would both convey a powerful signal of commitment to elimination by the nuclear weapon states, and enhance global security by widening the firebreak between the onset of a crisis engaging a nuclear weapon state and the risk of a deliberate or inadvertent nuclear detonation.

Progress towards a nuclear weapon free world should not be made contingent upon other changes in the international security environment. Successful nuclear weapon negotiations will benefit other security related negotiations and progress in regional and other political and security related negotiations will enhance the prospect of building a nuclear weapon free world.

### **Nuclear Weapon State Commitment to a Nuclear Weapon Free World**

The nuclear weapon states should commit themselves unequivocally to the elimination of nuclear weapons and agree to start work immediately on the practical steps and negotiations required for its achievement. This commitment should be made at the highest political level.

Non-nuclear weapon states should support the commitment by the nuclear weapon states and join in cooperative international action to implement it.

Such a commitment would constitute a concrete expression of the intention of the nuclear weapon states to implement the 'Principles and Objectives for Nuclear Non-Proliferation and Disarmament' agreed at the 1995 Review and Extension Conference of the Treaty on the Non-Proliferation of Nuclear Weapons (NPTREC). It would receive the enthusiastic support of an overwhelming majority of states.

High level political commitment has proven time and again to be the crucial condition for the resolution of seemingly intractable situations and reconciling embittered foes. A declaration by the nuclear weapon states, in clear and unambiguous terms, would have a dramatic impact on the way the world thinks about nuclear weapons. It would change instantly the tenor of debate, the thrust of war planning, and the timing or indeed the necessity for modernisation programs. It would transform the nuclear weapons paradigm from the indefinite management of a world fraught with the twin risks of the use of nuclear weapons and further proliferation, to one of nuclear weapons elimination.

Finally, much as the end of the Cold War greatly accelerated the broad agenda of arms



control, a commitment now to eliminate nuclear weapons would generate the necessary political momentum and give a new coherence to the entire spectrum of non-proliferation, disarmament and arms limitation efforts currently being pursued at global and regional levels.

The Commission recommends that negotiation of the nuclear weapon states' commitment to a nuclear weapon free world should begin immediately, with the aim of first steps in its implementation being taken in 1997.

### **Additional Immediate Steps**

The commitment by the nuclear weapon states to a nuclear weapon free world must be accompanied by a series of practical, realistic and mutually reinforcing steps.

There are a number of such steps that can be taken immediately. They would significantly reduce the risk of nuclear war and thus enhance the security of all states, but particularly that of the nuclear weapon states. Their implementation would provide clear confirmation of the intent of the nuclear weapon states to further reduce the role of nuclear weapons in their security postures. These steps would also signal that the nuclear weapon states were unequivocally of the view that continued possession of nuclear weapons was incommensurate with the risks they pose.

The recommended steps are:

- ☐ Taking nuclear forces off alert
- ☐ Removal of warheads from delivery vehicles
- ☐ Ending deployment of non-strategic nuclear weapons
- ☐ Ending nuclear testing
- ☐ Initiating negotiations to further reduce US and Russian nuclear arsenals
- ☐ Agreement among the nuclear weapon states of reciprocal no first use undertakings, and of a non-use undertaking by them in relation to the non-nuclear weapon states.

- ☐ Taking Nuclear Forces Off Alert

The continuing practice of maintaining nuclear-tipped missiles on alert, whether on land-based or sea-based platforms, is a highly regrettable perpetuation of Cold War attitudes and assumptions. It needlessly sustains the risk of hair-trigger postures. It retards the critical process of normalising United States-Russian relations. It sends the unmistakable and, from an arms control perspective, severely damaging message that nuclear weapons serve a vital security role. It is entirely inappropriate to the extraordinary transformation in the international security environment achieved at such staggering cost. Taking these missiles off alert is a natural counterpart to the stand-down of bombers from nuclear alert which was implemented in late 1991.

Terminating nuclear alert would reduce dramatically the chance of an accidental or unauthorised nuclear weapons launch. It would have a most positive influence on the political climate among the nuclear weapon states and help set the stage for intensified cooperation. Taking nuclear forces off alert could be verified by national technical means and nuclear

confidence.

The immediate steps discussed above deal with the manner in which residual nuclear forces are deployed that diminish to the greatest possible extent both the risk of inadvertent or accidental use and the adverse political signals transmitted by poised nuclear forces. With respect to the size of arsenals, there are two notional targets. First, the United States and Russia should, in consultation with the other nuclear weapon states, establish the relative force levels that would allow all five nuclear weapon states to proceed in concert with reductions beyond that point. Second, the five nuclear weapon states should agree on the minimum residual forces to be retained until the stage had been set for complete elimination.

The Commission considers it inappropriate to try and forecast the stages involved in reaching these targets. Clearly, there will have to be at least one further reduction agreement on the part of the United States and Russia. It should be noted in this context that the entry into force of the START II agreement is in some doubt because Russia may be required to invest in new nuclear weapon systems in order to reach parity. To obviate this undesirable development, and to facilitate the ratification of START II, lower ceilings could be promptly negotiated in a START III agreement. President Yeltsin has already proposed the figure of 2000 (compared with the 3000, 3500 the agreement currently specifies) but lower levels should be considered to hasten the achievement of force levels that would bring all the nuclear weapon states into the process.

Similarly, the Commission considers it presumptuous to try and specify from its present vantage point the minimum residual forces that the nuclear weapon states would regard as the appropriate final way-station pending complete elimination. It would observe, however, that the considerations that the nuclear weapon states would bring to bear in determining this level would be profoundly different from those that have shaped these negotiations to this point.

While of signal importance, the existing START agreements do not require that withdrawn warheads be disassembled and destroyed. Hence actual stockpiles of warheads in the United States and Russia post-START II are likely to be much higher than the figures set by the agreement. Nor do the START agreements address disposition of the fissile material content of warheads removed from deployment. This material represents the core element of a 'virtual arsenal' existing outside the START framework, and which would be available to the United States and Russia if ever a political decision were taken to reassemble dismantled warheads.

This concern was mitigated in part by agreements reached at the 10 May 1995 US/Russian summit to develop procedures for ensuring that excess nuclear warheads are dismantled and the reduction process made irreversible. The 1996 Moscow Nuclear Safety and Security Summit also underscored a need to identify appropriate strategies for the management of fissile material designated as no longer required for defence purposes. The summit undertook to convene by the end of 1996 an international meeting of experts to examine available options and identify possible development of international cooperation in the implementation of national strategies. The knowledge gained from implementation of these undertakings should prove valuable for development of systems for verification of warhead dismantlement and fissile material control. The Commission considers arrangements for the control and verification of the dismantlement to be essential for the stability and sustainability of the process of reducing nuclear weapons.



The security benefits of the START agreements and their value as a staging point to wider nuclear disarmament would be increased if START III or a separate agreement required the verified dismantlement of warheads withdrawn under past and future US/Russian bilateral reduction agreements, tactical warheads withdrawn unilaterally and reserve warheads. This would establish warhead numbers (strategic and tactical, active and in reserve) as the basic unit of account in US/Russian reductions and provide a common basis for considering relative force levels when nuclear disarmament moves beyond the bilateral phase.

### **Agreements on No First Use and on Non-Use of Nuclear Weapons**

In the post-Cold War world the only conceivable residual role of nuclear weapons is to pose a threat of retaliation against nuclear aggression. It follows that a joint no-first use undertaking would be at no strategic cost to the nuclear weapon states. Indeed as a significant confidence building measure it would in fact enhance their security.

As one of the immediate steps, the nuclear weapon states should agree and state that they would not be the first to use or threaten to use nuclear weapons against each other and that they would not use or threaten to use nuclear weapons in any conflict with a non-nuclear weapon state. The Commission considers that such an agreement should be brought into operation as soon as possible.

### **Reinforcing Steps**

The recommended nuclear weapon states' political statement of commitment and other 'Immediate Steps' would firmly orient the defence and bureaucratic establishments of all nuclear weapon states to the goal of elimination and to the development of a practical program of nuclear disarmament. The following steps would build on the solid foundation of commitment, accomplishment and goodwill established through implementation of the steps recommended for immediate action:

- ☐ Action to prevent further horizontal proliferation
- ☐ Developing verification arrangements for a nuclear

weapon free world

- ☐ Cessation of the production of fissile material for nuclear explosive purposes.

### **Action to Prevent Further Horizontal Proliferation**

The problem of nuclear proliferation is inextricably linked to the continued possession of nuclear weapons by a handful of states. As long as any state has nuclear weapons, there will be others, state or sub-state actors, who will seek to acquire them. Other national security reasons also motivate states to acquire nuclear weapons. The task of preventing further proliferation becomes even more urgent as existing nuclear arsenals are being eliminated. A world environment where proliferation is under control will facilitate the disarmament process and movement toward final elimination and vice versa. The emergence of any new nuclear weapon state during the elimination process would seriously jeopardise the process of

eliminating nuclear weapons. It would not, of course, rule out forever the possibility of elimination, although it would probably retard it.

Action is therefore needed to ensure effective non-proliferation controls on civil and military nuclear activities, and to press for universal acceptance of non-proliferation obligations.

At the level of national action, states have the fundamental obligation, under a variety of treaties and in moral terms, to ensure that sensitive nuclear material, equipment and technology under their jurisdiction and control do not find their way into the hands of those who would misuse them. A breakdown in national nuclear controls could lead to nuclear material coming into the possession of would-be proliferator states or sub-state groups, including terrorists. States must have competent systems of nuclear materials accountancy to keep track of nuclear material. Nuclear establishments and the transport of nuclear material need appropriate physical protection and states need to have effective procedures to control what leaves their territory, know where it is going and for what purpose. All member states of the International Atomic Energy Agency and the future Comprehensive Test Ban Treaty Organisation should ensure that they meet in full their financial obligations so these bodies can properly perform their functions.

The Treaty on the Non-Proliferation of Nuclear Weapons remains the cornerstone of the international nuclear non-proliferation regime. It is the legal and political means by which almost all states give effect to their decisions to renounce nuclear weapons. Because of the near universality of the non-proliferation regime those states operating significant nuclear programs without comprehensive safeguards stand exposed to the international community as being of possible proliferation concern. Application of IAEA NPT or equivalent fullscope safeguards in non-nuclear weapon states promotes national, regional and global security and stability by providing a high level of assurance that nuclear material remains in peaceful, non-explosive use.

A small number of states continue to refuse to join the NPT or accept equivalent non-proliferation commitments. Bringing these states into the non-proliferation regime through acceptance of internationally verifiable, legally binding non-proliferation obligations will be an essential step in the process of eliminating nuclear weapons. The NPT Review and Extension Conference identified universal adherence to the NPT as an urgent priority and called upon all states not yet party to the treaty to accede to it at the earliest date, particularly those states that operate unsafeguarded nuclear facilities. This process would be enhanced by the unequivocal commitment of the nuclear weapon states to the elimination of nuclear weapons and concrete movement towards that goal.

Proliferation pressures in South Asia, the Middle East and the Korean peninsula may prejudice the prospects for eliminating nuclear weapons. Determined efforts, particularly on the part of the states in these regions and the nuclear weapon states, are urgently needed to address the long-standing differences that fuel proliferation in these regions. Just as the nuclear weapon states need to be convinced that giving up nuclear weapons will not harm their security so too will the undeclared weapon states and threshold states need to be convinced that ending their nuclear ambiguity will not damage their interests.

Past experience points to a variety of ways in which such situations can be resolved. Unilateral action is possible, as in the case of South Africa's unilateral dismantlement of its



nuclear weapons. In this case, close attention was needed by the IAEA to ensure completeness of initial inventories preparatory to the application of fullscope safeguards to South Africa's remaining nuclear activities.

Bilateral negotiations can also be successful as in the case of Argentina and Brazil. After decades of nuclear competition and uncertainty about the direction of their nuclear programs these states took joint action. Both now accept comprehensive IAEA safeguards and have established a bilateral nuclear inspection agency, the Argentina-Brazil Accounting and Control Commission. Both have ratified the Treaty of Tlatelolco and Argentina has joined the NPT. Of particular note is that safeguards are applied bilaterally and by the IAEA. Each state thereby has direct access to information about the other's nuclear program, providing high transparency and confidence.

A combination of bilateral and multilateral approaches is also possible. The Denuclearisation Declaration between the ROK and the DPRK coupled with the US-DPRK Agreed Framework and the Korean Peninsula Energy Development Organisation (KEDO) is an example of how dialogue, encouragement, assistance, some security guarantees (in this case negative nuclear security assurances) and give and take on both sides can help to wind back nuclear weapon ambitions on the part of an insecure state.

In situations of regional tension, such as India and Pakistan in South Asia and Israel and its neighbours, the security needs of all parties involved have to be identified, acknowledged and addressed systematically to find solutions. Action should be taken as a matter of urgency, and if necessary discretely, to prevent a regional dispute acquiring a nuclear dimension. This points to a multilateral approach involving relevant regional and possibly neighbouring powers. Bilateral or regional involvement could be employed as a means of providing additional assurance and confidence building above and beyond international inspections. The overall security environment, including conventional armaments and other weapons of mass destruction, would be highly relevant to a negotiated solution. There could be a role in this regard for assistance and assurances from outside powers, particularly the nuclear weapon states, covering such matters as security assistance, positive and negative nuclear security assurances, assurances about access to imported technologies and agreed restraint in arms exports to the region.

### **Developing Verification Arrangements for a Nuclear Weapon Free World**

Effective verification is critical to the achievement and maintenance of a nuclear weapon free world. Before states agree to eliminate nuclear weapons they will require a high level of confidence that verification arrangements would detect promptly any attempt to cheat the disarmament process whether through retention or acquisition of clandestine weapons, weapon components, means of weapons production or undeclared stocks of fissile material. Formal legal undertakings should be accompanied by corresponding legal arrangements for verification. To maintain security in a post-nuclear weapon world the verification system must provide a high level of assurance as to the continued peaceful, non-explosive use of a state's civil nuclear activity.

To be adequate, the verification regime must provide a high probability that cheating or proliferation significance would be detected promptly. This is essential to provide confidence that nuclear weapons have been eliminated and to discourage potential violators.

A political judgement will be needed on whether the level of assurance possible from the verification regime is sufficient. All existing arms control and disarmament agreements have required judgements of this nature because no verification system can provide absolute certainty. The likelihood that the verification regime for a nuclear weapon free world will involve a small probability that attempted breakout might go undetected does not alter the fact that a nuclear weapon free world would be, fundamentally, a safer place. Development and implementation of the verification arrangements needed for each step toward elimination will provide immediate benefit through reducing the dangers posed by nuclear weapons and the threat of nuclear proliferation including nuclear terrorism.

Verification is likely to involve bilateral US/Russian measures, verification among the nuclear weapon states and multilateral verification during various stages of the dismantlement and elimination of nuclear weapons. Bilateral or regional involvement in inspections on nuclear facilities and in monitoring the dismantlement of any nuclear weapons could be employed as a means of providing additional assurance and confidence building above and beyond international inspections particularly during the early stages of disarmament while states develop confidence that multilateral verification is operating effectively. The verification regime will take many years to develop. To ensure that movement toward a nuclear weapon free world is not held up by lack of adequate verification, higher priority should be given to the development of the verification techniques that will be needed.

The following are some of the main components of a possible verification regime. These and other verification issues are discussed further in [Annex A](#).

- ☐ Effective, cost-efficient non-proliferation controls on the civil nuclear industry in all states
- ☐ Detection of undeclared nuclear activity
- ☐ Ceasing production of fissile material for nuclear weapons
- ☐ Nuclear warheads dismantlement and elimination
- ☐ Disposition of warhead uranium and plutonium
- ☐ Controls on nuclear weapons components other than nuclear material
- ☐ Dismantlement of nuclear weapons infrastructure.

A key element of non-proliferation arrangements for a nuclear weapon free world will be a highly developed capacity to detect undeclared nuclear activity at both declared and undeclared sites.

Progressive extension of safeguards to nuclear activity in the nuclear weapon states, the undeclared weapon states and the threshold states will be needed with the end point being universal application of safeguards in all states. Few facilities in the nuclear weapon states are safeguarded at present and a number of other states operate unsafeguarded nuclear facilities. The first stage of extending safeguards in these states is likely to be verification of facilities and material covered by a convention to end fissile material production for weapons.

Systems will be needed to verify that nuclear warheads are dismantled and destroyed and their fissile material content safeguarded to provide maximum confidence that such material cannot be reintroduced to weapons use. Controls on important components of nuclear



weapons other than fissile material such as tritium and non-nuclear components will need to be considered. To ensure that a nuclear force of strategic significance cannot be reconstituted quickly a staged process for verified destruction of the nuclear weapons infrastructure is likely to be considered necessary.

Even allowing for future developments it seems unlikely that technical verification alone can provide the levels of assurance needed for the elimination of nuclear weapons. Supplementing technical verification by other measures such as transparency in nuclear activity, relevant information obtained by national technical means and passed to verification bodies, exchange of information between verification bodies and application of effective export controls can increase the levels of assurance from technical measures. Societal verification or citizen's reporting may prove to be an additional means of supporting the verification system for a nuclear weapon free world.

The political commitment to eliminate nuclear weapons must be matched by a willingness to make available the resources needed for nuclear disarmament including effective verification. The amounts involved are likely to be considerable, especially for the dismantlement of weapons and disposition of their fissile material content, but very much less than developing, maintaining and upgrading nuclear arsenals. In addition, the costs of the verification system should be weighed against the substantial contribution to global, regional and national security that effective verification of a nuclear weapon free world would make. Consideration should be given to creating an international fund for this purpose.

As the verification regime is developed it will be necessary to ensure that institutional arrangements are appropriate. Some probable institutional elements such as the IAEA and the CTBT verification organisation are existing or soon will be. Other institutional requirements should be considered as the disarmament process develops. Elaboration of technical aspects of verification should be initiated without delay within the framework of the Conference on Disarmament.

States must also be confident that any violations detected will be acted upon. In this context, the Security Council should continue its consideration of how it might address, consistent with specific mandates given to it and consistent with the Charter of the United Nations, violations of nuclear disarmament obligations which might be drawn to its attention. This should demonstrate that the collective security system enshrined in the Charter will operate effectively in this field.

### **Cessation of the Production of Fissile Material for Nuclear Explosive Purposes**

Ending the production of fissile material for nuclear weapons or other nuclear explosive devices (cut-off) would require the dismantlement or placement under international safeguards of all enrichment and reprocessing plants in the nuclear weapon states and in undeclared weapon states and threshold states. A cut-off convention would contribute to nuclear disarmament by capping the amount of nuclear material available for nuclear weapons use and by extending safeguards coverage over currently unsafeguarded sensitive nuclear facilities. The Conference on Disarmament has agreed a mandate for negotiation of a production cut-off convention and the negotiations should proceed as a matter of urgency.

### **Final Steps**

Final steps towards elimination will require a negotiating process involving all nuclear weapon states and any remaining undeclared weapons states and threshold states. The detail of how this might be achieved will principally be a matter for the states involved at the time, but some general comments can be offered. Steps suggested are:

### **Other Nuclear Weapon States Joining the Process**

Further START agreements and nuclear confidence building measures should establish a receptive international climate for negotiations on global reduction of nuclear arms. Following the achievement by the United States and Russia of appropriate force levels, the next step might be to reduce the levels of all nuclear weapon states to 100 warheads each. The United Kingdom, France and China have given undertakings that they will join nuclear arms reductions when the arsenals of the United States and Russia are reduced sufficiently. These undertakings would need to be given concrete form and acted upon.

Preparations for negotiations involving all nuclear weapon states need not await the achievement by the United States and Russia of the appropriate force levels. The United States and Russia could commence a process for bringing the United Kingdom, France and China into the nuclear disarmament process. For example, early exploration of a comprehensive exchange of information on each state's nuclear arsenal and stocks of fissile material will be needed to establish baseline data for nuclear weapon state negotiations. Further early steps could be for the United States and Russia to prepare the ground for verification of nuclear weapon state reductions including by sharing information and expertise on START verification, on weapons dismantlement and on verification and control of fissile material from dismantled weapons. US/Russian experience on nuclear confidence building should be extended to the other nuclear weapon states, and new measures developed which involve them.

With respect to reductions involving all nuclear weapon states, as their arsenals are substantially reduced, the levels of warheads or warheads components thought to be held by any remaining undeclared nuclear weapon states and threshold states will become a more serious concern. It is therefore essential that states with a presumed nuclear weapons potential take early action and enter into international legal constraints as they will have to resolve their ambiguous nuclear status before the nuclear weapon states will finally move to zero nuclear weapons. As part of the process, it will be necessary for these states to acknowledge the progress made toward nuclear disarmament and to demonstrate their own intentions in this regard including through cessation of production of fissile material until production facilities are subject to international monitoring.

During the early part of nuclear weapon state reductions there are likely to be asymmetries in the arsenals which would reflect the different starting points of the participants. Progressive reductions in these asymmetries could be expected, leaving all nuclear weapon states with similar residual stocks of weapons as they approach the elimination stage.

For nuclear disarmament to be genuine and stable it should not be easily or unevenly reversible. There must be confidence that any attempt by a state to reverse disarmament would be a drawn out, highly visible, resource-intensive exercise. As nuclear disarmament extends beyond US/Russian bilateral reductions, so too must arrangements to provide a high



degree of assurance that it would not be reversible. These arrangements include verified dismantlement and destruction of warheads and ending fissile material production for weapons purposes.

### **Getting to Zero**

Each successive phase toward elimination of nuclear weapons will provide a guide to possible legal arrangements for a nuclear weapon free world. These measures could include further US/Russian bilateral agreements, a Comprehensive Test Ban Treaty, a cut-off convention and any no-first-use treaty that may have been negotiated. Further new treaties will be needed at the global or regional level and existing instruments may have to be modified or replaced.

Separate but mutually reinforcing instruments could be one way to give legal effect to nuclear disarmament. As nuclear disarmament nears the elimination stage, consideration should be given to whether the legal obligations to sustain a nuclear weapon free world would be best given effect by the incremental approach of a number of separate instruments or through a comprehensive approach which would combine all relevant instruments into a single legal instrument, a nuclear weapons convention. A comprehensive treaty would be a fresh start, removed from acrimonious debate, such as that over the NPT. It may also be possible to include in a new treaty provisions which would minimise any danger to the NPT such as a requirement that the new treaty would enter into force only after it had been ratified by all states party to the NPT. These questions and other legal considerations are discussed in further detail at Annex B.

In any reflection on the legal regime required as a basic part of the architecture for a nuclear weapon free world, it is fundamental to recognise that the legal regime supports but cannot itself bring about such a world. The prospective components of the nuclear weapon free world legal regime will play an important role in the political negotiations through which a nuclear weapon free world will be established. But it is these political negotiations and the determination to make them effective which are central to the elimination of nuclear weapons.

The maintenance of a nuclear weapon free world will require an enduring legal framework, linked to the Charter of the United Nations, possibly in the form of a convention on nuclear weapons.

### **Building the Environment for a Nuclear Weapon Free World**

A world ready to eliminate nuclear weapons would be very different from today's world. The absence of nuclear weapons and related activity would become an internationally accepted norm, obviously including in all five declared nuclear weapon states. National arguments that nuclear weapons are needed because others have them would not apply. States' commitment to a nuclear weapon free future would be codified in international legal documents. Nuclear weapons would by then have to be seen as having no part to play in assuring any state's national sovereignty and independence. The world would have to live in the knowledge that cheating could spark the return of a nuclear armed world and the threat of a nuclear war, but the basic changes which would have occurred would buttress, substantially, the technical barriers against breakout and collective interest in maintaining them.

Concurrent with the central disarmament process, there will be a need for activity supported by all states, but particularly the nuclear weapon states, to build an environment conducive to nuclear disarmament and non-proliferation. Progress in each track will influence the other. It is essential that the international nuclear and security agenda should move forward on a broad front in ways supportive of nuclear disarmament so that the process does not lose momentum.

### **Ballistic Missiles**

Aside from warheads, missile delivery systems are of the greatest concern in seeking to ensure that a meaningful nuclear force cannot be reconstituted quickly. Reductions in strategic nuclear missile numbers should therefore track reductions in warhead numbers closely. The START agreement provisions for verified destruction of launchers and platforms are a possible model for strategic nuclear ballistic missile reductions involving the nuclear weapon states. Missile capabilities in the Middle East, South Asia and on the Korean peninsula also need to be addressed.

The Anti-Ballistic Missile Treaty concluded in 1972 by the United States and the Soviet Union recognised the potential for strategic missile defence systems to fuel the offensive arms race as both sides sought to counter the other's defensive systems. By limiting strategic missile defence sites to one per side the ABM Treaty removed a strong incentive to increase offensive forces and paved the way for the START I and II reductions.

Proliferation of missiles and their use in conflicts such as the Gulf War have intensified interest, particularly in the United States, in missile defence systems. While Cold War missile defence proposals centred on strategic ballistic missiles, the present focus is on defences against shorter range theatre missiles. In practice it is likely to become increasingly difficult to draw a clear line between systems to defend against strategic ballistic missiles and those which defend against sub-strategic and particularly theatre ballistic missiles. The deployment of some ballistic missile defence systems during the transition to a nuclear weapon free world could threaten seriously the continuation of the process, particularly as technology capabilities in this field vary significantly.

It will be extremely important for the pursuit of the elimination of nuclear weapons to protect fully the integrity of the ABM Treaty. A global treaty controlling longer range ballistic missiles would provide a universal means of addressing the dangers to international security posed by ballistic missiles; it would also avoid the potential destabilising effect of ballistic missile defence systems. It would increase the confidence of nuclear weapon states that nuclear disarmament will not damage their security, and it would improve the security environment in a number of regions by eliminating destabilising missile arms races. Pending development of such a regime, confidence building measures such as a multilateral ballistic missile launch notification agreement and a ballistic missile flight test ban could be explored.

### **Nuclear Weapon Free Zones**

Nuclear weapon free zones are part of the architecture that can usefully encourage and support a nuclear weapon free world. The spread of such zones around the globe, with specific mechanisms to answer the security concerns of each region, can progressively codify the transition to a world free of nuclear weapons.



Nuclear weapon free zones are an effective means of addressing regional nuclear tensions in a cooperative way and provide ongoing assurance that nuclear activity in a region is confined to peaceful purposes. Their potential contribution to global and regional peace and security was reaffirmed at NPTREC which encouraged development of nuclear weapon free zones, especially in regions of tension such as the Middle East, as a matter of priority. There are also proposals for the establishment of such zones in South Asia, in Central Europe and from the Black Sea to the Baltic Sea.

The cooperation of the nuclear weapon states is necessary for the maximum effectiveness of nuclear weapon free zones. To increase the likelihood that nuclear weapon states will become party to nuclear weapon free zones they should be consulted early in the negotiation process. Equally, because of the contribution nuclear weapon free zones can make to disarmament and non-proliferation, the nuclear weapon states should support them including through signing nuclear weapon state protocols.

About half of the earth's surface is already covered by nuclear weapon free zones, comprising the Latin American and the Caribbean countries (Treaty of Tlatelolco), the South Pacific (Treaty of Rarotonga), the ASEAN countries (Southeast Asian Nuclear Weapon Free Zone) and African countries (the Treaty of Pelindaba). Once the ASEAN and African agreements come into force, most of the southern hemisphere (and some parts of the northern hemisphere) will be covered by nuclear weapon free zones. The Canberra Commission encourages development of linkages between all existing and prospective southern hemisphere nuclear weapon free zones to create a southern hemisphere free of nuclear weapons.

### **Nuclear Trade and Export Controls**

All states have an obligation to ensure that their nuclear trade does not contribute, wittingly or unwittingly, to nuclear weapons proliferation by either states or sub-state groups. Meeting this obligation is assisted by a common understanding of what items are sensitive in the nuclear proliferation process and has resulted in development of internationally agreed standards for nuclear exports. Such standards support the non-proliferation regime and foster legitimate trade and cooperation in the peaceful uses of nuclear energy by contributing to the climate of confidence essential for international nuclear cooperation.

The importance of nuclear export controls is acknowledged in the NPTREC 'Principles and Objectives for Nuclear Non-Proliferation and Disarmament'. These state that new supply arrangements should require acceptance of fullscope safeguards 'as a necessary precondition', thereby clearly specifying the fullscope safeguards supply standard as the accepted global norm for nuclear supply.

States looking to develop nuclear weapons also need delivery systems, and a close correlation exists between nuclear weapons proliferation and missile proliferation. More broadly, states seeking to develop weapons of mass destruction may try to develop several categories of weapons simultaneously. Effective export controls on items that could contribute to development of non-nuclear weapons of mass destruction are therefore important to establishing and sustaining an international climate favourable to the elimination of nuclear weapons.

It is essential that export control regimes are transparent in their operation and do not impede legitimate trade and technology transfer.

### **Eliminating Other Weapons of Mass Destruction**

The Commission does not accept the view that nuclear weapons need to be retained to serve as a deterrent against other types of weapons of mass destruction, particularly chemical and biological weapons. Implementation of effective measures to eliminate both types of weapons would significantly enhance global security and provide more conducive circumstances for the elimination of nuclear weapons. While there have been longstanding efforts to prohibit both chemical and biological weapons, these efforts have not yet reached the stage where the international community can be confident that the menace of such weapons has been finally removed.

One hundred and sixty countries have signed the Chemical Weapons Convention since it was opened for signature in Paris in January 1993. The CWC will enter into force 180 days after the 65th country has ratified the convention. The CWC promises to be an effective instrument for controlling chemical weapons but will face a variety of challenges when it becomes operational. A key issue will be universality, a number of important countries in the Middle East and in other regions of tension have not yet signed the convention. The two largest possessors of chemical weapons, the US and Russia, have yet to ratify. It will be vital that the CWC achieve comprehensive participation if its promise is to be realised. Signatories which have not yet ratified the CWC should give high priority to ratification, and non-signatories, particularly in regions of tension, should join this new regime as soon as possible.

The 1925 Geneva Protocol sought to ban use of biological weapons, but a more comprehensive ban was established in the Biological Weapons Convention, which came into operation in 1975. The BWC has been hampered by the lack of formal provisions and machinery to verify compliance, a major deficiency which has been underlined by suggestions that a number of countries have maintained programs to develop such weapons despite the convention's provisions. Negotiations to develop a legally binding instrument to reinforce the BWC, which is expected to contain verification provisions, were commenced only in 1995. These negotiations will need to come to an early conclusion to preserve the BWC's value in maintaining a global norm against biological weapons. Assisted by the rapid advance in biotechnology, these weapons, more so than chemical weapons, have the potential to cause damage on a widespread, strategic scale and could become the new scourge for the next century if current arms control efforts are not successful.

### **Timing Considerations**

The Commission considered carefully the merits of setting out a precise timeframe for the elimination of nuclear weapons, but elected not to do so. However, this does not imply that it accepts the extended timelines imposed by such current constraints as limited warhead dismantlement facilities. Those constraints could obviously be relieved by political decisions and the allocation of resources required to advance dismantlement. Another limiting factor may prove to be establishing the necessary confidence in the verification regime which would be required to take the final step to complete elimination. In this context the Canberra Commission remains convinced of the basic importance of agreed targets and guidelines